POLITICS OF PRICE STABILIZATION:
A COMPARATIVE ANALYSIS OF ARGENTINA, BRAZIL, ISRAEL, MEXICO, AND TURKEY

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Inflation was a common problem for developing countries in the 1970s and 1980s. From the beginning of the 21st century on, inflation is no longer as widespread as it used to be, but some few countries, like Turkey, continued to suffer from high inflation. Why have some developing countries become laggards in tackling the inflation problem, while most other countries stabilized their prices by 1990s? I argue that the answer can be found in socio-political factors as much as in economic factors.

This dissertation strives to explain the persistence of inflation in developing countries with a socio-political approach. I suggest that persistent inflation cannot be explained solely by economic approaches. We also need to analyze the socio-political context of a country in order to understand why policymakers maintain inflationary policies and delay stabilization. This dissertation suggests that policymakers in some countries may experience greater difficulties in tackling inflation and face persistent inflation because of certain limitations, such as threats to national security, democracy, political instability, and proportional electoral system.

This study compares the Turkish case with four other countries (Argentina, Brazil, Israel, and Mexico) to examine in detail whether and how social and political factors affect persistence of inflation. In addition to case studies, a statistical analysis of cross-national analysis is employed in order to get plausible explanations of persistent inflation. Many statistical analysis results support what is found in the case analyses. Findings suggest that international security concerns affect persistent inflation. High military expenses, which are necessary because of high threats to security, decrease the ability to eliminate inflation. Moreover, regime instability makes states less able to tackle the inflation problem and a consolidated democracy is the best political setting for price stabilization. Also, strong and stable governments are associated with less inflationary years. Electoral system and party system are relevant as well because they affect the strength and stability of the government. On the other hand, inequality and poverty do not seem to affect price stabilization.

TABLE OF CONTENTS

LIST OF TABLES

LIST OF FIGURES

ACKNOWLEDGEMENTS

1.0   INTRODUCTION

Over the past century, the problem of inflation has plagued many countries. After World War I, Europe faced runaway prices; and while some industrialized countries faced bouts of inflation in 1970s, inflation has been most dislocating for the developing countries, particularly in Latin America. By the early 1990s, many developing countries succeeded in stabilizing their prices, but now inflation plagued ex-communist or newly independent countries for a short while. By the arrival of the 21st century, only a few countries still faced high inflation. One of these exceptional cases was Turkey: as late as 2002, its inflation rate was about 45 percent per year (see Table 1).

Inflation was a common problem for developing countries in the 1970s and 1980s. Why have some developing countries become laggards in tackling the inflation problem, while most other countries stabilized their prices by 1990s? This dissertation strives to explain the persistence of inflation in developing countries beyond 1990s. Traditional economic theorists have attributed persistent inflation to faulty monetary and fiscal policies. This study intends to complement this approach by taking into account some political and social influences, such as strategic position, security threats, political regime, political system, electoral and party system, poverty, and inequality, to explain success and failure in price stabilization.

This study compares the Turkish case with four other countries (Israel, Mexico, Brazil, and Argentina) to examine whether and how social and political factors affect persistence of inflation. As can be seen in Table 1, all five case countries examined here not only suffered from

1

high inflation, but also experienced persistent inflation. All these countries were able to eliminate

persistent inflation eventually and some did it earlier than the others.

Table 1: Percent change in annual inflation rates

	Argentina	Brazil	Israel	Mexico	Turkey
1970	14	22	6	5	7
1971	35	20	12	5	16
1972	58	17	13	5	12
1973	61	13	20	12	15
1974	24	28	40	24	16
1975	183	29	39	15	19
1976	444	42	31	16	17
1977	176	44	35	29	23
1978	176	39	51	18	53
1979	160	54	78	18	62
1980	101	133	131	27	110
1981	105	102	117	28	37
1982	165	101	120	59	31
1983	344	135	146	102	31
1984	627	192	370	66	48
1985	672	226	309	58	45
1986	90	147	48	86	35
1987	131	228	20	132	39
1988	343	629	17	114	74
1989	3,080	1,431	20	20	63
1990	2,314	2,948	17	27	60
1991	172	477	19	23	66
1992	25	1,023	12	16	70
1993	11	1,927	11	10	66
1994	4	2,076	12	7	106
1995	3	66	10	35	94
1996	0	16	11	34	82
1997	1	7	9	21	86
1998	1	3	5	16	85
1999	-1	5	5	17	65
2000	-1	7	1	10	55
2001	-1	7	1	6	54
2002	26	8	6	5	45
2003	22	14	3	4	25
2004	13	6	1	3	15

Source: *International Financial Statistics*, International Monetary Fund, 2004

While inflation can be traced to various economic factors, ranging from international price increases to budget deficits, persistence of inflation is a related but separate phenomenon to explain. Persistent inflation is when inflation becomes a chronic problem and continues more than ten consecutive years. This study focuses on the persistence of inflation and argues that some countries may experience greater difficulties in tackling inflation and face persistent inflation because of certain limitations, such as threats to national security, democracy, political instability, and proportional electoral system. The greater such limitations are, the harder it becomes for states to adopt disinflationary policies and resolve the problem of persistent inflation.

More specifically, this study finds that international security concerns affect persistent inflation. High military expenses, which are necessary because of high threats to security, decrease the ability to eliminate inflation. Moreover, regime instability makes states less able to tackle the inflation problem. Also, both consolidated democracy and political stability are associated with less inflationary years. On the other hand, inequality and poverty do not seem to affect price stabilization.

1.1   RESEARCH PROBLEM

The inflation problem has affected various countries throughout history. The modern inflation phenomenon began to appear in the 1960s and then increased and peaked in the 1970s (Frisch 1983). Since the 1970s, international financial institutions, like the International Monetary Fund (IMF), have prescribed specific economic measures to help countries deal with inflation, such as liberalization of the economy and cutting down budget deficits.

With the rise of neoliberal policies in the 1980s, international financial institutions have identified inflation as the number one economic disease. Although inflation was seen as the most important economic illness to cure even in advanced countries, the IMF by and large focused on developing countries, as mostly they were the ones which suffered from runaway inflation. From the late 1980s on, many developing countries started stabilizing their prices, either by implementing the orthodox policies advocated by the IMF or by heterodox policies.[1] Some countries succeeded in eradicating inflation easily. However, for a few others it has taken decades to achieve disinflation.

Table 2 lists countries which have had high inflation at least once in respective decades. Table 3 demonstrates the countries which have had high inflation on average during last three decades. As can be seen from Table 2, in the 1970s even some advanced countries faced high inflation (e.g. Italy, United Kingdom, New Zealand, Iceland, and Spain). Yet, in the 1980s and 1990s inflation largely became a problem of developing countries (see Table 3). It was commonly prevalent in Latin America and Africa, and in the 1990s it also emerged in ex-communist countries.

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[1] Orthodox programs aim a sharp decrease in inflation by restricting demand in the economy through tight fiscal and monetary policies. Heterodox policies also utilize tight monetary policies, but they seek to freeze incomes and key prices as well.

Table 2: Countries that have had high inflation at least one year in given periods

	High Inflation **(20%-100%)**	**Hyper-inflation** **(≥ 100%)**
1970-1979	Angola, Antigua and Barbuda, Bahrain, Bangladesh, Barbados, Belize, Bolivia, Brazil, Burkina Faso, Burundi, Cape Verde, Colombia, Comoros, Dem. Rep. of Congo, Costa Rica, Cote D'Ivoire, Djibouti, Dominica, Ethiopia, Gabon, Gambia, Ghana, Grenada, Guinea-Bissau, Haiti, Iceland, India, Indonesia, Iran, Ireland, Israel, Jamaica, Korea, Laos, Lebanon, Maldives, Mali, Mauritius, Mexico, Myanmar, Nicaragua, Niger, Nigeria, Pakistan, Paraguay, Peru, Philippines, Qatar, Rwanda, Samoa, Sao Tome & Principe, Saudi Arabia, Senegal, Seychelles, Sierra Leone, Singapore, South Africa, Spain, St. Kitts and Nevis, St. Lucia, Sudan, Swaziland, Syria, Taiwan, Tanzania, Thailand, Togo, Trinidad Tobago, **Turkey**, Uganda, United Arab Emirates, United Kingdom, Uruguay	Argentina, Chile
1980-1989	Angola, Cambodia, Cameroon, Cape Verde, Chile, Colombia, Dem. Rep. Of Congo, Costa Rica, Dominica, Dominican Republic, Egypt, El Salvador, Equatorial Guinea, Gambia, Greece, Grenada, Guatemala, Guinea, Guinea-Bissau, Guyana, Iceland, Iran, Ireland, Italy, Jamaica, Jordan, Kenya, Korea, Madagascar, Malawi, Maldives, Mali, Mauritius, Mozambique, Myanmar, New Zealand, Niger, Nigeria, Paraguay, Philippines, Portugal, Samoa, Sao Tome & Principe, Sri Lanka, Sudan, Suriname, Swaziland, Syria, Tanzania, Tonga, Uruguay, Vanuatu, Venezuela, Zimbabwe	Argentina, Bolivia, Brazil, Ghana, Israel, Laos, Lebanon, Mexico, Nicaragua, Peru, Poland, Sierra Leone, **Turkey**, Uganda, Vietnam, Zambia
1990-1999	Albania, Algeria, Bolivia, Burundi, Cameroon, Central African Rep., Chad, Chile, Colombia, Comoros, Rep. of Congo, Costa Rica, Czech Republic, Dominican Republic, Egypt, El Salvador, Equatorial Guinea, Ethiopia, Gabon, Ghana, Greece, Guatemala, Guinea-Bissau, Haiti, Honduras, Hungary, Indonesia, Iran, Jamaica, Kenya, Kuwait, Lebanon, Lesotho, Madagascar, Malawi, Mexico, Mozambique, Myanmar, Niger, Nigeria, Paraguay, Rwanda, Sao Tome & Principe, Serbia & Montenegro, Sierra Leone, Slovak Rep., Sri Lanka, Tanzania, Togo, Uganda, Venezuela, Vietnam, Rep. of Yemen, Zimbabwe	Angola, Argentina, Armenia, Azerbaijan, Belarus, Brazil, Bulgaria, Cambodia, Dem. Rep. of Congo, Croatia, Estonia, Georgia, Guyana, Kazakhstan, Kyrgyz Republic, Laos, Latvia, Lithuania, Macedonia, Moldova, Mongolia, Nicaragua, Peru, Poland, Romania, Russia, Slovenia, Sudan, Suriname, Tajikistan, **Turkey**, Turkmenistan, Ukraine, Uruguay, Uzbekistan, Zambia
2000-2004	Argentina, Burundi, Ecuador, Eritrea, Ghana, Laos, Malawi, Moldova, Myanmar, Romania, Russia, Serbia & Montenegro, Suriname, Tajikistan, **Turkey**, Ukraine, Uruguay, Uzbekistan, Venezuela, Zambia	Angola, Belarus, Dem. Rep. of Congo, Zimbabwe

Source: Compiled from *International Financial Statistics*, International Monetary Fund, 2004

Table 3: Countries that have had high inflation on average in given periods

	High Inflation (20%-100%)	Hyper-inflation (≥ 100%)
1970-1979	Angola, Bangladesh, Brazil, Dem. Rep. of Congo, Ghana, Iceland, Israel, Laos, Nicaragua, Peru, **Turkey**, Uganda, United Arab Emirates, Uruguay	Argentina, Chile
1980-1989	Chile, Colombia, Dem. Rep. Of Congo, Costa Rica, Dominican Republic, Equatorial Guinea, Ghana, Guinea, Guinea-Bissau, Guyana, Iceland, Laos, Lebanon, Mexico, Mozambique, Nigeria, Paraguay, Poland, Sudan, Syria, Tanzania, **Turkey**, Uruguay, Venezuela, Zambia	Argentina, Bolivia, Brazil, Israel, Nicaragua, Peru, Sierra Leone, Uganda, Vietnam
1990-1999	Albania, Cambodia, Colombia, Ghana, Guinea-Bissau, Guyana, Haiti, Hungary, Jamaica, Laos, Lebanon, Malawi, Mexico, Mongolia, Mozambique, Myanmar, Nigeria, Poland, Sao Tome & Principe, Sierra Leone, Slovenia, Sudan, Suriname, Tanzania, **Turkey**, Uruguay, Venezuela, Vietnam, Rep. of Yemen, Zambia, Zimbabwe	Angola, Argentina, Armenia, Azerbaijan, Belarus, Brazil, Bulgaria, Dem. Rep. of Congo, Croatia, Estonia, Georgia, Kazakhstan, Kyrgyz Republic, Latvia, Lithuania, Macedonia, Moldova, Nicaragua, Peru, Romania, Russia, Tajikistan, Turkmenistan, Ukraine, Uzbekistan
2000-2004	Belarus, Laos, Myanmar, Romania, Serbia & Montenegro, Suriname, **Turkey**, Uzbekistan, Venezuela	Angola, Dem. Rep. of Congo, Zimbabwe

Source: Compiled from *International Financial Statistics*, International Monetary Fund, 2004

From the beginning of the 21st century on, we see that inflation is no longer as widespread as it used to be. Among upper middle-income developing countries,[2] only Turkey and Venezuela have been unable to decrease average levels of inflation below 20 percent by the first years of the 21st century (see Table 3). Looking at Table 4, we also see that the number of countries that experienced high inflation (especially hyper inflation) decreased sharply by the early 2000s. Moreover, Table 5 shows that even the average level of inflation decreased in many countries: only eight countries had average inflation rates between 20 percent and 100 percent

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[2] The World Bank divides economies according to their gross national income (GNI) per capita. According to the 2004 data, the groups are: low income, $825 GNI or less; lower middle income, $826-$3,255 GNI; upper middle income, $3,256-$10,065 GNI; and high income, $10,066 GNI or more. (http://devdata.worldbank.org/wdi2006/contents/income.htm)

and only three countries had average inflation rates over 100 percent. Therefore, having high inflation has become uncommon in the 2000s, even for the developing countries.

Table 4: Number of countries categorized according to whether they had high or hyper inflation at least one year in given periods

	High Inflation (20-100%)	Hyper-inflation (≥ 100%)	Total number of countries
1970-1979	77	5	150
1980-1989	69	19	152
1990-1999	92	38	177
2000-2004	24	4	177

Source: Compiled from *International Financial Statistics*, International Monetary Fund, 2004

Table 5: Number of countries categorized according to their average inflation level in given periods

	High Inflation (20-100%)	Hyper-inflation (≥ 100%)	Total number of countries
1970-1979	14	2	150
1980-1989	26	8	152
1990-1999	32	25	177
2000-2004	8	3	177

Source: Compiled from *International Financial Statistics*, International Monetary Fund, 2004

What makes recent high inflation cases puzzling is that over the last decade inflation has significantly decreased on a global scale mainly through neoliberal policies. Global inflation was 14.1 percent in 1980-1984. It has dropped from 30.4 percent in 1990-94 to 3.9 percent in 2000-2004. Developing countries had a 31.4 percent average inflation rate in 1980-84 and 53.2 percent in 1990-94, but only a 5.6 percent average inflation rate in 2000-2004.[3] Kenneth Rogoff (2003), the chief economist of the IMF, calls this phenomenon "global disinflation." He attributes this global drop in inflation largely to improved independence of central banks and greater awareness, especially among politicians and policymakers.

Does this mean that the policymakers and politicians in the countries that still have high inflation are unaware of the dangers of inflation and/or the policies to deal with it? This is unlikely, because dangers of inflation and the policies to end inflation are common knowledge. There should be other explanations that can account for the inability to end persistent inflation. Although most scholars focus on the economic sources of chronic inflation, this research focuses on socio-political variables to explain why some countries were unable to end their chronic inflation problem, despite the emphasis of international monetary authorities on anti-inflationary policies and increased awareness about inflation in the last two decades.

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[3] Data taken from IMF, *World Economic Outlook, 2004.*

1.2   COSTS OF INFLATION AND DISINFLATION

Inflation is considered an economic ill because of the alleged costs it imposes on the economy, such as uncertainty, distortion of prices, and worsening of income distribution. However, it is difficult to generalize about the effects of inflation. Most of these effects depend on the type of inflation, whether it is moderate, high, hyper, anticipated, or unanticipated. For example, redistributive effects on inflation depend on whether the social groups anticipate inflation and can adjust to it (Bronfenbrenner and Holzman 1963).

The effects of hyperinflation and persistent inflation are also different. While the costs of hyperinflation are pretty obvious to public (fall in economic growth, extreme economic certainty, decrease in investment, and so on), costs of persistently high inflation are ambiguous at best. Moreover, hyperinflation can usually be eliminated at once and the result is not very costly. Therefore, it is much easier for policymakers to decide eliminating hyperinflation compared to persistent inflation. Moreover, persistent inflation countries have already got used to living with high inflation, so there are fewer incentives to get rid of inflation. There is also less credibility on the part of policymakers, as probably they have tried to eliminate inflation several times with no success (Vegh 1992).

There is no real agreement between scholars on whether inflation really affects economic growth (Temple 2000). However, there is a common belief, due to Philips curve theory, that a decrease in inflation may bring a rise in unemployment at least in short term (Siklos 2003). As suggested by Samuelson and Nordhaus (1989), costs of inflation are obscure and unclear, while the costs of unemployment are obvious and clear. Therefore, there is a natural tendency among the public to favor employment over elimination of inflation.

9

Another problem is that inflation stabilization programs are usually recessionary (Calvo and Vegh 1994; Calvo and Vegh 1999). Therefore, the real costs of inflation appear once states decide to eliminate high inflation, as policies that decrease inflation generally repress economic growth, increase unemployment, decrease profits, and slow down business activity. These usually result in an economic stagnation (Weintraub and Jutabha 1981; Samuelson and Nordhaus 1989). Such conditions created by disinflationary policies are socially and politically undesirable, as citizens expect a prosperous and growing economy from their policymakers (Keehn 1980). Therefore, governments that create stagnation while trying to decrease inflation suffer from severe loss of popularity (Paldam 1994).

Despite the above mentioned costs, most governments have chosen to implement disinflationary policies to eliminate high inflation. The question is why some have done it early, while others, like in Turkey, have delayed it until 2000s.

1.3   EXPERIENCES WITH PERSISTENT INFLATION

All case countries of this study experienced high and persistent inflation. Although some of their experiences were similar, they also had diverse economic conditions and used diverse methods to deal with them. Turkey, Argentina, Brazil, and Mexico followed a similar development pattern by starting to follow Import Substitution Industrialization (ISI) development strategy in the 1930s and by implementing it more profoundly in the 1950s and 1960s. This development model began to collapse in 1970s, and coupled with the oil crisis and general economic slowdown in the world, all of these countries began to suffer from high inflation. Israel's inflation was more due to its costly international wars and high defense expenses.

When the 1982 debt crisis started, Argentina, Brazil, and Mexico were not able to find foreign debt. Inflation became rampant and they intensified their economic liberalization efforts in an attempt to recover from the crisis. Argentina and Brazil tried a series of heterodox and orthodox stabilization programs, but the success with disinflation came in 1990s with orthodox plans. On the other hand, without experiencing too many failed attempts, both Israel and Mexico eliminated persistent inflation with heterodox plans earlier than Argentina and Brazil did. Turkey, on the other hand, had no success in stabilization up until 2001. Below are the details about the experiences of these countries.

1.3.1 Turkey's Experience with Inflation

Turkey is a perfect example of a country experiencing persistent inflation. Starting from the 1930s Turkey implemented inward-oriented, state-led economic policies, as part of ISI. During those times, inflation was a problem only during the World War II. After the War until late 1970s, Turkey had one-digit inflation, except some sporadic surges in inflation. In 1978, 1979, and 1980, IMF supported austerity measures were implemented to put rising inflation under control, but they proved unsuccessful (Hershlag 1988).

In January 1980, Turkey initiated a neo-liberal stabilization program as a response to the serious balance of payments crisis and recession, which hit the economy in the second half of the 1970s. This period also coincided with an increase in inflation. The stabilization program, which received wide support from the IMF, World Bank, and the OECD, changed the direction of the Turkish economy from inward oriented import substitution industrialization to a free-market based system. The primary goals of the program were balancing the payments and decreasing inflation (Öniş and Özmucur 1990). The program achieved its balance of payments objective and

brought economic growth, but it failed to decrease inflation to single digit levels, despite the measures taken, such as devaluation of the exchange rate, liberalization of interest rates, and tight monetary policies. Inflation declined after the January 1980 stabilization program for three consecutive years, but still it remained over 20 percent.

Despite rising inflation, developments in the Turkish economy in the 1980s were impressive. After 1983, inflation began to rise again while the economy started to grow vigorously (Nas and Perry 2000). Turkish economy grew 4.6 percent on average between 1981 and 1985 and the growth rate reached 8.1 percent in 1986. The exports also grew from 5.2 percent in 1980 to 15 percent in 1985 (Öniş and Özmucur 1990). However, this economic growth was volatile and there were major macroeconomic instabilities. For example, the February 1988 disinflationary program soon proved unsuccessful due to political instability and the inflation increased further (Alper and Üçer 1998). In fact, both Turkish scholars and businessmen were complaining that tight monetary policies deteriorated income distribution and decreased economic growth and investment (Hershlag 1988).

In the 1980s, the Turkish government took various measures in order to decrease inflation. As part of the new neo-liberal economic agenda, foreign exchange regime was liberalized in 1984 and Turkish Lira became convertible in 1989. Some measures were also taken to increase Central Bank independence after 1986. Moreover, in the second half of the 1980s, the government changed the deficit financing method from monetization, which is the most inflationary way, to bond financing and tried to stabilize the exchange rate to control inflation (Dibooglu and Kibritcioglu 2001). However, despite these reforms, inflation continued through the 1990s.

In 1994 a foreign exchange crisis occurred and this resulted in another IMF supported stabilization program in April 1994. With short-term monetary and fiscal policies, inflation fell from 106 percent in 1994 to 82 percent in 1996, but started to rise again immediately due to political instability (Alper and Üçer 1998; Nas and Perry 2000). In 1995, 1998, and 2000, the government introduced a series of disinflationary policies, but again failed to eliminate high inflation (Dibooglu and Kibritcioglu 2001). In February 2001, Turkey had another major financial crisis that resulted in another major stabilization program and vast IMF assistance, which finally started to decrease inflation permanently.

Why was Turkey unable to eliminate high inflation up until the 2000s? Not because the policymakers did not know about the negative effects of inflation. One answer is that in Turkey disinflation was never the most important policy goal of the policymakers (Alper and Üçer 1998). Although disinflationary policies were implemented, they were always short-lived. This situation lasted until the beginning of the 21st century. But why was this the case? Because knowing about the economic policies that can eliminate inflation is not enough. What is needed is the "willingness" of policymakers and thus the "political ability" to implement these disinflationary policies consistently. The purpose of this dissertation is to examine this aspect of the inflation problem.

1.3.2   Inflation Experiences in Argentina, Brazil, Mexico, and Israel

Argentina, Brazil, and Mexico had somewhat similar economic experiences. They were all ex-colonial countries which inherited unequal wealth distribution and dependent development patterns (Baran 1957). Thanks to the Great Depression in 1929-31, not only Turkey but also these three Latin American countries tried to break their dependency by implementing ISI from

the 1930s on. The ISI development strategy increased industrialization rapidly in these countries but it began to run its course in the 1970s. Increased state expenditures, unmet by the increases in the state revenues, eventually caused high inflation.

Argentina's economy had recurring cycles of hyperinflation followed by attempts of stabilization. When the military took power in 1976, the ISI was seen as the cause of economic crisis, so the authoritarian government began to implement sweeping neoliberal economic reforms in 1977. Trade was liberalized, currency was devalued, prices were liberalized, and wages were frozen. It was also hoped that liberalization would discipline organized groups, erode social basis of populism in Argentina, and create a stable political order (Schamis 1999).

In 1978 economy was in recession but inflation was still above 150 percent. Therefore, the government decided to deepen the liberalization of the economy and initiated a price stabilization plan, known as *Tablita Plan*. In order to decrease inflation, this program preannounced exchange rate which was set at levels below the inflation rate. However, it soon caused the Argentine currency to overvalue, and thus, increased trade deficit. Also, total debt rose from $4 billion in 1978 to $9 billion in 1979 (Schamis 1999). In the 1980s, the real per capita decreased 0.4 percent annually while the foreign debt grew (Beckerman 1992).

When Alfonsín administration (1983-89) took power after democratic elections, the economy was a mess. There was huge public debt, deep recession, and high inflation (Beckerman 1992). The new government initiated a heterodox stabilization plan in 1985, known as the *Austral Plan*. However, although this plan reduced the inflation rate to less than 100 percent in 1986, inflation started to rise again in 1987. Another stabilization program, *Plan Primavera,* was initiated in August 1988 and the currency was devalued. This was also a

heterodox program which included wage and price controls. Yet, by 1989 public debt was unsustainable and inflation rate skyrocketed to over 3,000 percent (Beckerman 1992).

Elected in May 1989 elections, President Carlos Menem (1989-1999) opened a new phase in the Argentine economy. The next day after taking office in July 1989, Argentina's next heterodox stabilization program, the *Bunge y Born Plan (BB Plan),* was announced. This plan also collapsed like the *Plan Primavera*. Next, Menem launched a deep-seated liberalization of the economy, which included sweeping privatization and subsidy reduction. He also initiated a new price stabilization plan in 1991, the *Convertibility Plan*. The *Convertibility Plan* was a quite orthodox economic plan which pegged peso one-to-one to dollar and made peso fully convertible. This plan immediately achieved price and exchange-rate stability. It also created economic growth for several consecutive years.[4]

In the late 1990s Argentina failed to maintain balance of payments surpluses. With economic crises in East Asia (1997), Russia (1998), and then in Brazil (1999), the Argentine economy increasingly became prone to economic instability and finally had a severe crash in 2001. As the Argentina went through its worst economic crisis, the *Convertibility Plan* was abandoned in 2001 and the crisis pushed inflation to 25.9 percent in 2002.[5] However, Argentina returned to stability in the following years.

Like Argentina, inflation was an enduring problem in Brazil. The average annual inflation rate was 18 percent in 1950-60, rose to 60 percent in 1960-65, and then it went down to 28 percent in 1966-70. In the first years of the 1970s, inflation remained below 20 percent, but from 1975 on the annual inflation rate remained above 20 percent (Graham 1982). By the late

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[4] There was economic growth between 1991 and 1998, except the economic decline in 1995.
[5] Data taken from the *International Financial Statistics* (2006) of International Monetary Fund.

1970s Brazil already had chronic high inflation and a balance of payments problem. This situation worsened with the 1982 debt crisis (Baer 2001).

As Brazil was suffering from chronic budget deficits and high public debt, inflation continued to rise in late 1980s. Before the *Cruzado Plan* was announced by the Jose Sarney government (1985-90) in February 1986, monthly inflation rates were almost 25 percent (Beckerman 1992). *Cruzado Plan* was a heterodox plan that included wage and price freezes. It was based on the idea that Brazil's inflation problem was largely caused by inertia. This plan worked well at first, but soon proved to be a failure due to public deficit, monetization, and decline in agricultural output (Baer 2001).

After the collapse of the *Cruzado Plan*, inflation began to rise with a rapid pace. Monthly inflation rate soared to over 20 percent. In 1987 a new heterodox plan, *Bresser Plan*, was introduced. This was not a major stabilization program, and unlike *Cruzado Plan*, its goal was just decreasing high inflation not eliminating it. It included a three month wage freeze, some public spending cuts, and devaluation of the currency. Also, unlike the *Cruzado Plan* which caused overheating in the economy, *Breser Plan* tried to decrease consumption by tight monetary policies (Baer 2001).

After *Bresser Plan* failed, Brazil had another heterodox stabilization program, the *Summer Plan* (1989), which also collapsed in few months because of rising public debt and hyperinflation (Beckerman 1992). With the support of the IMF, a new economic program, the *Collor Plan,* was announced in 1990 by the Collor administration (1990-92). The government also liberalized trade, privatized important state enterprises, and deregulated the markets. The *Collor Plan* sharply tightened monetary policies, but as the economy got into recession government yielded the political pressures and brought the end of the plan (Bruno 1993).

The next government was led by Itamar Franco (1992-95), who had no choice but initiate another stabilization plan as hyperinflation became rampant. His finance minister Fernando Henrique Cardoso came up with a new plan, called *Real Plan* (1994). Unlike the previous plans, *Real Plan* brought fiscal adjustment. It also included a new indexation system and tight monetary policies (Baer 2001). Cardoso also continued with the deregulation of the economy and privatization.

Real Plan succeeded in decreasing inflation and the economic recovered. However, the crises in East Asia and Russia caused significant capital flight and sparked another economic crisis in 1999. Unlike Argentina, the government chose to devalue the currency. The devaluation helped to moderate the crisis and by 2000 economy began to recover.

The Mexican economic system has been different from Argentine and Brazilian systems because it was based on the corporatist structure that the Institutional Revolutionary Party (PRI) established during its six decades long dominancy (Stevens 1977). This system involved state ownership of key industries; subsidization and protection of private industry; some redistributive policies; and co-optation of intelligentsia, labor and peasant leaders (McCaughan 1993).

In Mexico 1950s and 1960s were known as the era of "stabilizing development," because it was period of low inflation, stable exchange rate, and rapid growth (Schamis 1999). However, 1970s were characterized with budget deficit and the economic instabilities because of increased government expenditures. In fact, the Luis Echeverría government (1970-76) followed overly expansionary fiscal and monetary policies that caused a cycle of inflation similar to Argentina and Brazil. As a result, the government had to introduce a stabilization program that included a 59 percent devaluation of the currency in 1976 (Schamis 1999). This was the first devaluation in Mexico since 1954 (Heath 1999).

Thanks to the oil revenues and availability of foreign debt, the government continued to spend extensively during the presidency of López Portillo (1976-82). Yet, the oil prices fell, and the government failed to tighten fiscal and monetary policies. With the fear of a new devaluation the private capital began to flee Mexico. As a response, Mexico nationalized all its banking system in August 1982 and announced an involuntary debt moratorium, marking the beginning of the world wide "debt crisis" (Lustig 1998).

With rampant inflation and increased capital flight, De la Madrid administration (1982-88) took a series of economic liberalization measures, but could not prevent inflation to rise above 100 percent in 1987. As a result the government initiated a comprehensive stability plan known as the *Economic Solidarity Pact* (or *Solidarity Plan*) in December 1987. This plan involved deep structural reforms that liberalized the economy further, but at the same time it was a "heterodox" plan which included wage and price controls. It decreased inflation slowly but effectively. By 1989 inflation dropped to 20 percent levels and by 1992 inflation rate was already under 20 percent.[6]

From the presidency of Salinas de Gortari (1988-94) on, Mexican economic policies were deeply neoliberal. The successive governments of Salinas, Ernesto Zedillo (1994-200), and Vincente Fox (2000-06) liberalized trade, liberalized foreign investment, and privatized most state enterprises. Mexico even entered into a free trade agreement (NAFTA) with the US and Canada in 1994. After experiencing another economic crisis right after this agreement, inflation increased to 35 percent in 1995, but by 1998 it was again below 20 percent and never increased again to over 20 percent.

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[6] Data taken from the *International Financial Statistics* (2006) of International Monetary Fund.

Similar to Mexico, Israel's inflation also persisted but not the extent of Argentina and Brazil. However, the economic history of Israel is quite different from the Latin American countries and Turkey. First of all, as it came into existence only in 1948, Israel has a shorter economic history. In the first years of its existence, the Israeli economy was highly politicized as political parties controlled allocation of resources. However, by time, the Israeli economy gradually switched to the free market model and internationalized its economy.

In the beginning the Israeli economy was highly centralized, significant state aid was provided to agrarian labor, and collectivism was the operating principle more than efficiency and profitability (Aharoni 1998). Despite that, Israel had a balanced budget until the 1960s. However, the 1967 Six Days War and the 1973 Yom Kippur War increased military expenditures and created significant budget deficits. Nonetheless, unlike the Latin American cases, Israel continued to have the ability to borrow because of the foreign support it had, especially from the US (Beckerman 1992). Yet, this did not prevent inflation from rising in the 1970s. From 1974 to 1984, there was high inflation in Israel. Because of long-standing indexation and dollarization of the economy, inflation problem was exacerbated (Nitzan and Bichler 2002).

After following expansionary policies in the early 1980s, a financial crisis hit the Israeli economy in 1983. With the crisis inflation rose even further and public debt increased. When the National Union government (coalition between Likud and Labor parties) came to power in September 1984, domestic debt was more than the GDP and foreign debt was half of it (Beckerman 1992). In 1984 and 1985, annual inflation rose above 300 percent. The government tried to cut expenditures, but inflation remained high. Finally in July 1985, the government announced a major heterodox stabilization plan. The 1985 economic plan relied on a wide

national consensus to initiate a decrease in consumption in order to stop inflation. The main labor organization and main business association agreed to limit wage and price increases. At the same the US provided a $1.5 billion grant to support international reserves (Aharoni 1998).

Despite the failure of heterodox stabilization plans in Argentina and Brazil, the Israeli heterodox plan proved to be a success. The budget deficit dropped sharply and so did inflation. By 1987, the inflation rate was already under 20 percent. The consumption increased and wages rose (Leiderman 1993). At the same time government reformed the economy by liberalizing the financial markets and cutting public expenditures. Inflation remained at low double digit levels until 1997, but then it even decreased further and the economy stayed in good shape since stabilization (Nitzan and Bichler 2002).

1.4   PURPOSE OF THE STUDY

The puzzle that this study tries to explain is persistent inflation, which has affected some countries continuously for decades. As mentioned above, this study argues that persistent inflation cannot be explained solely by economic approaches. Inflation persists because policymakers are not willing to introduce the disinflationary policies on time. Politically they may not be capable of bearing the possible costs of disinflation in the short-term, so they keep delaying it. We need to analyze the socio-political context of a country in order to understand why policymakers keep on implementing inflationary policies.

In order to explain persistent inflation I will supplement economic views of inflation with a socio-political approach. Here I challenge the mainstream view of inflation, which states that inflation is by and large a monetary problem, by evoking socio-political arguments. I argue that

international political factors, such as the strategic position of a country and the security threats it faces; political factors such as political regime type, political system, system of elections and political parties; and social factors such as poverty and inequality determine the resilience of the inflation problem by determining the capacity of the state to tackle it through consistent stabilization policies. Therefore, the economic, political, and social context of a country must be analyzed together to understand the persistence of inflation.

This study does not seek to explain why inflation problem appears initially. Rather it seeks to explain why it persists. It does not reject economic explanations of persistent inflation. However, it tries to complement those views by offering socio-political reasons of why inflation is not reduced with the same promptness in all countries.

This study is motivated by the puzzle of persistent inflation in Turkey, but it also focuses on four other countries with persistent inflation, Argentina, Brazil, Israel, and Mexico. These countries stabilized prices at different times. It is a good demonstration of how diverse have been the experiences of even very typical cases of persistent high inflation. This diversity of experience urges us to investigate what determines policymaker's willingness or ability to achieve sustained price stability. A larger sample cross-national analysis is also employed to obtain statistically significant findings.

1.5   SIGNIFICANCE OF THE STUDY

Inflation is one of the most important concerns of policymakers and it has been subject to large amounts of scholarly research. Inflation not only has been a widespread economic problem with important repercussions, but also different approaches to this problem through history reflects

shifts in economic ideas. Although today most economists believe that the ultimate goal of monetary policy is low inflation, scholars have not yet made confident conclusions about neither the costs of inflation nor the optimal rates of inflation (Romer 1996). Therefore, the subject of inflation is still open to debates and puzzles to which this research strives to contribute.

First of all, this research favors and contributes to the "socio-political approach" in the literature. Purely economic views, especially monetarist theory, are incomplete and cannot explain why inflation persists. This research will argue that inflation is not only a monetary problem, as suggested by some mainstream economists, like Milton Friedman. The fight against inflation is always a political task, despite the efforts of international institutions to present it solely as an economic challenge. A comparison of the Turkish case with Argentina, Brazil, Mexico and Israel can provide a good understanding of the socio-political bases of success in eliminating persistent inflation.

Most of the debates on inflation seem to have been settled in favor of the neoliberal view that favors price stabilization over other economic and political goals. This study rejects the primacy of price stability over other economic goals such as growth, employment and redistribution and even over political goals. In fact, while many countries succeeded in stabilizing their prices in the last decades, they made no improvement or even experienced deterioration in other aspects of the economy, such as poverty, income distribution and employment (see Chapter 8 and Appendix-II). This dissertation supports the view that economics and politics are inseparable and we have to study inflation and its control through multiple dynamics. Achieving an economic goal, like eliminating inflation, may worsen other economic spheres and threaten political stability, which may then threaten economic stability. Therefore,

economics and politics should be seen as parts of a complex whole and each economic problem should be analyzed with its political aspects.

Similarly, prioritizing the solution of an economic problem may cause us to ignore the political conditions necessary to accomplish that solution. This study makes us more aware of the political context of economic policymaking. For instance, it is contestable which comes first: political stabilization or price stabilization? It is argued in this study that sustained disinflation is more possible after necessary political conditions are established. Therefore, failed attempts to stabilize prices can at least partly be explained by lack of favorable political conditions. This is a totally different perspective than many mainstream arguments that blame the governments for their economic failures. It also rejects the utility of uniform economic policies and goals, as each country has unique political structures and institutions.

While some scholars have studied the effects of the political regime type, political system, electoral and party system, and inequality on inflation, this is one of the few studies that also investigates the relation of security issues to inflation. To my knowledge, this study will also be the first one that measures inflation by its persistence over the years. Most studies measure inflation directly by its percentage rate or its logarithm. However, my focus is on the continuity of high inflation, not its actual rate. Any inflation rate over 20 percent is considered high, and thus, problematic. Yet, persistence of high inflation for more than ten years is much more problematic than having hyper inflation for few years, because persistent inflation indicates a government's failure to resolve the problem.

This study is also unique as it studies inflation by combining five case studies with a large sample cross-national analysis. Typically, scholars have employed either large sample

cross-national analysis or case studies. By combining the two methods, this study adds rich detail to general findings.

1.6   PLAN OF THE STUDY

This dissertation is divided into ten chapters. Chapter 2 gives a review of important literature on inflation and its causes. This review not only summarizes the major views on inflation and its stabilization, but also it introduces the "socio-political" approach, which guides this study.

Chapter 3 presents the research questions and explains why a socio-political approach is preferred to answer these questions. It also develops a model that explains failure or success of governments in stabilizing prices through a theoretical and conceptual framework. The model also introduces all variables used in this study, the sources of these variables, and how they support the socio-political approach. Lastly this chapter presents the research design and methodology of this study. The use of comparative case methodology and a cross-national design with a larger sample is justified and the selection of cases is explained.

The five country case studies are presented in Chapters 4 through 8. These chapters analyze the socio-political variables and how they affect the ability to decrease inflation through case studies. Chapter 4 focuses on international influences, such as strategic importance, security threats, and international aid, and how they influence the ability to stabilize prices in Argentina, Brazil, Israel, Mexico, and Turkey. Chapter 5 looks into political regime and analyzes especially how the level of democracy and regime stability affect success of governments in price stabilization. Chapter 6 focuses on political systems and analyzes whether presidential systems or parliamentarian systems are more successful in price stabilization. Chapter 7 discusses the

effects of different electoral and party systems on price stabilization. Chapter 8 looks into two social factors, inequality and poverty, and analyzes if these factors influence the ability to stabilize prices.

Chapter 9 presents cross-national analyses with a larger sample of developing countries. These analyses show the relations between persistence of inflation and various socio-political factors discussed. Through various statistical methods, this chapter analyzes the same groups of socio-political variables analyzed by the case studies for a larger sample.

The final chapter summarizes findings from the comparative case analysis and the cross-national analysis with larger sample. Findings of these two different analyses are summarized and compared. After making some conclusions from these findings, implications and limitations of this dissertation are discussed to guide further research in the field.

2.0 SURVEY OF THE LITERATURE[7]

Inflation has been a widely researched topic in academic circles. During the 1970s, scholars focused on the rising inflation in industrialized countries. As these countries began controlling inflation, attention shifted to Latin American countries because of high or hyper-inflation. The literature on inflation is generally focused on the causes of inflation and fails to acknowledge that its persistence is a different phenomenon than its emergence. Also, the debate has been mostly between monetarists and structuralists (with all their varieties) and today there is almost no debate as the monetarist view has become very dominant.

Inflation is defined as sustained increase in the price levels of goods and services in an economy that causes a fall in the purchasing power of the currency. Although its origins are probably as old as the origins of money (currency), it was a particularly disturbing phenomenon in the 20th century. Indeed, Irving S. Friedman (1975) calls the last century the "Century of Inflation" (p. 159). Although different scholars use different classifications of inflation, for the purposes of this study, I consider *hyper-inflation* to be a rise in prices of greater than 100 percent per year, *high inflation* to be any rise in prices between 20 percent and 100 percent per year, and

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[7] Except the section on Turkish inflation literature, this literature review is only focused on the research done on inflation from the 1960s until the early 1980s, when that topic was a very popular one due to inflationary period among industrialized countries. The recent political economy literature which touches upon the issue of inflation will be presented in the coming analysis chapters as they become relevant.

low inflation to be price rises less than 20 percent per year.[8] I define *persistent inflation* as hyper- or high inflation (rise in prices of greater than 20 percent) that continues 10 or more consecutive years.

2.1   ECONOMIC THEORIES OF INFLATION

Most scholars have tried to explain the inflation problem in economic terms. Like in many modern economic topics, literature on inflation is a divided one. On the one hand there are liberal views on the topic, on the other hand there are Marxism influenced views. Liberal views on inflation are mainly represented by monetarism, while the leftist view is mainly represented by structuralism. The literature also represents a debate between monetarists vs. Keynesians.

Monetarists see inflation solely determined by the money supply, while Keynesians emphasize the role of aggregate demand, of which money supply is only one determinant. The most significant contribution of Keynesian analysis to the study of inflation is the *Phillips curve*. As a late Keynesian view, it was first developed by Alban W. Phillips (1958). The *Phillips curve* set up a relationship between the changes in money wages (rise in price of labor) and the unemployment rate. Richard G. Lipsey (1960) further developed Phillips' work and demonstrated a negative relationship between excess demand for labor and unemployment rate. Paul Samuelson and Robert M. Solow (1960) suggested that a trade-off between inflation and unemployment existed, and argued that governments have a policy choice between inflation and unemployment.

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[8] Cagan (1956) defines hyperinflation as a rise of 50 percent in prices per month, while Gordon (1981) defines it as a rise of at least 1,000 percent per year. Fischer, Sahay, and Vegh (2002) define "very high inflation" as a rise of over 100 percent in prices annually.

By the end of the 1960s, the Phillips curve came under severe criticism, especially by monetarists, such as Milton Friedman (1968), Edmund S. Phelps (1972), and Michael Parkin (1973). A monetarist view on Phillips curve, *Non-Accelerating Inflation Rate of Unemployment* (NAIRU), or *natural rate hypothesis*, distinguished between the short-term and the long-term Phillips curves. This theory argued that the trade-off between inflation and employment is valid only in the short-term and inflationary policies may lead to stagflation rather than higher employment (Phelps 1967; Friedman 1968; Phelps 1968). In the long run, there is no trade-off, so policy-makers cannot achieve lower unemployment with a little bit of inflation.

On the other hand, the *rational expectations theory* suggested that the period for trade-off between inflation and unemployment was so short that it can be considered non-existent. This theory argued that any attempt to reduce unemployment below the NAIRU would immediately raise inflationary expectations and cause the policy to fail (Sargent 1971; Lucas 1972, 1976).

Phillips curve (and its critique) generated the first important debate on inflation. Shortly after, two rival inflation models were developed in the 1960s: the demand-pull model and the cost-push model. The demand-pull model can be seen as the origin of liberal view on inflation, which later led to monetarism. It stressed the level of demand in an economy. Accordingly, if the demand increases in excess of supply, then the prices of scarce goods and services rise until supply and demand reaches equilibrium. This excess demand can result from increases in the money supply, increases in government purchases, and increases in exports. This theory was proposed by both Keynesians and quantity theorists (monetarists), such as Harry G. Johnson (1972a), Michael Parkin and Michael Sumner (1973), and Rudiger Dornbusch (1975).

The c*ost-push* model of inflation is more a leftist view on inflation and it later influenced structuralism. It emphasized the impact of increases in the cost of production (labor, capital,

intermediate products, raw materials, or even taxes and exchange rates) as the cause of inflation. Lindbeck (1972), George L. Perry (1966; 1975), and Robert J. Gordon (1972; 1975) argued that rises in costs of production create further price rises unless they are balanced by increases in productivity.

A deeper theoretical division in the economic literature emerged in the 1970s between the "monetarist view" and the "structuralist view." Monetarists were deeply influenced by the demand-pull theory while structuralists were influenced by the cost-push theory. In the monetarist theory, inflation is a key topic. This theory suggests that "inflation is always and everywhere a monetary phenomenon" and it is simply the outcome of growth of money supply in excess of money demand (Friedman 1970). Monetarists also argue that, as inflation is solely a monetary problem, it is the monetary authority's responsibility to take the necessary measures to reduce it (Beckerman 1992). In general, all monetarists associate fiscal deficits or balance of payments deficits with inflation.

This view reached its peak in early 1970s primarily through the writings of Milton Friedman (1968; 1970; 1971), Karl Brunner (1972), Brunner and Allan H. Meltzer (1976), David E. W. Laidler and Michael J. Parkin (1975), Edmund S. Phelps (1972), Philip Cagan (1971; 1973; 1974; 1979), Franco Modigliani (1977), and later with Helmut Frisch (1983). The monetarist theory is still the mainstream view today both in academia and in policy world.

Monetarists are not a uniform group. Monetarist view has two main varieties: the *fiscal view* and the *balance-of-payments view*. The *fiscal view* argues that the fiscal deficit, which is mostly financed through money creation, is the main cause of high and chronic inflation. It originated in the work of Phelps (1973) and still represents the most widely accepted model of inflation. M. Friedman (1972) also maintains that budget deficits produce inflation if they are

financed by creating money. Even if they are financed by borrowing from public, they may still cause minor inflation. Other main representatives of this view are Leonall C. Andersen and Keith M. Carlson (1970), Brunner and Meltzer (1976), and Franco Modigliani and Albert Ando (1976). The alternative *balance of payments view* sees exchange rate depreciation caused by balance of payments crises as the principal reason of inflation. Some representatives of this view were Johnson (1972b), Robert Mundell (1971), Jacob A. Frenkel (1976), David E. W. Laidler (1975), and Alexander K. Swoboda (1976).

The *structural view* has been the most powerful alternative to all versions of monetarism. In fact, structuralism is a version of cost-push inflation theory that largely attributes inflation to non-monetary, supply-side effects. According to structuralists, inflation is the outcome of deeper problems related to what happens on the "supply side" of the economy. Structures in developing countries, such as inefficient agricultural sectors, rapid urbanization, limited foreign and domestic resources, distorted industrial structures, and monopolized or oligopolistic markets, cause bottlenecks in the economy and constitute the real causes of inflation.

Unlike monetarists, structuralists argue that in analyzing inflation, specific characteristics and structures of an economy are as important as general macroeconomic relations. For instance, they suggest that inflation is an indication of distributional conflict, which is inherent in all capitalist economies but more pressing in developing countries. Hence, inflation is not simply a monetary problem, but it is a "structural" problem. They do not reject the argument that monetary factors partially determine inflation, but they suggest that inflation will continue until the underlying economic, political, and social constraints cease to exist.

Structural views were used to explain inflation in both advanced and developing countries. Paul Streeten (1962), Julio H.G. Olivera (1964), William J. Baumol (1967), John R.

Hicks (1975), and Geoffrey Maynard and Willy van Rijckeghem (1975) used structural theory to explain inflation in industrialized countries. A *Scandinavian model* of structuralism made the contribution of combining structural explanation with an explanation of how inflation is transmitted from the world market to small economies. Some representatives of this version of structural view are Odd Aukrust (1970) and Gosta Edgren, Karl-Olof Faxen, and Clas-Erik Odhner (1973).

Probably the most important contribution of the structuralists is their vigorous explanation of inflation in developing countries. Structuralists see the inflation problem as a problem of development and underdevelopment (Kirkpatrick and Nixon 1976). Thus, many proponents of structural view, such as Dudley Seers (1962; 1964), Celso Furtado (1967), Gunnar Myrdal (1968), Rosemary Thorp (1971), Osvaldo Sunkel (1960), and Victor Argy (1970), have analyzed inflation particularly in developing countries, and especially in Latin America. They have pointed out structural constraints or "bottlenecks" in developing economies that facilitate inflationary pressures. Sunkel (1960) identifies three main inflationary constraints which were generally shared by all structuralists: 1) bottlenecks in food production, 2) foreign exchange constraints, and 3) lack of financial resources. Also, like structuralists that have focused on the industrialized world, they saw inflation as a consequence of government efforts to reconcile social conflicts.

Despite vigorous and prominent explanations by its proponents, the structural view lost popularity by the early 1980s. As the neoliberal view gained more and more recognition, structural problems were no longer mentioned as explanations of inflation. Today the monetarist theory continues to be the dominant view on inflation in both academia and the policy world.

As discussed above and as can be seen in Figure 1, the theory of inflation has always involved a debate between opposing views: first between the demand-pull and cost-push views, then between the monetarism and structuralism, which were influenced by the demand-pull and cost-push views. Although monetarists shared many of their premises on inflation with Keynesians, these two views challenged each other when it comes to the relation between employment/output and inflation. The monetarists and structuralists have also their sub-theories, such as fiscal view, balance of payments view, and the Scandinavian model.

Figure 1: Classification of economic theories of inflation
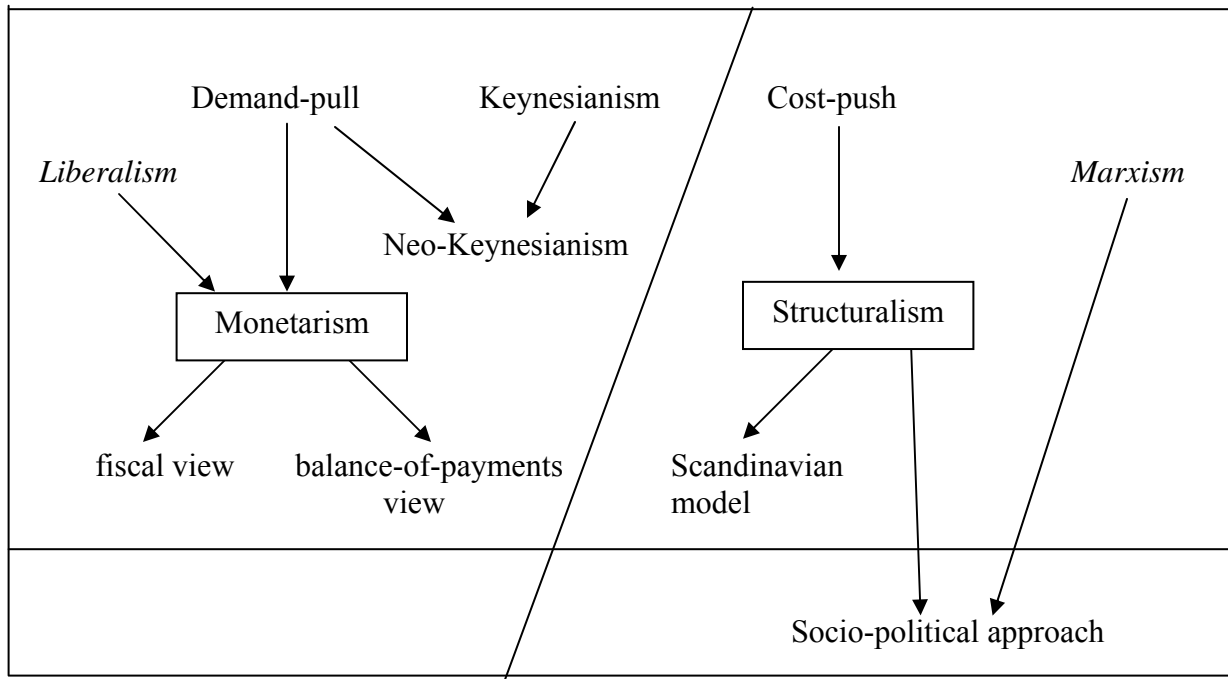
This study argues that neither of these economic views provides a complete explanation to inflation, particularly persistent inflation. The explanation that may be most helpful in terms of

understanding persistent inflation is the socio-political approach. This view has been influenced by structuralism, as it focuses on structural causes of inflation. However, rather than emphasizing economic structures, it emphasizes the role of political and social structures. It has also been influenced by Marxism, as it refers to class conflict.

2.2   SOCIO-POLITICAL APPROACH TO INFLATION

Economic theories have well formulated explanations of inflation, but they also have limitations. One of the obvious shortcomings in economic approaches to inflation is their inability to explain why certain countries experience persistent inflation. This study holds the view that inflation cannot be approached solely as an economic matter and that we need to complement the economic approach with a socio-political approach in order to understand its persistence.

This study is not the first to approach inflation by taking social and political factors into consideration. Some scholars have already suggested that inflation has various social and political implications and it cannot be considered exclusively as an economic problem. For example, Irving S. Friedman (1975) argues that inflation creates political problems and weakens the governments since it increases social problems and affects income distribution. In the early 1970s, some sociologists and political scientists got interested in the inflation problem and initiated the socio-political approach to inflation (Phelps-Brown 1971; Hicks 1974; Hirsch 1978).

Although the structural view introduced some international and domestic structural issues into the analysis of inflation and had a more comprehensive explanation than monetarism, structuralists have also limited their analyses mostly to the economic realm. As Fred Hirsch (1978) has maintained, economic factors can explain *how* inflation happens, but they cannot

fully explain *why* it happens. The same thing can be said for the persistence of inflation as well. Economic difficulties, like fiscal problems or trade deficits, facilitate an inflationary environment, but they are themselves endogenous factors that are affected by some social and political factors. Therefore, in order to understand inflation, we need to analyze conditions that facilitate the economic mechanisms that provoke inflationary pressures. Many of these other conditions are essentially socio-political, like social conflicts, extent of democracy, and the dynamics of political institutions.

According to a socio-political approach, socio-political factors, such as democratization, class demands, and social and political institutions, exert inflationary pressures on the economy.[9] Proponents of this approach suggested that social and political factors affect inflation, and inflation affects social and political structures (Maier 1978; 1985). They maintained that in order to have a better understanding of the inflationary process, a political and institutional approach is necessary (Lindberg 1982; Lindberg, Maier *et al.* 1985).

To many of the theorists who did their research in 1970s primarily on industrialized countries, inflation was related to the governments' difficulty in responding to rising expectations of their people. Excess expectations of social groups not only increase through economic development, but also are exacerbated by democratization and the struggle to improve or maintain their relative position (Jay 1976; Brittan 1977, 1978; Hirsch 1978). Thus, as O'Connor (1973) has maintained, inflation can be a sign that the internal contradictions of capitalism are leading to an "unresolvable fiscal crisis of the state." In the 1970s, increases in expectations required more social spending while budget revenues were not keeping up with the expectations. According to I.S. Friedman (1975) "…persistent inflation, which is both caused by

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[9] The socio-political approach to inflation was developed by scholars, such as Leon N. Lindberg, Charles S. Maier, Fred Hirsch, John H. Goldthorpe, and Colin Crouch.

34

inadequate government and results in heightened disbelief in government, has resulted in increased reliance upon it. Indeed, more and more people turn to it as the 'only' way out..." (p.159). Therefore, inflation may be a result of growing social expectations and the governments' inability to meet these expectations without creating more money.

Inflation, then, can be considered as a way of relieving potential or existing socio-political instability by government. Goldthorpe (1978), Crouch (1978), and Fox (1974) argue that governments yield to inflationary pressures in order to avoid social conflict. According to Crouch (1978), inflation is a means to delay resolution of class conflicts. As British Labor Party's slogan of the 1970s "the rich man has his money, and the poor man has his politics" indicated, distributional demands are sooner or later carried to the political arena, especially in democracies. When policymakers implement expansionary economic policies, they also try to "accommodate pressures that threaten or appear to threaten the broad political and constitutional fabric ..." (Hirsch 1978, p. 276). Inflation has been mostly experienced in societies and periods in which political and distributional struggle has been most intense and most threatening. We can expect this struggle to be more intense in societies with high inequality and to be more threatening within countries which do not have stable political regimes.

The socio-political approach to inflation developed in the 1970s and 1980s concluded that the increasing power of unions pushed governments to spend more on social payments, causing growth of budget deficits in a recessionary economic environment and, consequently, acceleration of inflation. For example, Mancur Olson (1975) stated that,

> To the extent that… governments and nationalized industries usually offer less resistance to unions than do firms who must pay wage claims out of their market-constrained receipts, we would expect the growth of nationalized industry…, and the advance of public sector unionism… to have added to wage-push, and thus unemployment and the demand for inflation… (p.867)

35

This approach was developed primarily to explain the growth of inflation in the 1970s in those industrialized countries whose regimes were feeling the pains of increasing pressure from unions and the crisis of the welfare state. It did not explain inflation in developing countries, since they lacked advanced welfare systems and high rate of unionization.

According to other political analysts, the inflation problem is related to the self-interested nature of politicians. This idea comes from the well-known argument of Schumpeter (1942) that politicians attempt to maximize votes, in the same manner as businessmen try to maximize profits. Thus, there is competitive struggle for people's votes and economic policies are shaped by this competition. Downs (1957) argues that the people vote according to their future economic expectations and their future expectations are determined by their current economic performance. Therefore, in order to maximize votes, politicians have to take the existing and possible economic benefits to the voters into consideration. Following from Schumpeter, Gordon (1975) argues that inflation is the result of vote-maximizing behavior of the politicians as they respond to the "demand for inflation" by the social groups that gain from inflation, especially through various welfare benefits. As a more recent scholar Michael R. Smith (1992) also argues that politicians provide cash, goods, and services to voters to buy their votes and the consequent expansion of the public sector generates inflation as it makes the economy less efficient and pushes the government to print money to pay for the budget deficit.

Accordingly, inflation occurs when state spending increases more than the increase in revenues. As taxes are politically unpopular, the government does not raise taxes to pay for the increase in spending. Instead, it creates more money, and thus, inflation. The costs of stabilization (e.g. unemployment, economic recession) make inflation acceptable, or even preferable, for the majority of the constituents (Maier 1987). Politicians faced with rising prices

have often chosen to perpetuate the inflationary process by printing new money, accepting higher wage requests, and continuing to use public sector spending rather than choosing the political risk of government restructuring, budget cuts, and austerity (Kryzanek 1995). Thus, amid rising social demands and falling public revenues, politicians used inflation to maximize votes.

Some studies on inflation use the political business cycle theory, which was championed by William D. Nordhaus (1973), assumes that voters are myopic, and politicians are vote-maximizers. Politicians manipulate the economy temporarily to their advantage to increase growth and employment in order to gain more votes, and those boom-bust cycles and stop-go policies cause economic instability. The problem is that, these expansionary monetary policies used to maximize votes lead to a temporary increase in economic activity (around elections times), and an increase in inflation with a lag follows (Drazen 2000). Typically governments try to increase employment and economic growth before the elections by using expansionary policies, which induce inflation, unemployment and falling growth after the elections (Nordhaus 1975; Alesina and Gatti 1995). This argument suggests that governments may manipulate the economy to buy votes by using the short-term reverse relationship between inflation and unemployment. Therefore, economy booms and unemployment decreases before the elections, and then this period is followed by an economic recession and rise in inflation (stagflation) after the elections, forcing the government to follow tight economic policies. An inflationary boom is repeated toward the next election.

Some scholars have argued that, as inflation is an economic problem with socio-political roots and effects, the solution to it should also come from the socio-political sphere. For example, Michael Gilbert (1985) has suggested that we should try to discover what social and political conditions are most favorable to dealing with inflationary pressures. According to

37

Goldthorpe (1978), "the problem of inflation is a political problem: approach to [inflation] depends on what kind of society one wants… This is a matter, ultimately, for political action." (p.215). Thus, solutions to inflation may also come from the political realm, such as reaching a political consensus across classes on economic policies.

While a political and sociological approach to inflation exists, it is not complete. Many scholars who adopted this approach focused exclusively on advanced economies, although most of the countries which have experienced inflation are developing countries. Therefore, a renewed attention on socio-political determinants of inflation is necessary for those who seek a comprehensive understanding of the inflation problem, especially in developing countries.

Inflation has been studied vigorously by economists. Various economic approaches to inflation help us understand the different causes of inflation (e.g., monetization, budget deficits, and developmental problems) and they also depict the type of economic policies that are needed to end this problem. However, when it comes to explaining persistent inflation, economic theories are less useful. Socio-political theories of inflation complement the economic theories, because they can help us understand why and how governments choose the unsound economic policies they pursue. For instance, they can explain why governments continue to implement inflationary policies for extended periods of time although economic policies to end inflation are widely known at least for the last two decades.

2.3   THE LITERATURE ON TURKISH INFLATION

Turkey is one of the most typical cases of persistent inflation and research on Turkish inflation has almost exclusively followed the two main economic approaches, monetarism and

structuralism. Although these studies contribute to our understanding of Turkish inflation, they fail to acknowledge the socio-political grounds of chronic inflation in Turkey. Indeed, inflation has persisted in Turkey throughout the liberalization of the economy and endured several economic crises (see Figure 2).[10]

Figure 2: Inflation and GDP growth in Turkey (1975-2000)
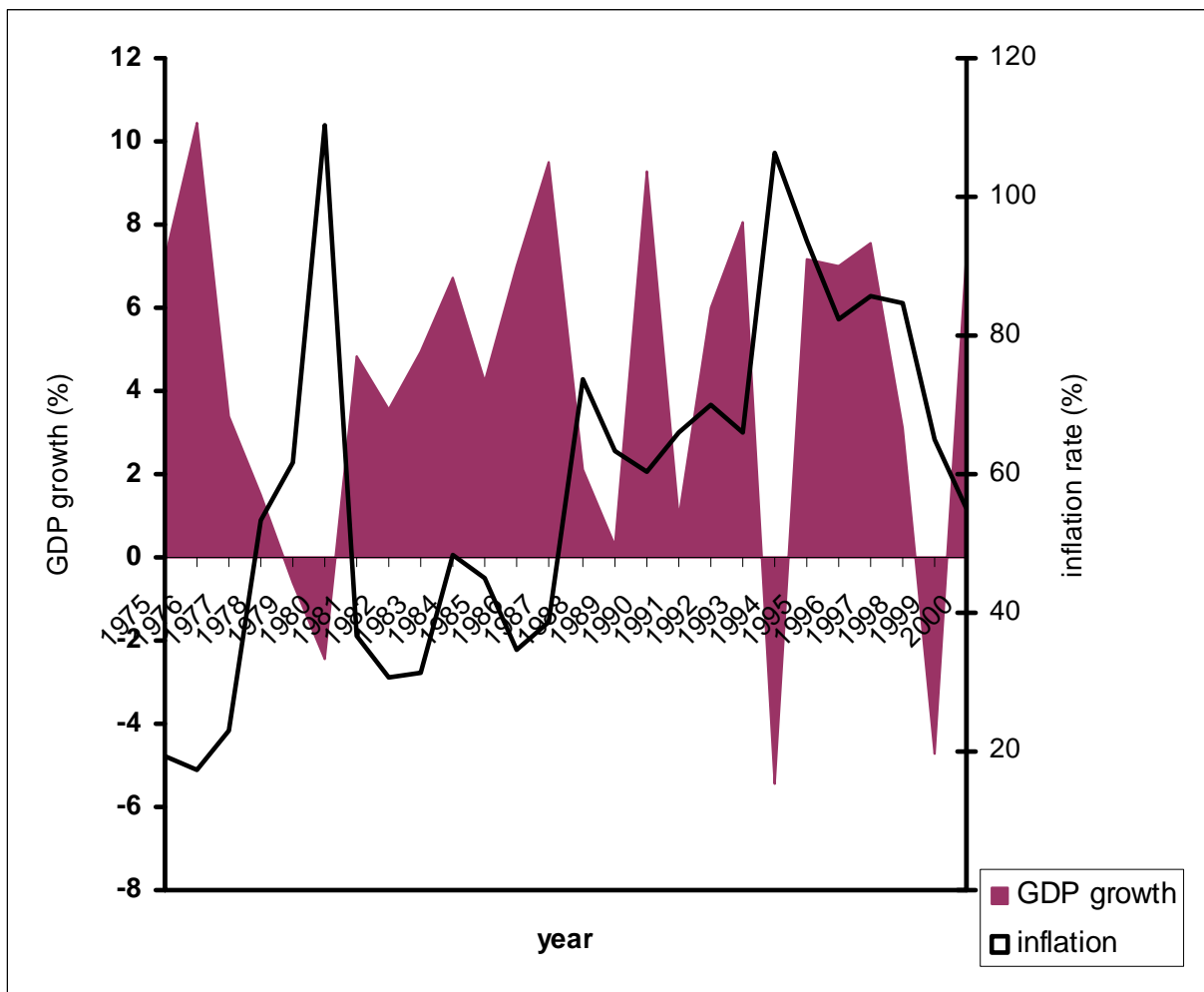
Source: Compiled from *World Development Indicators*, The World Bank, 2006

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[10] The extensive liberalization of the Turkish economy started with the January 24, 1980 economic decisions of the government and continued since then.

The studies on inflation have focused primarily on Latin American countries and some on Israel. Turkey has captured less attention from the leading scholars although, over the last thirty years, it has continuously suffered from inflation. Hence, an explanation of the Turkish inflation is crucial in order to understand conditions that impede disinflation. There exist some socio-political studies of Turkey's inflation. Yet, particularly lacking is a socio-political explanation of why Turkish government, unlike their counterparts in other parts of the world, has not been able to decrease inflation to single digit levels until the 21st century. One of the motives behind this research is to fill this gap in the literature on Turkish inflation, especially on the socio-political front.

While the inflation problem in Turkey has been studied by several scholars, these studies are exclusively economic.[11] The Akyüz (1973), Ertuğrul (1982), and Aksoy (1982) studies on inflation investigate the pre-1970s period. Akyüz's study supports the monetarist view, whereas Ertuğrul's and Aksoy's studies support more the structuralist view. The analyses of the pre-1980 inflation maintained that expansion of the domestic credits and foreign exchange shortages caused by the oil shocks were the two main factors that increased inflation (Kibritçioğlu 2002).

Inflation that appeared in the late 1970s and continued throughout the 1980s and 1990s, showed a much more persistent character. Therefore, it attracted much more attention from the scholars of both monetarist and structural perspectives. The findings of some empirical studies on Turkish inflation in the 1980s and 1990s suggest that, in an economic environment of

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[11] Some scholars who studied inflation in Turkey are Togan (1987), Öniş and Özmucur (1990), Özatay (1992), de Santis (1993), Rittenberg (1993), Yeldan (1993), Lim and Papi (1997), Agenor and Hoffmaister (1997), Metin (1995; 1998), Alper and Üçer (1999), Yeldan and Cizre-Sakallioglu (1999), Kibritçioğlu and Kibritçioğlu (1999), Erlat (2001), Kibritçioğlu (2002), and Kibritcioğlu et al. (2002).

extensive currency substitution, exchange rate policies are the main cause of inflation.[12] Another argument is that interest rates are the most important determinant of inflation (Togan 1987; De Santis 1993; Insel 1995; Darrat 1997). Probably the strongest and most common approach identifies budget deficits as the main cause of the Turkish inflation (Yeldan 1993; Metin 1995; Akçay, Alper *et al.* 1997; Lim and Papi 1997; Alper and Üçer 1998; Metin 1998). Most of these studies fall under the monetarist approach. Some studies have focused on inertia, the expectation of inflation. These studies attempt to explain the persistence of inflation in Turkey, rather than the causes of inflation.[13]

As indicated by Kibritçioğlu (2002), "the role of political process in explaining Turkish inflation has been in general ignored in empirical modeling efforts" (p. 35). Turkish governments suffer from many political weaknesses, like insufficient consolidation of democracy, instability, patronage, and ineffectiveness, that affect economic policymaking. However, very few scholars have investigated these factors' relation to inflation.

Yeldan (1993) made the first attempt to study Turkish inflation from a political economy perspective. His structural approach looks into distributional issues, as it emphasizes the effect of public sector expenditures on Turkish inflation. Asaf Savas Akat (2000) has also made an attempt to analyze Turkish inflation through a political perspective with some emphasis on the behavior of actors such as politicians, social groups, businessmen and bureaucracy, but his study mainly focuses on economic factors with a monetarist view. Tevfik F. Nas and Mark J. Perry (2000) consider the effects of the Turkish political environment on inflation. They suggest that

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[12] Some studies which focused on exchange rate policies as cause of inflation in Turkey are Öniş and Özmucur 1990; Insel 1995; Agenor and Hoffmaister 1997; Darrat 1997; Erol and Wijnbergen 1997; Lim and Papi 1997; Akyürek 1999; Kibritçioğlu and Kibritçioğlu 1999; Metin-Özcan, Berument et al. 2004.

[13] Some studies which focused on inflation inertia in Turkey are Özatay 1992; Insel 1995; Akçay, Alper et al. 1997; Lim and Papi 1997; Alper and Üçer 1998; Metin 1998; Akyürek 1999; Kibritçioğlu and Kibritçioğlu 1999; Erlat 2001; Metin-Özcan, Berument et al. 2004.

political instability and the opportunistic policy behavior are associated with high inflation in Turkey. Mine Ergun (2000) provides a more thorough empirical study of political economy of inflation through an analysis of relations between political business cycles and inflation.

All the above mentioned research on Turkish inflation is summarized in Table 6. In sum, there are various studies which try to explain Turkish inflation through purely economic views and most of these studies hold the monetarist view. These studies present us different economic mechanisms that cause inflation in Turkey, but they fail to explain the persistence of inflation in Turkey. The studies that come closer to do that are ones focused on inflation inertia. There are only few limited attempts to look into socio-political factors to explain persistence of Turkish inflation.

Table 6: Research on Turkish inflation according to their explanations of Turkish inflation

Main Causes of Turkish Inflation	Works
Exchange rate regime	Öniş and Özmucur 1990; İnsel 1995; Erol and van Wijnbergen 1997; Lim and Papi 1997; Agenor and Hoffmaister 1997; Darrat 1997; Kibritçioğlu and Kibritçioğlu 1999; Akyürek 1999; Metin-Özcan, Berüment, and Neyaptı 2001
Interest rates	Togan 1987, DeSantis 1993, İnsel 1995, and Darrat 1997
Budget deficits	Yeldan 1993; Metin 1995; Akçay, Alper, and Özmucur 1996; Lim and Papi 1997; Alper and Üçer 1998; and Metin 1998
Inertia	Özatay 1992; İnsel 1995; Akçay, Alper, and Özmucur 1996; Lim and Papi 1997; Alper and Üçer 1998; Metin 1998; Kibritçioğlu and Kibritçioğlu 1999; Akyurek 1999; Erlat 2001; Metin-Özcan, Berument, and Neyapti 2001
Political factors	Yeldan 1993; Akat 2000; Nas and Perry 2000; Ergun 2000

2.4   ASSUMPTIONS

There is an intensive literature on inflation, but none of these approaches seem to explain persistence of inflation in developing countries such as Argentina, Brazil, and Turkey. One of the two main theories in the literature, monetarism, contributes to our understanding by explaining inflation in terms of changes in demand and supply of money. It focuses on the economic factors (e.g., monetization, budget deficits) that increase the supply of money, and thus cause inflation. Accordingly, inflation can be dealt by controlling the supply of money. However, monetarists fail to explain why some governments continue not controlling money supply although they know that it eliminates inflation. Therefore, they are unable to explain persistence of inflation. Only a political explanation can tell us why governments keep on pursuing unsound policies.

Structuralists contribute to our understanding of inflation by focusing on structural problems of the economy that cause inflation. Although some streams of structuralist view focus on advanced countries, most structuralists recognize that inflation may be related to problems of development. They are better at bringing up persistence of inflation as a separate problem, as they argue that inflation would persist as long as the structural problems that cause it cease to exist. Yet, their explanations become questioned as many countries chose to pursue disinflationary policies and succeeded in eliminating inflation without changing their economic structures and the monetarist view continued to be the dominant view.

There is a socio-political approach in the literature. However, most of the research done with this approach is focused on industrialized countries and their socio-political problems, such as unionization and welfare state. This dissertation is focused on inflation in developing countries and the possible socio-political problems that may make those countries prone to

persistent inflation. Unlike their counterparts in the advanced world, these countries do not have strong unions or welfare state, but inflation in some of them has become persistent.

This dissertation does not directly challenge the arguments of the economic or the socio-political views discussed above. Instead, it accepts some of their arguments and tries to build on this extensive literature. The following assumptions guide this study and many are taken from the existing literature:

1. *Budget deficits are the main causes of inflation*: As most economists agree today, the main cause of inflation is unsustainable budget deficits generated by the governments that spend more than their revenues. A common way to pay for deficits is printing more money, and thus, causing inflation. For example, government subsidies given to farmers may contribute to budget deficits. Although such subsidies usually prove to be economically costly, they are initiated by policymakers as a result of political motives. This assumption that links budget deficits and inflation mainly comes from monetarism with "fiscal view." As Rogoff (2003) puts it, "…pressure to finance government debt and deficits, directly or indirectly, has been the single most important driver of inflation" (p. 48). Therefore, this study assumes that inflation rises and persists because of government debt and deficit.

2. *Budget deficits are at least partially generated because governments redistribute resources to social groups to assure their survival:* All governments, either democratic or authoritarian, need strong support to survive. They allocate more resources to constituent groups, and thus spend more from the budget, when their survival is at stake. This assumption comes from the existing socio-political approach, which sees inflation as a result of politics and distributional conflict. According to this approach, governments

inflate while they are trying to pay off to social groups in order to prevent or resolve social conflict and stay in power.

3. *National context is important:* Much of the literature assumes that inflation is caused and persists because of similar problems everywhere. Therefore, national differences are not emphasized. In contrast, this research tries to understand persistence of inflation by looking at different socio-political contexts of countries. Different countries have different social and political settings and different institutional attributes. Therefore, governments deal with inflation in diverse ways. For instance, some countries never let inflation become persistent (especially East Asian countries, such as South Korea), some prefer orthodox policies to deal with persistent inflation (like transition economies in East Europe), some prefer heterodox policies (like Mexico and Israel), while some leave inflation persist long time without any serious attempt to deal with it (e.g. Turkey).

4. *At least since the 1980s, policymakers and politicians are aware of the inflation problem and its possible solutions*: Economists clearly specify policies to end inflation. For instance, monetarists identify a very simple solution to inflation: control of money supply. According to their approach, persistence of inflation implies ignorance of the policymakers. However, lack of information about the effects of inflation and necessary policies to deal with inflation can no longer be a credible cause of inflationary policies. Because of globalization and wide spread economic knowledge, policymakers are well aware of necessary economic policies that would end inflation for the last decades. This study assumes that policymakers and politicians all around the world are well informed about the negative effects of inflation since the 1980s and the economic policies to

eradicate it. Inflationary policies are not persistently chosen because politicians believe that inflation is good.

5. *In most cases when inflation persists, it persists because of deep political and social problems*: I do not suggest that economic factors and economic policies do not matter for persistence of inflation. I agree that economic factors, such as budget deficits and monetization, cause inflation. Yet, I argue that there are social and political causes that lead to such bad economic policies and outcomes. Unconsolidated democracy, political instability, social and political fragmentation, inequality, and high threats to security are some of the factors that facilitate persistence of inflation, even though they do not cause inflation directly. Such problems may cause governments to spend more and avoid austerity measures, and thus, end up with chronic inflation. The socio-political approach in the literature considers some of these factors, but mostly for advanced countries. Also, the socio-political approach fails to link these factors to the persistence of inflation.

2.5 SUMMARY

Although economic stabilization measures, such as fiscal and monetary austerity, can decrease inflation, politically it is not always easy to implement these measures, because they are widely unpopular. Taking this fact into consideration, this study argues that persistence of inflation has socio-political dynamics. Therefore, this study strives to find out the relation between several socio-political factors (e.g., security concerns, democracy, political institutions, and inequality) and the ability to eliminate inflation problem.

As with all other economic problems, inflation is an outcome of the interaction between economic and political factors, and it requires a multi-disciplinary analysis. The purpose of this study is to create a comprehensive framework to explore *persistent inflation* by adopting an analysis that combines economic, political, and social links of the problem.

Economic theories show us how the mechanics of inflation work and how inflation can be stopped. Social-political approach reminds us that, like all other economic problems, inflation cannot be solely seen as an economic problem and it is not an easy to resolve problem because of its deep socio-political connotations. Based on some premises of the economic approaches and inspired by the existing socio-political approach, this study investigates the factors behind the persistence of inflation.

Economic literature explains the persistence of inflation only partially. And the existing socio-political approach is too much focused on few political and social factors (welfare state and unionization) that are not very relevant for developing countries. This dissertation is focused on developing countries and looks into some factors (e.g. security threats, democratic consolidation, and electoral system) that the existing literature has not emphasized.

3.0   THEORETICAL FRAMEWORK AND RESEARCH DESIGN

This study is based on the idea that, considering its causes and effects, inflation is not simply an economic problem. When inflation problem appears, various kinds of disinflationary fiscal and monetary policies are available for policymakers, but not all policymakers choose to adopt and implement them to stop inflation. Thus, it would be interesting to explore what discourages governments from implementing disinflationary policies in a timely manner. The theoretical framework presented here indicates that the answer may be found in the socio-political features that characterize states.

As discussed in Chapter 2, monetarism (or neo-liberalism) has been the dominant approach to inflation over the last two decades. However, it may not provide an adequate explanation for persistent inflation, because it focuses on the causes of inflation. Since most developed and developing countries have chosen orthodox policies[14] in the last two decades and almost all of them were able to decrease inflation, monetarist policies are considered to be the solution to inflation by most economists and many policymakers. While this study sees monetarist policies as an effective treatment of inflation, it also argues that some policymakers are not able or willing to introduce those policies, and thus, they continue to live with inflation. In other words, disinflationary (monetarist) policies are available to policymakers, but they are not always preferred because of some socio-political grounds.

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[14] *Orthodox economic* policies are the tight fiscal policies and a fixed exchange rate regime to battle inflation.

As structuralists suggest, certain inherent economic structures of developing countries, such as lack of resources, and oligopolistic markets, may make them more prone to inflation.[15] For instance, oligopolistic markets cause prices to rise, as there is not enough competition, and cause inflation. These are enduring problems, so structuralists anticipate persistent inflation. However, structuralists fail to include political structures to their analysis. Moreover, explanations of structuralists are contradicted by the fact that most of the developing countries have been able to decrease inflation in the last two decades, despite their economic structures. Monetarist remedies for inflation work everywhere, whether it is an advanced country or developing country or whether there are structural economic problems or not. Similar kinds of disinflationary policies (tight fiscal policies and a fixed exchange rate) were implemented in countries as diverse as Iceland, Israel, Nicaragua, and Argentina with success (Hamann and Prati 2003). Hence, structural theories might have explained the emergence of inflation by structural economic problems, but they have failed to provide an explanation for its elimination, particularly under democratic conditions.

My hypothesis is that, **persistent inflation has some socio-political roots and it endures because those socio-political reasons affect the choices of economic policies**. We can identify endless number of factors that may affect a state's ability to control inflation, be it economic, political, social, or legal. However, the focus of this research is the following: a country's strategic position in the world (whether it is an important country for great power politics) and the level of security threats it faces; its domestic political institutions (political regime, political system, and electoral and party system); and its degree of inequality and

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[15] Although structuralists ignored political structures, they did focus on some social structures, such as inequality, and monopoly capital. They argued that severe income inequalities in the society may create spirals of inflation (Hirschman 1981, 1985). See chapter 8 for a detailed analysis of the relation between inequality and inflation.

poverty. These factors affect the economic policies chosen and implemented, and thus, they influence the endurance of the inflation problem.

There are various political and social factors that influence governments' decisions in choosing their economic policies. A country's security may be a factor. That is, if the is continuously under threat, it may have to spend considerable resources for its security needs, which in return can increase inflation and impede stabilization efforts under some circumstances. Another political factor may be that, strategically important states are more advantaged in receiving international funds, which may help them to battle with inflation.

This study argues that domestic political factors may be another determinant of economic policies that sustain inflation. Regime type may determine how much economic policies are contested and whether the public has influence on the policies. Democratic countries formulate their economic policies more in line with their constituents' demands, as they worry about re-election. Parliamentary systems are supposed to be more sensitive to constituents' demands, since, unlike presidential systems, most of its forms seek consensus among different parties. Thus, they produce larger government (Persson and Tabellini 1999). They may also be more prone to fall down since they depend on the parliament's confidence (Linz 1990, 1994). This is especially true if the electoral system is a proportional representation one (Powell 1982). Also, as the party system is more fragmented and competitive, the government becomes more concerned about its survival and its economic decisions become more short-sighted (Grilli, Masciandaro *et al.* 1991b).

Domestic social structures are also expected to affect persistence of inflation. Probably the most important social structures that impact inflation are the level of income and the distribution of income. I agree with the structuralists that developing countries have fewer

resources, so their stable growth opportunities are more restricted. They also have fewer resources to distribute to their people. Most developing countries are highly stratified with large gaps between social strata. Policymakers may need to pay off some groups in order to maintain stability. Thus, as structuralists have also suggested, many developing countries may use inflationary policies as a temporary means of redistribution and changing these policies is not easy. For instance, they give subsidies to certain sectors or provide excess employment in state owned enterprises which contribute to budget deficits and those deficits may be funded through creation of more money. Cutting these benefits may help the government control inflation but, at least in the short-term, it may create political opposition of the groups that gain from these benefits.

In short, there are various social and political factors behind persistent inflationary economic policies. The goal of this research is to reveal some of these factors and to suggest that, although lax fiscal and monetary policies produce it, chronic inflation is not simply a monetary problem as monetarists argue. The economic policies that the monetarists suggest can decrease inflation. However, monetarism or any other merely economic theory falls short of explaining persistent inflation, because they say nothing about the motivations and choices that drive economic policies. A full understanding of persistent inflation requires an analysis of socio-political factors that promote inflationary policies.

At the same time, a better understanding of inflation does not necessarily mean giving inflation priority over other problems. On the contrary, understanding the linkages between inflation and socio-political issues may help us recognize that economic policies which are considered "sound" by international institutions, such as the IMF and World Bank, are not always a priority for governments. Governments feel the need to balance price stabilization goal

with other economic, social, and political goals such as employment, redistribution, and regime stability.

3.1   RESEARCH QUESTIONS

In this study, I try to explore why some governments cannot or do not address the inflation problem in a timely manner. I argue that a framework that attempts to account for persistent inflation should incorporate socio-political factors. Therefore, the central question this research seeks to answer is **how socio-political factors deter economic policies that eliminate inflation.** The answer to this question may then explain the differences in success in battling persistent inflation.

Many different economic causes of inflation can be listed, e.g. high public sector budget deficits, persistent inflationary expectations of agents, changes in exchange rates, monetization, and so on. Because these fail to consider the role of social and political influences, they are inadequate. However, this study mainly focuses on the **socio-political factors on inflation, which inhibit or make it difficult for governments to apply disinflationary policies that would end persistent inflation**.

In trying to specify the socio-political conditions that cause inflation to persist, this dissertation tries to answer three main sub-questions:

1. How do strategic and security concerns affect choices of policies regarding inflation?

2. How do domestic political structures and institutions influence choices of policies regarding inflation?

3. How do social structures, particularly poverty and inequality, affect choices of policies regarding inflation?

3.2   THE MODEL

The goal in this study is to provide a more comprehensive account of persistent inflation than mainstream economic theories have thus far offered. Therefore, the model that directs this study is composed of some international and domestic socio-political factors that facilitate policies that allow inflation to persist.

This dissertation is built on a model in which the dependent variable is the **persistence of inflation** (see Figure 3 below)**.** Also, in this study persistence of inflation implies **inability of the state to choose policies that would stabilize prices**. The independent variables are **international political factors** (strategic importance and security threats), **domestic political factors** (political regime type, political system, and electoral and party system), and **social factors** (inequality and poverty). The intermediary variable **international aid** (loans and grants) links some international factors to persistence of inflation. It is also acknowledged that there is a policy link between the socio-political variables and persistence of inflation, i.e. socio-political variables influence the **economic policies chosen** which then determine whether the government can successfully eliminate inflation or continue to have high inflation. However, given the worldwide acceptance of monetarism and undesirability of inflation since early 1980s, it is

assumed that all governments would adopt disinflationary (monetarist) economic policies unless

they are limited by the social and political factors.[16]

Figure 3: Suggested Model of persistent inflation[17]
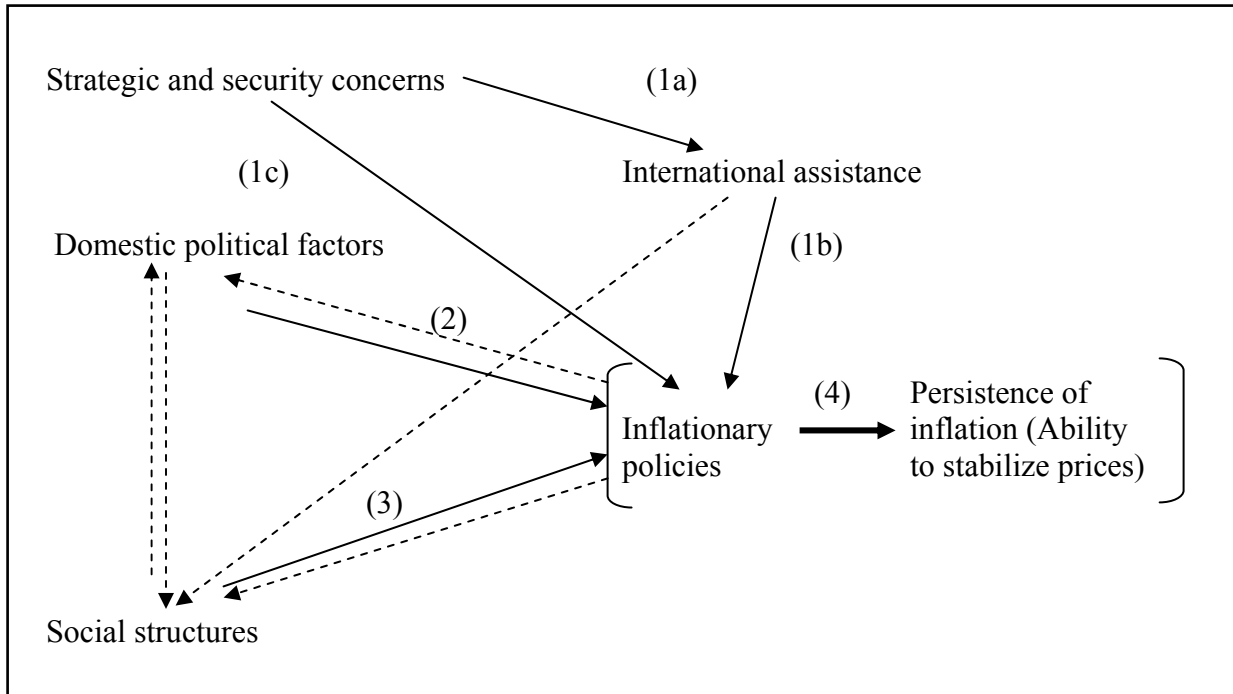
Hypothesis (1): Strategic position and security concerns of a state may directly and indirectly influence its ability to succeed in price stabilization, as they affect the economic policies chosen.

(1a): Strategically important states are treated more generously by the IMF and World Bank as they are given more international aid.

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[16] This means that some factors, such as political beliefs, political courage or risk averseness, are not taken into account in this dissertation. If the time span of this study went further back into 1950s and 1960s when monetarism was not the dominant economic view and undesirability inflation was more debated, it would be impossible to ignore these factors,.

[17] Although dashed lines also show relations between variables, they are excluded from the analysis in order to simplify the model and the explanation.

(1b):   International aid increases states' ability to battle inflation as this aid can be used to finance budget deficits that cause inflation.

(1c):   High security concerns cause states to spend significant economic resources on military. This makes it harder for these states to stabilize prices.

Hypothesis (2):   Political institutions of a state affect the economic policies chosen, and thus, the ability to stabilize prices.

Democratic regimes are more sensitive to demands of their constituents in choosing economic policies, so it may take them longer to stabilize prices.

Presidential systems are more able than parliamentary systems to introduce and implement price stabilization policies, as they can be less sensitive to the demands of their constituents.

It takes longer to chose and implement price stabilization policies if the party system is polarized and fragmented. Since proportional representation (PR) election systems produce more fragmented party systems, they are also more associated with persistent inflation.

Hypothesis (3):   Social structures related to income levels and income disparities influence the economic policies chosen, and thus, affect the ability of states to stabilize prices.[18]

Income inequality, i.e. differences of income between the rich and the poor, makes it harder for states to implement disinflationary policies, as those differences inflame populist economic policies.

The rate of poverty in a country makes it harder for countries to implement disinflationary policies, because poor masses encourage populist economic policies.

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[18] Although there may be other social structures that affect inflation, here the focus is only on income inequality and rate of poverty. This is also the only social structure that *structuralism* has focused on. The mainstream socio-political approach on inflation emphasizes unions and welfare state, but these are not well-established structures in developing countries, so they are not as relevant for the case studies of this study. Social groups and their respective power may influence inflationary policies, but this variable is very difficult to measure. And the rest of the social structures (e.g., family) do not have a direct relation with inflation or inflationary policies.

Hypothesis (4):   The persistence of inflation depends on fiscal and monetary policies chosen. Lax economic policies sustain inflation.

Although reasons behind the emergence of inflation may be the same for most states, the difference in the persistence level of inflation may be better understood when socio-political factors are taken into account. This dissertation argues that there are various international and domestic political and social factors that may make it harder for states to introduce and implement price stabilization. As a result, these states suffer from persistent inflation. Although these socio-political factors may also affect and interact with each other (as marked by dashed lines in Figure 3), this model only focuses on the relations that are thought to have the most important effects on price stabilization.[19]

The variables, their definitions, measures and sources of data are listed below. Detailed information on the measures and sources of data can be found in Appendix-I.

3.3   INDEPENDENT VARIABLES

In this study there are three main independent factors: strategic and security concerns, domestic political factors, and social structures. It is suggested that these three groups of factors influence the economic policies adopted, and thus, affect the ability of a state to stabilize prices and eliminate persistent inflation.

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[19] As shown in the model (Figure I.1), independent variables may be affected by each other and even by the dependent variable. Such relations may cause bias in statistical analyses through multicollinearity and simultaneous causality. In Chapter 9, this type of problems are handled by employing factor analyses, robust regression analysis, and some simple causality analyses that check whether there is reverse causality in the model.

3.3.1 Strategic and Security Concerns

Strategic position: According to the definition used here, the strategic position of a country is determined by its geographical location and its military power. Thus, a country is strategically important when it is geographically located close to or in the center of an area that is of main interest to great powers.

The strategic position of a country in the international system determines its relations not only with other countries but also with international financial institutions, like the IMF. Countries that are strategically important to the West are treated much more generously and with more tolerance by international financers, since the resources of these institutions are mostly provided by the Western countries (Stiles 1990; Bird 1996; Oatley and Yackee 2000).

It is hard to measure strategic importance, but this qualitative variable is evaluated through geographical location of a country and through some quantitative data about the size of its economy (see Chapter 4 for details). These data are taken from World Bank's *World Development Indicators* (WDI) database, *Country Indicators for Foreign Policy* (CIFP) database maintained by Norman Paterson School of International Affairs of Carleton University, and database of the *Bonn International Centre for Conversion* (BICC).

Security threats: In this study, security threat is understood as the possibility of military confrontation. It is related to how much a country feels militarily insecure. A security threat may come not only from other countries (e.g., a threat or actual military attack) but also from groups within the country (e.g., guerilla movements). A state that has the ability to acquire a dominant position in its relation to other states and to defeat all rebel groups within the country can be considered powerful, but it does not mean that it has fewer threats to its security. Security threats

are more related to whether the country has friendly or conflictual relations with other countries and whether there is political peace within the country.

Military resources are considered to be a solution to the feeling of insecurity of states. Security threats that a state perceives determine the demand for military spending. Unless its military spending is financed by other states, a state may have to spend significant amounts to provide its security. Therefore, for states under high security threats, fiscal and monetary austerity is harder to achieve. High security threats affect the battle with inflation as they require more economic resources to be diverted to military.

The security threats a state perceives are very much determined by the past and present conflicts the country has had. If a country is located close to or in the center of a conflict area, or if it has one or more confrontational neighboring countries, this is also an indication of amount of threats to its security. In this study, this variable is measured by the amount of military conflicts a country has had in the past and the existing conflicts with other states and within the country. These data are taken from *Conflictbarometer* report of the Heidelberg Institute of International Conflict Research (HIIK). Also, the geographical location of the countries is evaluated to determine whether they are more prone to conflicts.

International aid: In this study, international assistance is an intermediary variable. It links the variables strategic importance and security threats to price stabilization. It is argued that countries that are of high strategic importance receive more international assistance. International assistance help the recipients balance their budgets and, thus, help them stabilize prices.

There are three types of international assistance that are discussed in this study: assistance from international financial institutions (the IMF and World Bank), assistance directly from other states (official aid), and military aid. Significant international financial assistance may

help governments to stabilize prices as they directly relieve budget deficits. Yet, type of assistance may make a difference. Grants may be more helpful for eliminating persistent inflation than loans, as they do not need to be repaid in future.

In this study the variable international assistance is measured by the amount of assistance received from the IMF and the World Bank, official aid received from other countries, and military aid received from other countries. The data are taken from *World Development Indicators* (WDI) database of the World Bank, *International Financial Statistics* database of the International Monetary Fund (IMF), and the *Greenbook (The U.S. Loans & Grants*) database of the United States Agency for International Development (USAID).

3.3.2 Domestic Political Factors

Political regime type: In this study political regime type is a political spectrum that extends from democracy to dictatorship, i.e. it is related to how democratic or authoritarian a state is. Political regime type is determined by the extent of civil liberties and political rights, ranging from free and regular elections and free expression of thought to freedom of organizing. The degree of democracy is a factor that determines the influence of constituents on economic decision-making. Theoretically, the more democratic a country is, the more economic decision-making reflects the interests of the majority, so it would not be easy to implement economic policies that hurt the majority of the population (Cheibub 1998; Gasiorowski 2000a; Desai, Olofsgard *et al.*

2002). Although low inflation may eventually benefit all, the short-term burden of austerity policies to fight inflation is usually heavy, and thus politically risky, to be implemented.[20]

In this study political regime type is measured by indices of democracy and the changes in those indices. Some ready classifications are also used. These data are taken from the classification of regimes in *ACLP (Michael Alvarez, Jose Antonio Cheibub, Fernando Limongi and Adam Przeworski) Database* (1994); *Freedom in the World* statistics of the Freedom House; and *Polity IV Country Reports*, which is maintained by University of Maryland's Center for International Development and Conflict Management (CIDCM). *ACLP Database* makes three classifications of the regimes: democracy, bureaucracy (dictatorships with a legislature), and autocracy (dictatorships without a legislature). *Freedom in the World* ranks civil liberties and political freedom from 1 to 7, 1 representing the most free and 7 the least free rating. Through liberties and political freedom rankings, *Freedom in the World* also classifies countries as free, partly free, or not free.[21] In the *Polity IV* statistics, d*emocracy* and *autocracy* indicators are additive eleven-point scales (0-10), which are derived from codings of the competitiveness of political participation, the openness and competitiveness of executive recruitment, and constraints on the chief executive.[22]

Political system: The relations among a country's governing institutions differ depending on its political system, i.e. whether a country has a presidential, parliamentary or a hybrid political system. A political system concerns particularly the relation between the country's legislative

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[20] In cases of hyperinflation, like Argentina, Brazil, Nicaragua, and Peru, it may be easier for people to accept austerity compared to where inflation is only high or moderate as there is loess feeling of urgency and less acute fiscal imbalances.

[21] Countries whose combined averages for political rights and for civil liberties fall between 1.0 and 2.5 are designated "free"; between 3.0 and 5.5 "partly free"; and between 5.5 and 7.0 "not free."

[22] The polity score, which is the main indicator used from that database, is computed by subtracting the autocracy score from the democracy score. The resulting unified polity scale ranges from +10 (strongly democratic) to -10 (strongly autocratic).

and executive bodies. Although each country has its own variation on these political typologies, some conclusions have been drawn about the general characteristics of political systems and their relationship to political conflict and executive and legislative power.

In presidential systems the executive is not dependent on legislative support. Also, presidents are elected by voters, have paramount executive authority, and they are also formal head of state. This gives them a freer hand in policymaking. They have a tendency to make many economic policy decisions by issuing presidential decrees and to rely on insulated "technocratic teams" to develop and implement policies (Shugart and Haggard 2001; Cheibub and Limongi 2002). Thus, it can be suggested that, compared to parliamentary governments, which rely more on consensus, it is easier for presidential systems to initiate reforms and employ unpopular economic stability measures.

In parliamentary systems the executive (government) is dependent on legislative support and normally emerges from within legislature. As opposed to the presidential system, governments of parliamentary systems do not have fixed terms—they may be replaced at any time by legislature. The governments of parliamentary systems look for consensus (especially if the government is a coalition) in order to survive, since they are dependent on the confidence of the parliament. Therefore, their decision-making processes are more participatory as it involves negotiation, bargaining, and consultation (Shugart and Carey 1992; Sartori 1994b; Haggard and McCubbins 2001).

To measure this variable, states are classified as "parliamentary," "presidential," or "mixed system" according to the characteristics of their executive and legislative institutions. These classifications are taken from the *Database of Political Institutions* (DPI) of the Development Research Group of the World Bank.

Electoral and Party Systems: Political parties are institutions composed of coalitions of citizens that participate in the forming of the political will of the people and contest in elections for legislative seats and positions in government. They attempt to influence government by occupying it or by opposing it. A political party system is the system of interactions resulting from political competition among parties. Different parties have different economic programs, because they appeal to different interests, so their economic programs reflect their constituents' interests and they compete to attract more constituents.

The polarization and fragmentation of the party the system in a country is by and large determined by the electoral system. An electoral system is the system of rules regarding how politicians are chosen to political positions. There are two main types of electoral systems: _proportional representation_ (PR) and _majoritarian system_. The other electoral systems fall in between these two typologies. The PR facilitates and reflects polarization and fragmentation in the party system, as it allows tiny parties to hold seats (Powell 1982; Roubini and Sachs 1989a; Grilli, Masciandaro _et al._ 1991a). Majoritarian systems prevent this by their winner-take-all feature (Powell 1982; Stein, Talvi et al. 1998). Therefore, by looking at the electoral system of a country, we can get an idea about the polarization and fragmentation of the party system. The data on electoral systems are taken from the _Database of Political Institutions_ (DPI) of the Development Research Group of the World Bank.

The dominant perspective in political economy considers fragmentation and polarization of party system as political impediments to economic adjustment (Roubini and Sachs 1989a; Grilli, Masciandaro _et al._ 1991a; Haggard and Kaufman 1995; Mainwaring 1999). Therefore, it is expected that states with highly fragmented and polarized party systems have more difficulty

in consistently choosing and implementing disinflationary policies, and thus, controlling inflation permanently.

Polarization, defined as the ideological distance between parties, is an important element of political party system. The higher the polarization of parties is, higher is the politicization of economic policies. As parties ideologically diverge more from the center, some of them tend to advocate more lax fiscal and monetary policies. Polarization data are taken from the DPI, which measures polarization as the maximum difference between the chief executive's party's value (right, left, or center) and the values of the three largest government parties and the largest opposition party.

Political fragmentation is another important quality of a party system and it is defined as the number of political parties that are significant players in the legislature. Fragmentation of the party system is measured by some well-known indicators of fragmentation, such as the effective number of parties (Laakso and Taagepera 1979; Lijphart 1994) and the fractionalization index for the government, legislature, and the opposition (Beck, Keefer et al. 2004). Effective number of parties is defined as the number of political parties that are significant players in the legislature. It takes not only the number of parties but also their relative weights into account (Lijphart 1995). The fractionalization index is defined as the probability that, when you pick two legislators randomly, each belongs to different parties. Its value ranges between 0 and 1, and values greater than 0.5 indicate a multi-party system. As the index value approaches one, the number of parties in the system increases. The fractionalization data are taken from the government fractionalization, opposition fractionalization, and total legislature fractionalization

63

indicators of the DPI. The effective number of parties is calculated from the fractionalization values.[23]

3.3.3   Social structures

In the original socio-political approach to inflation power of the trade unions is the main focus as social factor and, as can be recalled from Chapter 2, it is because unions are powerful actors in most industrialized countries that these studies look into (Olson 1975; Crouch 1978; Goldthorpe 1978). However, this study chooses not to focus on unions as social factors, because they are not very powerful actors in developing countries which this study analyzes. Instead, as some structuralists did, inequality and poverty are used as social variables that affect inflation. According to structuralists, inequality and poverty are among the causes of inflation (Kuznets 1955; Hirschman 1981, 1985). Political economists, both old and new, also focused on inequality, especially the lack of consensus that it causes in the society which eventually encourages inflationary policies. Inequality and poverty determine many other structures in the society and polity, such as economic policies and political stability.

Inequality: In this dissertation inequality stands for income inequality and implies the degree of imbalance in the distribution of income. Inequality in a country gives us an idea about social structures in that country. Economically it is related to the amount of economic means and the

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[23] Fractionalization index is calculated for parties, which have seats in the legislature, by the formula $(1 - \sum s_i^2)$, where s_i represents party *i*'s proportion of the seats in the legislature. The **effective number of parties** is calculated as $1 / \sum s_i^2$. Therefore, by using the fractionalization index value, you can calculate the effective number of parties and vice versa.

share of economic output a class possesses relative to others. In unequal societies, there are huge gaps between social classes. Inequality also affects governments' ability to stabilize prices, as it shapes the economic policies chosen. Inequality may provoke social and political crises. The higher is inequality, the more conflictual may get the relation among classes (Burdekin and Burkett 1996). Then, the polity may get threatened and the economic decisions may be made to ease these conflicts or to avoid economic policies that would intensify them. Thus, usually when there are already tense class relations, austerity policies are hard to implement (Dornbusch and Edwards 1991; Easterly and Fischer 2001). Inequality may also bring some regimes into power that care less about inflation than redistribution.

The data on inequality are gathered from World Bank's database *World Development Indicators* (WDI). Inequality is measured through Gini coefficient and percentage shares of income.[24]

Poverty: Poverty implies lack of resources or low standards of living. In its extreme forms, people even lack enough food, clean water, any healthcare or any kind of education that would let them sustain their lives. Poverty may have an affect on ability to reduce inflation similar to that of inequality. High poverty indicates a considerable proportion of the population is deprived of necessary economic resources. As poor social groups are usually the less powerful ones, high poverty may mean less influence of these groups on economic decision-making. However, it

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[24] *Gini index* measures the extent to which the distribution of income among individuals or households within an economy deviates from a perfectly equal distribution. A Lorenz curve plots the cumulative percentages of total income received against the cumulative number of recipients, starting with the poorest individual or household. The Gini index measures the area between the Lorenz curve and a hypothetical line of absolute equality, expressed as a percentage of the maximum area under the line. Thus a Gini index of 0 represents perfect equality, while an index of 1 implies perfect inequality. Countries which have Gini coefficient over 0.40 can be considered considerably unequal.
Percentage share of income is the share that accrues to subgroups of population indicated by deciles or quintiles. ("World Development Indicators, 2005" World Bank) The higher the difference between the share of income of the lower and higher subgroups, the higher the inequality is in that society.

may also motivate some governments to seek inflationary policies for redistribution purposes, as poverty may increase chances of social conflict (Easterly and Fischer 2001).

In this study poverty is measured by the percentage of population under poverty line (1 dollar per day) and poverty gap.[25] These data are gathered from World Bank's *World Development Indicators* (WDI) database.

3.4   DEPENDENT VARIABLES

Dependent variables of this study include economic policies (fiscal polices and monetary policies) chosen by the governments and the persistent inflation they may cause. The monetary and fiscal policies chosen and implemented are affected by the international and domestic political factors as well as social factors. Depending on the economic policies adopted, inflation may either persist or disappear.

3.4.1   Economic policies

Fiscal policies: Fiscal policy is the management of government purchases, transfer payments, taxes, and borrowing in order to influence macroeconomic variables such as real GDP, employment, the price level, and the economic growth. The key aspect of fiscal policies is the national budget. A budget is a plan for how the government spends its limited resources.

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[25] *Poverty gap* is the mean shortfall separating the population from the poverty line (counting the non-poor as having zero shortfall), expressed as a percentage of the poverty line. The shortfall is calculated by averaging population incomes (with anything above the poverty line counting as $1) and subtracting that average from the poverty line. This measure reflects the depth of poverty as well as its incidence. ("World Development Indicators, 2006" online, World Bank, http://devdata.worldbank.org/wdi2006/contents/table2_7.htm) mean distance

Budgeting is a political allocation process where general policy objectives are translated into specific programs and projects in order to attain social, political and economic goals.

Budgets reflect the balance between revenues and spending of a government. Government spending includes public employees' wages, public purchases of goods and services, transfer payments, and social security and retirement payments. Government revenues come from state owned enterprises' profits (if any), taxes, and borrowing.

There are various political conflicts and competition in the budgeting process. The conflicts and competition essentially occur because all different participants request their political opinions and priorities in budgetary process. Most of the government revenues come through taxation. Taxation policies reflect government's preferences towards economic groups and sectors. The government spending (wages, subsidies, military expenses, investment, foreign debt service, and so on) also reflects the ongoing social and political forces. As constituents are reluctant to pay higher taxes, usually governments are reluctant to increase taxes even when the spending is on the rise. If the gap between government revenue and spending widens and the government has difficulties in financing that deficit, it starts to print money to finance the deficit, and this causes inflation to rise. If this situation continues, inflation becomes persistent.

Monetary policies: Monetary policy is the set of measures taken by the monetary authority (the Central Bank) to influence the availability and cost of money and credit, as a way helping to achieve national economic goals. It is the management of the amount of money and the financial conditions, such as interest rates, credit volumes, discount rates for minimum reserve requirements and others. Monetary policy is closely related to inflation, because the broad goal of monetary policy is to achieve price stability. Lax monetary policies, especially increasing the money in circulation through monetization of the deficits, are considered to be the main

economic reason behind inflation. If states do not adopt tight monetary policies, they cannot stabilize prices. Monetary policies are affected by social and political structures, so it is not always easy to adopt sound monetary policies. They are particularly influenced by the stability of the government. This variable is also affected by international factors, especially through pressures from international financial institutions which tend to be more benevolent to strategically important states.

Fiscal and monetary policies will not be directly measured in this study. As it is widely known that lax fiscal and monetary policies definitely cause inflation, and thus, the continuation of these policies cause persistent inflation, persistent inflation will be used as the only dependent variable to be measured. The effect of socio-political variables will also be directly analyzed in relation to persistence of inflation.

3.4.2   Persistence of Inflation

The ultimate dependent variable of this study is the "ability to stabilize prices." Persistence of inflation also implies the inability to stabilize prices, because states which are not able to stabilize prices for long-term end up with persistent inflation. Therefore, these two terms are used interchangeably in this study. It is because this study assumes that any government which can institute disinflationary (monetarist) policies will do so. The time span of this study is 1975-2000, when the monetarist view has been exceedingly dominant, and thus, inflation has been regarded as the primary economic ill that has to be dealt with. Consequently, unless socio-political pressures push the governments otherwise, they would adopt anti-inflationary policies and end inflation.

Inflation is a general rise in prices across the economy. The persistence of inflation is continuation of inflationary environment for extended period of time, at least more than a decade. Inflation is caused by lax fiscal and monetary policies, but the ability to achieve price stabilization through tight macroeconomic policies may depend on political (both international and domestic) and social conditions of a country. For instance, lax fiscal policy is a factor which can explain why there is inflation, but its long-term adoption can be explained by socio-political factors, such as security threats, political regime, or income inequality.

Here the endogenous variable is the ability to successfully stabilize prices before it persists for more than two decades. Persistence of inflation is measured by how many years it has taken states to attain price stability. The length of each country's inflationary episode is calculated easily from inflation statistics of the IMF by adding up the number of years with high inflation for each state.

3.5   RESEARCH METHODOLOGY

This research has both descriptive and explanatory goals. The primary design of this study is explanatory, because it designs a comprehensive socio-political model that explains the persistence of inflation. Therefore, it puts several causal hypotheses together to explain the ability of states to end inflation. We can use the results of this study to argue that some socio-political factors are associated with persistence of inflation.

Since there is a rich literature on inflation, the relations set in hypotheses are largely derived from the existing literature. These hypotheses are then put into test through five comparative cases: Argentina, Brazil, Israel, Mexico, and Turkey. These were chosen from the

population of inflationary countries with different levels of success in stabilizing prices (i.e., different levels of inflation persistence). The goal is to explain the reasons behind this variety in success. Lastly, a cross-national analysis is employed and its results are compared with the conclusions of the case studies.

3.5.1   Selection and Classification of Cases

This study combines a comparative case study with a cross-national analysis. As I try to explain the reasons why different countries have performed differently in dealing with persistent inflation, all the cases I selected (Argentina, Brazil, Israel, Mexico, and Turkey) are among countries which had persistent inflation. The cases were selected according to how they vary along my socio-political variables: strategic importance, security threats, political regime, political system, electoral and party system, inequality, and poverty.

The case study methodology is particularly good for in-depth understanding of a phenomenon or a complex policy problem. It can strengthen and add details to what is already known through previous research. Case studies are seen useless for providing reliability and generalizability of findings, but in that respect comparative case studies fare better than single case studies (Eckstein 1973; Manheim, Rich et al. 2002). Therefore, five cases are chosen in this study to compare and contrast and to get detailed information about the conditions in those countries while they successfully stabilize prices.

As my main objective is to understand the process of persistent inflation, a comparative case study is well suited for this study. Although a comparison of five cases may not provide reliable theory testing, it can provide rich detail on causal relations. The analysis of five different

cases would also demonstrate us how diverse the socio-political process of persistent inflation and price stabilization in those countries was.

The main focus of this dissertation is inflationary middle-income developing countries which are considered "emerging markets." As can be seen from Table 7, there are many countries that suffered from high inflation through several decades, but only come of them are emerging markets. Although there is no commonly accepted definition of an emerging market, it is usually a middle-income economy, which is significantly big and growing through internationalization. Arnold & Quelch (1998) identified three characteristics of emerging markets: at least a middle level of economic development, fast increasing economic development, and a working and stable free-market system. Emerging market economies are important to focus on, because they are considered to be exemplars for other developing economies that strive for economic growth and prosperity. Alice H Amsden (2001) considers them as the new rising economies that have been globally competing and economically challenging the advanced countries of the West and Japan. According to Garten (1997), the big ten emerging markets are Argentina, Brazil, China, India, Indonesia, Mexico, Poland, South Africa, South Korea, and Turkey.

Table 7: Countries with inflation problems

(countries with average inflation rate higher than 20% per decade)

Only in 1970s and 1980s	Only in 1980s and 1990s	In 1970s, 1980s and 1990s	From 1970s up until 2004
Chile Iceland *Israel* Uganda	Colombia Guyana Lebanon *Mexico* Mozambique Nigeria Poland Sierra Leone Sudan Tanzania Venezuela Vietnam Zambia	*Argentina* *Brazil* Ghana Guinea-Bissau Nicaragua Peru Uruguay	Dem. Rep. of Congo Lao, PDR *Turkey*

Besides being one of the ten big emerging markets of the world (Garten 1997), Turkey is also an interesting case in terms of its domestic politics and international position. It has a parliamentary system with significant regime and government instabilities. Besides, internationally it is an important actor because of its geo-strategic position.

I decided to focus on Argentina and Brazil, because not only they are both considered big emerging economies but also they have distinctive political institutions and political problems. For instance, they both have had major shifts between democracy and authoritarianism. Both have presidential systems with strong presidents. Both use proportional representation electoral systems, but Brazil uses open lists while Argentina uses closed lists. Argentina is essentially a two-party system, while Brazil has a very fragmented party system.

I chose Mexico as one of my case studies because it is another big emerging market and it has an unusual political structure. In Mexico, there was strong one-party rule for 71 years up

until 2000. That has given Mexico an extraordinary political stability and this distinguishes it from all other cases I look into.

Israel is not an emerging market. However, I chose to focus on Israel, because unlike my other cases it is a higher income country with no significant inequality problem. Also, it has major security problems and it receives very high amount of official aid. Also, it is a parliamentary system like Turkey.

After selecting the cases to analyze, I classified them according to their success with price stabilization. As can be seen in Table 8, all the cases I picked have had long-term inflation problem. What counts as success in this study is neither the exact level of inflation nor how sharp the fall in inflation was after the destabilization program. What matters is the number of years countries had high- or hyperinflation (at least 20 percent inflation over a year period) since 1970. According to that criterion, Turkey is the country with the most persistent inflation problem among those five cases. Although Turkey did not have hyperinflation, like Argentina and Brazil did, it is considered as the "most unsuccessful" case in this study as it was unable to lower its inflation below 20 percent for 24 years of the 26 year period between 1975 and 2000. Another reason that it is the most unsuccessful case is that its inflation persisted even beyond 2000, until 2003.

Table 8: Number of years with high inflation in Argentina, Brazil, Israel, Mexico and Turkey in 1975-2000[26]

	Number of years with 20% or higher inflation
Argentina	18
Brazil	21
Israel	13
Mexico	16
Turkey	24

As Israel and Mexico were able to decrease inflation to one-digit levels in 1980s (in 13 and 16 years respectively), they constitute "successful" cases. Argentina and Brazil were able to decrease inflation to one-digit levels in 1990s, after battling with it for 18 and 21 years respectively. Thus, they are considered as "moderately successful" cases.

While selecting the cases, I paid particular attention on comparability of the cases. Although it is slightly more advanced compared to other four cases, Israel suffered serious inflationary problems between 1974 and 1986. As it had a parliamentary system, its political institutions are more similar to Turkey than Latin American cases. Israel was successful in decreasing inflation, despite its parliamentary and fragmented political system. Also, like

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[26]

Table 8 shows how many of the 26 years between 1975 and 2000 were inflationary in Argentina, Brazil, Israel, Mexico, and Turkey. Although these inflationary years may not be consecutive, one or few years with low inflation followed by another period of high inflation does not imply disinflation success, but rather continuation of the inflation problem. Therefore, this study focuses on the actual number of inflationary years, not on number of consecutive inflationary years.

Turkey, it has a very important strategic position. Therefore, it is a very critical case to compare with Turkey.

Among the Latin American cases, Mexico is a "successful" case, while Argentina and Brazil are "moderately successful" cases. However, politically (both international and domestic) they all have different structures from Turkey and Israel, and to a lesser extend, even from each other. They are all presidential systems, while Turkey and Israel are parliamentary systems. Their strategic position is not very important, probably with the exception of Mexico, and they perceive few security threats. As a result, they do not get as much bilateral aid as Turkey and Israel do. Yet, socially these Latin American cases are more similar to Turkey than Israel. They are all unequal societies with significant population segments that live in poverty. On the other hand, Mexico is a case of extreme regime and government stability, while Argentina and Brazil are examples of serious regime instabilities. However, since 1970 Brazil has had more unstable governments than Argentina (21 governments versus 9 governments), thanks to its fragmented and undisciplined party system.

3.5.2 Cross-national Analysis

If a comparative case study is supplemented with a cross-national study, the findings can be more reliable and generalizable. Therefore, this study combines comparative case study method with cross-national analysis method.

After comparing and contrasting fives cases through my socio-political model, the model is employed cross-nationally. The purpose is to review the validity of the case study findings on a larger sample. As mentioned above, case studies provide us rich detail but they fail generate

generalizable findings. A larger sample cross-national study would tell us whether the case study results are valid beyond these five cases.

In order to employ a larger sample cross-national study, 55 independent variables are taken from various databases, mainly from World Bank's *World Development Indicators*, the IMF's *International Financial Statistics*, *Polity IV* of the Center for International Development and Conflict Management, and *Database of Political Institutions* of Thorsten Beck, Philip E. Keefer et.al.[27] Then, these variables are classified under the categories defined in the case studies (*strategic and security issues*, *political regime*, *political system*, *party and electoral system*, and *poverty and inequality*) and used in the cross-national analysis for 45 observations.[28] In cross-national analysis, factor analysis is used to decrease the number of variables. Regression analysis is used to evaluate the significance of relations between independent variables and the dependent variable (persistence of inflation). Also, some simple analyses are employed to check causal relations between the variables. (Details of the statistical analyses can be found at Chapter 9.)

Consequently, in addition to a five case comparative study, this dissertation contains a cross-national analysis, which seeks to test the relations between persistent inflation and socio-political variables. Later, the results of the comparative case analyses and cross-national analyses are compared to reach conclusions.

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[27] All the indicators used in the cross-national study and their sources are listed in Appendix-5.
[28] The original sample consisted of 148 states, all states which have inflation data. Yet, number of observations fell from 148 to 45 because of lack of complete data on other variables.

3.5.3   Data Sources and Data Collection

In this analysis I decided to focus on the period from 1975 to 2000. The 1970s is the period when a lot of middle income countries, including Argentina, Brazil, Israel, Mexico, and Turkey, experienced rising inflation. In the 1980s many countries had high inflation. In the 1990s many countries succeeded in stabilizing their prices. However, this time newly independent or ex-communist countries had few years of high inflation. In the beginning of twenty-first century, very few countries with high inflation were left. In sum, while it was very common for states to experience high inflation in the 1970s and 1980s, it was unusual to still have high inflation by the 1990s. Therefore, 1975-2000 is a good period to observe variances in the ability of countries to end persistent inflation.

Another factor that motivated me to focus on the 1975-2000 period is the availability of data. While you can find most economic variables for many decades back, most of the political databases are relatively new and start from the 1970s and end in 2000. Availability of data is very crucial for cross-national analysis. For this study, 1975-2000 is the optimal period for meaningful statistical analysis. However, for case studies, in some instances I have gone beyond that period in order to add more detail and evidence to the analysis.

I had to aggregate data on my cases' economic, social, and political characteristics, especially while conducting the cross-national analysis. Most of these data (military expenditure, Gini coefficient, distribution of income of percentiles, number of effective parties in the political system, and so on) are secondary data that are collected by national institutes and by international institutions. Almost all economic and social variables are taken from World Bank database, *World Development Indicators*. Most of the political variables are taken from *Polity IV* database of Center for International Development and Conflict Management (CIDCM) of the

University of Maryland and *Database of Political Institutions (DPI)* compiled by the Development Research Group of the World Bank.[29] Both of these political databases are the most complete and most widely utilized databases for political economy research.

The next five chapters will analyze how these factors affect the ability of states to stabilize prices through a comparison of five cases (Argentina, Brazil, Israel, Mexico, and Turkey) for a period extending from 1970s to 2000s. Chapter 4 focuses on the international political factors, mainly strategic and security concerns and international assistance. Chapter 5 looks into the relation between political regime and the ability to eliminate persistent inflation. Chapter 6 is focused on political systems and Chapter 7 is focused on electoral and party systems. Chapter 8, which analyzes the effect of poverty and inequality on the ability to stabilize prices, is followed by a statistical cross-national analysis of these variables on a larger sample of countries.

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[29] The authors of DPI are World Bank economists Thorsten Beck , Philip E. Keefer, and George R. Clarke and non-World Bank economists Patrich Walsh and Alberto Groff.

4.0   INFLATION AND INTERNATIONAL POLITICS

In this chapter I consider the argument that international political factors, such as strategic importance and security threats, are related to the ability to eliminate inflation. International politics can influence a country's ability to get rid of persistent inflation in two ways:

- *by facilitating an inflow of funds through international financial institutions or directly through official aid*. Strategically more important developing countries may receive more international aid, which may allow them to decrease budget deficits and, thus, help governments decrease inflation.

- *by putting strains on its budget through military expenses*. More security threats cause more military expenditure which may contribute to budget deficits and thus make price stabilization more difficult.

These relationships are demonstrated in Figure 4.

Figure 4: The relation between international politics and ability to stabilize prices
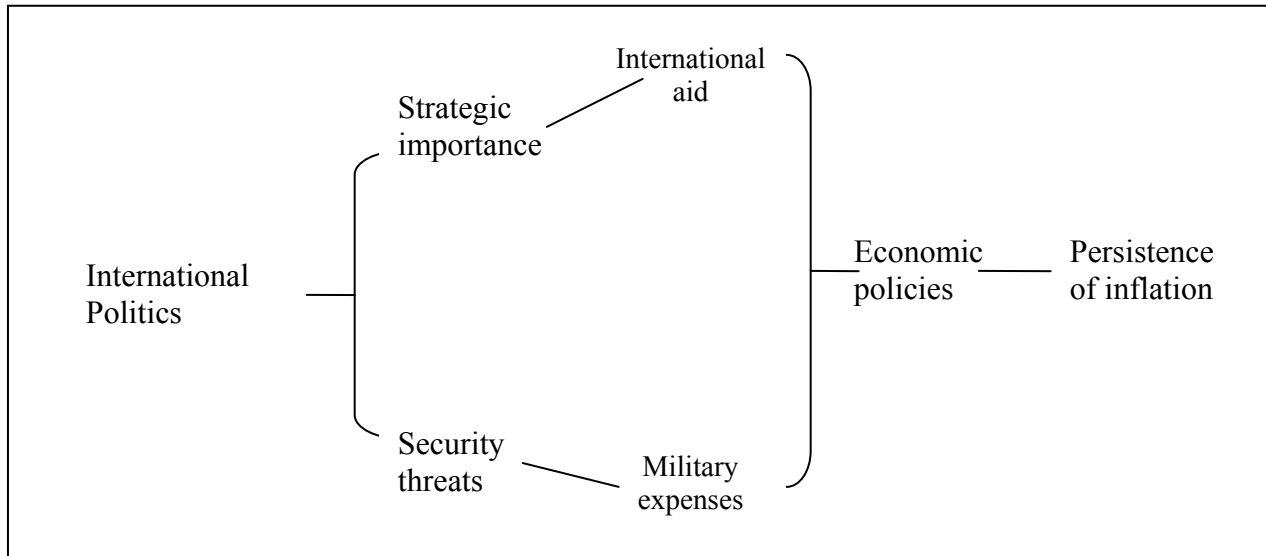
The relationship between international politics and price stabilization has not been studied previously. By examining the international politics of Argentina, Brazil, Israel, Mexico, and Turkey, this chapter reviews the argument that strategic importance increases and security threats decrease the capacity of government to eliminate persistent inflation. However, the findings reveal that the strategic importance of a country is not closely related to success in fighting inflation. The amount of funding from international financial institutions (The World Bank and the IMF) does not seem to be affected completely by international politics. And the effect of such funding does not seem to determine success in disinflation.

However, it is discovered that high security threats may cause a significant resource transfer to the military, making it harder to find resources to fight inflation. This finding is especially valid if the country that makes significant military spending is not provided with a significant amount of military aid by other countries. In fact, military expenditures are a problem

for inflation to the extent that they put a burden on the budget. Thus, international politics has an indirect effect on price stabilization through military spending and international aid received.

4.1   STRATEGIC IMPORTANCE AND INFLATION STABILIZATION

The assumption in this section is that strategically important countries are provided with more financial support. It is expected that the financial support provided to strategically important countries may help them to decrease their budget deficits and thus prevent monetization, which is the main cause of persistent inflation.

The strategic position of a country is determined by that country's geographical location and its importance as an international actor in a political and economic sense. Thus, a country is strategically important when it is geographically located close to or in the center of a conflict area. A country is also strategically important if its economy is significantly big.[30] Any of these factors may give a country strategic significance. None of the cases in this study are great powers, but their importance for great powers, especially for the US, differs along more or less the same variables. Here I try to evaluate the strategic importance of Argentina, Brazil, Mexico, Israel, and Turkey through their geographical location and the size of their economy.

The strategic position of a country in the international system not only determines its relations with other countries but it may also affect its relations with international financial institutions, such as the IMF and World Bank. Countries that are strategically important to the

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[30] As a rule of thumb this study considers the top 20 countries with highest GDP (Argentina, Australia, Belgium, Brazil, Canada, China, France, Germany, India, Italy, Japan, South Korea, Mexico, Netherlands, Russia, Spain, Sweden, Switzerland, the UK, and the US) as significant economies, according to the World Bank's *World Development Indicators 2000* data (averaged for years 1975-2000).

West may be treated with greater generosity by international financial institutions, since most of the resources of these institutions are provided by the western industrialized countries. They may also receive a considerable amount of official aid from individual countries. Strategically important countries may use these funds to relieve their budget deficits and have less difficulty in eliminating inflation.

4.1.1 Geographical location

The location of a country is very important in determining strategic importance. Countries that are located in areas of interest to great powers, i.e. the areas in or adjacent to the arenas of power politics, are considered to be strategically important. If a country is strategically important, it is usually provided with more international aid which may help resolve inflation problem by reducing budget deficit.

As the main superpower, the US shows special interest in certain parts of the world. For the US, Third World countries are important as long as it can use military bases in these countries to affect events in areas that are of its interest (Walt 1989). Neo-realists argue that North America, Europe, Northeast Asia and the Persian Gulf are the only places that US has strategic interest. The Third World, other than the Middle East, has much less strategic importance for the US (Posen and Van Evera 1983).

Krasner (1974) argues that Europe, East Asia, and the Persian Gulf have been important because these are the regions central to the international economic system and important for US

prosperity, where new great powers may emerge and a new World War may happen.[31] Europe and East Asia are strategically significant for the US because of the possibility of new great powers to emerge from these regions. On the other hand, the Persian Gulf is important because of its oil reserves. Although the US is not too dependent on Persian Gulf oil, oil from that region is vital for US allies in Japan and Western Europe. Therefore, the Middle East is exceptional as a Third World region for its strategic importance to the US (Krasner 1974).

Actually US interests are not limited to Europe, East Asia, and the Persian Gulf. Desch (1989) states that, "if a peripheral area is proximate to a great power's homeland, to other intrinsically valuable regions, or to the lines of communication between them, …. then these areas have extrinsic value" (p.100). Thus, the US has interests in other countries to the extent that they can affect the US or destabilize other regions important to the US (Oye, Lieber *et al.* 1992; Layne 1997). For example, merely for sharing a huge border with the US, Mexico is inevitably a country of great importance to the US. During the Cold War, countries bordering the Soviet Union and/or those with communist inclinations were considered to be strategically important.

Among our cases, Turkey is important for any great power as it is at the crossing point of Europe, Caucasia and the Middle East. It also used to share borders with the Soviet Union before its collapse. However, the end of Cold War did not decrease Turkey's importance. Especially because of its proximity to the Middle East, US bases in Turkey have been crucial for the operations in the Gulf area. Also, it is adjacent to another conflictual region, the Balkans. The US

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[31] These three regions were the strategically most important regions until the late 1990s, but lately other regions, like the oil and gas rich areas of Central Asia, have also emerged as strategically important. However, this study is focused on the period 1975-2000 and the newly emerging strategic regions are not taken into consideration.

has used its bases in Turkey during its operations in all these areas.[32] Currently Turkey's geographical and cultural proximity to Caucasian and Central Asian countries also has a high strategic value, especially with the prospect of gas and oil pipelines stretching from there through Turkey (Iskit 1996; Akinci 1998; Bilgin 2005).

Regarding the strategic importance of Turkey, the effect of the North Atlantic Treaty Organization (NATO) is also crucial. Turkey became a NATO member in 1956 because of its proximity to the Soviet Union and Western Europe, and since then proved to be a very important strategic partner. This provided NATO and the US with important military bases in Turkey, which were used extensively not only during the Cold War, but also in recent international conflicts in the Middle East region, like the 1991 Gulf War and Iraqi War of 2003.

Among the cases of this study, Israel is probably the one that is located in the most conflictual area. The Middle East was an important arena of superpower competition during the Cold War and Israel has always been the most important partner of the US in the Middle East. The US has had a "long-standing and deeply felt commitment to the security and well-being of Israel" (Shlaim 1994, p.38). As stated by the President Jimmy Carter in 1977, the US has a "special relationship" with Israel and the top US commitment in the Middle East is "to protect the right of Israel to exist" (*The New York Times*, May 13, 1977).

US policymakers, who prioritized Israel in the region, believed that Israel was an important asset for the US to be used against the Soviet Union and a stronghold of US policy in the Middle East. For proponents of that approach, Israel should also be prioritized as it has been the only reliable US ally because of its level of economic development and cultural affinity to the Western world (Marcus 1990; Shlaim 1994; Reich 1996). Therefore, as the only non-Muslim

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[32] The US military especially used its bases in Turkey during Gulf War of 1991 and Gulf War of 2003.

country and with unquestioned commitment in its alliance with US, Israel has been even more important than Turkey for US policies in the region.

Another reason for Israel's significance in US foreign policy has been the power of the Jewish lobby in the US, especially the American Israel Public Affairs Committee (AIPAC). The AIPAC has been one of the most (or may be the most) important lobbies in the US, which promotes policies in favor of Israel (Shlaim 1994; Watkins 1997; Mearsheimer and Walt 2006). As a result, Israel has been the recipient of major economic, military, and political support from the US.

An important element of geography is the natural resource base that the land holds. Significant natural resources make a country important in the eyes of great powers, especially the strategic ones, like oil. Since great powers want to have access to these resources and do not want these important resources to be acquired by their enemies, they usually seek to influence these countries through military and economic means. Turkey and Israel do not have any strategically important natural resources. Nonetheless, they are still important for the US strategic interests because of their geographical proximity to the main oil areas in the Middle East. Although they are not themselves oil producers, their location in the Middle East, the main oil producing area of the world, is a factor that make them strategically important.

Mexico is strategically significant because of its large frontier with the US. The primary security goal of every country is the defense of its homeland (Desch 1989). Because of its proximity, Mexico has immediate impact on US homeland security. It not only has extensive economic relations with the US because of the long common border, but also it is important because of migration flows from Mexico to the US. Mexico also has the world's 8th largest oil reserves, which are the second largest reserves (after Russia) among non-OPEC producers. Thus,

together with its large border with the US, and thus, easy and cheap transport of this oil to the US, Mexico is a country of value to the US.

Brazil and Argentina are not considered as strategic areas, at least compared to Israel, Turkey or Mexico. First of all, Latin America as a region is not considered as important as Europe, Asia, or the Middle East.

> Despite their protestations of concern for hemispheric solidarity, policymakers in Washington have not seemed to regard Latin America as very important since the 1920s, certainly not by comparison with Europe, Asia, and the Middle East. In part, that attitude has been a reflection of economic realities. It has also reflected geopolitics: Like Africa, Latin America was more distant from the Soviet Union… (Ullman 1994, p.13)

Desch (1989) argues that the only strategically important place in Latin America for the US (with the exception of Mexico) is the Caribbean, because Caribbean Sea lines of communication are important to the US.[33] Therefore, Mexico, Caribbean islands, and Central America are considered important for the US interests, but not the rest of Latin America. In that sense, among our cases Argentina and Brazil are the least strategically important countries for the US.

Consequently, we can conclude that only Turkey, Israel, and Mexico are located in strategically important areas. As can be seen in Table 9, Mexico and Israel were the countries that stabilized their prices earlier than the others. On the other, Turkey, the other strategically important country, had most difficulty in battling inflation. With the exception of Turkey, it seems like strategic importance works in favor of price stabilization rather than the contrary.

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[33] We would accept this argument for the purposes of this study, but it does not mean that we consider South America as an unimportant region in the world in general, and for the US in particular. Actually the US has seen South America as one of its influence areas and intervened in several occasions, especially during the Cold War era. However, unlike East Asia, Europe, or Middle East, the US does not maintain military bases in South America (with the exception of the small Manta base in Ecuador). Instead, the interventions have been mostly through supporting right-wing groups against left wing groups during political instabilities or civil wars, e.g. support for military coup in Chile or more recently support for the Colombian army.

Table 9: Classification of importance of geography vs. price stabilization

	Strategically located	Not strategically located
Successful price stabilization	Mexico Israel	
Moderately successful price stabilization		Argentina Brazil
Unsuccessful price stabilization	Turkey	

4.1.2 Economic size of the country

The economic size of a country increases its significance, because such a country can affect international markets and, thus, the economies of other countries. Big economies may impact international markets in various ways. Some, like China, are important producers; some, like the US and European countries, are not only important producers but also important consumers; some others, like Brazil and Argentina, are important debtors; and some, like Mexico and China, are important recipients of international investment. Therefore, any development in these significant economies produces repercussions in other countries which have links with them.

Only few developing countries are big economies comparable to the economies of the North America, Western Europe and Japan. These significant economies of the Third World may be treated more tolerantly by other countries and international financial institutions than smaller developing economies. This may work in favor of anti-inflationary policies of these countries as they have more access to international funds to ease stabilization at home.

According to the World Bank, as of 1990 Brazil was the 10th largest economy In terms of Gross National Product (GNP), Mexico the 16th, Turkey the 21st, Argentina the 22nd, and Israel the 37th.[34] We can argue that Mexico and Brazil are among the significant economies of the world. The stability of these economies is important for the stability of the world economy, especially as other countries are heavily exposed to them.

Having a big economy may not guarantee support from industrialized countries. If a developing country has a large closed economy, economic developments in that country may not have much effect on other economies. The exposure of industrialized countries to developing countries determines how willing these advanced countries would be to support them. Therefore, we should also look into international links of these developing countries in order to predict the support they may receive.

As can be seen from Table 10, Brazil and Mexico have significantly more aggregate foreign direct investment (FDI) than Argentina, Israel and Turkey. Although the difference is not as significant, they also have higher aggregate external debt compared to others (see Table 11). When we look to trade volume data in Table 12, Mexico appears as the country which participates most in world trade. Mexico is followed by Brazil and then by Turkey. Although Israel has a much smaller economy, it has more share in world trade than Argentina.

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[34] The data are taken from the *World Development Indicators* database of the World Bank on internet at http://web.worldbank.org/WBSITE/EXTERNAL/DATASTATISTICS/0,,contentMDK:20398986~pagePK:6413315 0~piPK:64133175~theSitePK:239419,00.html. (The last access date is March 31, 2007.)

Table 10: Aggregate FDI stock (inward) in $ millions

	1980	1985	1990	1995	2000
World	615,805	893,567	1,888,672	2,937,539	6,314,271
Developing countries	240,837	347,237	487,694	849,376	1,979,262
Israel	1,633	2,038	2,940	6,269	23,350
Argentina	5,344	6,563	9,085	27,828	73,441
Brazil	17,480	25,664	37,143	42,530	197,652
Mexico	8,105	18,802	22,424	41,130	91,222
Turkey	107	360	1,320	5,103	9,335

Source*: World Investment Report 2001: Promoting Linkages*, UNCTAD

Table 11: Aggregate external debt-average, US$ millions

	Argentina	Brazil	Israel*	Mexico	Turkey	Middle income countries
1970-74	6,737	12,281	n.a.	9,427	3,685	73,060
1975-79	12,534	43,723	n.a	30,374	10,659	229,600
1980-84	40,245	89,860	n.a	81,895	20,003	570,400
1985-89	57,189	112,927	n.a	100,057	36,492	870,400
1990-94	67,057	133,316	n.a	119,975	58,341	1,174,000
1995-99	124,958	205,352	53,197	158,941	87,556	1,774,000
2000-04	157,335	233,246	64,784	343,613	129,194	1,833,702

Source*: World Development Indicators*, The World Bank, 2006 (http://devdata.worldbank.org/wdi2006)
* Data of Israel are from www.bradynet.com. The last datum on Israel is the 2001 datum, not the average of 2000-2004 data.

Table 12: Trade volume in goods and services (constant 2000 prices, in million US$)

	Argentina	Brazil	Israel	Mexico	Turkey	Middle income countries
1970-74	11,815	29,845	na	31,083	na	na
1975-79	15,577	41,467	na	41,156	na	468,771
1980-84	20,273	45,937	na	68,605	na	1,291,620
1985-89	19,349	55,397	na	76,813	20,025	1,483,312
1990-94	32,792	75,446	na	131,127	46,605	1,747,500
1995-99	57,837	120,800	71,542	241,880	81,994	2,456,850
2000-04	57,837	151,590	94,252	377,951	123,694	3,621,401

In general it can be concluded that Turkey and Israel have less economic importance for the other countries. This can be clearly seen from their lower FDI and external debt levels (see Table 10 and Table 11). The significance of Israel and Turkey is more due to the strategic importance of their geographical location, and in case of Israel, also because of the powerful Jewish lobby in the US.

In terms of economic significance Mexico and Brazil are the most important cases. Since they have bigger economies that are heavily invested in by foreign capital and are widely involved in international markets, other countries have higher exposure to Mexico and Brazil. Therefore, industrialized countries would be more threatened by instabilities in these areas. As a result, international institutions may be compelled to provide them funds, helping them battle inflation. Argentina seems like the least advantaged among our five cases because, compared to

others, it is also less important economic wise. Therefore, we expect it to receive less international aid and have most problems with eliminating inflation.

As can be seen in Table 13, the analysis of economic importance of Argentina, Brazil, Mexico, Israel, and Turkey does not give a consistent result with regards to the ability to decrease inflation. Mexico, one of the countries with highest economic importance, successfully eliminated its persistent inflation problem, but Israel, economically much less important, was the most successful among all five cases in eliminating its inflation problem.

Table 13: Classification of economic importance vs. price stabilization

	High Economic Importance	Low Economic Importance
Successful fight with inflation	Mexico	Israel
Moderately successful price stabilization	Brazil	Argentina
Unsuccessful fight with inflation		Turkey

It can be seen from Table 14 that Brazil and especially Argentina have less strategic importance. Looking at Israel and Mexico, the results of this analysis suggest that strategic importance positively affects the ability to stabilize prices as expected. Israel and Mexico are strategically important countries and they decreased inflation most easily, while Argentina and Brazil were less successful in price stabilization compared to them. Yet, Turkey is an outlier. It is a country with high strategic importance, but it had most difficulty in stabilizing prices. We need

to look more closely into the relation between strategic importance and ability to stabilize prices to see if some other factors intervene in this relation.[35]

Table 14: Classification of strategic importance vs. price stabilization

	No strategic importance	Some strategic importance	High strategic importance
Successful price stabilization			Israel Mexico
Moderately successful price stabilization	Argentina	Brazil	
Unsuccessful price stabilization			Turkey

4.2   SECURITY THREATS AND INFLATION

The economic policies of countries may be affected not only by their strategic importance but also by the security threats they face. The countries which perceive high security threats inevitably increase their military spending, because they need to keep a large army and acquire modern weapons for their security. Such spending consumes significant economic resources and

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[35] Turkey's outlier status also encouraged me to review its domestic political institutions for an explanation (see chapters 5 to 7).

may contribute to budget deficits, which are the main causes of inflation. This argument is somewhat confirmed by the analysis in this section.

In this study, a security threat is understood in its traditional sense, i.e. it is the possibility of a military confrontation and is related to how much a country feels militarily insecure. It actually has both international and domestic aspects, because a security threat may come not only from other countries (e.g., a threat of or actual military attack) but also from some groups within the country (e.g., armed dissident groups) that may also have international ties.

A state that has the military capability to acquire a dominant position in relation to other states and to defeat all threatening groups within the country may be considered powerful, but it does not mean that that country has fewer threats to its security. Security threats are highly related to whether the country has friendly or conflictual relations with other countries and whether there is an atmosphere of political peace within the country. If these conditions are not met, states keep increasing their military capabilities in order to feel more secure. Maintaining a large and modern military is the primary way to feel more secure in the face of domestic and international threats to security.[36]

No matter how helpful maintaining a big and powerful military is to attain security, it is not always an economically feasible option. A powerful and capable military requires enormous expenses and this may contribute directly to budget deficits. Budget deficits are the main cause of inflation, especially when they are monetized. Thus, we can expect that states with high military expenses have greater difficulty in controlling inflation.

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[36] What we try to measure in this section is not the trend in conflicts but the general level of conflicts in our cases. The purpose is to find a relationship between the "general" level of security threats and persistence of inflation. Therefore, some of our data go beyond the inflationary period.

4.2.1   Conflicts

If a country is exposed to security threats and/or involved in armed conflicts, we expect it to try to strengthen its military. Therefore, the more threats and conflicts the countries faces, the more they are expected to spend on weapons and keep large military personnel.

Although security threats depend largely on the perception of states, there are some indicators of potential threats, such as past and present civil conflicts or conflicts the country has had with other countries. In this study a "conflict" is a clash of interests on issues such as territory, independence, self-determination, autonomy, ideology, power, and resources which involves at least two parties (mostly states or organized groups) that do or willing to use military force to pursue their interests and win their case. The variable "security threats" will be measured by the amount of military disputes a country has had in the past (since 1945) and the existing conflicts with other states and within the country.

4.2.1.1 International threats and conflicts

Table 15 shows the major conflicts involving Argentina, Brazil, Israel, Mexico, and Turkey, the parties involved in those conflicts, the issues concerned, time period of the conflicts, and the intensity of the conflicts. As can be seen from that table, our cases have had a variety of security problems with different intensities. Brazil and Mexico have generally been living peacefully, and they do not have any significant international security problems. However, Israel in particular has had major violent conflicts over the decades and continues to face international threats to its security. Turkey and Argentina have also been involved in serious international conflicts.

94

Table 15: List of major conflicts in Argentina, Brazil, Israel, Mexico, and Turkey (1945-2005)

Name of the conflict	Parties involved	External parties involved	Issue	Start year	Intensity
Israel I (independence)	Non-state groups (Zionists) vs, non-state groups (Palestinians), UK	USSR, Egypt, Syria, Libya, Saudi Arabia, AL	national independence	1946-48	Violent crisis
Israel II (Palestine war)	Jordan, Syria, Lebanon, Iraq vs. Israel and non-state groups (Hagana, Leumi, Sternen)	CZE, United Kingdom	territory, borders or water, ethnic, religious or regional autonomy	1948-49	War
Israel – Arab states (cease-fire)	Egypt, Jordan, Syria, Lebanon, Iraq vs. Israel	-	territory, borders or water	1949-56	Violent crisis
Israel III (border)	Egypt, Jordan, Syria vs. Israel	USSR	territory, borders or water, international power	1948-49	Violent crisis
Israel IV (Yom Kippur War)	Egypt, Syria, non-state groups (PLO) vs. Israel	USSR, Iraq, Jordan, Algeria, Morocco vs. USA	territory, borders or water, international power	1973	War
Israel - Lebanon I	Israel vs. Lebanon, non-state groups (PLO)	-	territory, borders or water	1974	Violent crisis
Israel-Lebanon IV (Hizbollah vs. government)	Israel, non-state groups (SLA) vs. non-state groups (Araft-Geg., Hizbollah, AMAL)	Lebanon	territory, borders or water,ideology or system conflict	1993-99	Violent crisis
Israel V (Intifada)	Non-state groups (PLO, al-Aqsa, Islamic Jihad, Fatah, Hamas) vs. Israel	Syria, Iraq, non-state groups (PFLP, Hizbollah)	territory, borders or water, ethnic, religious or regional autonomy, national independence	1987-93	Violent crisis
Israel - Lebanon II (Litani operation)	Israel vs. Lebanon, non-state groups (PLO)	USA vs. USSR	resources, national independence, ethnic, religious or regional autonomy	1978	Non-violent crisis
Israel - Lebanon III	Israel vs. non-state groups (PLO, AMAL)	USA vs. Syria	other	1982-85	violent crisis
Israel - Jordan (Jordan water I)	Israel vs. Jordan, Syria, Lebanon	Non-state groups (Fatal), Egypt	resources	1959-67	violent crisis
Israel – Jordan (Jordan water II)	Israel vs. Jordan	-	resources	1969-76	violent crisis
Israel – Jordan (Jordan water III)	Israel vs. Jordan	-	resources	1977-94	Latent conflict
Egypt – Israel (6 days war)	Egypt, Syria, Jordan, non-state groups (PLO) vs. Israel	Algeria, Kuwait, USSR vs. USA	territory, borders or water, international power, resources	1967	War

Table 15 *(Continued from previous page)*

Name of the conflict	Parties involved	External parties involved	Issue	Start year	Intensity
Egypt – Israel (confrontations)	Egypt, Syria vs. Israel	USSR	territory, borders or water, international power	1967-73	violent crisis
Turkey (Kurds I)	PKK vs. Turkish government	Lebanon, Syria, Iraq as external participants	autonomy, ideology or system conflict, national independence	1984-89	violent crisis
Turkey (Kurds II)	PKK, TKSP, HEP/I/HADEP vs. Turkish government	Iraq and Iraqi Kurdish groups as external participants	autonomy, national power	1989-99	war
Turkey-Syria (border)	Turkey vs. Syria	USA, USSR, Egypt	international power, ideology or system conflict	1955-57	violent crisis
Turkey - Syria, Iraq (water)	Turkey vs. Syria and Iraq	-	resources	1990-99	Non-violent crisis
Cyprus IV (Turkey invasion)	Cyprus, Greece, non-state groups (Nat. Garde, EOKA) vs. Cyprus, non-state groups (TMT)	Turkey	ideology or system conflict	1974	War
Turkey – Greece	Turkey vs. Greece	-	other	1964-65	Latent conflict
Greece – Turkey (Aegean Sea I)	Turkey vs. Greece	-	territory, borders or water, resources	1973-76	Non-violent crisis
Greece – Turkey (Aegean Sea II)	Turkey vs. Greece	-	territory, borders or water, resources	1987	Non-violent crisis
Greece – Turkey (Aegean Sea III)	Turkey vs. Greece	-	territory, borders or water, resources	1987-99	Non-violent crisis
Turkey - Russia (Russian claims)	Turkey vs. USSR	USA, UK	Territory/marital borders, resources	1992	Non-violent crisis
Turkey - Russia (Bosporus)	Turkey vs. Russia	-	marital rights (Dardanelles)	1992-99	Latent conflict
Argentina – Chile (Beagle I)	Argentina vs. Chile	-	territory, borders or water, resources	1958-72	Non-violent crisis
Argentina – Chile (Beagle II)	Argentina vs. Chile	-	Territory, borders or water	1972-77	Latent conflict
Argentina – Chile (Beagle III)	Argentina vs. Chile	-	Territory, borders or water, resources	1978-79	Violent crisis
Argentina – Chile (Beagle IV)	Argentina vs. Chile	-	Territory, borders or water, resources, international power	1979-85	Non-violent crisis
Argentina – Chile (Campo de Hielo)	Argentina vs. Chile	-	Territory, borders or water	1985-94	Latent conflict
Argentina - Uruguay (Rio de la Plata)	Argentina vs. Uruguay	-	Territory, borders or water, resources	1969-73	Non-violent crisis

Table 15 *(Continued from previous page)*

Name of the conflict	Parties involved	External parties involved	Issue	Start year	Intensity
Paraguay (Argentine support for rebels)	Non-state groups (external opposition, internal opposition) vs. government of Paraguay	Argentina	ideology or system conflict	1958-61	Non-violent crisis
United Kingdom-Argentina-Chile (Palmer)	Argentina, UK, Chile	-	territory, borders or water	1956-58	Latent conflict
Argentina – UK (Falkland I)	Argentina vs. United Kingdom	-	territory, borders or water	1965-82	Latent conflict
Argentina – UK (Falkland II)	Argentina vs. United Kingdom	USA	territory, borders or water, resources	1982	War
Argentina – UK (Falkland III)	Argentina vs. United Kingdom	-	territory, borders or water, resources	1982-99	Latent conflict
Argentina (consequence of Falkland-defeat)	Non-state groups (opposition) vs. Argentine government	USA	ideology or system conflict	1982-86	Non-violent crisis
Argentina (Monteneros)	Argentine government, non-state groups vs. non-state groups (Monteneros)	USA	Ideology or system conflict	1969-77	War
Mexico (Chiapas)	EZLN vs. government of Mexico	-	ethnic, religious or regional autonomy	1994-99	violent crisis
Guatemala - Mexico (Shrimp Boat)	Guatemala vs. Mexico	-	territory, borders, or water, resources	1958-59	Non-violent crisis
Guatemala - Mexico	Guatemala vs. Mexico	-	other	1961	Latent conflict
Brazil (constitution)	Non-state groups vs. government of Brazil	-	ideology or system conflict	1986	Latent conflict
Brazil - Paraguay	Brazil vs. Paraguay	-	territory, borders or water, resources	1962-85	Latent conflict

Source: *Conflictbarometer (*1997/2002/2003/2004/2005), Heidelberg Institute for International Conflict Research, University of Heidelberg.

Brazil and Mexico have had no international conflict for decades. The only international conflict Brazil has had is the Parana dispute (1962-1985) with Paraguay, which was settled without resort to violence. Mexico had two insignificant conflicts with Guatemala, one in 1958-59 and another in 1961. None of these conflicts were violent. Since 1961, Mexico faced no real international threat to its security.

For Argentina, the most important international conflict was with the United Kingdom (UK) over the Falkland Islands, which caused a war between two countries in 1982. However, the two states are now trying to improve their relations and use only diplomatic channels to resolve the issue (Conflict Barometer 2002). In the past, Argentina also had several territorial disputes with Chile (the Palena dispute of 1958-1966, the Beagle dispute from 1958 to 1985, the Campo de Hielo dispute of 1985-1994), a conflict with Uruguay (the Rio de la Plata dispute of 1969-1973), and the Palmer dispute of 1956-1958 with the UK and Chile. Argentina is a Latin American case that was challenged by many international conflicts, but all except two of these crises (the Falkland Islands crisis in 1982 and the Beagle III crisis with Chile in 1978-1979) were nonviolent.

Both Turkey and Israel are located in conflictual areas and they inevitably face various security problems. They frequently have violent or non-violent international conflicts. Israel in general has hostile relations with all its neighbors, and conflicts with them usually involve considerable violence. In total it has had fifteen conflicts with individual or with coalitions of states, such as Lebanon, Egypt, Iraq, and Jordan, of which only two were nonviolent. Indeed, some of these conflicts led to open war with Palestinians and some other Arab nations, (e.g., Palestine War of 1948-49, 6-days war of 1967, and Yom-Kippur War of 1973). Israel and Lebanon have been in constant conflict since the creation of Israel in 1948. Israel has also had hostile relations with Syria since 1948 and the relations got worse since the Israeli occupation of Golan Heights in 1967 (Conflict Barometer 2002).

A lot of international terrorist organizations also attack Israelis on a daily basis. One of them is Hezbollah, which has been fighting against Israeli forces since 1982. Hezbollah operates from Lebanon and is supported by Syria and by Iran. Although the Israeli military withdrew

from Southern Lebanon in May 2000 and the pro-Israeli South Lebanese Army (SLA) was dissolved, the conflict between Israel and the Hezbollah is still going on (Conflict Barometer 2002).

The conflicts in the Middle East are not only over the Arab-Israeli dispute, but also over water. In the Middle East, water is a very scarce resource and has strategic importance for the region's countries, so it is regularly a source of conflict. For example, the tensions between Israel and Lebanon have increased since September 2002 because of the announcement of the Lebanese government to divert water from the Wazzani River to irrigate villages in Southern Lebanon. Israel has also had crises with Jordan (in 1959-67, 1969-76 and 1977-94) over the water issue (Haddadin 2002).

Turkey is surrounded by many inimical countries as well. It is constantly in conflict with Greece over Cyprus, which caused a war in 1974 and led to the division of the island into two separate political entities, Turkish and Greek. That problem remains unresolved. Another source of conflict is the maritime borders of Greek islands, some of which are located very close to the Turkish mainland. Greece argues that the borders extend up to 12 miles whereas Turkey argues that the limit is only 6 miles (Athanasopulos 2001). Although this issue has not led to a war, it sometimes escalates to very critical levels, like it did in January 1996 over Imia (Kardak) islets.[37]

In the past, Turkey also had problems with Russia, like the nonviolent crisis regarding the Soviet claims in 1945-47 and the Bosporus strait passage crisis of 1992-99. A violent conflict occurred with Syria in 1955-57 because of border issues. Turkey has also clashed with Syria and Iraq over water issues (1990-99). Another reason for conflict with Syria was that Syria used to provide shelter for the terrorist Kurdish organization PKK (Kurdish Workers Party), which was

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[37] See CNN news at http://www.cnn.com/WORLD/9601/turkey_greece_dispute for more information about this confrontation.

using northern Syrian territories for camps from which they launched attacks on southeastern Turkey. This conflict ended in 1999 when Turkey forced the Syrian government to expel the PKK leader and later caught him to be sent to prison in Turkey (Conflict Barometer 2002).

Not only the number of conflicts, but also the intensity of the conflicts is important in determining how much a state feels insecure. As can be seen from Table 16, Brazil has had no violent conflict since 1945 and Argentina and Mexico have had few. Although Turkey seems to have had fewer conflicts than Argentina, it has had four violent conflicts, while Argentina had three. Israel not only has had the highest amount of conflicts among our cases, but also almost all of these conflicts were violent. Therefore, we expect Israel to spend most for its security, followed by Turkey and Argentina. On the other hand, we expect Brazil and Mexico to spend least for military.

Table 16: Number of conflicts in Argentina, Brazil, Israel, Mexico, and Turkey (1945-2005)

	Argentina	Brazil	Israel	Mexico	Turkey
violent conflicts	3	0	13	1	4
non-violent conflicts	11	2	2	2	7

4.2.1.2 Domestic threats and conflicts

Domestic threats to security may threaten a country as much as international ones. A civil war, threat of a civil war, terrorist groups, guerilla movements, or separatist organizations are all

causes of internal conflicts and contribute to feeling of insecurity. Terrorist groups, guerilla movements, and separatist organizations typically also have international ties. In order to deal with these dissident groups, usually governments use their military and this may add to military spending.

Since 1985 Argentina and Brazil have had no armed domestic insurgency, aside from the Montoneros terrorist organization in Argentina, which fought violently against the government between 1969 and 1977.[38] Brazil did not have such a strong rebellion group. It had a serious constitutional dispute in 1986, but it was resolved without major violence. However, both Argentina and Brazil have had several military coups and military regimes that might also have an impact on military spending. Indeed, it can be seen in Table 17 and Table 18 that military in Argentina and Brazil shrank considerably after these states shifted to democracy.

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[38] However, Argentina became a target of international terrorism twice in the 1990s. In 1992 Israeli Embassy in Buenos Aires was bombed killing 29 people and in 1994 the Argentina-Israeli Community Center was bombed killing 86 people (Poe and Meernik 1995).

Table 17: Weapon holdings (aggregate number of heavy weapons)*

	Argentina	Brazil	Mexico	Israel	Turkey	World average
1990	1,760	2,420	520	18,460	10,700	3,283
1991	1,860	2,390	560	18,360	10,920	3,233
1992	1,770	2,430	560	18,630	11, 510	3,332
1993	1,730	2,340	570	18,970	11,220	3,210
1994	1,710	2,280	640	17,850	11,770	3,002
1995	1,580	2,270	700	15,560	11,560	2,915
1996	1,550	2,120	770	15,510	11,240	2,674
1997	1,520	2,170	960	17,530	11,360	2,582
1998	1,530	2,090	1,200	17,850	11,070	2,506
1999	1,500	2,110	1,240	19,500	11,000	2,434
2000	1,340	2,120	1,240	15,430	10,460	2,294
2001	1,330	2,150	1,230	17,370	10,460	2,269
2002	1,310	2,100	1,230	17,490	10,030	2,230
2003	1,290	2,270	1,250	17,730	10,030	2,207

Source*: BICC Yearbook*, Bonn International Center for Conversion (BICC), 2005 (http://first.sipri.org/index.php)
(*) Unfortunately data for the years 1975-1989 were not available.

Table 18: Armed forces personnel (in 1000s)

	Argentina	Brazil	Mexico	Israel	Turkey	World average
1974	150	435	85	182	574	n.a.
1975	160	455	95	172	584	n.a.
1976	155	450	100	172	674	n.a.
1977	155	450	100	179	771	n.a.
1978	155	450	120	179	721	n.a.
1979	155	450	120	181	698	n.a.
1980	155	450	120	196	717	n.a.
1981	155	450	125	201	741	n.a.
1982	175	460	130	205	769	n.a.
1983	175	460	130	205	824	n.a.
1984	174	459	129	205	815	n.a.
1985	129	496	140	195	814	n.a.
1986	104	527	141	180	860	n.a.
1987	118	541	141	180	879	n.a.

Table 18 *(Continued from previous page)*

	Argentina	Brazil	Mexico	Israel	Turkey	World average
1988	95	319	154	191	847	n.a.
1989	95	319	154	191	780	n.a.
1990	85	295	175	190	769	193
1991	70	295	175	190	804	183
1992	65	296	175	181	704	156
1993	65	296	175	181	686	151
1994	67	296	175	177	811	145
1995	67	295	175	177	805	142
1996	72	300	175	175	818	136
1997	73	314	175	176	828	136
1998	73	313	175	176	788	133
1999	73	291	179	177	789	133
2000	71	288	190	179	793	129
2001	70	288	190	181	803	129
2002	70	288	193	181	816	124
2003	71	288	193	183	823	123

Source: 1974-89 data are from *World Military Expenditures and Arms Transfers, 1995, 1965,* US Arms Control and Disarmament Agency. 1990-2003 data are from *BICC Yearbook,* Bonn International Center for Conversion (BICC), 2005.

Although period of regime instability is over in Argentina and Brazil, both countries have experienced political dissatisfaction that arises from time to time on economic grounds, like the case of piqueteros in Argentina since the 2001 economic crisis and Landless Rural Workers´ Movement (MST) in Brazil since 1995. However, these groups do not pose serious armed opposition to the government that threatens the political establishment, so military expenditures are not necessarily affected by them. Also, they do not have international ties. Especially with the effect of democratization, political insurgency in these countries has decreased over time. Thus, Argentina and Brazil do not need large armies to control domestic dissent.

In Mexico, military is traditionally not a very strong institution (Camp 1992; Fitch 1998). Mexican military has been persistently under civilian control since late 1920s through "Revolutionary ideology," constitution, professionalization, and ultimately the overarching

political control of the Party of Institutionalized Revolution, PRI (Serrano 1995). In fact, it is the only Latin American country besides Costa Rica which has not had any military coup since World War II. Although internally Mexico has been the most peaceful country among all our cases, the Zapatista Army of National Liberation (EZLN), which emerged in 1994 and campaigned for autonomy for the province of Chiapas, ended that image of tranquility. Since late 1994, the Mexican military has been carrying out operations in the south of the country to put down this movement, and to a large extend they have been able to control it. Although there is no recognizable progress in resolving this conflict, this problem ceased to be an important military conflict towards the end of 1990s, as EZLN withdrew into deep jungle areas (Conflict Barometer 2002). Also other similar dissident groups, such as People's Revolutionary Army (ERP) and Insurgent Peoples Revolutionary Army (ERPI), appeared in the Guerrero state of Mexico with similar claims. Yet, there have been no significant clashes between these groups and the Mexican military.[39]

Turkey and Israel differ from the Latin American cases, because they have had considerable domestic unrest. Turkey has been fighting against the secessionist PKK since 1979. This movement, which emerged in the southeastern region of the country with a radical Marxist-Leninist and Kurdish nationalistic ideology, has caused significant human and economic losses for the country. According to Stockholm International Peace Research Institute (SIPRI), over 35,000 lives were lost during the fighting between the PKK and Turkish military forces between 1984 and 1999. This internal conflict is the main battle of the Turkish military. Since the arrest of PKK's leader Abdullah Öcalan in 1999, the activities of PKK have considerably decreased

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[39] Recently, due to their increasing power, narco-traffickers have become the main concern of the Mexican military. This may be the reason behind rise in weaponry and military personnel in Mexico since the 1990s (see Table IV-2 and Table IV-3).

though not ended. PKK has changed its name to Congress for Freedom and Democracy in Kurdistan (KADEK) in 2002 and it is still active around the Turkish border with Iraq and Iran. PKK/KADEK usually cooperates with DHKC-P (Revolutionary Peoples' Liberation Party), a similar kind of Marxist terrorist organization that conducts urban bombings and rural guerilla operations in Turkey. Both organizations have international ties, especially in Europe and the Middle East.

Israel is the country which has the most severe domestic conflicts. Because of its occupation of the Palestinian lands, Israel has become a target of not only Palestinians, but also other nationalistic and religious Arabs. Israel passes almost no week without suicide bombs exploding or suicide bomb attempts. The never-ending conflict between Israel and Palestinian groups such as the al-Aqsa Brigades, Hamas, Islamic Jihad, and the Fatah Movement on an independent Palestinian state has escalated to war, especially with the initiation of Second Intifada in 2000 (Conflict Barometer 2002). Despite the amount of money invested in internal security mechanisms, life in Israel is still largely insecure. Also, Israel often bombs territories controlled by Palestinians in order to respond to the missile or suicide bomb attacks of the Palestinian groups.

The analysis of security threats to Argentina, Brazil, Mexico, Israel and Turkey reveals that Turkey and Israel have the largest security problems (see Table 19). As a result, we expect military costs of Turkey and Israel to be higher and, thus, we expect them to have higher difficulty in decreasing inflation. Turkey has not been able to eliminate inflation. Yet, Israel, a country with even more security threats than Turkey, was able to decrease inflation. Therefore, we cannot directly relate security threats to the ability to stabilize prices. Israel receives considerable support to cover some portion of its security costs. In this case, international aid

may act as an intervening factor, which affects the budget the opposite way that military expenses do. Therefore, we also have to review these countries' actual security costs and the military aid they receive.

Table 19: Classification of security threats vs. price stabilization

	High security threats	Moderate security threats	Low security threats
Success in price stabilization	Israel	Mexico	
Moderate success in price stabilization		Argentina	Brazil
Low success in price stabilization	Turkey		

4.2.2 Military spending

Countries that have to spend a lot for defense may have difficulty in implementing disinflationary economic policies. High security threats affect economic policies, as they require more economic resources to be diverted to the military. High military expenditures contribute to budget deficits. Thus, for countries under high security threats, fiscal and monetary austerity is harder to achieve.

The main factor that determines the amount of resources spent on the military is security threats. If states feel that their domestic or international enemies' military capabilities are large

and/or increasing, they feel threatened and tend to invest more in military as a response (Hess 1989).

For countries which are located in very unstable regions and/or have international security problems, military spending is essential, since their military needs personnel and weapons to preserve the very existence of the state. Therefore, despite their high economic costs, military expenses are inevitable, or at least vital, for such countries. As a result, military expenses are an important item in budgets of countries that face security threats, especially if those countries are not rich. This spending consumes foreign exchange resources, causing adverse effects on financial accounts and making it more difficult to stabilize prices. Huge military spending may not be a very important financial burden for advanced countries and big economies, but it may be financially disrupting for developing countries and small economies, even if they try to keep fiscal discipline.

As can be seen from Table 20 and Figure 5, and as expected from the previous analysis, Latin American cases of Argentina, Brazil, and Mexico spend a much smaller portion of their GNP for security purposes than Israel and Turkey. Although military is an important institution in Argentina and Brazil, its importance was prevalent mostly in domestic politics (due to past military regimes) rather than international politics. Mexico spends least for military. In general, these three countries spend less for military because they have fewer threats to their security.

Table 20: Military expenditure as a share (%) of GNP *

	Argentina	Brazil	Mexico	Israel	Turkey
1976	2.4	1.3	0.6	26.4	6.2
1977	2.4	1.1	0.6	24.4	5.8
1978	2.7	0.9	0.5	20.4	5.2
1979	6.3	0.9	0.6	26.1	4.3
1980	6.4	1.3	0.6	25.0	4.3
1981	7.1	1.3	0.6	23.5	4.9
1982	6.0	1.6	0.5	19.0	5.2
1983	4.6	1.2	0.5	20.2	4.8
1984	4.5	1.2	0.6	21.4	4.4
1985	3.5	1.1	0.7	17.4	4.5
1986	1.0	1.2	0.6	16.9	4.8
1987	1.1	1.2	0.5	14.7	4.2
1988	1.6	2.0	0.5	13.0	3.0
1989	1.7	2.4	0.4	12.4	3.3
1990	1.3	1.9	0.4	12.2	3.5
1991	1.4	1.1	0.4	11.0	3.7
1992	1.4	1.1	0.5	10.5	3.7
1993	1.6	1.3	0.5	9.4	3.8
1994	1.6	1.2	0.6	8.8	4.1
1995	1.7	1.5	0.6	8.3	3.9
1996	1.5	1.3	0.6	8.6	4.1
1997	1.4	1.5	0.6	8.4	4.1
1998	1.3	1.4	0.5	8.4	4.4
1999	1.5	1.3	0.6	8.4	5.4
2000	1.3	1.3	0.5	8.2	5.0
2001	1.4	1.4	0.5	7.7	5.0
2002	1.2	1.6	0.5	9.2	4.9

Source*: SIPRI Yearbook, 1982, 1988, 1993, 2002, 2003 (Stockholm: SIPRI).*

Figure 5: Military expenditure as a share of GNP

14.0
12.0
10.0
8.0
6.0
4.0
2.0

%

Argentina
Brazil
Mexico
Israel
Turkey

1988   1990   1992   1994   1996   1998   2000
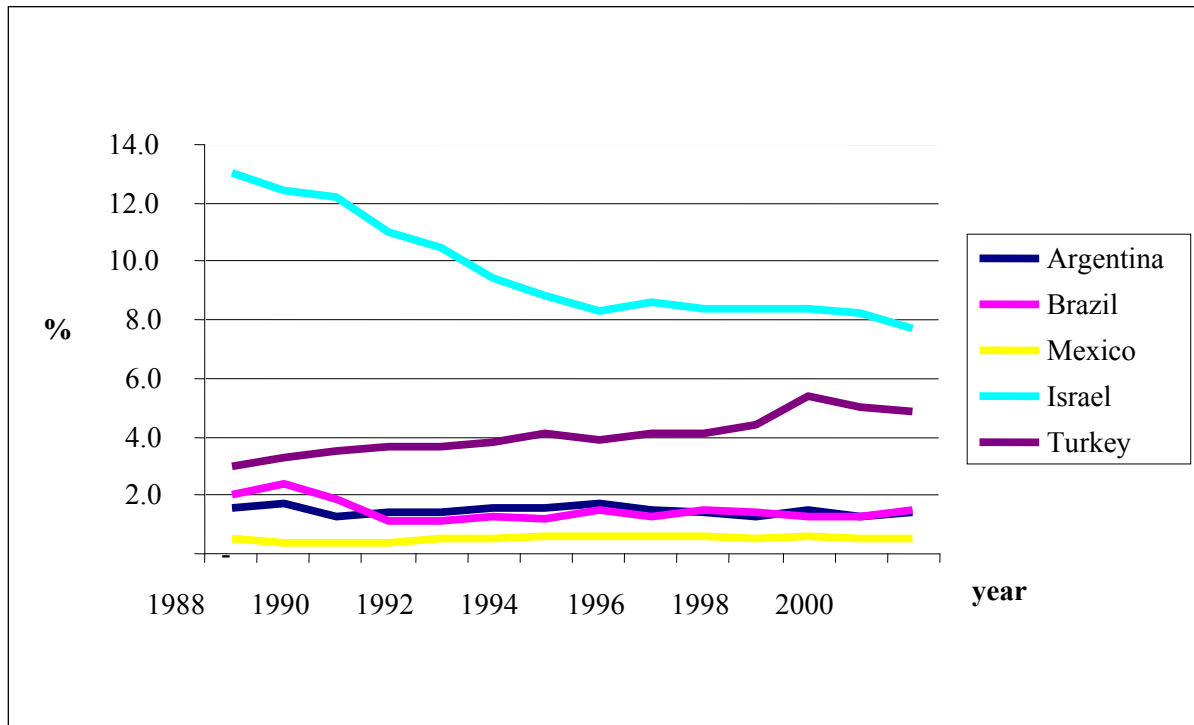
year

Turkey and Israel keep big armies and invest a lot on modern weaponry systems (see Table 18 and Table 17) because of the high security threats they perceive. As a result, their military expenditures are very high. Israel spends at least 8 percent of its GDP on the military and Turkey spends about 5 percent (SIPRI Yearbook 2004: Armaments, Disarmament and International Security 2004). In terms of ratio of military expenditure to Gross National Product (GNP), Israel ranks 11th and Turkey ranks 36th in the world as of 1994 ("World Military Expenditures and Arms Transfers, 1994" 1995).[40] Almost 4 percent of Israeli population is in the army, which is the highest in the world after North Korea. Also, Israel not only is one of the

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[40] On the same variable Argentina ranks 108th, Brazil ranks 132th, and Mexico ranks 155th among 166 countries.

leading producers of arms and weapons, but also imports a significant amount of equipment from abroad (<u>SIPRI Yearbook 2004: Armaments, Disarmament and International Security</u> 2004). Therefore, it bears very high military costs.

Yet, as can be noticed in Table 20, Israel's military spending relative to GNP has decreased considerably over the last decades. Although on average Israel used to spend 23 percent of its GNP on military between 1976 and 1984, from 1985 (the year disinflation program was initiated) on, Israel has never spent over 17 percent of its GNP on military and this share has even dropped under 10 percent from 1993 on. This supports our hypothesis that military spending can contribute to the persistence of inflation, but the same relation cannot be confirmed by our other cases.

Although Israel has decreased its military spending relative to GNP over time, it still has the highest share of military spending among our cases. Therefore, we would expect Israel to have the highest difficulty in battling inflation. However, we know that Israel resolved its inflation problem in the mid-1980s. Our next highly threatened country is Turkey with its big military establishment. Turkey has had greatest difficulty in stabilizing prices. The difference between Turkey and Israel may be explained by the difference in the amount of military aid these countries receive. Therefore, we next turn to international aid to see if it compensates for some military costs.

4.3   THE INTERMEDIARY LINK: AID

The effect of strategic importance and security threats on the ability to decrease inflation is probably not a direct one. As argued in the beginning of this chapter, strategically important

countries are thought to receive more support that may help them stop monetization to finance budget deficits. On the other hand, countries that face more security threats may have more difficulty in dealing with inflation problem because of their high military expenditures. In this section, I look into the relation between strategic importance, security threats and international financial support to see whether strategically important countries really receive significant aid as expected. Secondly, I will check how this aid affects the ability of the countries to stabilize prices. The findings suggest that strategically important countries do receive significant support, but this politically motivated support does not determine their ability to eliminate inflation, unless it comes in large amounts and under very concessional terms.[41]

4.3.1 Assistance through International Financial Institutions

The financial support of international financial institutions, like the IMF and the World Bank, differs from country to country. For developing countries this support is crucial as they have limited resources and are frequently hit by economic crises. Many times these countries shape their economic policies in line with the treatment they receive from the international financial institutions.

Although middle-income countries like Argentina, Brazil, Mexico, and Turkey and a higher income economy Israel are not dependent on aid, support of international financial institutions is important for them. The influence of IMF assistance far exceeds the importance of funds it provides. IMF support is a signal of credibility to all international financial markets. International funds wait for the IMF signal to flow to developing countries. If a country cannot

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[41] Loans with concessional terms are loans which have low interest rate (lower than the market rate), do not need to be repaid in the short-term, and/or impose little or no conditions on the recipient.

obtain IMF support, it can be deprived of foreign exchange and abandoned by investors (Lastra 2000). Yet, the power of the IMF is effective only on developing countries, since they are the ones in need of funds (Swedberg 1986). Since a country has to have a balance of payments problem in order to be eligible for IMF support, industrialized economies do not normally need any IMF funds. Likewise, Israel has not received any IMF funding recently as its economy became stronger in 1990s. Yet, it is generally believed that IMF funding is very essential for price stabilization. Our analysis here will evaluate the validity of this argument.

The IMF primarily uses two means of loans for countries. The first is *Stand-by Arrangements* (SBAs), which typically cover a period of 12 to 18 months. Under SBAs, members are given a right to draw an annual 100 percent and a cumulative 300 percent of their quota. Repayments are to be made within 3 to 5 years. Another principal IMF assistance is the *Extended Fund Facility* (EFF), which provides medium-term (3 to 4 years) aid to countries that have serious structural balance of payments problems. EFFs are more extensive and comprehensive than SBAs. They aim to correct balance of payments difficulties that result from structural problems, and thus, require a longer period. Repayments are due within 4.5 to 10 years. The IMF rarely exceeds its 300 percent quota to support a country (Stiles 1990; Lastra 2000). Most IMF assistance comes with non-concessional terms. They need to be repaid in few years and in order to qualify for or to continue to receive these funds countries have to agree to comply with certain strict conditions. These conditions usually require countries to implement liberal economic reforms that aim to fix economic imbalances.

The IMF's primary stated goal is to overcome balance of payments problems of its members. A secondary goal of the IMF is resuming economic growth and decreasing inflation (Bird 1996). Therefore, it is the primary international financial institution that helps states to deal

with inflation. However, many have suspected that the IMF also has a political agenda. When countries are considered for IMF support, they are not only evaluated according to their financial needs and creditworthiness. Although the IMF's official procedures prohibit intervention of political factors into the decision-making process, countries are also judged for their political and strategic significance before they receive funds (Bird 1996).

According to political models, IMF policies are manipulated by industrialized countries, especially by the US. It is argued that it is not the IMF's bureaucrats and their economic neutrality but the US government that influences conditionality and other decisions regarding IMF loans (Stiles 1990; Oatley and Yackee 2000). The more strategically important a country, the more tolerant and generous the IMF may be towards that country. The IMF provides more assistance to countries that are friends of the US. Thus, the closer are the ties and alliance with the US, the higher may be the probability to get IMF funds. The US uses its power to provide such support to its allies. As Oatley and Yackee (2000) argue that " the larger IMF loans will be advanced to governments closely allied with American interests…" (p.17). The US provides financial support to secure that foreign policies of those countries comply with US political interests.

Officially it is stated that IMF works under the principles of "Financial Programming" and "Doctrine of Economic Neutrality," which exclude any kind of political and subjective considerations. However, as meetings of the IMF Executive Board are very secretive, the details of the IMF decisions are not publicly known. Therefore, many scholars have argued that, despite its principles, IMF decisions are politicized, especially to reflect political and economic interests of its largest contributor, the US (Payer, Cheryl 1974; Kahler 1990; Stiles 1990; Killick 1995; Thacker 1999; Oatley and Yackee 2000).

Thacker (1999) argues that there are three factors that make us suspect the neutrality of IMF decisions. First, many countries continue to receive support although they do not comply with the IMF conditionality. Second, the representative of each country in the IMF Executive Board is appointed by the respective governments. Indeed, the highest positions in the IMF are all politically appointed. Third, the voting and decision-making processes also allow politicization. The IMF has a weighted voting system and the weight of a country's vote depends on that country's contribution. As the biggest contributor, the US has the biggest voice in the IMF with its 17.53 percent voting power. Since all IMF Executive Board decisions require a majority of 85 percent of the votes, the US inevitably has a veto power on those IMF decisions. Therefore, many scholars have argued that IMF decisions reflect interests of the US (Swedberg 1986; Stiles 1990; Thacker 1999; Oatley and Yackee 2000). Swedberg (1986) further argues that, because of IMF's institutional and decision-making structures, "no [IMF] managing director or president can make a major decision without clearance from the US…" (p.379).

A US motivation for providing financial aid is to strengthen its allies by stabilizing them economically. Financial crises have severe destabilizing effects through the economic devastation they cause. If no financial support is found, either the economy totally collapses or the government needs to take extreme austerity measures that would lead to high unemployment, decreasing incomes, and low consumption levels. These generally lead to political dissatisfaction among people that may bring about a serious political crisis or even a regime change. The prompt availability of much needed foreign exchange is crucial at that point. Such aid, which is typically provided by the IMF, may reduce severity of economic adjustments and the danger of political instability (Bienen and Gersovitz 1985; Oatley and Yackee 2000). Although IMF

supported policies are generally believed to engender political protests, called "IMF riots" (Payer, C. 1974; Haggard 1985), Auvinen (1996) states that,

> IMF's economic intervention may actually enhance economic stability. Without the Fund's assistance, countries would sink deeper into economic distress and would have no hope of securing foreign finance and assistance. Under these conditions, the likelihood of political protest would be even greater. (p. 378)

Evidence for the politicized nature of the IMF decisions is plentiful. A clear historical example was that US blocked the membership of Soviet Union to the IMF. Also, the US prevented IMF assistance to Vietnam, although it was a large economy in need of funds. Although the IMF provided significant aid to leftist countries, such as Jamaica, Hungary, Yugoslavia, and Romania, between 1952 and 1984, those were believed to be US efforts to pull these countries into its own sphere of influence. In fact, Thacker (1999) argues that, not necessarily the very close US allies, but the countries that move towards alliance with the US have more probability to get IMF funding.

In the post-Cold War era, IMF decisions continued to be political. With the end of Cold War, the politicization of IMF decisions by the US has even increased, as the US intervened more and more into important IMF decisions. As suggested by Thacker (1999), after the Cold War, "the US has been able to use the IMF to further its own international political agenda" (p.71). Therefore, the argument that IMF support is determined by political interests of the US is even more valid for 1990s and 2000s than 1970s or 1980s. For instance, in 1995, the IMF made its largest commitment up to that time by providing Mexico 17.8 billion dollars and Russia 6.8 billion dollars. Equally needy Argentina was largely overlooked during its 2001 economic crisis.

All our cases are important clients of the World Bank and IMF, except Israel. Argentina, Brazil, Mexico and Turkey have needed and taken significant amounts of World Bank and IMF

loans since 1980 (see Table 21 and Table 22). However, especially the treatment of the IMF of these countries has differed from country to country and sometimes through time. This variation might have depended on the severity of the economic crises they had, but also it might have depended on the political conditions.

Table 21: Net financial flows, IBRD (current US$)*

	Argentina	Brazil	Mexico	Turkey	Middle income countries
1970-74	213,200,000	662,200,000	467,200,000	169,200,000	2,672,700,000
1975-79	27,200,000	968,200,000	757,400,000	681,900,000	7,808,800,000
1980-84	185,900,000	2,807,200,000	1,569,100,000	1,951,200,000	18,657,600,000
1985-89	1,404,600,000	1,390,100,000	2,806,700,000	1,631,200,000	16,276,500,000
1990-94	1,364,900,000	-3,074,900,000	3,507,100,000	-1,501,500,000	10,001,500,000
1995-99	4,781,300,000	932,200,000	-812,500,000	-1,887,100,000	18,553,100,000
2000-04	-860,500,000	1,494,900,000	-1,462,100,000	3,205,100,000	-4,789,400,000
TOTAL	**7,116,600,000**	**5,179,900,000**	**6,832,900,000**	**4,250,000,000**	**69,180,800,000**

Source: *World Development Indicators*, The World Bank (2006) (http://devdata.worldbank.org/wdi2006)

Table 22: Ratio of net financial flows from the IBRD as a percentage of GDP*

	Argentina	Brazil	Mexico	Turkey
1970-74	0.47%	0.99%	0.95%	0.70%
1975-79	0.05%	0.55%	0.76%	1.08%
1980-84	0.22%	1.18%	0.83%	3.02%
1985-89	1.37%	0.44%	1.63%	1.91%
1990-94	0.65%	-0.69%	0.99%	-0.98%
1995-99	1.70%	0.13%	-0.21%	-1.02%
2000-04	-0.46%	0.28%	-0.23%	1.50%
Average	**0.15%**	**0.04%**	**0.07%**	**0.11%**

Source: *World Development Indicators*, The World Bank (2006) (http://devdata.worldbank.org/wdi2006)
(*) Highlighted periods are inflationary periods for the relevant country.

The World Bank is an important financial institution that provides loan based assistance to developing countries. In Table 21, we can see the amount of net financial flows from the International Bank for Reconstruction and Development (IBRD), the financial arm of the World Bank, to Argentina, Brazil, Mexico, and Turkey.[42] World Bank loans are more development oriented and they are not as much accused of being politicized as the IMF loans. This can also be seen from Table 21 and Table 22, because the amount of IBRD flows does not exactly correspond to results of our strategic importance analysis. In 1970-2004 Argentina and Turkey received more IBRD funding relative to their economic size than Brazil and Mexico. The aid Turkey received is not unexpected as it is a strategically important developing country. Yet, Argentina, the least important country and the richest developing country among our cases, has

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[42] Israel does not receive IBRD funds as it is considered a high income country.

received more IBRD funding than any other one of our cases. It was probably because beginning in 1989, Argentina implemented far-reaching neo-liberal economic reforms which were consistently supported not only by the World Bank but also by the IMF (Mussa 2002).

Table 23 shows that Argentina and Brazil have been the most significant IMF clients. Yet, in the last few years Turkey surpassed both Argentina and Brazil in its outstanding IMF credits and loans. All our cases (except Israel) have faced economic crises in 1990s and 2000s, so it is not surprising that they all received significant amount of IMF funds. If Table 24 is reviewed, the countries which have received most funding from the IMF relative to their economic size are Argentina and Turkey. However, if we exclude the 2000s when all but Turkey had already stabilized prices, Argentina appears as the most significant recipients of IMF funds, while Brazil appears the least important. Argentina eliminated high inflation only three years before Brazil and Turkey battled inflation longer than any of the other cases. Thus, IMF funding does not seem to affect inflation stabilization.

Table 23: Total IMF credit and loans outstanding (million US$)*

	Argentina	Brazil	Israel	Mexico	Turkey
1970-74	412.00	0.00	77.46	0.00	136.26
1975-79	1,050.18	0.00	1,274.21	1,070.72	1,839.16
1980-84	2,241.22	7,294.34	271.09	3,811.88	6,233.51
1985-89	12,154.02	15,008.32	0.01	17,105.72	2,895.95
1990-94	11,033.05	3,074.74	535.92	19,791.24	235.50
1995-99	19,977.40	10,023.33	133.98	35,828.55	2,286.10
2000-03	45,068.11	58,483.48	0.00	0.00	60,745.00
TOTAL	**91,935.98**	**93,884.21**	**2,292.67**	**77,608.11**	**74,371.48**

Source: *International Financial Statistics*, International Monetary Fund (January 2006)

(*) Highlighted periods are inflationary periods of the relevant countries.

Table 24: Total IMF credit and loans outstanding as a ration of GDP*

	Argentina	Brazil	Israel	Mexico	Turkey
1970-74	0.9%	0.0%	1.0%	0.0%	0.6%
1975-79	1.8%	0.0%	9.1%	1.1%	2.9%
1980-84	2.6%	3.1%	1.1%	2.0%	9.6%
1985-89	11.8%	4.8%	0.0%	9.9%	3.4%
1990-94	5.2%	0.7%	0.8%	5.6%	0.2%
1995-99	7.1%	1.4%	0.1%	9.3%	1.2%
2000-03	23.0%	11.3%	0.0%	0.0%	31.6%
average	**1.96%**	**0.79%**	**0.14%**	**0.89%**	**2.04%**

Source: *International Financial Statistics*, International Monetary Fund (January 2006)

(*) Highlighted periods are inflationary periods of the relevant countries.

It can be seen that all our cases have received IMF funding during their economically difficult times (e.g., hyperinflationary period of Israel in 1970s, Mexican crisis of 1994, and economic crises in Argentina and Turkey in the early 2000s). Mexico is an important country for the US for its geographical proximity. Turkey is one of the most strategic partners of the US. However, Brazil and Argentina do not have those traits. In fact, Argentina is strategically the least significant country for the US and it has a smaller economy than Brazil and Mexico, but it received a huge amount of funds from the IMF. That can be explained by the series of economic crises Argentina faced and its close relationship with the IMF due to its sweeping economic liberalization policies that were seen as exemplar by the IMF (Mussa 2002). Therefore, at first sight, it does not appear that strategic importance is a factor that determines the amount of IMF assistance given.

Turkey is a country of vital strategic importance and has had a difficult relation with the IMF (Stiles 1990). The first two adjustment programs offered by the IMF to Turkey were

negotiated in 1978 and 1979. They provided significant funding, though not enough for the Turkish needs, and imposed strict conditionality. Many NATO members tried to influence the IMF decisions, but until 1980 Turkey did not receive the big support it needed (Stiles 1990). In 1980, Turkey was offered more generous funds as the IMF let Turkey use about 625 percent of its quota. That was right after the Soviet invasion of Afghanistan and the Islamic revolution in Iran in 1979, which were both considered as crisis cases with respect to US strategic interests. Turkey received five structural adjustment loans in 1980-84 and then gained approval for four sector adjustment loans from 1984 to 1988, making it by far the largest recipient of balance of payments support in that period. Turkey had standby arrangements with the IMF in 1980, 1983, and 1984. Since these funds were given "after" Turkey had initiated many economic liberalization policies, they were seen as a reward (Aricanli and Rodrik 1990).

The most political decision to support Turkey came in 2001. Shaken by a severe financial crisis in February 2001, Turkish authorities resorted to the IMF. The IMF provided Turkey with more than 19 billion dollars of loans, increasing its quota usage to 1,773.5 percent in 2002. This IMF support corresponds to rising US interests in the region because of the September 11, 2001 terrorist attacks. These terrorist attacks made Turkey even a more important strategic partner of the US. The political nature of the IMF's decision can be understood more clearly when we look to the Argentine case. Argentina, which was going through a harsher economic crisis at the same time, did not receive any new significant support in 2001. Later it was provided some support, raising its quota usage to 598.2 percent as of 2002, but that was less than what Turkey was rewarded. At the same time, Brazil also received IMF support in 2002, raising its quota usage to 604.6 percent.

In conclusion, we can suggest that politics may affect the IMF decisions, but it is probably one of many factors that do so, not the most important one. The intensity of economic crises seems to determine the flow of IMF funds more. Yet, if more than one country is going through a crisis, it is probable that the strategic ones would be prioritized, as observed during the Argentine and Turkish crises of 2001.

How do these funds affect price stabilization? It is hard to get a clear answer to this question from these five cases. Argentina, the country which has traditionally received more IMF funds, had only moderate success in price stabilization. Mexico and Israel have received less IMF assistance relative to their economic size, but they eliminated persistent inflation earlier than the others. Thus, it does not look like IMF funds help inflation stabilization. Mexico has received more World Bank funds than others and Israel has received none. Yet, Israel and Mexico eliminated persistent inflation faster than the others. Therefore, we do not see a consistent pattern of relationship between the assistance received through the World Bank and price stabilization.

4.3.2 Official Economic Aid

The IMF and World Bank funds are a more indirect way of providing financial assistance compared to official economic aid, simply because they are not given directly by governments but through multiple institutions. Official aid is much more directly political, as it is decided according to bilateral relations between the donor country and the recipient country, without an intermediary institution.

As the greatest power of the world, the most significant official aid donor is the US. The US government provides significant funds to developing countries and the amount of this aid depends more on the political relations with the recipient country than its need for funds.

> During the years of Cold War between the US and the Soviet Union, both of these countries used foreign aid to address international threats and opportunities by granting assistance to win or maintain allies, to help countries fighting adversaries, an to encourage economic development, and thus, presumably, political stability. (Poe and Meernik 1995, p.399)

Ideologies may affect how much foreign aid countries would receive. Typically friendly ideologies are rewarded, while those with ideologies of the adversary are punished. Also, location of countries may affect how strategically important they are, and thus, how much foreign aid they would receive. Not only countries' location vis-à-vis the US, but also their location vis-à-vis the US's enemies determines strategic importance. A third factor is alliances. During the Cold War, NATO countries received more aid from the US than other countries. A study found that in the 1980s NATO countries on average received more than 359 million dollars worth of aid than non-NATO countries. During that period Greece, Spain, Portugal, and Turkey were given more aid than other countries except Egypt and Israel (Poe and Meernik 1995).

The Table 25, Table 26, and Table 27 clearly demonstrate the political nature of official aid. Some countries, such as Israel, are very fortunate to receive generous assistance from advanced countries for strategic political grounds (Frey and Eichenberger 1994). Israel has received the most official aid (almost 33 billion dollars in 1970-2003) and most US assistance (over 50 billion dollars in 1962-2004), although it is least in need of official aid as it is the richest

country among our cases.[43] Israel already has a gross domestic product (GDP) per capita of 18,358 US dollars as of 2000, whereas none of other cases had more than 8,000 dollars of GDP per capita. Besides it is a very small economy compared to Argentina, Brazil, Mexico, or Turkey. As it is the smallest economy but the one that receives most aid, the impact of aid on Israel's economy should be even higher. As can be seen in Table 26, between 1975 and 1990 official aid was almost 5 percent of Israel's GDP. This aid might have put Israel in a quite advantaged position when it comes to stabilization.

Table 25: Official development assistance and official aid (current US$)*

	Argentina	**Brazil**	**Israel**	**Mexico**	**Turkey**
1970-74	143,040,000	776,430,000	524,810,000	295,870,000	745,630,000
1975-79	157,320,000	575,430,000	3,992,740,000	267,720,000	1,042,210,000
1980-84	190,260,000	790,080,000	5,122,950,000	510,540,000	2,926,400,000
1985-89	591,590,000	1,006,930,000	7,599,130,000	824,900,000	1,312,700,000
1990-94	1,083,120,000	520,160,000	7,690,470,000	1,599,290,000	3,676,200,000
1995-99	567,070,000	1,370,870,000	5,720,650,000	857,870,000	575,640,000
2000-04	506,880,000	1,582,000,000	2,648,150,000	380,410,000	1,328,790,000
TOTAL	**3,239,280,000**	**6,624,900,000**	**33,298,900,000**	**4,736,600,000**	**11,585,580,000**

Source: *World Development Indicators*, The World Bank (2005) (http://devdata.worldbank.org/wdi2005/)

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[43] Egypt and Israel are exceptional in the amount of aid they receive from US, because of the Camp David agreement reached in 1977. They have been allocated disproportionate amounts of aid (Watkins 1997). Another reason that Israel receives extraordinary proportions of US aid is well-organized and effective Jewish lobby in the US. Jewish campaign contributions are an important consideration in US elections (Watkins 1997)(forthcoming).

Table 26: Official development assistance and official aid as a percentage of GDP*

	Argentina	Brazil	Israel	Mexico	Turkey	Middle income countries
1970-74	0.06%	0.23%	1.31%	0.12%	0.62%	0.47%
1975-79	0.05%	0.07%	5.73%	0.05%	0.33%	0.56%
1980-84	0.04%	0.07%	4.16%	0.05%	0.91%	0.49%
1985-89	0.12%	0.06%	4.27%	0.10%	0.31%	0.50%
1990-94	0.10%	0.02%	2.42%	0.09%	0.47%	0.77%
1995-99	0.04%	0.04%	1.14%	0.04%	0.07%	0.51%
2000-04	0.05%	0.06%	0.47%	0.01%	0.12%	0.45%
Average	**0.07%**	**0.05%**	**1.86%**	**0.05%**	**0.29%**	**0.54%**

Source: *World Development Indicators*, The World Bank (2005) (http://devdata.worldbank.org/wdi2005/)

Table 27: US overseas loans and grants, 1962-2004 (million US$)

	Argentina	Brazil	Israel	Mexico	Turkey
USAID and Predecessor, Total	710.00	6,937.80	46,951.20	551.40	9,989.00
Department of Agriculture, Total	0.00	2,855.20	1,864.10	455.80	1,796.20
State Department, Total	8.00	52.00	49.80	482.80	33.80
Other Economic Assistance, Total	238.30	606.80	142.20	435.40	88.60
Economic Assistance, Total	*956.30*	*10,451.70*	*49,007.30*	*1,925.40*	*11,907.60*
Export-Import Bank Loans	3,192.60	9,871.60	2,689.60	9,527.70	1,292.40
OPIC & Other Non-Concessional US Loans	173.70	952.70	2.20	45.80	396.90
Non-Concessional US Loans, Total	*3,366.30*	*10,824.40*	*2,691.80*	*9,573.60*	*1,689.30*
GDP (2000)	*284,203.70*	*601,732.02*	*115,452.13*	*581,428.45*	*199,267.32*
GDP per capita (2000)	*7,726*	*3,538*	*18,358*	*5,935*	*2,956*

Sources: *The US Loans & Grants (Greenbook)*, USAID Center for Development Information and Evaluation (http://qesdb.usaid.gov/gbk/)

World Development Indicators, The World Bank (2005) (http://devdata.worldbank.org/wdi2005/)

Turkey is next after Israel as it received more than $11 billions official aid in 1970-2001, exceeding Argentina, Brazil and Mexico, although it has a smaller economy. As can be seen from Table 27, Turkey received the second highest level of economic support from the US, though nothing close to what Israel has received, especially in United States Agency for International Development (USAID) assistance.

The amount of non-concessional US loans rewarded corresponds to the economic importance and the intensity of economic relations between the recipient countries and the US. However, it is clear that the total economic assistance rewarded by the US is determined by political interests. Countries which are strategically more important have been supported more by other countries.

Official aid may have helped countries to decrease inflation by balancing their budgets. Mexico seems like a very important country for the US, but it did not receive significant aid. It never had a hyperinflation and was able to decrease its inflation rather quickly in the 1980s. Turkey received more economic aid than Argentina, Brazil, and Mexico, but it was less successful than any of these cases. The Mexican and Turkish cases do not support our hypothesis. Yet Israel, which had a hyperinflationary crisis in the 1970s, is a country which has been receiving huge amounts of economic aid and it was also able to decrease inflation in 1980s even faster than Mexico. In fact, probably the economic aid it received helped Israel to balance its budget and eliminate persistent inflation. These contrary cases demonstrate that the variable strategic importance determines official economic aid, but economic aid in return does not determine the success in price stabilization.

4.3.3 Military aid

Military aid is a tool for great powers to promote their political and military interests in the world. Although military aid is not as useful as economic aid for developing countries, it may help them to lower their military costs, and thus, ease their budget squeeze.

Unlike developmental aid, which may or may not be politically motivated, military aid is at all times politically motivated. It is always a function of strategic interests of the donor countries (Hess 1989). Great powers usually give foreign military aid in order to extend their political and economic influence in other countries and to help advancement of their economy, especially military industry. They typically prefer to give such aid to the countries that have high strategic significance. On the other hand, countries seek military aid to improve their external and/or internal security and for prestige (Whynes 1979).

The US is also the biggest provider of military aid. During the Cold War, the main goal of the US foreign policy was to prevent further expansion of the Soviet Union, and thus communism, and to avoid a Third World War (R.D. McKinlay 1984; Walt 1989). Therefore, the US not only provided economic aid but also military aid to many countries in order to check Soviet power. The Middle East has traditionally been the region that received most aid provided by the US (Hess 1989).

US military aid usually comes in two forms: the Foreign Military Sales Program (FMSP) and the Military Assistance Program (MAP). The FMSP provides favorable credits (long term credits with low interest rates) or gives guarantee for loans given by private financial institutions to developing countries that purchase military equipment from the US. The MAP gives grants for military purposes. The US has given substantial military aid to NATO countries, to countries that are geographically or ideologically (potentially) close to the Soviet bloc and to the Middle

Eastern countries. Both FMSP and MAP were provided generously to Turkey and to several other countries, such as Greece, Taiwan and South Korea (Whynes 1979).

Our Latin American cases are not major recipients of military aid. The majority of the military aid given to Latin America was for prestige reasons, since there has not been a significant international conflict in the region for long time.[44] [45] For instance, although Brazil and Argentina neither have had a major conflict with each other for centuries nor have been strategically very important for the US, they have acquired military equipment as they had caught up in an arms race in 1950s in trying to compete with each other (Whynes 1979). However, the military aid they have received is still very little compared to what Turkey and Israel have received (see Table 28 and Table 29). That aid does not even constitute one percent of what those countries spend for military and Mexico is not very different either (see Table 30).

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[44] US military aid to Latin America was mostly through military training which was not as costly as military financial or equipment aid. *School of the Americas* (SOA), a facility established by the US in 1946 and renamed as Western Hemisphere Institute for Security Cooperation (WHISC) in 2001, is the main training facility for Latin American military and law-enforcement personnel. It especially trained military personnel before and during the "dirty war" years in the Southern Cone and the civil war years in Central America, where military either ruled or had extensive political influence and committed serious human rights violations. (http://www.soaw.org and http://www.ciponline.org/facts/soa.htm)

[45] The 1982 Falkland Islands War between Argentina and the UK was an exception to this, but this conflict was not one that would cause Argentina to receive more military aid. On the contrary, as the adversary of Argentina in this conflict was the UK, one of the great western powers and the most important ally of the US, it might have actually decreased military aid.

Table 28: US military assistance 1970-2004 (in million US $)

	Argentina	Brazil	Israel	Mexico	Turkey
Peacekeeping Operations	0.00	0.00	1.60	0.00	0.00
Military Assistance Program (MAP) Grants	25.30	2.20	1,246.20	130.20	330.70
International Military Education and Training	24.20	21.50	0.60	21.70	3,643.80
Other Military Grants	17.10	27.10	1,773.90	23.70	146.00
Foreign Military Financing Program	14.40	0.00	63,034.50	0.00	2,583.50
Foreign Military Financing, Direct Loan Program Account	410.50	604.10	25,763.00	0.00	8,894.10
Total Military Assistance	**492.10**	**655.00**	**91,819.80**	**175.70**	**17,342.60**

Source: "The US Loans & Grants (Greenbook)," USAID Center for Development Information and Evaluation. (http://qesdb.usaid.gov/gbk

Table 29: Total US military assistance (in million $US)*

	Argentina	Brazil	Israel	Mexico	Turkey
1970-74	256.50	334.80	12,416.00	24.90	3,825.80
1975-79	185.10	313.80	18,830.10	1.70	1,452.20
1980-84	0.00	0.00	12,629.20	1.20	3,417.50
1985-89	0.30	0.30	12,529.90	1.60	4,167.70
1990-94	33.90	1.30	12,444.50	93.50	3,402.90
1995-99	6.30	3.30	10,414.60	47.20	959.70
2000-04	10.00	1.50	12,555.50	5.60	116.80
Total	**492.10**	**655.00**	**91,819.80**	**175.70**	**17,342.60**

Source: *The US Loans & Grants (Greenbook)*, USAID Center for Development Information and Evaluation. (http://qesdb.usaid.gov/gbk/)

Table 30: Military assistance as a percentage of military expenditure*

	Argentina	Brazil	Israel	Mexico	Turkey
1988	0.00%	0.00%	31.52%	0.02%	18.86%
1989	0.01%	0.00%	31.63%	0.02%	17.21%
1990	0.02%	0.00%	29.92%	1.33%	13.59%
1991	0.20%	0.00%	30.20%	0.12%	19.84%
1992	0.47%	0.01%	29.33%	3.09%	10.93%
1993	0.31%	0.00%	36.57%	0.04%	8.73%
1994	0.00%	0.00%	30.61%	0.01%	7.83%
1995	0.00%	0.00%	28.30%	0.02%	6.03%
1996	0.02%	0.00%	24.96%	0.04%	5.09%
1997	0.02%	0.00%	24.26%	1.49%	2.58%
1998	0.05%	0.03%	23.39%	0.06%	0.02%
1999	0.06%	0.00%	24.19%	0.03%	0.02%
2000	0.03%	0.00%	34.17%	0.03%	0.02%
2001	0.05%	0.00%	23.28%	0.04%	0.02%
2002	0.09%	0.01%	19.99%	0.03%	0.54%
2003	0.10%	0.01%	31.18%	0.05%	0.20%
average	**0.09%**	**0.01%**	**28.35%**	**0.40%**	**6.97%**

Sources: *The US Loans & Grants (Greenbook)*, USAID Center for Development Information and Evaluation.
(http://qesdb.usaid.gov/gbk/)
World Development Indicators, The World Bank
(http://web.worldbank.org/WBSITE/EXTERNAL/DATASTATISTICS/0,,contentMDK:21298138~pagePK:641331
50~piPK:64133175~theSitePK:239419,00.html) [Data prior to 1988 could not be found.]

As can be seen in Table 28 and Table 29, Israel is the principal recipient of the US military aid. As it was demonstrated previously, Israel spends excessively on military. However, in Table 30 it looks like the US has compensated for about 30 percent of Israel's military costs. Although Turkey's military expenses are about the same amount as those of Israel, the military aid Turkey has received is about one fifth of what Israel has received. On average only about 7 percent of Turkey's military spending has been compensated through US military aid. Thus,

military spending in Turkey contributes more to the budget deficits, while Israel is compensated considerably for those expenses by military aid. It may be one of the reasons why it has been more difficult for Turkey to contain inflation.

4.4   SUMMARY

This chapter has analyzed two arguments. The first argument was that the strategic importance of states provides states with more financial funds, which may affect their performance positively while they try to eliminate persistent inflation. Mexico and Israel, strategically very important countries for the US, were able to decrease their inflation faster than Argentina and Brazil, which are less important. These four cases support our hypothesis. On the other hand, Turkey, another strategically important country, was quite unsuccessful in price stabilization. There seems to be a relation between strategic importance and ability to eliminate persistent inflation, but Turkey presents an outlier case.

When I expected strategic importance to increase ability to decrease inflation, our main assumption was that the IMF and World Bank would provide more funds for the strategically important countries and thus help with disinflation. However, first of all, strategic importance does not provide a significantly higher IMF and World Bank assistance. Indeed, Argentina, the strategically least important state, seemed to have received more funds from these institutions and Israel much less. The IMF and World Bank assistance seems to be determined more by economic crises that countries face. And in the Argentina case, it was determined more by economic ideology, i.e. the neo-liberal policies adopted by the Argentine government were seen as exemplars to be supported by the international financial institutions.

Secondly, our analysis reveals that IMF and World Bank aid does not necessary cause a country to achieve price stabilization. In fact, we can argue that when aid is provided in the form of loans, it may even create a debt spiral which may worsen the inflation problem in the medium or long term. Therefore, official aid, which usually comes in the form of grants or loans with very concessional terms, may be more beneficial in financing the budget deficits and stopping persistent inflation. Israel has been the most significant recipient of official aid and this has probably helped the stabilization of its economy. The second significant official aid recipient among our cases is Turkey, but official aid does not seem to have helped Turkey to eliminate inflation.

Our other hypothesis was that the countries that face more security threats are less able to end their inflation problems. If a country feels insecure, it invests more in military and, thus, has high military spending. This may contribute to budget deficits and lead to difficulties in battling inflation. The analysis of this chapter somewhat supports this argument. In fact, countries that face more security threats do spend more for military. However, if they are strategically important, they may also receive significant military aid. With significant military assistance military expenditures do not necessarily contribute to inflation. That may explain why Israel had less problem in controlling inflation compared to Turkey.

Based on the above findings, we can argue that international politics provides only partial answers to the question of persistent inflation. Especially Turkey's failure to eliminate its persistent inflation leaves us with unanswered questions. Why a strategically important country like Turkey has failed to resolve its inflation problem while other important countries Israel and Mexico were successful? The answer to this question may be found in domestic variables. Therefore, the next four chapters will look into domestic socio-political institutions and

structures of Argentina, Brazil, Israel, Mexico, and Turkey in an attempt to find out some factors that delay price stabilization.

5.0 POLITICAL REGIMES AND INFLATION: DOES DEMOCRACY IMPEDE STABILIZATION?

The second relationship that this dissertation evaluates is whether the political regime has an impact on the ability to stabilize prices. As it is used in this chapter, political regime signifies the level democracy in a state. It is hypothesized that political regime is related to the ability of a country to introduce and pursue effective policies, including the ones employed to fight inflation. I expected to find democracy to make it harder to achieve price stabilization, as the economic policies needed to eliminate inflation are usually politically unpopular. The assumption was that democratic regimes are not able to implement necessary economic policies effectively as they are more vulnerable to "popular political pressures" (Remmer 1990, p.315).

The findings of this chapter indicate that if there is inflation in a country, democratization increases the existing inflationary pressures, but only in the short term. Thus, it may be difficult to decrease inflation immediately after a transition from an authoritarian to a democratic regime. The instability of a democratic regime has a negative effect on the ability to decrease inflation. However, consolidation of democracy and the accompanying regime stability are associated with low inflation. As democracies mature, it becomes easier for governments to introduce and implement anti-inflationary policies as a stable regime is more willing to take political risks when it comes to implementing unpopular policies, like austerity measures needed to eliminate persistent inflation.

Political regime is related to who controls power in a state and the way it is controlled. Lawson (1993, p.185) defines a political regime as "the formal and informal organization of the center of political power, and of its relations with the broader society. A regime determines who has access to political power, and how those who are in power deal with those who are not." Political regime is closely linked to degree of democracy in the polity, but it may encompass more features of the polity than democracy (Cardoso 1979). However, in this study I will simply classify regimes according to their level of democracy.

The democratic level of a political regime encompasses a spectrum which extends from democracy to dictatorship. It is associated with the existence of democratic institutions and processes, such as regular and free elections, free political competition, government accountability, civil liberties, and political rights. These democratic qualities then determine the relationship between the government and its constituents. In more democratic countries, constituents are considered to be better represented and to have more influence on the government when compared regimes that restrict political competition. However, as found in this analysis, it may also be very important how stable these institutions and processes are. Regime instability, i.e. shifts between democracy and authoritarianism, has significant impact on the performance of the state.

5.1   THEORIES OF THE RELATION BETWEEN INFLATION AND POLITICAL REGIME

Although democratic and authoritarian regimes differ in the way they operate, they both need support for their political survival. Therefore, in both kinds of regimes, "governments seek to influence political outcomes by handing out or calling back benefits to specific groups" (Frey and Eichenberger 1994, p.172). A government's survival depends on sufficient level of support or low level of opposition. The support of some groups is more important than others. For instance, poor people are more easily ignored by governments than rich businessmen because of their economic power. Also, support of unionized workers is more important than workers without unions as they lack economic and political power of organization. Support of groups not only depends on the benefits they receive from the government, but also on the relative level of these benefits. However, governments have limited resources to pursue their goals.

As raising funds through taxation is usually politically difficult, governments resort to other means for financing their expenditures. Inflation is one of those means that government may use to raise funds and it also works like a tax. When the government does not have enough resources to meet the demands of the constituents, it may simply print more money. The revenue that the government earns from issuing more money is called *seignorage*, or inflation tax. Seignorage works like an interest-free loan to the government and a tax levied on the holders of a currency. Yet, the expansion of the money supply beyond the expansion in the economy causes inflation.

There are different views on the relationship between inflation and political regime. The two dominant theories, the *state-capture approach* and the *populist approach*, offer contradictory arguments. The *state-capture approach* argues that democracy reduces the

propensity to inflation. This view is based on liberal theory, which claims that free political competition between self-seeking politicians brings about efficient policies. If there is no free political competition, the state may be captured by special interest groups that push government for inflationary economic policies that benefit them (Stigler 1972; Wittman 1989).

A state is captured when powerful interest groups have unbalanced weight on policymaking. Usually this happens in undemocratic environments where politicians and their clients obtain particularistic benefits. Such exclusive benefits cause economic inefficiency and loss of state resources. Ultimately they may trigger inflation because they create budget deficits which then can be financed by creating more money. The ruling class and its clients resist disinflationary policies, because they do not want to lose their private economic benefits (e.g. credits, low interest rates). Democratization makes them lose power and benefits that drain state resources. Therefore, the state capture view argues that democratization helps governments deal with inflation. Some scholars who have supported this argument are Bates and Krueger (1993); Geddes (1995); Shleifer and Vishny (1998); Hellman, Jones, Kauffman, and Schankerman (2000); Hellman and Kaufmann (2002); Desai, Olofsgard, and Yousef (2002); and Kaufmann (2003).

The *state-capture approach* has been used to explain inflation in transition economies. However, similar arguments were made by some other scholars who investigated other developing countries as well. For instance, Nelson (1989) and Remmer (1990) argue that democratic governments have been as successful as, or even more successful than, undemocratic ones in implementing stabilization and austerity measures.

The *populist approach* argues that democracy affects macroeconomic performance negatively. According to this view, democracy increases the demand for inflation and democratic

institutions undermine a state's commitment to keep prices stable. Inflation rises in democratic environments because democratically elected politicians are more responsive to popular pressures, and thus, use inflation for more spending and redistribution. Theoretically, the more democratic a country's regime is, the more power the constituents exert on economic decisions, and thus, the more difficult, if not impossible, it is for governments to oppose inflationary pressures. Democratically elected officials may use monetary policy and seigniorage to increase economic growth and benefit the poorer masses rather than the rich elites (O'Donnell 1973; Skidmore 1977; Dornbusch and Edwards 1991; Haggard and Kaufman 1992).

In democratic systems, more channels (e.g. elections, civil and political organizations) exist to force policymakers to consider the interests of the people and groups. Meltzer and Richard (1981) argue that that is why the size of the government and public spending increase in democratic systems, facilitating budget deficits, and thus inflation. Also, some interest groups (especially labor unions) that have more organizational power in democratic environments can pressure governments for higher wages and rents, and thus, inflame or exacerbate inflation (Olson 1982; Alvarez, Garrett et al. 1991). Lindbeck (1983) argues that democracy facilitates political competition and thus creates demand for budget expansion, which in turn increases budget deficits and thus inflation through money growth. According to Cheibub (1998), democratic countries may be more prone to inflation as they depend on popular votes and the popular constituents demand higher consumption. Gasiorowski (2000b) also claims that developing countries with more democratic regimes face higher inflation because they have higher budget deficits and more pressure for wage increases. Desai, Olofsgard and Yousef (2002) suggest that democratic societies with high income inequalities are particularly vulnerable to inflation.

Democracy may increase inflation due to the unpopularity of the economic policies that are necessary for its control. States generally use two types of economic policies to battle with inflation: orthodox policies and heterodox policies. *Orthodox policies* are economic policies promoted by monetarists to battle inflation. They involve tight fiscal and monetary policies and also they usually promote economic liberalization and deregulation. *Heterodox policies,* promoted both by structuralists and non-structuralists, also use orthodox measures. However, in addition to these measures, they initially and temporarily use incomes policies, i.e. price and wage controls (Dijkstra 1997). Although heterodox policies try to moderate adverse effects of tight economic policies through price and wage controls, both heterodox and orthodox policies are often widely unpopular. Thus, policymakers may be reluctant to take economic measures that will hurt the majority, even though they may bring about better macroeconomic performance in the long-term. Especially when it is election time, politicians prefer expansionary policies that appeal more to a majority of the constituents.

Proponents of the populist view argue that authoritarian governments can be more successful in decreasing inflation. Democratic governments may also reduce inflation, but if only if they have "autonomous" and "consolidated" authority that can ignore inflationary pressures (Desai, Olofsgard *et al.* 2002). Authoritarianism fosters autonomy of the state. Authoritarian governments are not as dependent on popular groups' support as the democratic ones, so they can implement even the unpopular policies quite effectively (Haggard 1990). Authoritarian states are also able to force labor to accept lower wages and absorb price shocks (Velasco 1988; Whitehead 1989; Silva 1993). Chile's success in late 1970s in decreasing inflation, though slow, was due to a very undemocratic government. Yet, populist view fails to explain how Argentina and Brazil decreased inflation in 1990s through democratically elected governments.

Business cycle theories, which suggest that governments may manipulate the inflation rate around election time, partially support the populist view. According to business cycle theory, politicians temporarily increase growth and employment, i.e. they try to make economy look good before the elections in order to gain more votes. However, this temporary makeup for the economy consequently increases inflation right after the elections. Then, politicians implement more strict economic policies and, thus, induce unemployment and falling growth, in order to recover macroeconomic equilibrium (Fair 1973; Nordhaus 1975; Alesina 1988; Alesina and Sachs 1988; Alesina and Gatti 1995; Alesina, Roubini *et al.* 1997). Therefore, the economy booms right before the elections and inflation tends to increase right after the elections, but this period is followed by unemployment and deflation in the first years of the elected government. An inflationary boom is repeated as the next elections approach.

Despite many claims that the inflation problem is exacerbated in democratic environments, recently many countries were able to decrease their inflation not during authoritarian regimes but during democratic regimes. Although the pessimist populist view had concrete examples in 1970s and 1980s that supported its arguments, by the mid-1990s prices were stabilized in almost all countries, even in democratic ones. Israel has always been democratic. The country experienced inflation problems and was able to resolve them in the second half of the 1980s within a democratic political environment. Not only Israel, but also Argentina and Brazil were successful in decreasing inflation during democratic regimes. Argentina eliminated its inflation problem during the democratically elected government of Carlos Menem (1989-1994) and Brazil decreased its inflation during democratic governments of Itamar Franco (1992-1995) and Fernando Henrique Cardoso (1995-2002). Turkey also had lower inflation in 1970s when it was more democratic.

139

Indeed, there is no consensus on how political regime influences the ability of a government to decrease inflation. And some studies have found no relation between inflation and political regime (Haggard, Kaufman *et al.* 1992; Lindenberg and Devarajan 1993). Others have focused more on *change* in political regime, i.e. on the consolidation of democracy. Accordingly, in countries which have recently made a transition to democracy, policymakers are concerned more about regime stability, so they implement expansionary macroeconomic policies to satisfy popular demands and relieve social conflicts. As a result, they are more prone to inflation (Haggard and Kaufman 1989). Therefore, the relationship between the political regime and inflation may not be a very clear-cut one. In this chapter I try to look into this relationship by analyzing the trends in the inflation rate and democratic level of Argentina, Brazil, Israel, and Turkey between 1970 and 2003 in order to find out whether democracy really undermines the ability of state to eliminate persistent inflation.

5.2 ANALYSIS OF THE RELATIONSHIP BETWEEN INFLATION AND DEMOCRACY

In this chapter, the political regime variable is measured by classification of polities according to their degree of democracy on a yearly basis from 1970s through 2000s. Democracy is measured not only qualitatively, through classifications existing in the literature, particularly by Przeworski

and Vreeland (2000)[46], but also quantitatively, through available democracy indices produced by *Freedom House*[47] and the *Polity IV.* [48] [49]

The charts below (Figure 6, Figure 7, Figure 8, Figure 9, and Figure 10) show the relation between inflation and the degree of democracy in our cases by using the Polity IV index of democracy. As we can see from these charts, all the countries, except Israel, experienced an increase in inflation after democratization. However, all these countries, except Turkey, were able to decrease inflation later in more democratic conditions.

Figure 6: Inflation rate vs. degree of democracy in Argentina
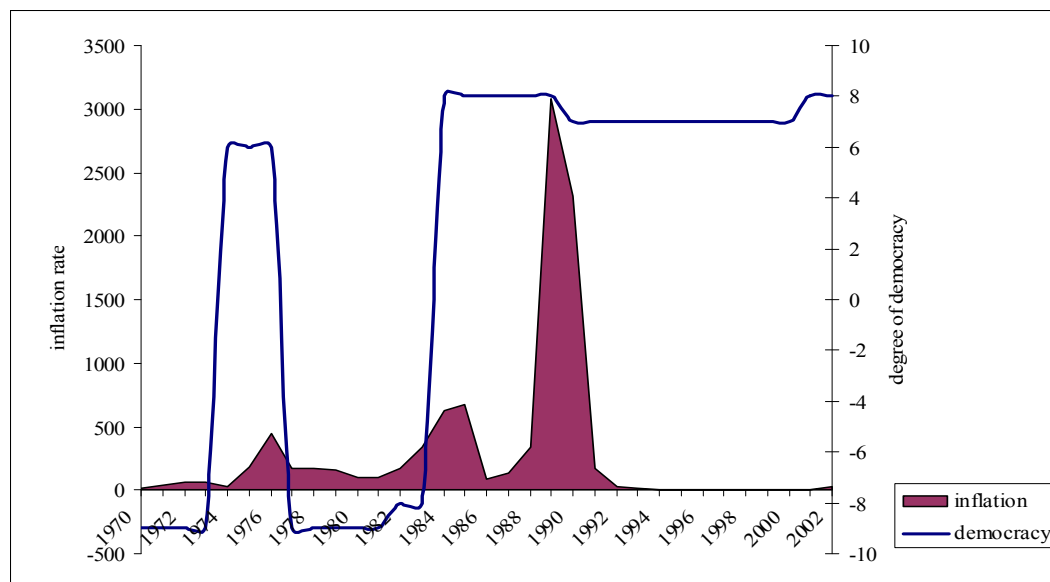
Source: *Polity IV Report* (CIDCM) data and *World Economic Outlook Database*, 2003 (IMF)

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[46] Przeworski and Vreeland (2000) classification of regimes for Argentina, Brazil, Israel, Mexico, and Turkey can be found at Appendix-III.
[47] Freedom House indices can be found at http://www.freedomhouse.org/template.cfm?page=276.
[48] Polity IV indices can be found at http://www.cidcm.umd.edu/polity/data/.
[49] Since each measurement has its own weaknesses, I chose to use several different measurements.

Figure 7: Inflation rate vs. degree of democracy in Brazil
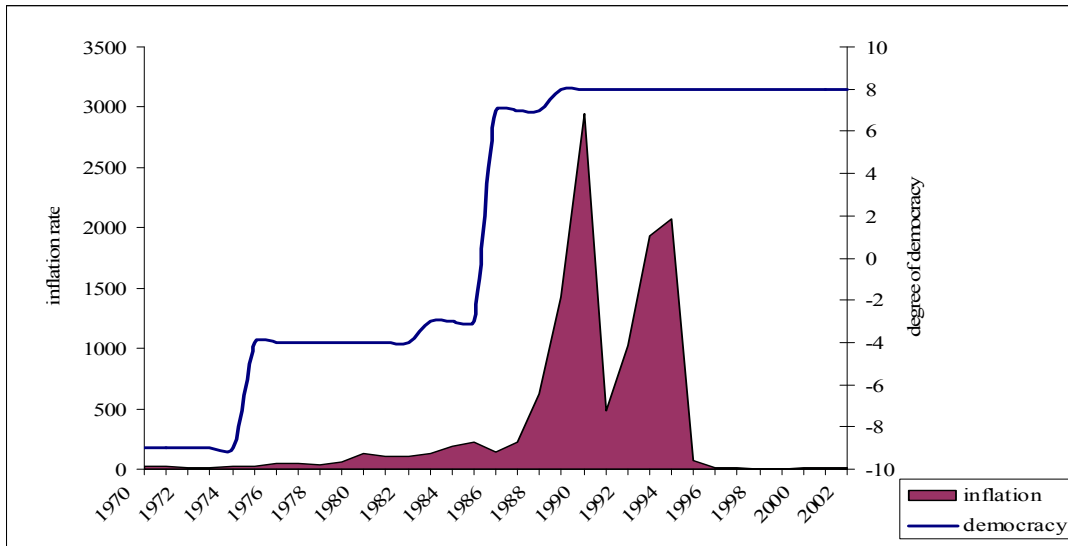
Source: *Polity IV Report* (CIDCM) data and *World Economic Outlook Database*, 2003 (IMF)

Figure 8: Inflation rate vs. degree of democracy in Israel
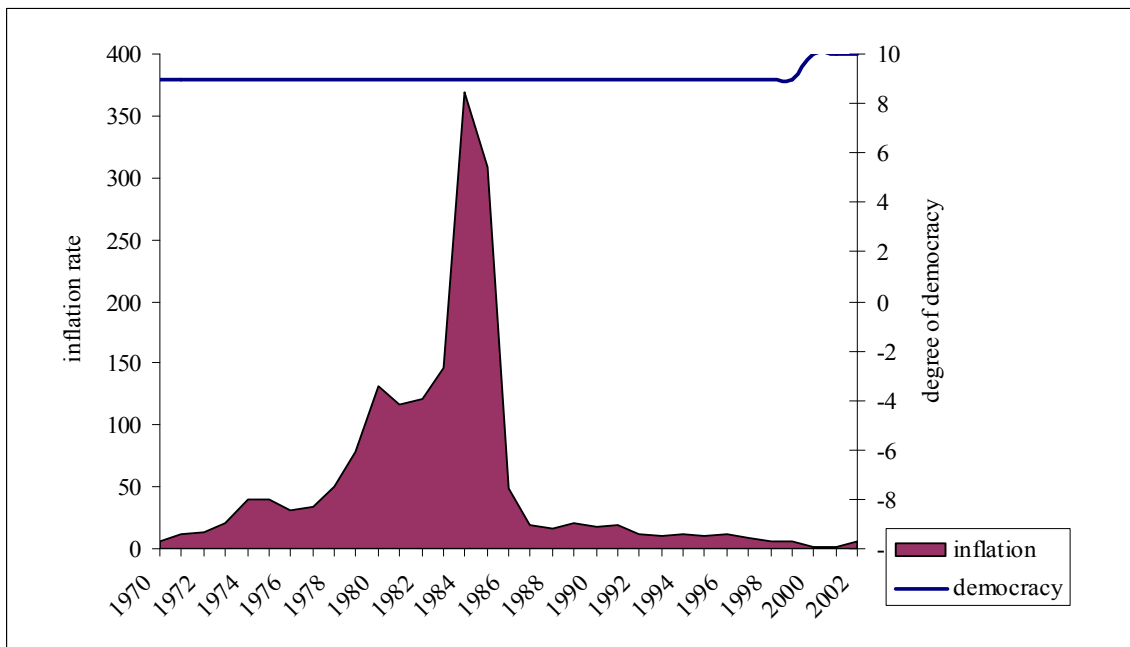
Source: *Polity IV Report* (CIDCM) data and *World Economic Outlook Database*, 2003 (IMF)

Figure 9: Inflation rate vs. degree of democracy in Mexico
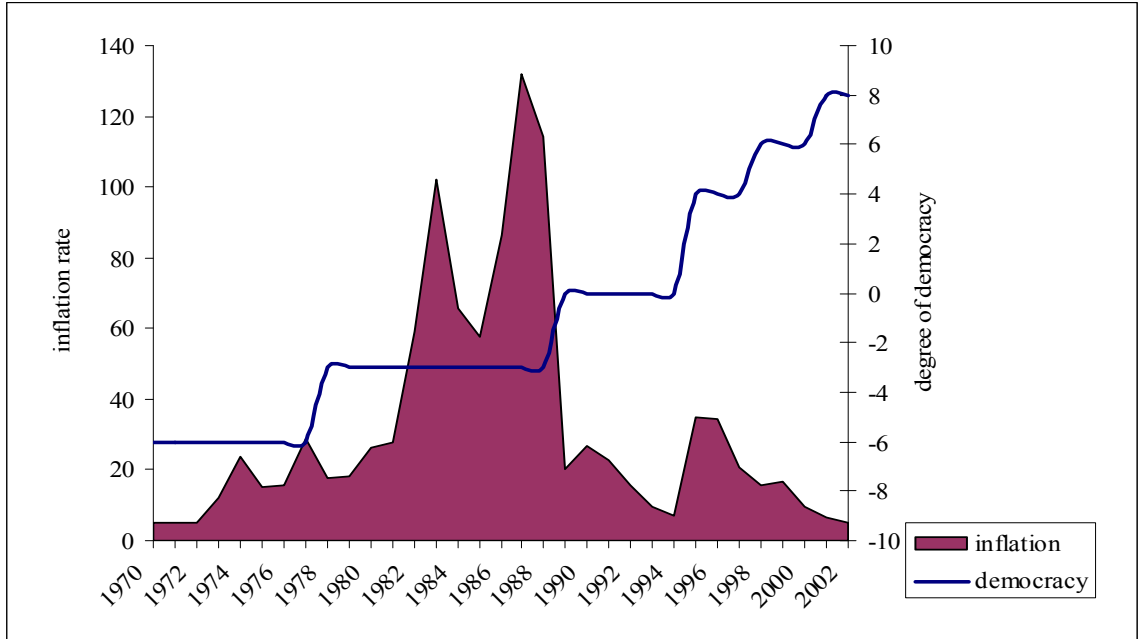
Figure 10: Inflation rate vs. degree of democracy in Turkey
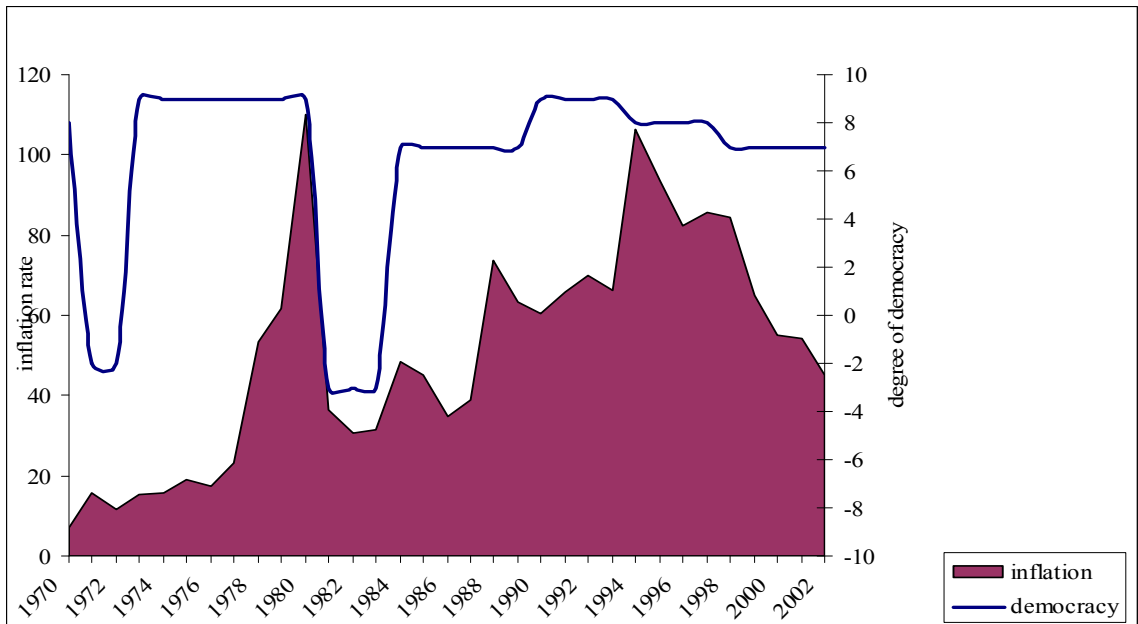
If the charts above are checked, it seems like there is a positive relation between democracy and inflation, but only within few years after democratization. Later, this relation changes to a negative one. This indicates that inflation tends to decrease as democracy consolidates.[50] Therefore, these charts seem to confirm the argument by Haggard and Kaufman (1989) that democracy increases inflation only initially in order to maintain regime stability. After democracy is consolidated and regime stability is established, it is easier to stabilize prices.

Regime stability emerges as an important factor that affects the relation between political regime and inflation. Our most politically stable countries are Israel and Mexico.[51] Israel has been a very stable democracy since its formation in 1948. On the other hand, Mexico had a very stable authoritarian regime until 2000. In July 2000, after 71 years of dominance, National Action Party (PAN) replaced the ruling Institutional Party of the Revolution (PRI) in presidency. In these stable political environments, we cannot explain elimination of inflation by the type of political regime, since the regime does not vary. Yet, in countries with shifts in regime, inflation may still be related to the degree of democracy. Especially during regime transitions, democracy may render the governments reluctant to take measures to decrease inflation. However, this relation tends to change as democracy consolidates.

Table 31 demonstrates that all of our case countries, except Turkey, have improved their democracy rankings since the 1970s. By the 1990s all of them, except Turkey, were more democratic than ever. Compared to my other cases, Turkey is lagging in political rights, civil liberties, and consequently in democratic status. The reason that Turkey has been lagging in inflation stabilization may be that, politically, it still does not have conditions as free as other

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[50] Of course, this relation does not hold for Israel, since Israel has been a stable democracy from the beginning but had instabilities in prices.

[51] Here, political stability indicates regime stability, not changes in government.

144

cases. Democracy is still not as consolidated in Turkey as in other cases. By looking at the deterioration in Turkey's democracy ratings from 1992-93 to 1994-95 (from 2, 4 to 5, 5), we may conclude that regime instability is still a threat in Turkey. If we follow Haggard and Kaufman's (1989) argument, that may be why Turkey's inflation rate was still high as of late 1990s.

Table 31: Freedom ratings

Year	Argentina	Brazil	Israel	Mexico	Turkey
1972-73	6,3,PF	5,5,PF	2,3,F	5,3,PF	3,4,PF
1973-74	2,2,F	5,5,PF	2,3,F	4,3,PF	2,4,PF
1974-75	2,4,PF	4,4,PF	2,3,F	4,3,PF	2,3,F
1975-76	2,4,PF	4,5,PF	2,3,F	4,3,PF	2,3,F
1976-77	6,5,NF	4,5,PF	2,3,F	4,4,PF	2,3,F
1977-78	6,6,NF	4,5,PF	2,3,F	4,4,PF	2,3,F
1978-79	6,5,NF	4,4,PF	2,2,F	4,4,PF	2,3,F
1979-80	6,5,NF	4,3,PF	2,2,F	3,3,PF	2,3,F
1980-81	6,5,NF	4,3,PF	2,2,F	3,4,PF	5,5,PF
1981-82	6,5,NF	4,3,PF	2,2,F	3,4,PF	5,5,PF
1982-83	6,5,PF	3,3,PF	2,2,F	3,4,PF	4,5,PF
1983-84	3,3,PF	3,3,PF	2,2,F	3,4,PF	4,5,PF
1984-85	2,2,F	3,3,PF	2,2,F	3,4,PF	3,5,PF
1985-86	2,2,F	3,2,F	2,2,F	4,4,PF	3,5,PF
1986-87	2,1,F	2,2,F	2,2,F	4,4,PF	3,4,PF
1987-88	2,1,F	2,2,F	2,2,F	4,4,PF	2,4,PF
1988-89	2,1,F	2,3,F	2,2,F	3,4,PF	2,4,PF
1989-90	1,2,F	2,2,F	2,2,F	4,3,PF	3,3,PF
1990-91	1,3,F	2,3,F	2,2,F	4,4,PF	2,4,PF
1991-92	1,3,F	2,3,F	2,2,F	4,4,PF	2,4,PF
1992-93	2,3,F	2,3,F	2,2,F	4,3,PF	2,4,PF
1993-94	2,3,F	3,4,PF	1,3,F	4,4,PF	4,4,PF
1994-95	2,3,F	2,4,PF	1,3,F	4,4,PF	5,5,PF

Table 31   *(Continued from previous page)*

Year	Argentina	Brazil	Israel	Mexico	Turkey
1995-96	2,3,F	**2,4,PF**	1,3,F	**4,4,PF**	**5,5,PF**
1996-97	2,3,F	2,4,PF	1,3,F	**4,3,PF**	**4,5,PF**
1997-98	2,3,F	3,4,PF	1,3,F	**3,4,PF**	**4,5,PF**
1998-99	3,3,F	3,4,PF	1,3,F	3,4,PF	**4,5,PF**
1999-00	2,3,F	3,4,PF	1,2,F	3,4,PF	**4,5,PF**
2000-01	1,2,F	3,3,PF	1,3,F	2,3,F	**4,5,PF**
2001-02	3,3 PF	3,3 PF	1,3 F	2,3 F	**4,5 PF**

Source: Freedom in the World Country Ratings, 1972-73 to 2001-2002. The first rating is for political rights. The second is for civil liberties. The value of both these ratings ranges between 1 and 7, 1 signifying most free and 7 signifying least free. The last rating indicates "freedom status" with F=free, PF= partly free, and NF= not free.

* Ratings of inflationary years are highlighted.

Many analysts do not see Turkey as a stable and consolidated democracy (Özbudun 1996; Candar 1999). As indicated in the *Polity IV Country Report of 2001*, although the Turkish political regime is classified as democratic, the military continues to have substantial (though mostly indirect) influence on the government. A fourth military coup in Turkey is still a likely political threat. This was demonstrated in 1997, when the military successfully ousted the prevailing government by forcing the Prime Minister Necmettin Erbakan (leader of the Islamic Refah Party) to resign because of his anti-secular ambitions. This incident was called a "virtual" or "postmodern" coup that caused collapse of a democratically elected government and its replacement by another government which was more sympathetic to the military's wishes and influence ("Polity IV Country Report 2001" 2001). This event worsened the democracy rating of Turkey after 1997.

We may argue that prices were still not stabilized in Turkey as of 2000 because of flaws in democracy. However, this conclusion is not consistent with the Mexican case, where inflation

had decreased under even less democratic conditions than Turkey. This contradiction is more obvious if we look to the *Polity IV* democracy data. Mexico demonstrates significant improvements in its democracy rating despite the fact that it was still not considered a democratic state. Although Mexico was less democratic than Turkey in the 1980s and 1990s, unlike Turkey, it has always had a stable regime. This confirms the idea that we should focus more on regime stability than the type of political regime to assess the ability of a state to decrease inflation.

As can be seen in the Table 32, neither Brazil nor Argentina was able to stabilize prices without democratic consolidation and regime stability. These countries battled inflation well after the end of military authoritarian regimes. It took nine years for Argentina and sixteen years for Brazil to implement stabilize prices after shifting to democracy. Democratic regimes in Argentina and Brazil inherited high budget deficits from the preceding authoritarian regimes, very high debt and expanding demand for public services. Those regimes faced a fiscal crisis but chose to adopt loose fiscal and monetary policies (Blake 1996). Therefore, they had difficulties in controlling inflation in their first years. After several failed attempts, these countries were finally able to eliminate persistent inflation problem by the 1990s.

Table 32: A comparison of democracy and inflation in 1980s and 1990s

End of 1980s

	Stable democracy	Unstable democracy	Stable authoritarian
Decrease in inflation	Israel		Mexico
No decrease in inflation		Argentina Brazil Turkey	

End of 1990s

	Stable democracy	Unstable democracy	Stable authoritarian
Decrease in inflation	Israel Argentina Brazil		Mexico
No decrease in inflation		Turkey	

Typically the Argentine political regime has been very unstable. Throughout the twentieth century, Argentina has been ruled by a series of democratic and authoritarian military regimes. After about eight years of strict authoritarian rule, in December 1983, Argentina returned to democracy. Since then, there have been free and fair elections. Although Raul Alfonsín Foulkes, the first democratically elected Argentine president after the military regime, introduced heterodox anti-inflationary programs to end inflation, his government was unsuccessful in this fight and the country witnessed dramatic hyperinflation. When Alfonsín transferred the presidency to Carlos Saúl Menem in 1989, for the first time in Argentine history, a freely and fairly elected president from one party transferred the presidency to a freely and fairly elected president from another party. It was the government of Menem which finally

succeeded in eliminating inflation with the *Convertibility Plan* of 1991 (Jones 1997). This was a shock therapy or "cold turkey" type of stabilization which involved rapid and radical monetary reforms. Argentine peso was pegged to the United States dollar and the money growth was limited by law to the growth in reserves. As a result inflation decreased from four digit levels to less than 20 percent in two years and to one digit levels in three years.

Brazil followed a path similar to Argentina. The first Brazilian democratic government after twenty one years of authoritarian rule did not last long because of president Tancredo Neves' death in 1985 on the day of his inauguration. The next democratic government was headed by Jose Sarney (1985-1990), who was unsuccessful in inflation stabilization despite trying to implement some disinflationary policies. Then, the following president Fernando Collor de Mello (1990-1992) was never able to stabilize prices and was impeached in 1992 over charges of corruption. Finally, the interim government of former vice-president Itamar Franco (1992-94) succeeded in stabilizing prices with Fernando Henrique Cardoso's *Plano Real* of 1994 (Mainwaring 1997; von Mettenheim 1997). Therefore, Brazil faced more political instability and, thus, had more problems in consistently implementing disinflation policies.

We may conclude that regime stability is a more significant factor than democracy in predicting price stability. Stable regimes are more willing and able to take the political risks associated with implementing the unpopular economic policies needed to decrease inflation to single digit levels.

5.3 CONCLUSION

It was assumed that political regime is related to a state's willingness and capacity to implement economic policies that would end persistent inflation. In that respect, I expected to find out that democracy directly undermines while authoritarianism strengthens a state's ability to effectively implement disinflationary policies.

As a result of the findings of this chapter, it can be argued that an authoritarian regime is neither necessary nor sufficient for successful price stabilization. There have been authoritarian governments which were able to eliminate persistent inflation (e.g., Mexico). There have also been very democratic governments which successfully decreased persistent inflation (e.g., Israel).[52] However, that does not mean that political regime does not have an effect on inflation. In fact, authoritarian governments may find it easier to implement successful stabilization of prices, but only if they are stable authoritarian regimes. Democratic governments may also decrease inflation successfully, provided that they are well consolidated and stable. For states with unstable regimes it may take longer to eliminate persistent inflation, as in the cases of Argentina, Brazil, and Turkey.

In sum, we cannot make conclusions on the relationship between political regime and inflation without taking the stability of the political regime into consideration. Moreover, other political institutions, such as the political system and party and electoral systems, have to be analyzed, since they may also relate to the state's ability to stabilize prices.

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[52] These findings are consistent with findings of Keech (de Souza 2004), who also acknowledges that neither democracy nor authoritarianism are necessary or sufficient for good economic performance.

6.0 POLITICAL SYSTEMS AND INFLATION: PRESIDENTIALISM VS. PARLIAMENTARISM

Countries have different political systems and that shapes how they make and implement various policies. Presidential systems and parliamentary systems (or hybrid ones) have different decision-making processes and procedures and tend to lead to different kinds of decisions. Therefore, different systems show variety in their capacity to introduce and implement disinflationary policies as well.

In this chapter I hypothesize that it is easier to implement unpopular economic policies in a presidential system than in a parliamentary system. This statement is especially true when the parliamentary government is not a one-party government or does not have a majority in the legislature. Presidential systems are in general more able than parliamentary systems to introduce and implement tight economic policies, because they tend to be more stable. This is true even when the government does not have a majority in the legislature, because many presidents in presidential systems (especially in Latin America) enjoy extensive powers that can override the opposition.

The relations among a country's governing institutions differ depending on its political system, i.e. whether a country has a presidential, parliamentary or a hybrid political system. Although each country has its own variation on these political typologies, some general

conclusions can be drawn about the characteristics of political systems and their relationship to political conflict and executive-legislative power.

In presidential systems, executive and legislative powers are separated and the executive is not dependent on legislative support. Presidents are elected by voters, have paramount executive authority, and are also formally head of state. In parliamentary systems, the executive (government) is dependent on legislative support and normally emerges from the legislature. The prime-minister is "first among equals" in the Cabinet. He has more powers than the President, who is chosen by the legislature and mostly symbolic (Powell 1982; Shugart and Carey 1992).

As opposed to the presidential system, executive and legislative powers are fused in parliamentary systems. The governments of parliamentary systems do not have fixed terms, i.e. they may be replaced at any time by the legislature. The governments of parliamentary systems look for consensus (especially if the government is a coalition) in order to survive, since they are dependent on the confidence of the parliament. Their decision-making processes are more participatory as it involves negotiation, bargaining, and consultation (Shugart and Carey 1992; Linz 1994; Sartori 1994b; Haggard and McCubbins 2001). Although sometimes minority governments can emerge, they may be unstable and short-lived.[53] Normally the government should have the support of the majority of the legislators.

As we can see from Table 33, all cases with presidential systems were able to resolve their inflation problem, while only 50 percent of the parliamentary systems did. Argentina, Brazil, and Mexico are all presidential systems and were able to decrease inflation. Mexicans eliminated inflation even before Argentines and Brazilians did. Israel is a parliamentary system, which also eliminated inflation faster compared to others. The case of Israel makes a great

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[53] Cheibub, Przeworski, and Saiegh (2001) show that parliamentary systems produced minority governments 22% of the time between 1946 and 1999.

152

contrast with the other parliamentary case Turkey, which was still battling inflation as late as 2002.

Table 33: Political systems vs. price stabilization

System	Successful	Unsuccessful
Presidential	Mexico, Argentina, Brazil	-
Parliamentary	Israel (1948-1996)	Turkey
Hybrid	Israel (after 1996)	-

From the data above, we cannot directly conclude that a particular political system (presidentialism) naturally has more ability to decrease inflation. Also, although parliamentary and presidential systems are differentiated clearly, there is great variation among presidential and parliamentary systems. We can focus on more specific characteristics of each political system, especially the power of executive and political stability, to see how they impact a state's ability to introduce and effectively implement disinflationary policies.

6.1   EXECUTIVE POWER AND INFLATION

An issue that differentiates presidential systems from parliamentary ones is the relative power of the executive *vis-à-vis* the legislature. Since the executive of the parliamentary system is dependent on the legislature, it seems less powerful than the presidential executive. In presidential systems the fate of the executive is not tied to the legislature, so it acts like an independent force. Indeed, in presidential systems where presidents have wide powers, such as decree power, they may initiate radical policy changes to fight with inflation much more easily than in parliamentary systems.

The power of presidents differs from country to country, and so does their capacity to initiate and implement policies. The main source of presidential power is the constitution. Presidents mainly have two types of constitutional powers: *veto power* and *decree power*. They may use their veto powers to maintain the status quo while they may use their decree powers to initiate policy changes (Shugart and Haggard 2001).

Most presidential systems give veto power to presidents, although its degree varies. Veto powers enable presidents to maintain the status quo by preventing the legislature from enacting new laws. Hence, the veto power of presidents usually serves as a conservative force in policymaking (Shugart and Haggard 2001). It is a power that is related to the ability to initiate reforms by the legislature, not by the President.

Normally presidents have no veto power in parliamentary systems, whereas presidential veto power is very common in presidential systems. However, the degree of veto power differs also among presidential systems. For instance, Argentine presidents have strong veto powers. They have the power to veto a package of laws or individual laws that are passed by the Congress. Congress needs a two thirds majority to override that veto. In Brazil, presidents do not

have veto power. Mexican presidents also have strong veto power on all policy areas except ones related to spending, and the Congress can override this veto only by two thirds majority (Weldon 1997; Shugart and Haggard 2001).

In Turkey, the President is the country's official head of state but his/her role is largely ceremonial. However, the President also has some important governmental (but not executive) powers. The position shares executive power with the Prime Minister, appoints the Prime Minister and also appoints members of the Council of Ministers upon recommendation by the Prime Minister.[54]

Turkey, however, has a parliamentary system. The President does not have an effective veto power. When the President receives a law that he/she does not approve, there are three choices. The first choice is to return it to the Parliament for reconsideration. If it is a law that amends the constitution, the second alternative is to call for a referendum. However, it is very rare that Turkish presidents have called for a referendum.[55] Referendum is a measure that the Turkish presidents are very reluctant to use, but there are many cases that they have returned the laws to the parliament. If the parliament resends the same law to the President, the President has to approve it. Therefore, this veto power is merely symbolic disapproval. It may just delay the law, but not impede it. However, Turkish presidents also have a third choice. If they think the law passed by the Parliament contradicts the constitution, they can file a case in the Constitutional Court for annulment. In fact, the Constitutional Court serves as an important veto institution in Turkey. The Turkish Constitutional Court acts as a fairly independent judiciary.

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[54] Practically the Council of Ministers (i.e. the Cabinet) lists are prepared by the Prime Minister and his party, and the President approves them, unless he/she has some reservations.
[55] Since transition to democracy in 1983, Turkey had only two referendums, first in 1987 and then in 1988.

Between 1990 and 1996, 80 challenges to legislation were submitted to the Constitutional Court and the Court ruled unconstitutionality of 69 of these laws (Özbudun 1996).

Israel does not have a formal written constitution. Instead, it has a set of "Basic Laws" setting out basic government structure and practices (Gutmann 1988). Although it has shifted from being a pure parliamentary system to a hybrid system by changing electoral laws in 1992, the role of the President is still merely symbolic. In fact, the Prime Minister has become more powerful with these changes since the position is now directly and separately elected by the constituents. The Prime Minister of Israel is now more like a President in a presidential system. In Israel, there is lack of formal checks and balances as is typical of parliamentary systems. Thus, the government is dependent on the Israeli Parliament (Knesset) for enacting laws and the President has no veto power (Hazan 1997; Brichta 1998; Mahler 2004; Hazan 2005).

Decree power is another constitutional power of presidents. When it comes to the impact of constitutional powers of presidents to affect economic reform or stabilization, it is more appropriate to focus on decree power. Contrary to veto power, decree power of the executive is an influential source of policy change. It enables the executive to initiate reforms and to make new laws that the legislature is not willing to approve (Shugart and Haggard 2001).

The US is the only presidential system in which presidents have no authority to initiate new laws (Sala 1998).[56] In other presidential systems, presidents have some explicit decree power, and when they use it, the new law initiated usually becomes effective before the legislature acts (Cheibub and Limongi 2002). Hence, in many presidential systems the executive may introduce radical policy changes and reforms quite rapidly.

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[56] However, the US presidents can issue "executive orders" which may function similar to presidential decrees in other presidential systems.

The executive in presidential systems does not have to worry about the legislative opposition as much as in parliamentary systems, especially if the President has enough powers to overrule it. Presidents in presidential systems feel more comfortable with initiating even quite controversial policies, because they cannot be replaced until the next scheduled elections even though they fall into conflict with the legislative. In parliamentary systems, executive conflict with the legislature may bring about the end of the government. The legislation should have the support of the majority of the legislature.

Even the presidential systems do not always resort to decrees. Shugart and Haggard (2001) argue that the decree power of presidents is particularly useful when there is a crisis situation, a temporary need, or a common purpose. It is very effective when used to initiate unpopular economic policies or reforms, which later may become popular as they decrease inflation and stabilize the economy. For instance, although Brazilian presidents do not have much support in the legislature, due to a fragmented and undisciplined party system, they have been quite successful recently in implementing very important policy changes due to their decree powers (Mainwaring 1997).

A strong decree power is an important characteristic of Latin American polities. Latin American presidents use extensive decree powers in policymaking. Among our cases, Argentine and Brazilian presidents have the authority to issue decrees that take effect immediately without a prior delegation by the legislature. They have the ability not only to set the legislative agenda, but also to dominate and force all lawmaking unless these laws are merely temporary. Argentine and Brazilian presidents also have the constitutional authority to modify laws by decrees in any policy area (Shugart and Carey 1992; Jones 1997; Mainwaring 1997; Shugart and Mainwaring 1997; Power 1998; Rubio and Goretti 1998).

Argentina has been an exceptional case in terms of presidential decree powers, because presidents not only did not need prior consent of the legislature but also they were not exposed to other checks by the Congress or judiciary. That is why Argentina was called a "delegative democracy" (O'Donnell 1994). In Argentina, President Carlos Menem used decrees of ''necessity and urgency'' during his term, particularly regarding his economic stabilization and liberalization program. Alfonsin, whose fight with inflation was unsuccessful, had used decrees just 10 times during his term between 1983 and 1989, whereas Menem used them 336 times between 1989 and 1994 (Rubio and Goretti 1998).[57] According to the agreement reached by the opposition Radical Party, in July 1989 the Congress delegated Menem enormous legislative powers through Economic Emergency Law and State Reform Law. As a result, Menem considerably exceeded former Argentine presidents in usage of executive powers (Bambaci, Saront *et al.* 2002). It was in this political environment of extraordinary use of executive powers that the inflation in Argentina was finally tackled successfully. This excessive use of decrees caused frequent tensions between the President and the Congress. However, when President Menem appointed Domingo Cavallo as his Economy Minister, this tension decreased due to Cavallo's attempts to treat the Congress with more respect. Therefore, the Congress passed the Convertibility Law in March 1991, the key to Menem's price stabilization program in Argentina (Rubio and Goretti 1998).[58] Although the Convertibility Plan was passed by the Congress in 1991, 1991 was also the year Menem utilized decree power most and issued 85 decrees. Most other laws supporting the Convertibility Law were passed through decrees (Jones 1997; Rubio

[57] President Menem issued more decrees than all previous Argentine presidents since 1816 and he also dominated the judiciary to make sure that his decrees were not reversed (Rubio and Goretti 1998, Jones 1997).
[58] The Convertibility Law pegged the peso to the dollar one-to-one and established the currency board system. "This law established the free convertibility of the currency, banned the Central Bank from printing money, and eliminated indexation." (Corrales 1997, p.637)

and Goretti 1998). As Polity IV Country Report 2001 (CIDCM, "Polity IV Country Report 2001" 2001) also states,

> While the Argentine constitution limits the powers of the executive, nevertheless, President Menem was able to dominate the political arena in this country for a decade (1989-1999). President Menem sought to rule by decree, often bypassing Congress, and limited the oversight powers of the judiciary by packing the Supreme Court with political supporters.

Yet, the power of Argentine presidents has been declining since some restrictions were put on issuing presidential decrees by the 1994 constitutional reform (Shugart and Haggard 2001).

In Brazil, the usage of decree power is even a more common than in Argentina. Among our three Latin American cases, only Brazilian presidents have an exclusive authority to introduce bills in certain policy areas other than the budget (Shugart and Carey 1992). As in Argentina, the judiciary is an ineffective check on executive power (CIDCM, "Polity IV Country Report 2001" 2001). Many Brazilian presidents have used decrees to introduce economic stabilization plans. For instance, during 1990-1992, President Fernando Collor de Melo used decrees to enact many reforms and a comprehensive economic plan. He issued 37 provisional measures in his first two months, compared to 148 that Sarney had issued in three years following the 1988 constitutional amendments, giving the President greater power (Figueiredo and Limongi 2000). (See Table 34 below.)

Table 34: Distribution of presidential decrees by administrations in Brazil, 1988-1998

	Sarney 1988-1990	Collor 1990-1992	Franco 1992-1995	Cardoso 1995-1998
Total decrees	147	159	505	2609
Reissued decrees	22	70	363	2449
Reissues of decrees of Previous President	0	0	0	699
Original decrees	125	89	142	160
Converted into Law	96	74	71	130
Withdrawn/Abrogated by President	2	5	5	12
Rejected by Congress	9	11	0	1
Outright Success Rate of decree Strategy	76.8%	83.1%	50.0%	81.3%
Relative Success Rate of decree Strategy*	68.0%	65.2%	46.5%	73.1%
Outright Rejection Rate	7.2%	12.4%	0%	0.6%

Source: Pereira, C., T. J. Power, et al. (2002). Choose Your Weapon: Under What Conditions Do Brazilian Presidents Resort to Decree Power? Paper presented at the 3rd Meeting of the Brazilian Political Science Association - ABCP, on 28-31 July 2002., Niterói - RJ.

With the 1988 constitution, the Brazilian Congress gained more power in various issues. Yet, the President remained considerably powerful, particularly in economic policymaking because of decrees which were introduced as "temporary measures." Article 62 the Constitution gives the presidents the authority to issue "provisional measures with force of law" in cases of "urgency and relevance" (Pereira, Power et al. 2002) The President has the power to alter the status quo by issuing decrees that remain in force for 30 days unless reversed by a majority vote in a joint session of Congress. After 30 days the President can reissue the decree.

Provisional decrees have been used extensively and increasingly from 1988 until 2001.[59] From 1989 to 1997, Brazilian presidents issued 446 provisional decrees and Congress rejected only 3 percent of them (Figueiredo and Limongi 2000). For instance, the end of wage indexation in 1995, which was considered to have contributed to Brazil's hyperinflation, was also accomplished through a provisional decree which was reissued 47 times.

President Cardoso (1995-2002), who succeeded in eliminating inflation in Brazil, also made excessive use of presidential decrees to get around the legislature. He was criticized for using too many "temporary measures" to initiate and implement his disinflationary economic program, *Plano Real* (Real Plan) at the end of 1993 and 1994 (Mainwaring 1997).[60] In order to apply his economic reforms quickly, Cardoso, like Collor, issued decrees rather than securing the approval of Congress (Bureau of Economic and Business Affairs, "Brazil: 1994 Country Report On Economic Policy And Trade Practices" 1994). In total, he issued 1,800 provisional decrees in his first three years; 1,698 were reissued decrees. Among them, only 90 became law (Maxwell 1999). Therefore, the Real Plan was almost entirely implemented through presidential decrees.

Mexico represents a different case, as it displays sources of presidential power other than constitutional powers. Mexico is a good example of an exceptionally strong presidency with few constitutional powers. Mexican presidents have strong veto power, but they lack strong decree authority like the Argentine or Brazilian presidents have. The power of Mexican presidents has been more due to all encompassing power of the long dominating *Partido Revolucionario*

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[59] In 2001 the Congress amended Article 62 of the 1988 Constitution to limit presidents' power. With amendments, presidents are limited to a single reissue of a decree. The amendment also specified the issue-areas in which the President may not issue decrees (Pereira et al. 2005). The text of the amendment can be found at http://www.planalto.gov.br/ccivil_03/Constituicao/Emendas/Emc/emc32.htm .

[60] Various Brazilian governments had initiated several other disinflationary programs in the past (Cruzado Plan of 1986, Bresser Plan of 1987, Summer Plan of 1989, Collor I Plan of 1990 and Collor II Plan of 1991) which did not succeed. These plans were mostly heterodox plans, which "involved a large external devaluation, a new currency, a wage and price freeze, and cuts in government spending." (Armijo 1996, p.9)

Institucional (PRI) and the authoritarian corporatist political system (Weldon 1997; Weldon 2002). The factors that have contributed to strength of presidents in Mexico have been listed by the Polity IV Country Report 2001 (CIDCM, "Polity IV Country Report 2001" 2001) as follows,

> Party hierarchy in Mexico's one-party state, the fact that legislators are elected for short non-renewable terms, and the large and diverse legislature have all made it easier for executive authority to overshadow legislative power. In addition, the President has enjoyed extensive patronage powers as well as constitutional powers to legislate by decree in certain economic areas.[61]

Since its foundation in 1929, PRI has been the dominant force in Mexican politics. It maintained its one-party rule nearly seven decades. The PRI had lost its absolute majority in the House of Deputies for the first time in the 1997 elections and the two main opposition parties, the National Action Party (PAN) and the Democratic Revolutionary Party (PRD), ended the one-party rule in the legislature and increased their competitiveness in next elections. Thus, only until 1997 Mexican presidents had a very centralized and firm power over the legislature. In the 2000 elections, the PRI lost presidency for the first time since 1929, leaving the President with limited constitutional powers. With the decline in power of the PRI, Mexican presidents remained much weaker compared to their counterparts in Latin America (Shugart and Haggard 2001).

The Mexican disinflationary economic program was implemented in 1987, during the authoritarian one-party dominant period. Unlike Argentina or Brazil, the Mexican stabilization program was a product of corporatist political structure. The government and representatives of business and labor sectors agreed on and signed a stabilization program on December 15, 1987, called the *Pacto de Solidaridad Económica* (Economic Solidarity Pact). "Labor agreed to not ask for salary increases; business agreed to freeze prices; and the government agreed to reduce the fiscal deficit and use the exchange rate as a nominal anchor for inflation expectations" (Heath

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[61] This information can be found at http://www.cidcm.umd.edu/polity/country_reports/Mex1.htm.

1999, p.29). This was a heterodox stabilization program, which decreased inflation from 132 percent in 1987 to 20 percent in 1989. This was not a as sharp fall in inflation as in the cases of Argentina and Brazil and it also took three more years to pull inflation under 20 percent, but still *Pacto de Solidaridad Economica* is considered a very successful stabilization program which ended persistent inflation. Besides, unlike Argentine or Brazil plans, it was a collaborative plan, not a plan forced by the government through decrees (Lustig 1998).

In most parliamentary countries, the position of President lacks executive power and the role is merely symbolic. Executive powers are instead exercised by the Prime Minister and his Cabinet. The power of Prime Minister and his Cabinet, however, mostly depends on support in the parliament, because in parliamentary systems there is a fusion of powers between executive and legislature. Although there are differences among parliamentary systems, the general rule is that the executive is strong if the government is a majority government. If it is a coalition government or worse a minority government, the executive has difficulties in passing the new laws through Parliament and initiating reforms and new policies.

Turkey and Israel are parliamentary democracies where lawmaking power belongs to the Cabinet (Council of Ministers) and the parliament. The Prime Minister and the Cabinet are responsible to the Parliament. Besides supervising the Cabinet, the enactment, amendment, and repeal of laws are the main functions of the Parliament. Although the Council of Ministers can propose new laws and amendments in existing laws, all legislation should receive the approval of the Parliament in order to become law. Decrees are not an appropriate means of legislation in a parliamentary democracy.

Turkey is a parliamentary system, so the Prime Minister is responsible to the Parliament for political support. However, the Turkish President and Prime Minister have more authority

than typical parliamentary systems (Öniş and Webb 1994).[62] For instance, by simple majority, the Turkish Parliament may authorize the Council of Ministers to issue statutory decrees on certain matters for a temporary period. In that case, the Cabinet may issue decrees without the need of parliamentary approval, undermining the essential nature of the parliamentary democracy. Such decrees were common in Turkey during the Turgut Özal period (1983-1989), but it was not as common in the 1990s.

> [Özal's] preference was for ruling by decrees, hence bypassing normal parliamentary procedures and constraints. His vision was rather typical of the kind of practice associated with the Latin American style presidential systems characterized by the absence of checks and balances providing enormous powers for the key individual in charge. Whilst, this style of decision-making was useful in terms of the ability to undertake decisions rapidly and overcome powerful interest group pressures, nevertheless, it tended to undermine the longer-term viability of the program…. Hence, for the sake of the economic process, it was imperative to by-pass democratic processes such as the constraints imposed by bureaucratic and parliamentary norms. Not surprisingly, Özal preferred a decision-making style based on Cabinet Decrees as opposed to Acts of Parliament (Öniş 2004, p.114).

Yet, even when provided with the decree power, the Turkish Prime Minister is not as strong as a Latin American President. The President and the judiciary limit his/her powers. For example, in July 2000 the Parliament issued a law that gave the Prime Minister the authority to make decisions by decree. However, President Necdet Sezer refused to approve many of these decrees and the Constitutional Court declared them illegal (CIDCM, "Polity IV Country Report 2001" 2001). Thus, Prime Ministers in Turkey are much more subject to checks and balances by other actors than presidents in Argentina, Brazil or Mexico.

Israel is also a parliamentary democracy. Israel does not have a written constitution but it has several Basic Laws enacted by its Parliament, the Knesset. The President of Israel is elected

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[62] Particularly the Turkish constitution of 1982 granted more power to executive branch than other branches of the government.

164

by the Knesset and has no executive power. The government, i.e. the Cabinet and its head, the Prime Minister, exercises executive power. The President acts only with the advice of the government, signing laws enacted and/or ratified by the Knesset. Therefore, "the Knesset is both the source and the target of most governmental reforms" (Hazan 1997, p.329). The government is always responsible to Knesset and always has to maintain its confidence in order to use its executive power. Therefore, Knesset is the supreme authority in Israel.

With the 1992 reform of the electoral system, the Israeli Prime Minister's control of the legislative agenda and output has become a very challenging task. Compared to past, it has become more difficult and politically risky for the Knesset to topple the Prime Minister, because now any vote of no-confidence on government would automatically bring about legislative elections. However, it is now easier for the Knesset to weaken the Prime Minister's legitimacy and effectiveness since it has become more fragmented and fractionalized and the party discipline has decreased. Therefore, the Israeli governments have become more stable (i.e. durable), as members of the Knesset have become more reluctant to vote no-confidence. Yet, the governability has decreased (Hazan 1997).[63]

The judiciary in Israel is another check on the executive's power. Unlike countries in Latin America, Israel has by and large an "independent and professional" judiciary system, which exercises an effective check on the executive (CIDCM, "Polity IV Country Report 2001" 2001).

Looking at the Table 35 and Table 36, it is difficult to suggest that specific constitutional powers affect the ability to eliminate persistent inflation. Strong constitutional powers probably improve the ability to introduce disinflationary programs, but Israel was also able to decrease

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[63] These political reforms did not affect inflation in Israel much, because inflation problem in Israel was already resolved with the 1985 stabilization plan.

inflation without having strong constitutional executive powers. Similarly Mexico was able to eliminate persistent inflation, with the help of a strong presidency without constitutional powers. Therefore, we need to look at factors other than constitutional powers in order to explain how some governments have wielded the ability to pursue disinflationary policies and decrease inflation.

Table 35: Constitutional powers of the executive

	Veto Power	Decree Power
Argentina	strong	strong
Brazil	low	strong
Mexico	strong	weak
Israel	none	none
Turkey	almost none	some with parliamentary approval

Table 36: Executive power vs. price stabilization

	Successful	Moderately successful	Unsuccessful
Very strong executive	-	Argentina	-
Executive with only strong decree power	-	Brazil	-
Executive with only strong veto power	Mexico		-

Executive without or little decree or veto power	Israel	-	Turkey

6.2   POLITICAL STABILITY AND INFLATION

Political stability is another aspect in which political systems vary. The fixed term of Presidents gives presidential systems more stability than parliamentary systems. Thus, coupled with strong presidential powers, leaders in presidential systems may be more willing than parliamentary systems to introduce economic reforms and austerity measures that are needed to decrease inflation. Parliamentary systems are usually more unstable, i.e. the existing government and legislature are more likely to be removed from office before their term expires. Therefore, they do not tend to shift their economic policies radically unless they enjoy high majorities in the Parliament, which is an exception rather than a rule, except in the British Westminster system (Lijphart 1992; Shugart and Carey 1992; Verney 1992; Sartori 1994b). This risk averseness makes parliamentary systems less reluctant to implement ambitious disinflationary economic programs.

Government durability is one indicator of political stability. It is defined as the average number of years that a government spends in office until it is replaced by a new one. Government durability affects the government's strength and effectiveness. Governments with lower durability are considered to be weak. Short-lived governments are an indication of frequent government crises and low legislative support. Such governments cannot effectively pursue policies not only because of their low support, but also because of their short time horizon.

Government durability is affected by how many parties there are in the government and legislature. Multi-party systems produce more coalition governments. Coalition governments are less durable, because they are composed of competing parties. Minority governments are also less durable, because they do not have the necessary majority in the legislature to govern (Roubini and Sachs 1989a; Roubini and Sachs 1989b; Grilli, Masciandaro *et al.* 1991a). When one party holds the majority in the legislature, there is more political stability, i.e. governments tend to be more durable (Inman and Fitts 1997). One-party governments are more common in presidential systems than in parliamentary systems.[64]

In terms of political stability, the most important difference between a presidential and a parliamentary system is that the first has a fixed term in office, whereas the latter does not. In parliamentary systems, the government depends on the support of the legislature. Once the Parliament withdraws its confidence from the government and votes no-confidence, then the government falls, and what follows is a search for a new government from the same Parliament or from a new Parliament after new elections. That characteristic of the parliamentary system usually creates a politically more unstable environment, especially if the government party (or parties) does not constitute the majority in the Parliament. This difference between presidential and parliamentary systems may create a difference in ability to implement disinflationary policies.

Some scholars argue that political instability increases monetary instability (Edwards and Tabellini 1991; Cukierman, Edwards *et al.* 1992; Cukierman and Webb 1995). The demand for inflationary policies may be more difficult to resist if governments are threatened by electoral uncertainty (Desai, Olofsgard *et al.* 2002). Political instability may motivate politicians to spend

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[64] The number of parties in the government also depends on the election system. This issue will be discussed in detail in the next chapter.

more in order to attract votes and/or remain in office. Increased spending would probably mean a larger budget deficit. This, in return, prompts governments to pressure the Central Bank for more money creation, which maintains or worsens inflation (Treisman 2000). Many scholars have argued that governments in a presidential system spend less on public goods and transfers than governments in a parliamentary system, causing fewer budget deficits (Persson and Tabellini 1999; Persson 2002; Scartascini and Crain 2002).

Also, many scholars have argued that durable governments are more able to control their budget deficits. Paldam (1987) suggests that strong and stable governments are more credible in pursuing unpopular economic policies. Roubini and Sachs (1989a; 1989b) argue that governments with short durability that are composed of multi-party coalitions produce higher budget deficits.[65] Political instability, i.e. low government durability, increases budget deficits (Roubini 1991). As also suggested by the "game theory," short expected tenure in office makes it more difficult for coalition parties to agree on policies and decrease budget deficits (Roubini and Sachs 1989b; Strauch and von Hagen 2000). Edin and Ohlsson (1991) argue that, not necessarily coalition governments, but minority governments generate higher budget deficits. In their empirical study, Grilli, Masciandaro, and Tabellini (1991a) find that any government change causes higher budget deficits. Therefore, government stability can be considered to be a positive factor on government's ability to decrease inflation by keeping budget deficits more under control.

In this study parliamentary systems are expected to have more difficulty in stabilizing prices. The governments in parliamentary systems collapse when they lose the confidence of the

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[65] Roubini and Sachs (1989b) argue that not all coalition governments are prone to large budget deficits. Only under difficult economic conditions, coalition governments considerably fare worse, because they are not capable of decreasing spending when it is needed. However, under normal economic conditions, they may perform as well as one-party governments, since they are not naturally prone to produce more deficits.

parliamentary majority, so they are usually more unstable than the presidential ones. Therefore, they may be less successful in battling inflation. In presidential systems the executive does not collapse when it faces the legislature's opposition. Indeed, divided government, i.e. the situation when the presidency and the majority of the legislature are in the hands of different parties, is a very common phenomenon in presidential systems. Unless there is an extraordinary situation, such as impeachment, presidents stay in power until their term ends. This gives governments of presidential systems more stability compared to parliamentary systems and may help them to have a longer time horizon and be more decisive in battling inflation.

If the deficit of a state grows large, political instability and polarization between changing governments may increase, and it is less likely that the existing government will be re-elected in the coming elections. Uncertainty of re-election makes governments avoid politically risky economic programs. Especially if the two successive governments differ a lot in their ideology and policy choices, then the government in office tends to use public debt to influence policies of its successor. The incoming government can easily shift the burden of debt and deficit that it has incurred to the incoming government (Roubini and Sachs 1989b; Alesina and Tabellini 1990; Tabellini and Alesina 1990). Therefore, all government changes do not necessarily cause political instability. If the new government is made up of the same people, or supported by the same parties in the legislature, that indicates political stability, rather than instability. As suggested by Grilli, Masciandaro, and Tabellini (1991a), significant government changes (change from one group or party to another) are a better measure for political instability. Thus, Table 37 provides us a better picture of political (in)stability in these countries.

Table 37: Political stability – how long the party of chief executive has been in office

	1975	1976	1977	1978	1979	1980	1981	1982	1983
Argentina	1	2	-	-	-	-	-	-	-
Brazil	10	11	12	13	14	15	16	17	18
Israel	7	8	9	1	2	3	4	5	6
Mexico	46	47	48	49	50	51	52	53	54
Turkey	1	1	2	3	1	1	-	-	-

	1984	1985	1986	1987	1988	1989	1990	1991	1992
Argentina	1	2	3	4	5	6	1	2	3
Brazil	19	20	1	2	3	4	1	2	3
Israel	7	1	2	1	2	3	4	5	6
Mexico	55	56	57	58	59	60	61	62	63
Turkey	1	2	3	4	5	6	7	8	1

	1993	1994	1995	1996	1997	1998	1999	2000	2001
Argentina	4	5	6	7	8	9	10	1	2
Brazil	4	5	1	2	3	4	5	6	7
Israel	1	2	3	4	1	2	3	1	2
Mexico	64	65	66	67	68	69	70	71	1
Turkey	2	3	4	1	2	3	4	1	2

	2002	2003	*Average number of years parties have spent in government*
Argentina	1	1	*5.3*
Brazil	8	1	*9.3*
Israel	1	2	*4.7*
Mexico	2	3	*71.0*
Turkey	3	1	*3.1*

**Source*:* PRTYIN variable from the Database of Political Institutions (2004) with my corrections.
[http://siteresources.worldbank.org/INTRES/Resources/DPI2004-no_formula_no_macro.xls]

In the Table 37, the average number of years each party, or coalition of parties, have

spent is calculated.[66] As can be seen, Mexico has the most political stability in terms of how long

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[66] This calculation excludes the last same-party governments which were still prevailing as of 2003, because during this research we did not yet know when there would a government change with a different party composition.

a government supported by the same party stays in office, because PRI controlled presidency for more than 71 years. Turkey and Israel seem to have the worst record in political stability. Since they are our only parliamentary cases, these data confirm the argument that parliamentary governments tend to be more unstable than the presidential ones.

When we look to all government changes in these countries, without regard to whether there was a change in the governing party or not, we again arrive to similar conclusions (see Appendix-IV). Turkey appears as the least stable state because it had 26 governments since 1970, of which three were military governments. This is compared to 21 governments in Argentina, 9 in Brazil, 16 in Israel and 6 in Mexico. Mexico again emerges as the politically most stable state.

If Table 38 is analyzed, among our three presidential systems in Latin America Mexico has the most political stability and it is also the one that decreased inflation earlier than the other two. This confirms the argument that political stability improves the capacity of a government to successfully battle inflation. The case of Turkey also seems to confirm this argument because it is the least stable among all cases and also the least successful in inflation stabilization. Yet, the other parliamentary case, Israel, presents totally contradictory evidence. Despite being politically quite unstable, Israel was most successful in elimination of persistent inflation.

Table 38: Political stability vs. price stabilization

Average number of years parties have spent in government	Successful	Moderately successful	Unsuccessful
Very stable (more than 10 years)	Mexico		-

Moderately stable (between 5 and 10 years)	-	Argentina Brazil	-
Unstable (less than 5 years)	Israel		Turkey

The mixed evidence that the political stability data presents suggests that the relation between political stability and the ability to decrease inflation is not very straightforward. Turkey, the politically most unstable case, is the least successful in eliminating persistent inflation as expected. However, Israel succeeded in stabilizing its prices, although politically it is also unstable. As stated in the previous chapter, Israel has strong regime stability, unlike Turkey. Thus, we may claim that democratic (regime) stability is a more important factor that determines government's success in fighting inflation than political (governmental) stability. A change merely in the government does not necessarily affect a state's risk taking capability and its effectiveness in implementing policies that would resolve critical economic problems, like inflation. However, a change in the regime (shifts between democracy and authoritarianism) does affect a state's risk taking capacity and its policymaking.

6.3   UNITY OF PURPOSE IN BATTLING INFLATION

Unity of purpose is another factor that is related to the political system of a country and it may positively affect price stabilization. "Unity of purpose" indicates a situation where both the executive and legislature have the same political mandate, and thus share the same policy goals. Unity of purpose exists when the executive and the legislature are under the control of the same party and legislators and the President have similar interests because of a disciplined and strong

party system. In that case, the executive is fully supported by a legislative majority (Shugart and Haggard 2001).

The governments of parliamentary systems should always have unity of purpose, because the government and the Parliament are interdependent. The government cannot stay in power without the support of the majority of the legislature and the Cabinet members are normally picked from the Parliament. The Prime Minister, Cabinet members and the members of the Parliament are elected through the same elections and their constituents are same. Therefore, they share same national objectives.

For presidential systems, unity of purpose is not a requirement. Shugart and Haggard (2001) characterize a divided government, i.e. where presidency and majority of the Congress are from different parties, as a situation of "separation of purpose." It is a very common situation in almost all presidential systems.[67] The separation of purpose is enhanced especially if the party system is fragmented, undisciplined, weak and particularistic. Brazil is a perfect example of high separation of purpose with its fragmented multi-party presidential system (Mainwaring 1997). However, Mexico is an example of a presidential system with strong unity of purpose from 1930s until 1997 with its once dominating PRI (Weldon 1997).

It is assumed that unity of purpose is advantageous when it comes to tackling important national problems, because legislative and executive do not act as contenders but rather share same policy goals. Indeed, Shugart and Haggard (2001) argue that governments with unity of purpose are much more decisive than the ones with separation of purpose. Thus, it is expected that systems with unity of purpose eliminate persistent inflation with less difficulty. In that respect it is also expected that parliamentary systems perform better than divided presidential

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[67] Mexico is a notorious example of an exception to that rule, because of its long-dominating party PRI.

systems in battling inflation as they are more likely to have unity of purpose. However, if a presidential system has unity of purpose, it can be even more advantaged than a parliamentary system for successfully implementing anti-inflationary policies. In a presidential system where the president and the majority of the legislature are from the same parties and if the parties are strong and disciplined, the executive can be particularly decisive. It can initiate new laws and policies easily. In fact, these are probably the best conditions for initiating ambitious price stabilization programs. In such a system, policymakers may easily ignore the views, demands, and interests of the minority groups that may disagree with government policies.

Nevertheless, in presidential systems Presidents have more interest in national policies since their constituency is the whole nation, while legislators are usually more focused on local and regional issues (depending also on the electoral system, especially the election district size) since their constituency is more local or regional. This is very different from parliamentary systems, where legislators have a much more interest in national policy. As a result, many presidential systems lack unity of purpose even when the president and the majority of the legislature are from the same party (Shugart and Haggard 2001). Lack of unity of purpose may cause these governments not able to agree on policies and take necessary decisions to fight inflation, if the President does not have the power to overrule legislative.

In order to test whether our cases had a divided government or unity of purpose, we can look at the percentage of seats of governing party(ies) in the legislature (see Table 39 below). It is easier for governments to introduce reforms or radical policy changes and implement these new policies effectively, if they hold the majority of the seats in the legislature. From Table 39, it can be seen that all governments but the Argentine government had a majority in the legislature when disinflationary programs were introduced. Surprisingly, the Argentine government had

only 39 percent of the seats in the legislature when they initiated the Convertibility Plan in April 1991. The majority of the legislature was controlled by parties other than the government party. Therefore, it was a period of divided government. When we compare it to the period when the government had majority in the Congress, like Alfonsin's first period (1983-85), we see that government majority was not an important factor in Argentina in inflation stabilization. In fact, unable to stop hyperinflation, President Alfonsin resigned and Menem agreed to take office in December 1989, five months before originally scheduled. In exchange for that, the Radical Party committed to give legislative support to Menem's new government (Jones 1997; Rubio and Goretti 1998).

Table 39: Legislative majority of the government

	1975	1976	1977	1978	1979	1980	1981	1982	1983
Argentina	NA	NA	NA	NA	NA	NA	NA	NA	NA
Brazil	39.4%	39.4%	56.6%	56.6%	55.0%	55.0%	55.0%	55.0%	49.1%
Israel	50.4%	50.4%	45.9%	62.3%	62.3%	62.3%	62.3%	49.1%	49.1%
Mexico	NA	NA	83.0%	83.0%	83.0%	74.0%	74.0%	74.0%	74.8%
Turkey	51.8%	47.3%	47.3%	51.6%	48.7%	41.8%	NA	100.0%	100.0%
	1984	1985	1986	1987	1988	1989	1990	1991	1992
Argentina	51.0%	51.2%	51.0%	48.3%	46.1%	46.1%	39.0%	**39.0%**	46.9%
Brazil	52.0%	52.0%	53.0%	76.8%	76.8%	76.8%	76.8%	57.2%	57.2%
Israel	49.1%	**73.3%**	73.3%	73.3%	73.3%	53.8%	53.8%	53.8%	53.8%
Mexico	74.8%	74.8%	80.7%	**80.7%**	80.7%	52.0%	52.0%	52.0%	52.0%
Turkey	53.0%	53.0%	53.0%	62.8%	64.9%	64.9%	64.9%	64.9%	59.1%
	1993	1994	1995	1996	1997	1998	1999	2000	2001†
Argentina	47.2%	54.5%	54.5%	53.3%	53.3%	62.1%	62.1%	49.4%	49.4%
Brazil	57.2%	**57.4%**	41.2%	41.2%	41.2%	41.2%	75.4%	75.4%	75.4%
Israel	49.2%	49.2%	49.2%	49.2%	55.0%	55.0%	55.0%	62.5%	62.5%
Mexico	52.0%	52.0%	60.0%	60.0%	60.0%	47.8%	47.8%	47.8%	44.6%
Turkey	59.1%	59.1%	59.1%	37.8%	37.8%	37.8%	37.8%	57.1%	**57.1%**

Source: MAJ (Margin of Majority) variable from the Database of Political Institutions (2004).
[http://siteresources.worldbank.org/INTRES/Resources/DPI2004-no_formula_no_macro.xls]

* This is the fraction of seats held by the government parties in the Lower House. It is calculated by dividing the number of government seats (NUMGOV) by total (government plus opposition plus non-aligned) seats.

The highlighted values signify the percentage of government majority in the legislature when the successful disinflationary programs were introduced.

† The values for year 2001 are not from the original DPI dataset. They are assumed to be same as in 2000 as none of the countries had elections or a government change during 2000.

Brazil is another case of success in disinflation during a period of separation of purpose, but not because the government parties did not control the Congress. Due to the elective system, deputies have very local interests in contrast to president's national goals, so unity of purpose is low in Brazil. When *Plano Real* was initiated in 1994, the Franco government had 46 percent support in the House of Deputies and a 65.8 percent majority in the Senate. When he took office in the beginning of 1995, Cardoso continued with his ambitious economic reforms although his government had only 41 percent support in the legislature. Therefore, the government lacked majority support in the Congress. Since parties in Brazil are very undisciplined, we cannot relate the success of *Plano Real* to government seats in the legislative. Even the second government led by President Cardoso had difficulty at times gaining sufficient support for some of its legislative priorities despite the fact that it held the majority of seats in both Houses (Mainwaring 1997).

Israel and Turkey have always had a unity of purpose because of their parliamentary systems.[68] Yet, the two countries had different experiences while they were trying to fight inflation. Turkey could not resolve its inflation problem up until 2002, but Israel was first among our cases to stabilize its prices. When Israel initiated the anti-inflationary program in 1985, the prevailing government was a "national unity" government. After winning the same amount of seats in the Parliament in the 1984 elections, the two leading parties of Israel, Likud and the Labor Party, could not form a ruling coalition and thus made an agreement to form a national

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[68] Of course for Israel unity of purpose is no longer a must since 1996, although it has not experienced a divided government yet. After the 1992 electoral reform, the Prime Minister is elected by separate elections, and thus, Israel is considered to have a "hybrid" political system.

177

unity government and share power for four years. Together these two parties were holding 88 of the 120 (73.3 percent) of the Knesset seats. Practically that meant an extreme type of unity of purpose and the opposition was divided and almost absent in the legislature when the disinflationary plan was initiated and implemented in Israel. Although Turkey has had many coalition governments since 1983, it never had such a coalition government that overwhelmingly dominated the Parliament.

Nevertheless, unity of purpose may not be as important as it seems. As maintained by Cox and McCubbins (2001), no matter if a state has unity or separation of purpose, "unified power" may be a more important condition for a state to be decisive. A main characteristic of unified power is a president with all-encompassing powers, as in many Latin American cases. Cox and McCubbins (2001) argue that when there is high separation of purpose in a presidential system, more constitutional authority is given to the President in order to balance the political problems that emanate from separation of purpose. Argentina and Brazil have been decisive without unity of purpose because they have given large constitutional powers to their Presidents. For Mexico, PRI dominance was a power unifying factor which made Mexico a decisive state, despite weak constitutional authority of the President.

As can be observed from Table 40, the unity of purpose data on our cases do not give a very clear picture about how unity of purpose affects elimination of persistent inflation. Israel and Mexico support the argument that unity of purpose helps governments implement disinflationary policies effectively. Compared to these two cases, Argentina and Brazil, two systems with high separation of purpose, had more difficulty in eliminating persistent inflation. However, Turkey contradicts with the argument. Although Turkey has unity of purpose as a parliamentary system, it was the least successful case in disinflation. Some argue that the

178

political instability caused by the successive coalition governments in the last two decades is responsible for Turkey's failure (Akat 2000). As coalition governments are not expected to be as effective as single party governments, next I will focus on the impact of coalition governments on economic policymaking.

Table 40: Unity of purpose vs. price stabilization

	Successful	Moderately successful	Unsuccessful
Unity of purpose	Israel Mexico (until 1997)	-	Turkey
Separation of purpose	-	Argentina Brazil	-

6.4   ONE-PARTY GOVERNMENTS VS. COALITION GOVERNMENTS

Ability to initiate policy changes and reforms may also depend on whether the government is a one-party or a coalition government. According to the "veto players" theory, it is more difficult to initiate reforms under coalition governments (Tsebelis 2002).

A one-party government is a government which has only one party in office. Coalition governments are formed when more than one party comes together to govern. Coalition governments indicate that there is no one party which is strong enough to govern alone. Joining forces with one or more parties enlarge the electoral and legislative base of a government, but at

the same time it necessitates sharing power and reaching consensus. On the other hand, a government can also be a majority government or a minority government, depending on its support in the legislature. A majority government is supported by one party in the legislature which holds the majority of the seats. A minority government is supported by one or several parties which together do not have the legislative majority. According to this categorization, a one-party majority government is the strongest type of government, because it does not face a legislative opposition that can block the government's decisions (Grilli, Masciandaro *et al.* 1991a).

According to the *veto players theory*, which is derived from "game theory," if more actors are involved in policymaking, especially with veto power, it is more difficult to initiate policy changes and reforms, as the existing policies become more continuous and sticky (Tsebelis 1995, 1999; Treisman 2000; Tsebelis 2002). Veto players are persons or institutions which have the power to block a new legislation or policy. Therefore, they act more as a force to maintain the status quo than a force of reform. When there are many veto players in the system, it may be more difficult to change existing economic policies, because it is difficult to negotiate and please everyone. This makes political systems with many veto players less decisive than the others (Cox and McCubbins 2001).

For some other scholars who also study political institutions, what matters most in enacting reforms is the level of disagreement among different levels of political decision-making (Tabellini 1986; Aizenman 1987; Alesina and Drazen 1991; Drazen and Grilli 1993). Accordingly, more conflict between different policymakers makes it harder to decide on policy changes, and thus, to change status quo. This causes governments to postpone controversial

policies, like shock therapy austerity measures, which are needed to end persistent inflation. Therefore, the support that the executive enjoys within legislature is very important.

Coalition governments are considered to be less effective than one-party governments, because each party acts as a veto player since interests of each party have to be considered in policymaking (Roubini and Sachs 1989b). Thus, we expect coalition governments to be less effective in initiating new policies, including disinflationary economic programs.

Another issue that game theorists point out is how coalition governments fare in terms of the control of budget. In coalition governments, the parties in office can easily be caught in a prisoner's dilemma, and thus, they may be incapable of controlling government spending (Austen-Smith and Banks 1988). Each party has its own interests and constituents, so it may be difficult to coordinate policymaking and to control budget deficits (Roubini and Sachs 1989b).

Normally presidential systems have more veto players than parliamentary systems because of the separation of power between the executive and the legislature. However, as mentioned above, especially in developing country presidential systems, presidents are more able to prevail over other veto players by other means, such as decree power and patronage. Therefore, in many Latin American cases, including Argentina and Brazil (and Mexico before 2001), there is unity of power, because presidents are almost the only veto players.

Coalition governments are the rule rather than the exception in both Israel and Turkey. According to above mentioned theories, coalition governments tend to be less effective in implementing disinflationary programs. Although the Turkish experience confirms these theories, Israel contradicts it. As mentioned above, Israel successfully solved its inflation through its national unity government, which was a coalition government. Thus, a dominating majority in

the legislature can be sufficient to implement an ambitious disinflationary economic program successfully.

As can be seen in Table 41, systems that produce many coalition governments do not necessarily have difficulty in inflation stabilization. It is true that coalition partners may act like veto players, but veto power works more as a force to maintain the status quo than as a force of reform, while price stabilization policies usually require a break down of the status quo. Therefore, the power of the executive is probably a more determining factor regarding the initiation and successful implementation of price stabilization. As long as the executive has powers that surpass other authorities, it can initiate and implement effective stabilization programs whenever needed.

Table 41: Coalition governments vs. price stabilization

	Successful	Moderately successful	Unsuccessful
Frequent coalition governments	Israel	Brazil	Turkey
No or rare coalition governments	Mexico	Argentina	-

6.5   CONCLUSION

Political stability seems to be a factor that affects the ability of states to eliminate persistent inflation. With their tendency to be politically more stable, presidential systems are advantaged

in their battle with inflation. However, political stability is not the only explanation of successful disinflationary policies. A powerful executive is probably more crucial in combating inflation.

Neither presidentialism nor parliamentarism necessarily determines whether a government will successfully end persistent inflation. What really matters is if the executive has power or not, regardless of its source of power. In some cases the executive is powerful because of his/her strong authority in his/her party, like in Argentina. In other cases, he/she may be powerful, despite party fragmentation and lack of authority within the party, because he/she has strong constitutional authority, like in Brazil. Alternatively, he/she may be just powerful because his party is very dominant, like in Mexico.

It was argued that "unity of purpose" helps states to be more decisive in implementing unpopular economic programs. Yet, our Latin American cases demonstrate that, "unity of power" is a more significant factor that affects ability of states to decrease inflation. A president with wide powers, regardless of his source of power, can override legislative opposition and implement decisively whatever economic program is deemed necessary. In all our presidential cases, presidents have been quite powerful, and they used their constitutional and partisan powers to stabilize their respective economies. In Israel, which is neither a presidential system nor a system based on a legislative override, the success with disinflation came as a result of a national unity government, a coalition government with an extremely strong majority in the legislature, which introduced an effective disinflationary plan in 1985.

Last, but not least important, an executive with a strong backing in the legislature is also an effective force for economic reform that can lead to elimination of inflation. This factor is particularly important for parliamentary systems. In these arrangements, the executive is always dependent on the legislature, so it is not independently powerful. Its power, and thus its ability to

initiate reforms or unpopular policies depend on its support in the legislature. A parliamentary executive with an overwhelming majority in the legislature can be as affective or even more effective than powerful leaders in presidential systems in ending inflation, as the Israeli case has well demonstrated with its "national unity" government of 1984-88.

Election and party systems also affect how powerful the executive is and how decisive a government can be. Especially the seats the government holds in the legislature and the type of government formed (e.g. one-party, coalition, minority, and so on) are very much determined by the election and party system. Therefore, our next focus will be how different party and electoral systems affect the success of governments battling inflation.

7.0   ELECTORAL AND PARTY SYSTEMS AND INFLATION

As seen in the previous chapter, neither presidentialism nor parliamentarism necessarily prevents price stabilization. Economic policymaking may also depend on the electoral and party systems. The electoral system has a direct influence on the party system, and both the electoral system and party system affect the power of the government and groups involved in the decision-making process.

In the following section I analyze the suggestion that some electoral systems (proportional, open-list, and large district) are less effective in tackling national problems, such as inflation. I also analyze the suggestion that polarized and fractionalized party systems have less capacity to pursue efficient macroeconomic policies, such as disinflationary programs. Neither of these arguments is confirmed by the case analysis of this chapter. Indeed, our most successful case in price stabilization, Israel, has the most proportional electoral system with largest electoral district, as well as the most fractionalized and polarized party system.

7.1   ELECTORAL SYSTEMS

The electoral system is an important factor that determines who is in office, how they are selected, and how they function. It is a set of rules regarding the election of the legislature and the executive. The electoral system has a direct influence on the type of support the government

has, because it shapes the "intensity and scope of political competition" in the polity (Persson and Tabellini 1999, p. 703). Although the literature claims that electoral systems impact the performance of governments in economic policymaking, the findings of this study indicate that this relation is not noteworthy when it comes to price stabilization. Neither electoral formula nor the ballot structure seems to influence the ability of the state to stabilize prices.

There are two dimensions of electoral systems. The first is the *electoral formula*, which sets the relation between the votes won in the elections and the way seats are distributed in the legislature. The electoral formula also includes *ballot structure*, i.e. whether the party lists that compete in the elections are open or closed. The second dimension of the electoral system is the *district size,* which determines how many representatives are elected from each electoral district.

There are two main classifications for electoral formula: plural-majority and proportional representation. In *plurality-majority* electoral systems, the winner takes all, i.e. the party that gets most votes wins all seats in that district, and the voters who voted for other parties remain unrepresented (Lijphart 1994, 1999). In presidential elections majority formula differs from plurality, as it requires an absolute majority for the election of the president. In plurality formula winning the plurality of the votes, i.e. winning greater votes than the closest opponent, is sufficient to win the presidency. For legislative elections, the plural and majority systems give parties with the most votes disproportionally more seats, and thus enable single party control of the legislature.

> [The aim] ... is to exaggerate the share of seats for the leading party in order to produce an effective working parliamentary majority for the government, while simultaneously penalizing minor parties, especially those whose support is spatially dispersed. In 'winner take all', the leading party boosts its legislative base, while the trailing parties get meager rewards. The focus is effective governance, not representation of all minority views. (Norris 1997, p.3)

Therefore, plural and majority electoral systems are expected to generate more support in the legislature for the government. They commonly have two-party and less polarized party systems that entail fewer veto players and less political tension (Powell 1982; Stein, Talvi et al. 1998).

In *proportional representation* (PR) systems, the seats each party gets are distributed in proportion to the share of the vote that that party has received. Such a system leads to a legislature more representative of the whole constituency (both majority and minorities), because it normally ensures that even parties with small shares of the vote are represented in the parliament (Lijphart 1994, 1999). This generally allows more than two parties to enter the parliament, and thus, makes it more difficult for a single party to control the legislature. Therefore, various parties may need to form coalitions in order to have a majority in the parliament. As a result, PR systems produce more coalition or minority governments, and these governments are generally more unstable and short-lived than governments in plural or majority systems (Powell 1982; Roubini and Sachs 1989a; Grilli, Masciandaro *et al.* 1991b).

There are various theories that attempt to explain how electoral systems affect politics and policymaking. Yet, there is no real consensus over whether plural-majority systems or PR systems are more effective in allowing governments to solve major economic problems, like inflation. Some scholars maintain that plural-majority electoral systems generate policies that promote the preferences or demands of fewer constituents and benefit smaller, more targeted groups of people. They also tend to collect less taxes (Persson and Tabellini 1999; Persson 2002). Therefore, it may be more difficult for plural-majority systems to control inflation as they are prone to be hijacked by small interest groups and have fewer tax revenues. However, plural-

majority systems lead to smaller government and lower public expenses. This may help them avoid inflation, but perhaps not get rid of it once it is created.

On the other hand, PR systems produce more public goods and policies that benefit the population as a whole, and thus, higher taxes and larger governments (Persson and Tabellini 1999; Persson 2002). Stressing the tendency of PR systems to have bigger government and larger public spending, it can be argued that PR systems may have more difficulty in controlling inflation and thus, may be less effective in economic policies. However, stressing the fact that they are more representative, and therefore, less prone to be hijacked by few groups, they may be more able to control inflation.

Plural-majority systems may be more advantaged in terms of their ability to solve economic problems because of their decisiveness. Sartori (1994a) argues that plural-majority systems neglect minorities, so it is easier to make political decisions. On the other hand, PR systems allow many parties in the system, and thus, decrease political decisiveness. He believes that presidential plural-majority systems are more conducive to effective policymaking, although they are less representative. However, according to Persson (2002), PR electoral systems allow more parties or politicians to enter into competition, but they also encourage parties to seek broad support for their policies, which may be an advantage for implementation of economic policies.

There are thus conflicting views about how the electoral formula affects economic policymaking. Yet, following the arguments of both Sartori (1994a) and Grilli, Masciandaro, and Tabellini (1991b), this chapter hypothesizes that PR systems may have more difficulty in fighting inflation because of their poor decisiveness and high public expenses.

Another aspect of the electoral formula is the ballot structure. Many states use multi-seat districts and there are two different ballot structures used to elect these representatives. The first is called *party-centered*, or *closed list*, and it allows voters to vote for a list of candidates nominated by one of the parties. Alternatively, if the system is *candidate-centered*, or *open-list*, then voters vote for candidates, not for the whole party list.

Party-centered and candidate-centered ballot structures have different implications. Candidate-centered lists may seem politically more representative, but they cause intra-party competition and personal politics, and therefore, less party loyalty, less party discipline, and less emphasis on national policies by the legislators. On the other hand, party-centered lists create more party discipline, more emphasis on national policies, and stronger party leaders (Cox and McCubbins 2001). Because of their national outlook and discipline, I expect closed-list bullet structure to be more favorable for economic reform.

The *district size* is another aspect of electoral system that may affect success in eliminating inflation. District size indicates the number of legislators to be elected from each electoral district. Typically, and also in this study, average district size is calculated by dividing the number of seats in the lower house by the number of electoral districts. The legislative district size may affect economic policies by giving the legislators a more national or local outlook or by allowing more or less number of parties into the Parliament or Congress (Scartascini and Crain 2002). Yet, the direction (negative vs. positive) of this effect is not clear.

District size is not independent of electoral formula. Large districts make an electoral system more proportional. Highly proportional systems use very large electoral districts. Large electoral districts create fewer barriers to entry and allow more parties in the system, at least in PR systems (Persson, Tabellini et al. 2001). Small district size creates natural (effective)

thresholds that allow only powerful enough parties to enter to the Congress or Parliament. Thus, they promote less fractionalization and more political stability. As it will be discussed later, high number of parties in a political system is usually associated with difficulty in effective policymaking. Thus, small district size is expected to generate governments that are more effective in economic policymaking.

At one end of the spectrum, the whole country can form one electoral district, like in Israel. This typically means that the number of votes needed to be elected is extremely low and even very small parties can win election. At the other end of the spectrum, some PR systems can have district size of two, like in Chile. This creates high disproportionality, because no more than two parties can win representation in each district. This undermines representation and legitimacy in a PR system ("ACE Encyclopaedia").

The size of the electoral district may also affect the attitudes of legislators. Electoral systems become more proportional as district size increases, and the more proportional the system, the more national are the interests of the legislators (Persson 2002). As districts are larger, the connection between a legislator and his or her electorate becomes weaker ("ACE Encyclopaedia"). When the interests of the legislators are more local, their interests differ more from the interests of the executive, who is focused more on broad national issues. This may cause separation of purpose between the government and the legislature, and thus, difficulty in initiating and implementing policy changes (Shugart and Haggard 2001; Persson 2002). In that sense, large electoral districts are expected to promote better economic policymaking.

There are contradictory arguments regarding the effect of district size. Interpreting them in the context of price stabilization, the first one argues that the small district size may increase the ability to successfully battle inflation, while the second one argues that large district sizes

may enable better implementation of disinflationary policies. As a result, it is difficult to conclude if and how actually district size effects decision-making. However, following the argument that associates district size with proportionality and fragmentation of the political system, this chapter hypothesizes that a political system with large district size may have more difficulty in stabilizing prices.

As can be seen in Table 42, Table 43 and Table 44, our cases have diverse electoral systems. Like most of our cases Brazil uses a PR electoral formula to choose members of its Congress, but it is the only state among our cases that uses open list ballot structure. According to Mainwaring (1997), Brazil is an extreme case of multipartism and it has the most fragmented and undisciplined party system.[69] Such a political system is prone to produce fragile coalitions and political instability. Remember that Brazil was able to eliminate its inflation problem only in 1995, relatively later than all other cases except Turkey.

Table 42: Electoral systems in Argentina, Brazil, Israel, Mexico, and Turkey

	Plural/majority System	Proportional Representation
open list		Brazil
closed list	Mexico (with some PR)	Argentina Israel Turkey

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[69] One reason why states have high number of parties and political fragmentation is their political institutions, as discussed in this chapter. However, although this chapter does not discuss it, diversity of the population and their political preferences may also increase the number of parties and political fragmentation.

Table 43: Thresholds, number of lower house seats, and district sizes in Argentina, Brazil, Israel, Mexico, and Turkey

	Thresholds *	Number of Lower House seats (Number of districts)	Average district size of the Lower House
Argentina	16.7% natural threshold until 1987 3% legal threshold after 1987	257 seats (24 districts)	10.7 (range 2-35)
Brazil	0% legal threshold until 2006 5% legal threshold since 2006 (5% natural threshold since 1978)	513 seats (27 districts)	23 (until 1995, range 8-60) 19 (from 1995 on, range 8-70)
Israel	1% legal threshold until 1992 1.5% legal threshold after 1992	120 seats (1 district)	120
Mexico	0% legal threshold until 1985 2% legal threshold after 1985	500 seats (300+5 districts) †	1.6 (average) 1 (for 300 seats) 40 (for 200 seats)
Turkey	0% legal threshold before 1980 10% legal threshold after 1982	550 seats (79 districts)	7 (range 2-24)

Source: The data above are taken or calculated from the data provided in Morgenstern and Nacif (eds), *Legislative Politics in Latin America* (p. 420) and the *Database of Political Institutions (DPI) IV*.

* All electoral systems have thresholds of representation, i.e. the minimum level of support which a party needs to gain representation. Thresholds can be legally imposed (*formal* or *legal threshold*) or exist as a mathematical by-product of features of the electoral system, of which district magnitude is the most important (*effective* or *natural threshold*). In smaller districts, effective threshold is higher. (Reynolds, Reilly *et al.* 2005, p, 77, 83-84) Although natural threshold data for Argentina and Brazil were available, the same data were not available for the rest of the cases.

† In the Mexican Congress, 300 of the 500 seats are elected in single-seat constituencies by plurality and the remaining 200 members are elected by PR in 5 multi-state districts of 40-seat s each. (IFE 2006)

Table 44: Classification of electoral systems in Argentina, Brazil, Israel, Mexico, and Turkey

	Ballot structure	District magnitude	Threshold
Argentina	Closed	low	high
Brazil	Open	high	low
Israel	Closed	high	low
Mexico	Closed	low	low
Turkey	Closed	low	high

All other cases have a closed-list ballot structure. Among them Mexico, our only plural-majority case, was able to decrease its persistent inflation relatively early. However, we should not forget that Mexico was an authoritarian state at that time. The two PR systems, Israel and Argentina, were able to control inflation as well, with Israel faster than Argentina. Turkey, although it also has PR electoral formula with closed-list ballot structure, was the slowest country to put persistent inflation under control.

In Turkey, the PR system was modified in 1987 in order to give it a more plural-majoritarian character by creating higher disproportionality in the electoral system. The new electoral system was designed to eliminate minor parties and to avoid the instability associated with coalition governments in the late 1970s (Özbudun 2001). In all elections from 1987 on, a 10 percent national threshold and a higher local threshold, which depends on the nature of the electoral district, was imposed.[70] If a party fails to satisfy these thresholds, it can not have any

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[70] The local threshold in Turkey has been removed since the 1995 elections.

deputies in the Parliament regardless of its performance in a particular electoral district. This change should have facilitated less coalition governments and more political stability in Turkey, which is supposed to be more favorable to price stabilization. However, instead we see that inflation in Turkey gained more pace after 1987.

Argentina is another case that invalidates the argument that lower proportionality is more favorable for battling inflation. The degree of malapportionment (disproportionality) of the Argentine senate is the highest in the world and the malapportionment of the Argentine Congress is about 2.5 times higher than the world average and 50 percent higher than the Latin American average (Acemoglu, Johnson et al. 2002). In Argentina provinces have disproportionally much higher weight in legislature compared to the metropolitan areas. The fiscal redistribution is also determined by this disproportionality, so some provinces get much more from the budget than they should proportionally get (Gibson, Calvo et al. 2001). However, despite being an extreme case in disproportionality, Argentina decreased its persistent inflation in 1991, later than Israel and Mexico.

The effect of district size is inconclusive for our cases. Israel has the highest district size, as the whole country is counted as the only electoral district in the elections. Indeed, all 120 members of the Knesset are elected based on parties' share of the whole national vote. Therefore, Israel has a pure proportional system. Yet, there is a national threshold of 1.5 percent (Gutmann 1988; Beck, Keefer *et al.* 2004; Mahler 2004).[71] Israel is the country which decreased inflation fastest. Thus, the Israeli case does not support the argument that huge district size, and thus, high proportionality, tends to decrease political ability to pursue disinflationary policies successfully.

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[71] The 15 percent threshold was established in 1992. Before that the national threshold in Israel was only 10 percent.

Among our cases, Turkey has the smallest district size relative to total legislature followed by Argentina. Because of its small electoral districts, Turkey has a less proportional parliamentary system with legislators focused on local interests. The Turkish Parliament has 550 members, elected from party lists in 79 districts. With an average district size of 7 seats, the natural thresholds average 12.5 percent. Nevertheless, Turkey also has an official national threshold of 10 percent since 1983 (The Law Regarding Election of the Members of the Turkish Parliament "The Law Regarding Election of the Members of the Parliament" 1983; Beck, Keefer *et al.* 2004). Despite these traits, the Turkish system has been the least effective in decreasing inflation.

One may think that disproportionality and the separation of purpose[72] it causes explain why Turkey was unsuccessful in eliminating inflation. However, this is not quite true. Although district sizes are small, parties remain powerful in Turkey because of the closed-list ballot structure. Party discipline is strong and national interests still prevail over local ones, especially when compared to Brazil. Also, Turkey is a unitary state, as opposed to federal systems in Argentina, Brazil, or Mexico, which makes local politics in Turkey much less important.

Although looking into only two contrary cases, Israel and Turkey, suggests that higher district size is more favorable to disinflation, the other three cases do not support this argument. The district size of Brazil ranges between 8 and 70 seats per district, i.e. the country ranks second after Israel in terms of district size relative to legislature size, and it reduced its persistent inflation relatively slowly. On the other hand, Argentina has lower district size but was faster in decreasing inflation (Morgenstern 2002).

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[72] As can be recalled from Chapter 6, "separation of purpose" implies a divided government (in a presidential system), but also it indicates a fragmented, undisciplined, weak and particularistic party system where local interests are more important than national interests.

Mexico is our only plural-majoritarian case, although it is only partially plural-majoritarian. The Mexican Congress has 500 members, 300 elected by simple plurality in single-member districts, and 200 seats (40 seats in each of five regions) are assigned by proportional representation based on a party's share in the national vote.[73] Many countries with plural-majority electoral systems combine single-member district rule where voters select individual candidates. Thus, it is no surprise that Mexico also uses single-member districts, though partially. The natural regional threshold is about 2.5 percent. There is also a 2 percent formal (legal) national threshold in Mexico, so parties should get at least 2 percent of the national vote to be represented in the Congress (Morgenstern 2002). If it was a democratic state at that time, we could argue that the plural-majority character of Mexican political system have improved the state's ability to decrease inflation by providing political stability and decisiveness. Mexico, along with Israel, implemented a disinflationary program in 1980s and successfully decreased inflation earlier than Argentina, Brazil, and Turkey.

We can also measure proportionality by thresholds. Brazil has 513 members elected by party lists in 27 districts. The Brazilian electoral system did not include any national threshold, but there were still barriers to entry to the Congress because of the way votes are converted into seats. The parties that fell under the electoral quotient (i.e., the total number of votes cast divided by the number of seats) did not win any legislative seats. With an average district size of 23 (ranging from 8 to 60) until 1995, the natural thresholds were about 5 percent in average (Mainwaring and Shugart 1997; Ames 2000; Beck, Keefer *et al.* 2004; de Souza 2004).[74]

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[73] The proportional seats give opposition parties an opportunity to be represented in the Congress even if they lose all of the district races.

[74] With the 1995 political reform, party law was modified and it now requires parties to win 5 percent of the national vote with at least 2 percent in one-third of the states in order to win recognition in Congress and thus have leadership

The Argentine Congress has 257 members, half elected every two years, who are elected all by party lists in 24 districts. The average district size of Argentina is 10.7, but the natural threshold is about 16.7 percent. Because of this threshold, Argentina has the highest barrier of entry to the Lower House, encouraging fewer parties in the system (Morgenstern 2002).[75] Turkey follows Argentina with 12.5 percent natural threshold, but the official threshold is 10 percent (Beck, Keefer *et al.* 2004).

Compared to Israel and Brazil, Argentina and Turkey have less proportional systems. However, Mexico, with 300 of its 500 deputies elected by plural-majority system, is definitely most plural-majority of all. Although this may have helped Mexican policymakers in their early success with disinflation, we cannot associate success in inflation stabilization with plural-majority electoral formula because our most successful case, Israel is a pure proportional system. Therefore, it does not seem that proportionality is tied significantly with the ability to eliminate inflation.

The electoral systems of the five cases are summarized in Table 45 and Table 46. From the five countries, it is not possible to confirm a clear and significant relation between electoral systems and the ability to decrease inflation. For instance, Mexico and Israel are the countries which were able to decrease persistent inflation relatively early. However, as can be seen in Table 45, these two countries have totally opposite kinds of electoral systems; Israel is a purely proportional system, whereas Mexico is a majoritarian case, though partially. Also, Mexico was a one-party dominated system until 1997, which probably contributed more to its political stability than its electoral system.

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and committee assignment privileges (Shugart and Haggard 2001). This new threshold was enforced first time in October 2006 legislative elections.

[75] In fact, Argentina has the least fragmented party system among our cases which has been more or less a two-party system.

Table 45: Comparison of electoral systems vs. success in price stabilization

Electoral system	Successful	Moderately successful	Unsuccessful
Proportional representation Closed-list	Israel	Argentina	Turkey
Plural-majority Closed-list	Mexico (partially plural-majority)	-	-
Proportional representation Open-list	-	Brazil	-
Plural-majority Open-list	-	-	-

Table 46: Comparison of barriers to entry to legislature vs. success in price stabilization

Barriers to entry to Congress/Parliament	Successful	Moderately successful	Unsuccessful
High	-	Argentina	Turkey
Medium	Mexico	-	-
Low	Israel	Brazil	-

In Table 46, it can be seen that the state with the least barriers to entry to the Lower House (Israel) is the most successful one in terms of battling persistent inflation. Whereas Turkey, the state which imposes highest barriers, is the most unsuccessful case in terms of

battling inflation. This is contrary to what I expected. Yet, our two moderately successful cases, Argentina and Brazil, have very opposite traits in terms of barriers to entry to their Lower House. Therefore, it is difficult to conclude that electoral system is not a factor that directly affects the ability of a state to decrease inflation.

7.2   PARTY SYSTEMS

Does the party system have an effect on the ability to stabilize prices? Indeed, the government's ability to initiate reforms may depend on the characteristics of the party system. The first characteristics of a party system to look at are fractionalization and polarization. Countries with highly fragmented and highly polarized party systems are supposed to have more difficulty in stabilizing prices. Yet, our cases do not confirm this.

Political parties are associations of citizens that help define the political will of the people and that contest elections in order to govern the country. Parties attempt to influence the government by holding its seats or by forming an opposition to it. They are the most important political institutions as they establish contact between the government on the one hand and the social groups and forces on the other. They channel the interests and demands of people to the state (Powell 1982). Different parties have different economic, political, and social programs as they appeal to different interests. Their programs reflect their constituents' interests and they compete to attract more voters.

As parties compete with each other, the system of interactions resulting from this political competition shapes the political party system. A strong party system is crucial for a strong democracy, because it not only shapes participation in the political system but also affects

199

stability of the political system (Powell 1982). Fractionalization, alignments, stability, discipline, and polarization are some of the many attributes of party systems. Here I mainly focus on fragmentation and polarization of the party systems and their relation to price stabilization.

7.2.1 Fragmentation in the Party System

One very important dimension of the political party system is the *number of parties*. The number of parties in the political system affects the political competition and the performance of the government. That is why fragmentation may also affect the policies of governments, including inflation policies.

Scholars have argued that the higher the number of effective parties in the legislature, the lower the level of legislative support the government may enjoy and the more difficult it becomes to govern (Stein, Talvi et al. 1998). As Grilli, Masciandaro and Tabellini (1991b, p. 342) claim, "governments with short horizons act myopically and never quite tackle the hard choices. Such governments typically exist in countries with an electoral system favoring many small political parties." Remmer (1991) has argued that the level of multipartism in a country has an important impact on the level of political stability, which in turn may affect economic stability. The number of parties also has an important impact on government effectiveness (Powell 1982; Lijphart 1984). An increase in the number of parties may have a negative effect on the ability to resolve economic problems like inflation.

Support for the government is probably the most important factor that determines governability. The degree of support for the government may be measured by the level of multipartism, party discipline, and the stability of party systems (Jones 1995). The fragmented party systems, i.e. systems with many parties, provide fewer possibilities for obtaining

200

governmental majority in the legislature (Foweraker 1998). Therefore, such systems may reduce governability. Polarization, i.e. the distance between parties on the opposite ideological ends, also rises with the increase in the number of parties. A combination of multipartism with polarization may produce even more serious governability problems (Mainwaring 1993; Mainwaring and Scully 1995).

Many scholars choose to use "effective number of parties" or "index of fractionalization," when they measure the impact of number of parties on the political system.[76] First used by Laakso and Taagepera (1979), the effective number of parties is an important feature of party systems and it is defined as the number of political parties that are significant players in the legislature. It takes not only the number of parties but also their relative weights into account (Lijphart 1994). Thus, it is a measure of competition in the party system. Indeed, more than the crude number of parties in the party system, it is the weight of these parties that influences the effectiveness of policymaking.

The effective number of parties also determines fractionalization. In fact, these two variables measure exactly the same thing, the number of parties and their weight in the political system, but fractionalization is formulated in a different way. Fractionalization is defined as the probability that, when you pick two legislators randomly, each belongs to different parties that support the government, constitute the opposition parties, or form the Parliament. Value of

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[76] The **effective number of parties** is calculated, for all parties eligible to receive votes, by the formula $1\!\!\left/\sum v_i^2\right.$, where v_i represents party i's proportion of the vote. It is calculated for parties, which have seats in the legislature, by the formula $1\!\!\left/\sum s_i^2\right.$, where s_i represents party i's proportion of the seats in the legislature. The **fractionalization index** is calculated as $(1 - \sum s_i^2)$ or $(1 - \sum v_i^2)$.

fractionalization index ranges between 0 and 1, and usually for values greater than 0.5, we see number of parties greater than two and increasing as long as the value approaches one.

I expect that a higher fractionalization in the party system or legislature has a negative effect on the ability of governments to reduce inflation, because fractionalization decreases the chances of having a majority government and consensus. The necessity to satisfy many parties and groups may increase budget deficits and increase government expenditures. This would lead to more money creation and impact the government's ability to stabilize prices negatively.

Some theories establish a relationship between fractionalization and inflation. The *public choice school* sees the inflation problem as a consequence of fractionalized political structures. It considers stable prices as a public good that is hard to achieve as long as different interest groups do not coordinate their activities by limiting their demands on government to contribute to monetary stability (Olson 1982). Some scholars have found empirical evidence that political fractionalization is associated with higher inflation (Roubini and Sachs 1989a; Grilli, Masciandaro *et al.* 1991b).

Foweraker (1998) argues that the primary condition for good governability is for the presidential party to have at least 45 percent of seats in the Congress. This percentage mainly depends on the number of effective parties in the political system, and the number of effective parties is determined largely by electoral rules and political polarization. Yet, Foweraker also argues that the disadvantages caused by multipartism and polarization can be offset by conditions that favor coalition building. Through coalitions, majorities may be formed in the legislature and governability improves.

Fragmented political systems, however, are typically not able to produce majority governments. The more parties that a political system has, the more veto players are there. Thus,

it becomes necessary to form inter-party coalitions in order to enact laws and implement policies. Forming multi-party coalitions is not as easy since each party has different constituents and different interests. It always requires some negotiation between the involved parties, causing delays, gridlocks, and even political instabilities (Cox and McCubbins 2001).

Another problem that fragmentation causes is lack of unity of purpose. Even when other conditions facilitate unity of purpose, a fractionalized and undisciplined party system can cause a high separation of purpose, since it makes it more difficult for the Presidents to secure the majority support in the legislature (Shugart and Haggard 2001). On the other hand, highly strong and dominant parties can secure a very united government, despite many other factors that work to the contrary. Among our cases, Mexico (until 1997) is the best example of a unified government because of a single cohesive party. Yet, fractionalization in presidential systems can also be overcome when a party controls both the executive and the majority in the legislative, i.e. when the government is not divided.

According to Duverger's Law, plural-majority electoral systems favor two-party systems and PR systems promote multi-party systems (Duverger 1954). A plurality electoral formula promotes fewer parties, mostly a two-party system, because in plural elections voters think that only two parties have a chance of winning and view votes for other parties as wasted. Thus, voters usually choose between two parties. On the contrary, a PR electoral formula encourages entry of new parties to the political system (Duverger 1954; Riker 1982; Myerson 1995). This argument was also supported by a number of empirical studies (Laakso and Taagepera 1979; Powell 1982; Taagepera and Shugart 1989; Lijphart 1990, 1994; Amorin Neto and Cox 1997; Cox 1997; Stein, Talvi *et al.* 1998).

I have already mentioned the weakness of PR systems in terms of controlling budget deficits. The source of this weakness is mainly the fractionalization they cause. Proportionality of the electoral system increases fractionalization of the party system. In parliamentary systems, where PR is practiced, there is multipartism. PR systems also produce less support for the government in the legislature. Sometimes even very small parties are represented in the Parliament and they may be able to block legislation effectively. As a result, we can expect a parliamentary system with a PR electoral formula to have more difficulty in initiating policy changes and reforms needed to decrease inflation than a presidential and plural-majority system which typically has a smaller number of parties.

The fractionalized party systems generated by PR systems are susceptible to produce coalition governments, which tend to be unstable as they are composed of competing parties (Grilli, Masciandaro *et al.* 1991b; Inman and Fitts 1997; Stein, Talvi *et al.* 1998; Lijphart 1999). Yet, this does not need to be very problematical in parliamentary systems, as parliamentary systems encourage coalition building and cooperation. As long as there are disciplined parties that support the government, parliamentary systems function effectively. However, coalition building, and thus effective policymaking, can become more difficult if number of parties in the Parliament is excessively high (Sartori 1994a).

Other things being equal, presidential systems are expected to have fewer effective parties (lower fractionalization) in the legislature. Since only large parties have a realistic chance of winning the presidency, the party system gets less fractionalized. This is favorable for producing effective majorities, which are more successful in initiating and implementing economic reforms. On the other hand, presidential systems are expected to weaken party discipline, because the president is elected separately and does not depend on the legislative

support (Stein, Talvi et al. 1998). Weak party discipline is not good for effective policymaking, as the government cannot even depend on the support of its own party members.

Moreover, it is more problematic when the number of parties is high in presidential systems, because in general these systems do not give incentives for legislators to cooperate or to form coalitions. Coalition governments in presidential systems are rare and unstable. Unless the president has extensive powers, a multi-party presidential system may lead to serious political gridlock (Stepan and Skach 1993). This may hinder economic programs that are needed to battle inflation.

Even executives strongly committed to economic reform may not be able to realize these reforms if they lack support in the legislature. Thus, in many countries with weak, fractionalized, and pork barrel party politics, presidents are provided with more law making powers so that national issues are dealt effectively. Brazil offers the best example. In countries with disciplined parties, legislators do not delegate as much constitutional powers to the executive, because it is easier for them to enact government programs (Shugart 1997). As opposed to Brazil, Argentina and Mexico are examples of presidential systems with relatively disciplined party systems.

District size also affects fractionalization of the party system. Proportional systems with small district size tend to generate fewer parties, and thus, they facilitate stronger governments which may be effective in decreasing inflation. Lijphart (1990) and Jones (1993) argue that there is a positive relationship between district magnitude and number of parties in the political system. At least in Latin America, large district size electoral systems, high number of effective parties in the legislature, and low legislative support for the government promote higher government spending and higher budget deficits (Jones 1994; Stein, Talvi et al. 1998).

Therefore, according to literature, larger districts make it harder for governments to tackle the inflation problem.

As can be seen from Table 47, Table 48, and Table 49, among our cases Israel has the most and Mexico has the least fractionalized legislature on average. These were the two countries which were able to solve their inflation problem earlier than the others. According to our hypothesis, it was expected that a country with low fractionalization would be successful in stabilizing its prices. Yet, the Israeli case contradicts that assertion. Our most unsuccessful case, Turkey, has a fractionalized parliament (changing within the range of 0.51 to 0.77) and 3.1 effective parties on average between 1975 and 1999. However, its level of fractionalization has not been worse than Israel or Brazil, which were able to eliminate inflation earlier. Therefore, our cases do not provide evidence of a relation between fractionalization and ability to eliminate persistent inflation.

Table 47: Government fractionalization (0=lowest, 1=highest)

	1975	1976	1977	1978	1979	1980	1981	1982	1983
Argentina	NA	NA	NA	NA	NA	NA	NA	NA	NA
Brazil	0	0	0	0	0	0	0	0	0
Israel	0.28	0.28	0	0.62	0.62	0.62	0.62	0.28	0.28
Mexico	NA	NA	0	0	0	0	0	0	0
Turkey	0.33	0.46	0.46	0.32	0.05	0	NA	0	0
	1984	1985	1986	1987	1988	1989	1990	1991	1992
Argentina	0	0	0	0	0	0	0	**0**	0
Brazil	0.11	0.11	0.39	0.43	0.43	0.43	0.43	0.71	0.71
Israel	0.28	**0.60**	0.60	0.60	0.60	0.60	0.60	0.60	0.60
Mexico	0	0	0	**0**	0	0	0	0	0
Turkey	0	0	0	0	0	0	0	0	0.44

Table 47   *(Continued from previous page)*

	1993	1994	1995	1996	1997	1998	1999	2000	average
Argentina	0	0	0	0	0	0.50	0.50	0	**0.06**
Brazil	0.71	**0.71**	0.66	0.66	0.66	0.66	0.78	0.78	**0.36**
Israel	0.46	0.46	0.46	0.45	0.72	0.72	0.72	0.80	**0.52**
Mexico	0	0	0	0	0	0	0	0	**0**
Turkey	0.44	0.44	0.44	0.47	0.47	0.47	0.47	NA	**0.22**

Source: *Database of Political Institutions IV* (Beck, Keefer *et al.* 2004) [NA = Not available]
* Highlights indicate the year the successful disinflationary program is initiated.

Table 48: Legislative fractionalization (0=lowest, 1=highest)

	1975	1976	1977	1978	1979	1980	1981	1982	1983
Argentina	NA	NA	NA	NA	NA	NA	NA	NA	NA
Brazil	0.48	0.48	0.49	0.49	0.50	0.50	0.50	0.50	0.58
Israel	0.71	0.71	0.66	0.78	0.78	0.78	0.78	0.66	0.66
Mexico	NA	NA	0.30	0.30	0.30	0.44	0.44	0.44	0.42
Turkey	0.70	0.70	0.70	0.59	0.60	0.61	NA	NA	NA

	1984	1985	1986	1987	1988	1989	1990	1991	1992
Argentina	0.55	0.55	0.59	0.60	0.62	0.62	0.64	**0.64**	0.67
Brazil	0.58	0.58	0.72	0.65	0.65	0.65	0.65	0.88	0.88
Israel	0.66	**0.78**	0.78	0.78	0.78	0.78	0.78	0.78	0.78
Mexico	0.42	0.42	0.33	**0.33**	0.33	0.61	0.61	0.61	0.61
Turkey	0.60	0.60	0.60	0.57	0.51	0.51	0.51	0.51	0.72

	1993	1994	1995	1996	1997	1998	1999	2000	average
Argentina	0.66	0.57	0.57	-	-	0.67	0.67	0.54	**0.61**
Brazil	0.88	**0.88**	0.87	0.87	0.87	0.87	0.86	0.86	**0.68**
Israel	0.80	0.80	0.80	0.80	0.83	0.83	0.83	0.89	**0.77**
Mexico	0.61	0.61	0.56	0.56	0.56	0.65	0.65	0.65	**0.49**
Turkey	0.72	0.72	0.72	0.77	0.77	0.77	0.77	NA	**0.65**

Source: *Database of Political Institutions* IV (Beck, Keefer *et al.* 2004) [NA = Not available]
* Highlights indicate the year the successful disinflationary program is initiated.

Table 49: Effective number of parties

	1975	1976	1977	1978	1979	1980	1981	1982	1983
Argentina	NA	NA	NA	NA	NA	NA	NA	NA	NA
Brazil	1.9	1.9	2.0	2.0	2.0	2.0	2.0	2.0	2.4
Israel	3. 5	3.5	3.0	4.6	4.6	4.6	4.6	3.0	3.0
Mexico	NA	NA	1.4	1.4	1.4	1.8	1.8	1.8	1.7
Turkey	3.3	3.3	3.3	2.5	2.5	2.6	NA	NA	NA
	1984	**1985**	**1986**	**1987**	**1988**	**1989**	**1990**	**1991**	**1992**
Argentina	2.2	2.2	2.5	2.5	2.6	2.6	2.8	**2.8**	3.0
Brazil	2.4	2.4	3.6	2.9	2.9	2.9	2.9	8.5	8.5
Israel	3.0	**4.5**	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Mexico	1.7	1.7	1.5	**1.5**	1.5	2.6	2.6	2.6	2.6
Turkey	2.5	2.5	2.5	2.3	2.1	2.1	2.1	2.1	3.6
	1993	**1994**	**1995**	**1996**	**1997**	**1998**	**1999**	**2000**	**average**
Argentina	3.0	2.4	2.4	NA	NA	3.0	3.0	2.2	**2.6**
Brazil	8.5	**8.5**	7.5	7.5	7.5	7.5	7.0	7.0	**4.5**
Israel	5.0	5.0	5.0	5.0	5.9	5.9	5.9	9.3	**4.6**
Mexico	2.6	2.9	2.3	2.3	2.3	2.9	2.9	2.9	**2.1**
Turkey	3.6	3.6	3.6	4.4	4.4	4.4	4.4	NA	**3.1**

Source: The Database of Political Institutions IV [NA = Not available]
* Highlights indicate the year the successful disinflationary program is initiated.

Mainly because of the pure PR election formula, the party system in Israel is fractionalized and unstable. There are many small radical parties in the legislature, and new ones emerge with each round of elections. Those small party factions have a key role in building or breaking government coalitions (Mahler 2004). However, until 1996, there was also a bi-polar structure of two stable and enduring coalitions: the conservative Likud bloc and the more moderate Labor Party bloc (Polity IV Country "Polity IV Country Report 2001" 2001; Polity IV

Country Report 2001). Therefore, we can assume that strong coalition building tendency in the Israeli political system has worked for its advantage.

When we look into changes in the rate of fractionalization, we see that when Israel initiated and implemented the successful disinflationary plan, the Parliament was as fractionalized (0.78) as it has been on average between 1975 and 2000 (0.77). In fact, the Knesset was more fractionalized than during the previous three years when this plan was initiated in 1985. Therefore, the rate of fractionalization does not explain the Israeli success in disinflation. Rather, the Israeli case implies that there may be other factors, like coalition building, that can offset the negative effects of fractionalization in battling inflation.

Mexico is a presidential system which confirms the hypothesis that low fractionalization improves stabilization of prices. It is one of the countries that stabilized its persistent inflation rather earlier, if not earlier than Israel. Mexico provides some evidence that change in fractionalization affected the success in price stabilization. The Mexican Congress was less fractionalized in 1987 (0.33 compared to 0.44 in 1980-82 and 0.42 in 1983-85), when the government initiated the disinflationary *Solidarity Plan* (see Table 48).

Turkey is a parliamentary system with PR electoral formula and disciplined parties. As mentioned, a parliamentary system with PR formula may increase the number of parties in a political system and that is not good for effective policymaking. However, as can be seen Table 47, Table 48, and Table 49, political fractionalization in Turkey has been less than Israel and Brazil. Also, unlike Brazil, Turkey has disciplined parties, which may further decrease the negative effect of political fractionalization on policymaking. Yet, Turkey has been the least successful case in terms of disinflation.

Brazil is probably the most peculiar case when it comes to party systems. As can be seen in Table 48, Brazil had a significant and almost continuous increase in legislative fractionalization from 1975 to 1994 (from 0.48 to 0.88) when the disinflationary program was initiated. As can be seen in Table 49, the effective number of legislative parties increased from 1.9 in 1975 to 8.5 in 1994. Parties are personalized in Brazil, and party organization and party discipline are also weak. Moreover, party switching is very common, so the presidents cannot even rely on their own parties (Mainwaring 1995). Indeed, Mainwaring (1995) suggests that Brazil is "a unique case of party underdevelopment in the world," because Brazilian parties are known for "their fragility, their ephemeral character, their weak roots in society, and the autonomy politicians of the catch-all parties enjoy with respect to their parties" (p.354). He also suggests that, because of this very loose and undisciplined character of parties, Brazilian presidents could not even count on the support of their own parties in the legislature. Indeed, many scholars maintain that

> …. the roots of party weakness lie in Brazil's political institutions: its open-list proportional representation electoral system (which encourages individualism), large district magnitudes and a low electoral threshold (which encourage fragmentation), and the fact that nominations are set at the state and not the national level. (Desposato and Samuels 2003, p.2)

Because of its fragmented and undisciplined party system, I expect Brazil to be unsuccessful in stabilizing prices. In fact, Brazil was late in stabilization. Although the Brazilian case seems to confirm the hypothesis, this conclusion is not validated if we look into changes in fractionalization. When the Brazilian government initiated the disinflationary plan in 1993, the fractionalization was 0.88 and number of effective parties was 8.5, at their peak. Therefore, Brazil implemented its stabilization program when its party system was most fragmented, which is contrary to what theory would predict. Yet, we know that in Brazil presidents are provided

with more law making powers in order to offset the effects of weak, fragmented, and undisciplined party system.

Some scholars argue that concurrent elections lower the number of parties compared to when legislative and presidential elections are held at different times (Shugart and Carey 1992; Jones 1994). One of the reasons of Brazil's weak party system, and thus bad performance in eliminating inflation, was probably its non-concurrent elections.[77]

As can be seen from Table 48, Argentina's legislature has not been as fractionalized as the Israeli, Brazilian, or Turkish legislature and its fractionalization level has not changed as significantly as in Brazil. Although Argentina can still be considered mainly as a two-party system, fractionalization increased through 1980s and 1990s. Argentina initiated its disinflationary plan in 1991, when its fractionalization level was the highest (0.64) since its return to democracy in 1983 (see Table 48). Therefore, like Brazil, changes in fractionalization in Argentina contradict the expectation that higher fractionalization would make stabilization of the prices more difficult.

Another dimension of fractionalization is fractionalization of opposition in the legislature. This variable measures the probability that two deputies picked at random from among the opposition parties will be of different parties. The fractionalization of the opposition in the legislature is expected to have positive effect on the ability of government to initiate and implement successful disinflationary plans, because if the opposition is more divided it has less power to hinder the policies of the government.

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[77] However, in 1994 Brazil amended its constitution to have concurrent presidential and legislative elections. Thus, when Fernando Henrique Cardoso was elected for his first term in 1995, he faced a much less controversial Congress, i.e. weaker opposition than before, and was therefore able to initiate his policies much more easily (Beck, Keefer *et al.* 2004).

As can be seen from Table 50, on average Argentina has the least and Brazil has the highest fractionalization of opposition. If we look at the changes in fractionalization of opposition, when Argentina initiated its successful disinflationary plan in 1991, fractionalization of opposition was at its highest level (0.45) since democratization in 1983. This is also true for Brazil and Israel. These countries had their highest level of fractionalization of opposition when they initiated their successful disinflationary plans (0.88 in 1994 and 0.91 in 1985 respectively).

Table 50: Opposition fractionalization (0=lowest, 1=highest)

	1975	1976	1977	1978	1979	1980	1981	1982	1983
Argentina	NA	NA	NA	NA	NA	NA	NA	NA	NA
Brazil	NA	NA	NA	NA	NA	NA	NA	NA	0.32
Israel	0.55	0.55	0.55	0.51	0.51	0.51	0.51	0.36	0.36
Mexico	NA	NA	0.64	0.64	0.64	0.76	0.76	0.76	0.65
Turkey	0.48	0.36	0.36	0.04	0.32	0.36	NA	NA	NA
	1984	**1985**	**1986**	**1987**	**1988**	**1989**	**1990**	**1991**	**1992**
Argentina	0.20	0.20	0.38	0.38	0.40	0.40	0.45	**0.45**	0.60
Brazil	0.23	0.23	0.53	0.82	0.82	0.82	0.82	0.88	0.88
Israel	0.36	**0.91**	0.91	0.91	0.91	0.49	0.49	0.49	0.49
Mexico	0.65	0.65	0.59	**0.59**	0.59	0.49	0.49	0.49	0.49
Turkey	0.47	0.47	0.47	0.71	0.47	0.47	0.47	0.47	0.50
	1993	**1994**	**1995**	**1996**	**1997**	**1998**	**1999**	**2000**	**average**
Argentina	0.58	0.37	0.37	NA	NA	NA	NA	0.19	**0.38**
Brazil	0.88	**0.88**	0.78	0.78	0.78	0.78	0.71	0.71	**0.70**
Israel	0.72	0.72	0.72	0.73	0.57	0.57	0.57	0.79	**0.61**
Mexico	0.49	0.49	0.52	0.52	0.52	0.55	0.55	0.55	**0.59**
Turkey	0.50	0.50	0.50	0.61	0.61	0.61	0.61	0.49	**0.47**

Source: Database of Political Institutions IV (Beck, Keefer *et al.* 2004)
* Highlights indicate the year the successful disinflationary program is initiated.

One exception to the tendency of governments to introduce successful disinflationary plans when the opposition is more fragmented is Mexico. Mexico initiated its Economic Solidarity Pact (*Pacto de Solidaridad Económica*) in 1985, when the opposition was less fractionalized (0.59). Also, Turkey, which experienced an increase in opposition fractionalization in 1987 and between 1996 and 1999, never had a chance to have a successful disinflationary plan. Besides, on average Turkey does not have high opposition fractionalization, but it was still the most unsuccessful case in price stabilization. Therefore, it is hard to associate opposition fractionalization with policies on price stabilization.

7.2.2 Polarization in the Party System

Polarization, defined as the ideological distance between parties, is another important aspect of political party systems. According to scholars that have studied political institutions, political polarization is a very important factor that shapes policymakers' incentives for making economic policies (Persson and Svensson 1989; Alesina and Tabellini 1990; Tabellini and Alesina 1990; Pahuja 2000). The more polarized is the party system, the more unstable is the polity and the more myopic is policymaking, because the policy issues get more politicized. These conditions may compel the governments to spend more, then to create more money, and thus, increase inflation.

The higher the party polarization, the greater is the politicization of policies. As parties ideologically diverge more from the center, they tend to advocate more populist policies. Populist governments are more interested in government spending and redistribution than economic austerity policies that are necessary to decrease inflation (Dornbusch and Edwards

1991). Therefore, as the polarization in the party system is high, it may be more difficult to tackle economic problems, such as inflation.

Fractionalization and polarization in the party system are interrelated. High numbers of effective parties in a political system usually brings about more polarization, i.e. it increases the ideological distance between the parties (Stein, Talvi et al. 1998). The dominant perspectives in political economy regard not only fractionalization but also polarization of the party system as a political impediment to economic adjustment (Haggard and Kaufman 1995; Mainwaring 1999).

In order to measure polarization in the political system, the polarization variable in the *Database of Political Institutions (DPI)* is used. The DPI defines polarization variable as "maximum polarization between the executive party and the four principle parties of the legislature." It is the maximum difference between the political orientation (left, center or right) of the chief executive's party and the political orientation of the three largest government parties and the largest opposition party (DPI 2000).[78]

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[78] In the *Database of Political Institutions (DPI)*, polarization is zero if elections are not competitive. It is also zero if the chief executive's party has an absolute majority in the legislature. Otherwise polarization is the maximum difference between the chief executive's party's value (right, left, or center), as stated in the EXECRLC variable of the DPI, and the values of the three largest government parties and the largest opposition party (Wade 2005).

As can be seen from Table 51, Israel initiated and implemented its successful disinflationary program in 1985, when it was as politically polarized as usual (polarization value 2). On the contrary, Mexico had no polarization when it initiated its disinflationary Solidarity Plan in 1987, because elections were not really competitive and PRI was dominating the executive and the whole legislature. Therefore, these two successful cases provide contradictory evidence.

Table 51: Political polarization*

	1975	1976	1977	1978	1979	1980	1981	1982	1983
Argentina			0	0	0	0	0	0	0
Brazil	1	1	0	0	0	0	0	0	1
Israel	2	2	2	2	2	2	2	2	2
Mexico			0	0	0	0	0	0	0
Turkey	2	1	1	1	2	1	0	0	0
	1984	**1985**	**1986**	**1987**	**1988**	**1989**	**1990**	**1991**	**1992**
Argentina	0	0	0	1	1	1	1	1	1
Brazil	2	2	1	0	0	0	0	2	2
Israel	2	2	2	2	2	2	2	2	2
Mexico	0	0	0	0	0	0	0	0	0
Turkey	0	0	0	0	0	0	0	0	2
	1993	**1994**	**1995**	**1996**	**1997**	**1998**	**1999**	**2000**	**average**
Argentina	1	0	0	0	0	1	1	1	**0.42**
Brazil	2	2	2	2	2	2	2	2	**1.08**
Israel	2	2	2	2	2	2	2	2	**2.00**
Mexico	0	0	0	0	0	0	0	0	**0.00**
Turkey	2	2	2	2	2	2	2	2	**1.00**

Source: Database of Political Institutions IV (Beck, Keefer *et al.* 2004)
* Highlights indicate the year the successful disinflationary program is initiated.

Argentina was fairly polarized (polarization value 1) and Brazil was more polarized (polarization value 2) when the government initiated the successful disinflationary economic programs, in 1991 and 1994 respectively. Also, neither Argentina nor Brazil was able to eliminate inflation, when they had less polarization. Turkey was equally unsuccessful in decreasing inflation when there was no polarization (between 1984 and 1991) as when there was high polarization (between 1992 and 2000). Therefore, despite the general belief in the literature that polarization decreases the ability to stabilize prices, I do not find evidence through our cases that polarization decreases the ability of governments to battle persistent inflation.

7.3   CONCLUSION

The results of the case analysis of electoral system do not confirm any relation between the electoral system and the ability to stabilize prices during the period of 1975-2000. Although I expected the countries with plural-majority, closed-list electoral formula and small district size to be most successful in disinflation and the countries with PR, open-list electoral formula with large district size to be least successful, some of our cases clearly contradict the theory. Israel is our most successful case, but it has a PR electoral formula with a exceptionally large district size.

The results of the analysis of fractionalization in the political system also provide us mixed evidence. The hypothesis that low fractionalization increases the ability to decrease inflation is confirmed only by the Mexican case. Argentina, Israel and Brazil contradict this hypothesis. Similarly, it is hard to reach any generalization about the relation between price stabilization and polarization. Although polarization was also expected to decrease the ability to reduce inflation, only Mexico confirms that argument. However, polarization was probably not a

216

very important concern in Mexico anyway, as it had an authoritarian regime when it eliminated persistent inflation

After getting mixed evidence from many political variables, in the next chapter I discuss the effect of inequality and poverty on the ability to stabilize prices. It is possible that inequality and poverty have a strong relation with successful price stabilization as they influence the policy choices of decision makers.

8.0   SOCIAL FACTORS AND INFLATION: DO INEQUALITY AND POVERTY DELAY PRICE STABILIZATION?

A political economy perspective of inflation requires that I try to explain inflation not only through institutions, but also structures. By studying institutions, we learn how political rules, law, establishments, and procedures affect the economic decision-making process in a country. By studying structures, we learn about the patterns of relationships in the society and how the society is organized. Structures are more deep-rooted than institutions, so in many cases, even if you change social and political institutions, structures stay same. If you ignore structures, it is more difficult to understand why some countries with similar institutions do not perform in the same way. Therefore, in this chapter I analyze how some social structures affect inflation.

Inequality and poverty are the only social factors to be considered in this study. By looking at different patterns of income distribution and levels of poverty, I try to understand whether some social structures influence the ability to stabilize prices. The findings of this chapter suggest that we cannot directly link poverty or inequality to the ability to decrease inflation, because the relationship between inequality/poverty and the ability to control inflation is neither a clear nor a direct one. However, it deserves attention as studying these relationships may reveal the indirect ways that inequality and poverty influence inflation, especially as mediated by political institutions.

8.1   LITERATURE REVIEW ON THE RELATION BETWEEN

INEQUALITY-POVERTY AND INFLATION

Many political economists and sociologists have investigated the relationship between social structures and inflation. Among all social structures one, the distribution of income, has a key role to play because inequality determines many other structures in the society and polity. In some cases, poverty is an outcome of income inequality. The economic and political power of different social groups depends on their share of income in a society. Inequality may also affect the level of conflict in a society as huge income gaps may create social tensions. Both of these factors impact how governments make their economic policies, and hence how they deal with inflation. Thus, the relationship between inflation and inequality has important policy implications.

Income inequality implies that the distribution of income is not balanced. Gini coefficient is the typical measurement of inequality and its value changes between 0 (perfect equality, where hypothetically everybody gets same income) and 1.0 (perfect inequality, where one person gets all income in a society). Historically equal societies (e.g., Sweden, Finland, Japan, and Hungary) have Gini coefficient around 0.25, while unequal societies (e.g. Brazil, Mexico, Guatemala, and Sierra Leon) have Gini coefficients around 0.6 (Wade 2005).

Consensus over policies is more difficult to achieve in societies with unbalanced income distributions (Baer 1991). As groups are dissatisfied with their income level, they seek to improve their relative position and are more likely to clash with other claimants. This lack of consensus is thought to be one of the main causes of inflation (Crouch 1978; Hirsch 1978). Governments try to prevent such social and political conflict, so they are pressured to pay off social groups. Therefore, the more divided a country is in terms of income distribution, the

higher budget deficits governments may have, and thus, the higher tendency to pursue inflationary economic policies (Burdekin and Burkett 1996). As David Piachaud (1978) argues, if this is the case, a condition for stabilizing prices is to reach a society-wide consensus on a fair distribution of income.

Many studies explore how inflation affects inequality, but there are also studies on how inequality affects inflation. The structuralist perspective was the first to recognize inequality as one of the causes of inflation. Structuralists argue that distributional conflicts are accentuated in unequal societies (Hirschman 1981). Such conflicts increase the chances of inflationary spirals. Thus, the emergence of inflation in unequal societies, like in Latin America, was no surprise to structuralists. As Hirschman (1985, p.72) has stated,

> [i]nflation then is a remarkable invention that permits a society to exist in a situation that is intermediate between the extremes of social harmony and civil war. ... Depending on the circumstances, it can either act as a substitute for civil war or as preface to much more serious social and political turmoil. … at times, the deflecting of intergroup hostility into the making of inflationary demands has helped gain time for reducing tensions that, in the absence of the inflationary outlet, would have become right away much more explosive.

It has been widely accepted that income distribution gets more unequal in the early stages of economic growth (Kuznets 1955, 1966). Very agrarian societies do not have much inequality, but once they begin to industrialize, inequality begins to rise. When the societies reach a critical development level (when 50 percent of the work force switches from agricultural sector to the higher paying sector industrial sectors), inequality ceases to rise and begins to fall. This view implies that it is almost impossible for developing countries to both grow and improve income distribution. Yet, Hirschman (1981) has further argued that tolerance to inequality falls as disparities among social groups fail to narrow, and that can bring a social and political disaster. And that is why income inequality has become an important subject for political investigators.

Other contemporary scholars also suggest that there is a positive relation between income inequality and inflation (Willett 1988; Alesina and Tabellini 1990; Edwards and Tabellini 1992; Beetsma and Van Der Ploeg 1996; Bulif 1998; Romer and Romer 1998; Al-Marhubi 2000; 2000; Easterly and Fischer 2001; Albanesi 2002; Bhattacharya, Bunzel et al. 2003; Crowe 2004). However, the relation between inflation and inequality may not be a direct one (Altimir 1997; Dolmas, Huffman et al. 2000). Rather, through political mechanisms, inequality impacts redistribution policies which may cause budget deficits, and thus higher inflation. This link between inflation and income inequality has become a popular topic of the "new political economy" approach, most notably by scholars like Willet (1988), Alesina and Tabellini (1990), and Edwards (1994).

Some have associated inflation with the political strategy of populism, as unequal societies are considered to be very fertile ground for populism. Populists mainly seek to please low income groups by pursuing expansionary macroeconomic policies that trigger inflation. Through their empirical studies Beetsma and Van Der Ploeg (1996) and Dolma, Huffman, and Wynne (2000) discover a positive relation between inequality and inflation due to an increased tendency toward populist policies in unequal societies. Sachs (1989) and Dornbusch and Edwards (1991) have focused on Latin American populism and the rise of inflation in 1970s and 1980s. They suggest that hyper inflation in Latin America was mainly caused by populists who took advantage of the lack of consensus on distribution of income.

Another perspective comes from "wars of attrition" models which argue that price stabilizations are delayed because of conflicts between different socio-political groups. The focus of the conflicts is who will assume the burden of fiscal austerity (Alesina and Drazen 1991; Kaminski and Pereira 1996). It may be too difficult for all groups to agree on a stabilization

program and to decide how to share the burden, so stabilization is delayed. This difficulty is largely the result of unequal distribution of income. In that case, unless one social group is willing to carry the burden, inflation is likely to continue (Drazen and Grilli 1993).

Some scholars have maintained that income inequality may affect inflation indirectly through political instability (Edwards and Tabellini 1991; Londgregan and Poole 1991; Cukierman, Edwards et al. 1992; Edwards 1994; Alesina, Ozler et al. 1996; Alesina and Perotti 1996). Income inequality may cause political instability, and then, political instability may increase inflation. The more unstable and polarized is the political system, the more reluctant is the government to raise revenues from traditional taxes. Instead they may prefer using an inflation tax. Governments of the unstable and polarized societies prefer to use inflation tax to pay for their spending rapidly.

Also, inequality may affect inflation indirectly by creating a short-term perspective in economic policymaking. This may be because high income inequality causes social and political polarization, which makes it less possible to reach consensus on economic reform. That situation increases political and economic uncertainty and induces a short term perspective in policymaking (Haggard and Webb 1993). The policies that fight inflation hurt the majority of the population in the short-term. An environment that promotes long-term solutions appears better to eliminate inflation.

Another argument is that the relation between inequality and inflation may be due to pro-rich bias in economic policymaking in unequal societies (Crowe 2004). High inequality intensifies the elite bias in polity. In such societies, the government tends to use more inflation tax than income tax as a source of revenue, causing higher inflation.

Some other scholars have argued that the level of democracy may be another intervening factor between income inequality and inflation. Accordingly, inequality increases inflation only in democratic environments. As Desai, Olofsgard and Yousef (2002, p.11) have stated,

> … the redistributive effect of the inflation tax increases with income inequality: in economies with high income inequality, the poor are likely to demand that governments levy inflation taxes to redistribute from rich to poor… On the other hand, the rich may demand more inflation than will the poor if the depreciation of the real value of their outstanding liabilities is larger than their inflation-vulnerable money balances… [W]hat matters is a combination of the degree to which rich and poor are politically represented, and the prevailing income inequality.

On the other hand, where income distribution is more equal, it is possible to have a negative relationship between inflation and democracy. Desai, Olofsgard and Yousef (2002) have suggested that in economies with Gini coefficients lower than 40, democracy has a restraining effect on inflation. Indeed, in more equal societies, inflation is more a result of parasitic elites and may be decreased by more political competition. However, not all scholars agree. According to Al-Marhubi (2000), inequality increases inflation both in democracies and non-democracies. He claims that once inflation emerges as an economic problem, it locks social groups in a prisoner's dilemma in which none of them cooperate to eliminate inflation.

According to the findings of Bhattacharya, Bunzel, and Haslag (2003), inflation and inequality have a U-shaped relation, inflation increasing with inequality up to a certain level and then falling for higher levels of inequality. Bulif and Gulde (1995) had found a positive relation between income inequality and inflation. However, later Bulif (1998) concluded that hyperinflations are more associated with high inequality in income. At lower inflation levels, he finds that this relation is not a clear one.

Despite the richness of literature on the relation between inequality and inflation, we do not find many studies that have investigated the relation between poverty and inflation. A rare

example is a study by Easterly and Fisher (2001), which suggests that not only unequal income distribution but also poverty is positively related to inflation. However, from historical incidents of inflation we know that high inflation has not occurred in the poorest societies or in most advanced countries, but in middle-income countries. Therefore, inflation is considered as a middle-income developing country phenomenon.

8.2   INCOME INEQUALITY

Many scholars agree that income inequality affects inflation and this effect is a positive one. As income inequality gets higher, the possibility of inflation also increases. In order to find out whether this thesis is valid, we need to check the income inequality levels of Argentina, Brazil, Israel, Mexico, and Turkey and evaluate how the level of inequality has impacted the government's ability to decrease inflation.

It is almost impossible to get time series data on income inequality. However, this may not be problematic since inequality does not change much from one year to another. Rather, the trends are more visible in the long-term. Therefore, as I investigate the relation between inflation and inequality, the average level of inequality seems to be sufficient to make an analysis.

If we look to data demonstrated in Table 52, it can be seen that the income inequality levels of our cases vary significantly, although all of them have experienced long-term inflation problems. As we see, Israel has the lowest level of income inequality and it is the most economically advanced country of all. Israel is followed by Argentina and Turkey. Brazil has the highest inequality rate.

Table 52: Gini coefficients of respective countries *

	1970s	1980s	1990s
Argentina	n.a.	48.0	46.0
Brazil	54.7	58.0	60.2
Israel	42.2	42.7	42.3
Mexico	54.0	49.5	52.8
Turkey	51.0	44.2	49.0

Source: SIDD-2 data from the inequality database of Babones and Alvarez-Rivadulla (2007).

(*) For each country the available Gini index within the relevant decade is taken. If there were more than one Gini index within the same decade, an average of those indices is taken.

Inequality in Latin America is well known. Many scholars have investigated unequal income and wealth distribution in Latin America (Maddison and Associates 1992; Morley 1995; Reynolds 1996; Berry 1997). Many have sought its roots in Latin America's colonial past (Glade 1996; Ramos 1996), some in latter development policies (Reynolds 1996), and others focused more on the effects of the 1980s debt crisis (Altimir 1996). The general conclusion is that Latin America is one of the most unequal regions of the world and even the economic growth of the region has not improved the situation (Furtado 1966; Lustig 1995; Ramos 1996; Reynolds 1996). Inequality was also seen as the cause of political instability in Latin America (Lustig 1995). What is notable is that Latin America has also experienced the worst and longest incidents of inflation. That has led many, especially Hirschman, to conclude that inflation in Latin America is related to inequality.

Although Latin America was originally an unequal region, the trend in inequality varied internally. In general, income distribution improved in the 1970s, severely deteriorated in the

1980s, and did not improve in the 1990s despite economic recovery (Székely 2000). However, these trends vary from country to country. In 1970s some Latin American countries, such as Argentina, experienced many external shocks and slower growth, so inequality increased. In others, like Mexico, economic growth was higher and there was some improvement of distribution of income. On the other hand, Brazil grew significantly without seeing any improvement in distribution of income. In the 1980s, during the decade of economic crisis, inequality increased noticeably in almost all Latin American countries (Altimir 1996). Even economic recovery in the 1990s did not improve situation (Mamalakis 1996; Altimir 1998). Those trends can clearly be observed in Table 53 and Table 54.

Table 53: Income distribution in Latin America

	Gini coefficient	Income share of the poorest 25 % (urban)	Income share of the richest 10 % (urban)	Inflation rate
Argentina(m)				
1980 (*)	0.375	9.3	29.8	100.76
1986 (*)	0.406	8.8	34.5	90.1
1990 (*)	0.423	8.4	34.8	2,313.97
1994 (*)	0.439	6.8	34.2	4.18
1990	0.501	..	34.8	2,313.97
1997	0.530	7.5	35.8	0.53
1999	0.542	..	37.0	-1.17
2002	0.590	..	42.1	25.87
Brazil				
1979 (*)	0.493	5.6	39.1	..
1987 (*)	0.543	4.4	44.3	228.34
1990 (*)	0.535	4.7	41.8	2,947.73
1993 (*)	..	5.4	43.2	1,927.98
1990	0.627	..	41.8	2,947.73
1996	0.638	4.9	44.3	15.76
1999	0.640	..	45.7	4.86
2001	0.639	..	45.7	6.84
Mexico				
1984 (*)	0.321	10.5	25.8	65.54
1989 (*)	0.424	8.5	36.9	20.01
1992 (*)	0.414	8.7	34.8	15.51
1989	0.536	..	36.9	20.01
1994	0.539	11.0	34.3	6.97
1996	..	10.6	33.7	34.38
1998	..	..	34.8	15.93
2000	0.542	..	33.6	9.50
2002	0.514	..	31.2	5.03

(*) Data taken from Economic Commission on Latin America and the Caribbean (ECLAC), Social Panorama of Latin America: 1999-2000, United Nations, Santiago, Chile, LC/G.2068-P/I, 2000.

The rest of the data are taken from Economic Commission on Latin America and the Caribbean (ECLAC), Social Panorama of Latin America: 2002-2003, United Nations, Santiago, Chile, LC/G.2209-P/I, 2004.

(m) metropolitan populations

Table 54: Share of income in Latin America

	Average income (⚹)	Share of total income of				Ratio of average income per capita (*)	
		the poorest 40%	Next poorest 30%	20% below the richest 10%	the Richest 10%	D10/D(1 to 4)	Q5/Q1
Argentina							
1990	10.6	14.9	23.6	26.7	34.8	13.5	13.5
1997	12.4	14.9	22.3	27.1	35.8	16.0	16.4
1999	12.5	15.4	21.6	26.1	37.0	16.4	16.5
2002	8.1	13.4	19.3	25.3	42.1	20.0	21.8
Brazil							
1990	9.3	9.5	18.6	28.0	43.9	31.2	35.0
1996	12.3	9.9	17.7	26.5	46.0	32.2	38.0
1999	11.3	10.1	17.3	25.5	47.1	32.0	35.6
2001	11.0	10.2	17.5	25.6	46.8	32.2	36.9
Mexico							
1989	8.6	15.8	22.5	25.1	36.6	17.2	16.9
1994	8.5	15.3	22.9	26.1	35.6	17.3	17.4
2000	8.5	14.6	22.5	26.5	36.4	17.9	18.5
2002	8.2	15.7	23.8	27.3	33.2	15.1	15.5

Source*: Economic Commission on Latin America and the Caribbean (ECLAC), Social Panorama of Latin America: 2002-2003, United Nations, Santiago, Chile, LC/G.2209-P/I, 2004.

(⚹) Average monthly household income in multiples of the per capita poverty line

(*) Households are divided into deciles (D), each of which represents 10% of total households. D(1 to 4) means the 40% of households with the lowest income, and D10 means the 10% of households with the highest income. Similar notation is used for quintiles (Q), where each group represents 20% of total households.

We can try to derive conclusions about the relation between inequality and inflation by looking at trends in Latin American. Table 53 lets us see whether inflation has followed the trends in inequality. As can be noticed in Table 53 and Table 54, the changes in income equality over the years vary from country to country. In Argentina's case we see that, until the 1990s inflation increased along with increasing inequality. The only incidence since 1980 when

inequality declined was 1994. That year also saw low inflation. However, once the inflation problem was solved in 1991, we know that inflation never rose again until 2002, although inequality has continued to rise. Therefore, these two variables have not changed in the same direction.

In Brazil inequality continuously rose until the early 2000s, but inflation stopped being a problem from 1995 on. Inequality in Mexico also continued to rise until the early 2000s, but inflation had its small ups and downs until being completely stabilized in the 1990s. If we check the trends over many decades, we may derive some conclusions, but checking trends over a short time cannot provide valuable inference. Moreover, it may not be the changes in inequality, but the general inequality level that affects the ability to battle inflation successfully. In highly unequal societies, inflation may be seen as a mechanism to temporarily relieve social tensions. Concerns about inequality may push for public spending on redistributive social programs, which may increase budget deficits, and thus, cause creation of more money and inflation. As mentioned earlier, income inequality may also create political tensions which delay price stabilization.

The last decades provide us more detailed data on inequality in Latin America. As can be seen in Table 54, poor households in Argentina, Brazil, and Mexico receive much less than the rich ones. The ratio of average income per capita of the richest 20 percent of the population to the average income per capita of the poorest 20 percent of the population is 13.5 in 1990 for Argentina, 35.0 in 1990 for Brazil, and 16.9 in 1989 for Mexico. The same ratio is 21.8 in 2002 for Argentina, 36.9 in 2001 for Brazil, and 15.5 in 2002 for Mexico. Therefore, during the era of 1990s, the relative income of the poor fell in Argentina and Brazil, but improved in Mexico.

Brazil has the most skewed distribution of income among the three Latin American countries. Therefore, we would expect Brazil to have less ability to decrease inflation. Indeed, of all Latin American cases, Brazil was the last one to resolve its inflation problem, in mid-1990s. Therefore, the Latin American cases seem to support the thesis that inequality makes it harder to decrease inflation. Yet, it looks as though once inflation is really under control, it does not rise again even if inequality increases.

Turkey also suffers from high inequality, though not to the extent of Brazil and Mexico. Inequality in Turkey was significantly high in 1960s, but as the worker unions became stronger in 1970s, there were some real improvements in the distribution of income. However, the series of neo-liberal economic policies launched beginning in 1980 have created new distributive tensions. This may be explained by the marginalization of labor and the increasing retreat of the state from the economy (Boratav 1990). Income distribution in Turkey has been affected by direct state intervention through subsides, currency depreciation, and wage suppression (Yeldan 2004). Income inequality has decreased in 2002, mainly after the 2001 financial crisis which led to the successful disinflationary program.[79] However, the drop in inequality was not due to policies targeting inequality. It was because the 2001 financial crisis hit the rich segments of the society harder than the poor ones (Hürriyetim 2002; Sabah 2005).

Historically, Israel has relatively low income inequality. Since the mid-1970s, income inequality in Israel has been increasing (Dahan 2002). During high inflation years (1979-1985), Israel's inequality rose significantly (Achdut and Bigman 1991). Inequality decreased around 1985, but increased again in the following years (Achdut 1997). Achdut (1996) argues that the

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[79] Gini coefficient in Turkey was 44 in 2002 and 42 in 2003, compared to 48.4 in 1992. The income share of the poorest 20% of the population was 9.3% in 2002 and 8.8% in 2003, compared to 8.5% in 1994. (Web page of Turkish Statistical Institute, http://www.turkstat.gov.tr/SONIST/GELIR/gelir.html)

main causes of these changes were rising unemployment, high minimum wage level, and direct taxes. He also admits that high inflation raised inequality, but he associates the later rise in inequality with massive immigration of 1989 and the early 1990s, and the consequent rise in unemployment.

What differentiates Israel from other cases is the extent and effectiveness of government redistributive policies. Although earnings inequality is high in Israel, government intervention through income transfers, taxes, and minimum wage policies serves as an equalizing factor (Dahan 2002). That is why Israel has a low inequality, comparable to major European countries. When comparing Israel with Argentina, Brazil, Mexico, and Turkey, it should not be forgotten that Israel is likely to able to maintain such extensive redistributive policies because it is a relatively high-income country.

In conclusion, we recognize that the country with the least inequality, Israel, solved its inflation problem earlier than the other cases, as expected. As some theories would suggest, low inequality in Israel may have allowed the social groups to easily reach a consensus and undertake the necessary long-term economic policies that eliminated inflation. In Latin America, the conclusion is similar. Brazil, the country with the worst inequality, was the last country in Latin America to end its inflation. This may be due to its high distributive tensions. Yet, Turkey does not confirm our thesis, nor does Mexico. Although Turkey has a lower rate of inequality than Mexico and Brazil, Turkey was the least able country to take inflation under control and as a result struggled with inflation until the 2000s. Mexico decreased inflation earlier than Argentina or Turkey, although it has higher inequality.

8.3 POVERTY

Income inequality and poverty are separate topics, but they are related to each other. A very important effect of inequality in developing countries is high rates of poverty, because in very unequal societies with scarce resources very few people possess a high share of national income and the majority of the population is very poor. Therefore, typically the number of people who live in poverty is especially high in unequal societies of the Third World.[80] This situation may affect socio-political stability in the same way that income inequality affects socio-political stability.

One way to measure poverty is to look at income per capita. According to the World Bank's classification Brazil and Turkey are considered lower-middle income countries, Argentina and Mexico higher-middle income countries, and Israel a high income country. It can also be seen in Table 55 that Israel has the highest GDP per capita, followed by Argentina. Our expectation is that the wealthier countries would be more able to decrease inflation. As a matter of fact, Israel was the first among our cases to end its inflation problem. Brazil and Turkey, the poorest countries, had most difficulty in controlling inflation. Therefore, by just looking at these five cases, we can argue that poorer countries have less ability to decrease inflation.

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[80] Poverty may also be substantial in industrialized countries where there is high income inequality. For instance, the US has more poor people than its egalitarian counterparts in Europe because of its higher inequality (Przeworski, Cheibub *et al.* 2000).

Table 55: GDP per capita (constant 1995 US$)

	1975	1976	1977	1978	1979	1980	1981	1982	1983
Argentina	7,310	7,051	7,426	6,987	7,588	7,785	7,232	6,770	6,926
Brazil	3,466	3,716	3,796	3,827	3,991	4,257	3,980	3,917	3,704
Israel	11,015	10,913	10,671	10,952	11,345	11,837	12,201	12,191	12,391
Mexico	2,667	2,706	2,721	2,886	3,086	3,288	3,493	3,393	3,180
Turkey	1,934	2,090	2,117	2,106	2,050	1,956	2,003	2,023	2,072
	1984	**1985**	**1986**	**1987**	**1988**	**1989**	**1990**	**1991**	**1992**
Argentina	6,973	6,347	6,746	6,841	6,572	5,996	5,776	6,422	7,094
Brazil	3,819	4,041	4,280	4,353	4,270	4,334	4,079	4,066	3,983
Israel	12,341	12,543	12,942	13,650	13,698	13,584	14,071	14,269	14,560
Mexico	3,225	3,241	3,056	3,052	3,030	3,097	3,193	3,266	3,323
Turkey	2,156	2,194	2,295	2,459	2,457	2,410	2,575	2,548	2,649
	1993	**1994**	**1995**	**1996**	**1997**	**1998**	**1999**	**2000**	**average**
Argentina	7,414	7,742	7,422	7,731	8,447	8,686	8,313	8,174	**7,222**
Brazil	4,116	4,296	4,415	4,473	4,561	4,507	4,486	4,626	**4,129**
Israel	14,966	15,594	16,249	16,668	16,743	16,899	16,910	17,710	**13,727**
Mexico	3,327	3,412	3,146	3,257	3,427	3,545	3,627	3,810	**3,210**
Turkey	2,808	2,606	2,743	2,882	3,043	3,082	2,887	3,048	**2,430**

Source: *Word Development Indicators*, World Bank (http://devdata.worldbank.org/wdi2005/)

However, if our focus is not the average level of income, but the amount of poor people that live in a country, GDP per capita is not a good indicator to use. Income per capita does not give any idea about how many people in these countries actually live in poverty.

A better indicator for measuring poverty is the percentage of population living below the "poverty line," which is defined as the level of income below which one cannot afford to purchase all the resources one requires to subsist. Table 56 shows the percentage of people who live with less than a dollar per day in Argentina, Brazil, Israel, Mexico, and Turkey and Table 57 presents the related poverty gap. If we look at the average percentages of people who live on less than one dollar per day between 1975 and 2000, we can see that Brazil and Mexico have significantly more poverty than Argentina or Turkey. Brazil and Mexico also have quite high

poverty gap, which indicates that poverty in those countries is deep and has high incidence. Israel, as a high-income country, does not even produce poverty data, but we can assume that it has least poverty.

Table 56: Living on less than $1 a day (PPP) (% of people)* †

	1975	1976	1977	1978	1979	1980	1981	1982	1983
Argentina	..	..	..	..	..	..	..	..	..
Brazil	..	..	..	..	..	..	11.8	..	..
Mexico	..	..	..	..	..	..	..	..	..
Turkey	..	..	..	..	..	..	..	..	..
	1984	**1985**	**1986**	**1987**	**1988**	**1989**	**1990**	**1991**	**1992**
Argentina	..	..	0.29	..	..	..	..	..	0.09
Brazil	15.21	15.75	..	11.9	..	9	14.04	..	..
Mexico	13.95	..	..	..	..	8.32	..	..	15.77
Turkey	..	..	..	1.49	..	..	..	..	..
	1993	**1994**	**1995**	**1996**	**1997**	**1998**	**1999**	**2000**	**Average**
Argentina	..	..	..	1.14	..	7.69	..	..	**2.30**
Brazil	14.35	..	10.53	6.86	8.96	9.94	..	..	**11.67**
Mexico	..	..	8.39	6.46	..	7.98	..	9.85	**10.10**
Turkey	..	2.35	..	..	..	..	..	0.87	**1.57**

Source: "World Development Indicators," The World Bank (http://devdata.worldbank.org/wdi2005/)
(*) Poverty data for Israel is not available as it is considered as a high income country.
(†) The symbol ".." denotes that data are not available.

Table 57: Poverty gap at $1 a day (% of people)*

	1975	1976	1977	1978	1979	1980	1981	1982	1983
Argentina	..	..	..	..	..	..	..	..	..
Brazil	..	..	..	..	..	..	2.97	..	..
Mexico	..	..	..	..	..	..	..	..	..
Turkey	..	..	..	..	..	..	..	..	..

	1984	1985	1986	1987	1988	1989	1990	1991	1992
Argentina	..	..	0.17	..	..	..	..	..	0.01
Brazil	4.09	4.64	..	3.36	..	2.01	4.27	..	..
Mexico	3.38	..	..	..	..	2.54	..	..	4.13
Turkey	..	..	..	0.36	..	..	..	..	..

	1993	1994	1995	1996	1997	1998	1999	2000	Average
Argentina	..	..	..	0.18	..	3.61	..	..	**0.99**
Brazil	4.58	..	3.88	1.37	2.09	3.15	..	..	**3.31**
Mexico	..	..	2.39	1.51	..	2.07	..	3.71	**2.82**
Turkey	..	0.55	..	..	..	..	..	0.21	**0.37**

Source: "World Development Indicators," The World Bank (http://devdata.worldbank.org/wdi2005/)

(*) Poverty gap is the mean shortfall from the poverty line, which is set as $1 per day (counting the non-poor as having zero shortfall), expressed as a percentage of the poverty line. This measure reflects the depth of poverty as well as its incidence.

Table 58: Poverty rates in Latin American countries (percentages)

	Households below the poverty line	Households below the indigence line †	Inflation rate
Argentina			
1980	9	2	100.76
1986	13	4	90.10
1990	21(*)	5(*)	2,313.97
1992	10(*)	1(*)	24.90
1994	13(*)	3(*)	4.18
1997	18(*)	5(*)	0.53
1999	20(*)	5(*)	-1.17
2002	42(*)	9(*)	25.87

Table 58   *(Continued from previous page)*

	Households below the poverty line	Households below the indigence line †	Inflation rate
Brazil			
1979	39	17	..
1987	40	18	228.34
1990	48	23	2,947.73
1993	45	20	1,927.98
1996	36	14	15.76
1999	38	13	4.86
2001	38	13	6.84
Mexico			
1977	32	10	29.00
1984	34	11	65.54
1989	48	19	20.01
1994	45	17	6.97
1996	52	21	34.38
1998	47	19	15.93
2000	41	15	9.50
2002	39	13	5.03

Source: Economic Commission on Latin America and the Caribbean (ECLAC), *Social Panorama of Latin America*, United Nations, Santiago, Chile, : 1991, 1992, 1994, 2002-2003.

† According to ECLAC's definition, the *indigence line* (or extreme poverty) represents a level of household income that can not adequately cover the nutritional needs of all its members.

(*) metropolitan area

If we look to Table 56, Table 57, and Table 58 we notice that Argentina, Brazil, and Mexico have higher poverty than Turkey, although Turkey is the poorest in terms of income per capita. Having greater poverty with higher average income can be explained by one factor: inequality. Thus, poverty in Latin America is not an issue of the lack of resources. As Székely (2000) argues in Latin America poverty is a problem of income distribution.

Latin America stands out not only for the small share of national income that goes to groups in the low-income ranges, but also in the extent to which the top 20% of income groups claim an unusually high share of the national income, in the area of 50-55%. Once again, this percentage is well above that claimed by their upper-income counterparts in other parts of the world, both developed and underdeveloped. (Ramos 1996, p. 144)

Like inequality, poverty in Latin America decreased in the 1970s, increased in the 1980s, and did not decrease much during the 1990s despite economic recovery (see Table 58). In the early 1980s, as per capita incomes fell, most Latin American countries experienced sharp increases in absolute poverty. Argentina, Brazil, and Mexico recovered partially through stabilization, but these countries suffered recessions with further increases in inequality and absolute poverty (Helwege 1995; Altimir 1996; Rosenthal 1996; Székely 2000). Inflation, stagnation, and cuts in social spending unfavorably affected the poor (Lustig 1995; Morley 1995; Edwards 1995; Ramos 1996; Rosenthal 1996). In short, the crisis of the 1980s both increased the historically high rates of poverty and decreased per capita income.

The poverty situation in Latin America improved slightly in 1990s. The number of those living in poverty began to decline due to increasing economic growth, especially in Argentina and Mexico. Although price stability was seen as a necessary condition for eliminating poverty and inequality, the problem of poverty persisted even after stabilization. This was because economic output, productivity, and employment did not improve sufficiently (Mamalakis 1996; Korzeniewicz and Smith 2000). Thus, poverty rates in the 1990s remained higher than in 1980 (Helwege 1995). By the 1990s, almost 40 percent of the families in Latin America lived below the poverty line (Ramos 1996). Therefore, elimination of inflation did not decrease poverty in Latin America.

Where poverty is a distributive problem, few people are likely to be very rich and a mass of people are not going to meet even their basic needs. That situation is typical of an environment where distributional conflicts are high. Such social settings may generate powerful

political pressures and the potential for major political conflicts. In these circumstances, inflation may emerge and/or continue as a major economic problem. Therefore, by looking at poverty rates, we would expect Brazil and Mexico to have more difficulty than Israel, Turkey and Argentina in controlling inflation. In fact, Brazil struggled with inflation until 1994. However, Mexico was able to decrease inflation in 1987, much earlier than Argentina, Brazil, or Turkey. For Turkey, which has the lower poverty rate after Israel, it took much longer to control inflation. Therefore, the effect of poverty on inflation is not clear.

By analyzing Table 58, we can compare trends in poverty with trends in inflation. When we look at data on Argentina, we see that poverty was very high when inflation increased to four digit levels in the early 1990s. We then see an improvement in poverty as the Argentine government overcame the inflation problem. Although inflation continued to be low in the late 1990s and early 2000s, Argentine poverty rose again significantly. Brazil also had its peak percentage of people living in poverty when inflation was at four digit levels. Although for Argentina and Brazil poverty and inflation appear to be correlated, it is not possible to conclude that poverty increases inflation. Most probably the causality is the reverse: hyperinflation creates more poverty. The same relation cannot be conformed for inflation which is not at hyper level. For instance, for Mexico it is hard to find any correlation between poverty and inflation. Mexico had its peak poverty level in the late 1980s and 1990s, when inflation was not very high.

8.4   CONCLUSION

The relationship between inequality and inflation has important implications for policymaking. If we had confirmed that unequal societies have more difficulty in stabilizing prices, we could have

concluded that economic policymakers should be very concerned about high income inequality if they want to decrease inflation in their societies. However, data from the five cases do not suggest a clear relation. We can argue that inequality increases political pressures for inflation, as most Latin American countries and Turkey have demonstrated. However, especially the fact that the more unequal Mexico decreased inflation earlier than Argentina and much earlier than Turkey contradicts that argument. Therefore, it can be suggested that although inequality may increase demand for inflation, political mechanisms allow states to resist the temptation to use an inflation tax to satisfy social demands.

It is even harder to confirm a relation between poverty and inflation. From five cases, it looks like high income level helps tackling persistent inflation in a timelier manner. The richest case Israel ended persistent inflation first among our cases, while the poorest cases Turkey and Brazil struggled longer time with inflation. If we look into poverty levels, Israel, our case with also the least poverty, was able to decrease inflation faster than the others. However, Brazil and Mexico, the countries with the highest poverty levels among our cases, have followed a very different course when it comes to inflation. Mexico was quick to control inflation, whereas Brazil was slow. Turkey, which has a lower poverty rate than both Brazil and Mexico, fought a longer battle with high inflation. Therefore, we cannot make firm conclusions on the relation between poverty and inflation.

It would be interesting to see whether stabilization policies that worsen income equality will, in the future, create inflationary pressures. If that is the case, policymakers should pay attention to distributive consequences of their disinflationary programs in order to pursue sustainable economic policies. However, if they are able to build and consolidate the political institutions that can resist inflationary pressures, policymakers probably can still perform and

maintain stabilization without an improvement in inequality or poverty. This can be observed today in Argentina, Brazil, or Mexico. That takes us back to political institutions and political structures as more important determinants of the ability to pursue disinflationary policies.

9.0   A CROSS-NATIONAL ANALYSIS OF THE POLITICS OF INFLATION

As stated in the first chapter of this study, the goal of this study is to examine why some countries have more difficulty in controlling inflation than others and end up with extended years of high inflation. In the previous chapters this question was studied through case studies. Here all the hypotheses will be reanalyzed on a larger sample through statistical methods. This would check the validity of the case study findings on a larger sample of countries and provide us more generalizable findings than the case studies offer. The cross-national analyses conducted in this chapter confirm only some of the conclusions arrived at in the case studies. The general conclusion is that politics at least partly explains why some countries have more difficulty in eliminating persistent inflation.

For a long while scholars have focused on just the economic roots of inflation. However, the analyses of this chapter reveal that the political attributes of a country, especially the aid received from international financial institutions, security costs, and fractionalization of political opposition have a statistically significant effect on price stabilization. This research looks into the effect of different levels of inflation and suggests that regional and bilateral aid received, level of democracy, political system, regime instability, political stability, opposition power, and the electoral system may also affect price stabilization, depending on the level of inflation. On the other hand, international aid received, government fractionalization, level of income of a

country, and income inequality in the country present no significant relation to the persistence of inflation.

The larger sample chosen here was composed of 148 states, which then dropped to 45 observations given lack of data (see Table 59 for the list of states). The majority of these states are middle income countries (26) and the rest are low income countries (19). Therefore, advanced countries are not included in the analysis. The focus is on the period between 1975 and 2000. This period has witnessed the most extensive inflationary problems in the world. This period is chosen also because of data availability. Most political databases, including the ones used here, include data from the 1970s on.

Table 59: The sample of countries used in the statistical analyses

Low-income economies	Lower-middle-income economies	Upper-middle-income economies	High-income economies
Bangladesh	Bolivia	Botswana	-
Burkina Faso	Colombia	Chile	
Central African	Egypt, Arab Rep.	Czech Republic	
Republic	El Salvador	Hungary	
Cote d'Ivoire	Guatemala	Malaysia	
Gambia, The	Guyana	Mexico	
Ghana	Honduras	Panama	
Guinea	Lesotho	Poland	
India	Paraguay	Romania	
Kenya	Peru	South Africa	
Mauritania	Sri Lanka	Turkey	
Mongolia	Thailand	Uruguay	
Nepal	Tunisia	Venezuela, RB	
Nigeria			
Pakistan			
Senegal			
Sierra Leone			
Tanzania			
Uganda			
Zambia			

* These classifications are taken from World Bank's grouping of the countries

This study is focused on persistent inflation, i.e. the governments' inability to bring down a persistently high level of inflation to a low level. For analytical purposes, in this chapter the dependent variable is specified as the number of inflationary years that the countries had between 1975 and 2000. The dependent variable, number of inflationary years, is the total number of years in which a country has had inflation equal to or above the specified level—20 percent, 50 percent, or 100 percent. Therefore, the maximum number of inflationary years a country can have is 26 and the minimum is zero. The primary reason why the number of inflationary years was chosen as the dependent variable, as opposed to average inflation rate, is that I want to measure the ability of governments to decrease inflation. Also, an average rate of inflation can be very misleading, because there are many countries that have had hyperinflation for a few years but then were able to decrease inflation rapidly to single digit levels (mainly transition countries such as Armenia, Azerbaijan, Croatia, Estonia, Georgia, Kazakhstan, Poland, and Ukraine). Taking the average inflation rate for these countries would give a distorted picture of the ability of those governments to resolve their inflation problem. Hence, in this study, a country which has had hyper inflation for only 3 years is considered more successful than a country which had a moderately high inflation for a more extended period of time.

In Chapter III economic policies were mentioned as an intermediatery variable that links socio-political variables to persistence of inflation. Accordingly socio-political factors shape economic policies, which in turn may end or cause persistence of inflation. In the analyses of this chapter, this intermediatery variable is overlooked. Inflation can be fully controlled by economic policies, i.e. persistence of inflation is totally dependent on the economic policies followed by a state. Yet, economic policies are very difficult to measure. In fact the persistence of inflation

itself is the best indicator that inflationary economic policies are continuing. Therefore, the statistical analyses directly and merely use persistence of inflation as the dependent variable.

Although in this chapter the focus is on the length of time that countries have struggled with high inflation, rather than the actual level of inflation, it still does not disregard the fact that different levels of inflation may have different implications. Therefore, three different levels of inflation, and thus, three different independent variables were specified. One reason for using different definitions of high inflation was the lack of consensus in the literature on what represents high inflation. Furthermore, it is important to check whether the results obtained for a certain definition or level of inflation are valid also for inflation defined with lower or higher percentages. Different socio-political factors might come into the picture as we change the critical level of inflation from 20 percent to 50 percent or to 100 percent, and the conclusions might also differ accordingly.[81]

In previous chapters, several socio-political factors have been discussed and the manner in which they may affect the ability of states to decrease inflation was explained. These factors were grouped under the categories of *Security and International Political Issues*, *Political Regime*, *Political System*, *Electoral and Party System*, and *Inequality and Poverty*. In this chapter the variables are grouped under the same categories and they are taken from World Development Indicators Database, Database of Political Institutions, and Polity IV Database.[82] The list of the variables and their can be seen in the Appendix-V.

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[81] As a matter of fact, the results of the statistical analyses of this chapter indicate that only three of the variables (funds from the IMF and World Bank, high military expenses, and opposition fractionalization) have a significant relation to persistence of inflation for all definitions of high inflation. The rest of the variables are significant only for certain definition of high inflation.

[82] Some of the variables that are shown under socio-political categories can also be considered economic variables. However, as pointed out in Chapter 3, these variables have direct connection to some socio-political factors, especially international and security related ones. Thus, they were kept under socio-political categories as indicators of socio-political factors.

The biggest challenge in conducting a cross-national analysis, especially if it is related to political phenomena and if we are investigating a long time period, is lack of complete data. This problem has also made it impossible for me to undertake meaningful panel (times series) analyses and encouraged me to employ cross-sectional data analysis. One way to convert panel data into cross-sectional data is to use averages or totals. Among the states that are included in the databases used, very few of them have complete data on all variables. Thus, I averaged most data for each country over the period between 1975 and 2000, so that the number of observations is maximized. For instance, the data on income inequality required averaging data over time because annual time series data on income inequality do not exist. Typically inequality data are collected only every four or five years. Averaged data was also preferred because the focus of the study is structures rather than short term changes, as the purpose is to look into general characteristics of states. Also, this study tries to explain sustained inflation rather than temporary fluctuations in inflation. Similarly, I took totals for some variables (e.g., variables that measure regime changes and number of elections) in order to maximize the number of observations.

Despite averaging and totaling, the number of observations dropped to 45 (out of a sample of 148) because of lack data. As the number of political variables is 55, obviously it was impossible to get meaningful results from regression analyses. In order to do meaningful regression analyses with 45 observations, the number of variables should be no more than 15. Many of the 55 variables measure similar political factors. That was the main reason why factor analysis was employed. By extracting factor scores, it was possible to decrease the number of variables from 55 to 14.

Next, negative binomial regression analyses were run with the 14 factor scores extracted. Instead of regular regression analysis, negative binomial regression analysis was chosen because

of the nature of the dependent variable. The independent variable is considered count data, because it is composed of total number of inflationary years for each observation. Also, a robust version of the regression analysis was used in order to take care of the heteroskedasticity problem. Finally, some simple causality tests were employed in order to make sure that the direction of the relation between the dependent and independent variables is the way it was hypothesized.

9.1   FACTOR ANALYSIS

The first statistical analysis employed in this study is factor analysis, which is used to reduce the number of variables and control multicollinearity. Factor analysis lets us simplify models by combining many correlated variables into a smaller number of "factors" based on some common dimensions (Hamilton 2003).Considering that there were 55 variables at hand, factor analysis was helpful for producing fewer variables by creating factor scores, which then were used in negative binomial regression analyses.

Another advantage of employing factor analysis is to solve the problem of multicollinearity. Multicollinearity is an important problem, because the inclusion of highly correlated variables in a regression analysis can result in misleading individual P-values and very wide confidence intervals on the regression coefficients. This makes it hard to determine the significance of the effect of different variables on the dependent variable.

Among the 55 variables, clearly some of the variables measure similar socio-political characteristics. For instance, under the political regime category, there were several variables that measure the "level of democracy and political competition" (number of legislative elections,

number of executive elections, legislative index of electoral competitiveness, executive index of electoral competitiveness, revised combined polity score, competitiveness of executive recruitment, and competitiveness of participation) and some others that measure "regime stability" (variance of polity score, average percentage change in polity score, regime durability, and regime transition completed), which were all discussed in Chapter 5. A factor analysis would reveal that the variables, in total, represent a smaller number of underlying factors. Factor analysis also helps to extract factor scores, which could later be used in the regression analysis as independent variables.

A specific type of factor analysis, principal component analysis, was run within each of the six categories of variables to find out the main underlying factors, and then, to extract factor scores that represent those categories of variables. Principal component analysis was preferred because it is a more appropriate method if the goal is to develop a reduced set of factor scores (principal components) to be used in other analyses (Hair, Anderson et al. 1994).

As can be recalled, all variables were grouped under five categories: *International Politics and Security Issues*, *Political Regime*, *Political System*, *Electoral and Party System*, and *Inequality and Poverty*. Factor analyses were run within these categories and *Kaiser's criterion* was used to decide which factors to retain. Therefore, only the factors that have an *Eigenvalue* greater than 1.0 were kept.[83]

After running the factor analyses, all results were also rotated. The goal of rotation is to obtain a clear pattern of loadings, where some factors have visibly high loadings for some

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[83] "An *Eigenvalue* is the sum of the squared correlations between a factor variate and the *p* original variables. Thus, a factor's eigenvalue reflects the overall strength of relationship between that factor and the original variables. In practice, only factors with eigenvalues of 1.0 or greater are considered to be stable. Hence, the number of factors with eigenvalues of 1.0 or greater represents the maximum number of factors that can be considered stable. Therefore, in a factor analysis with many variables, many unimportant factors will be associated with eigenvalues as large as 1.0" (Diekhoff 1992, p.337). As a matter of fact, in STATA principal component type of factor analysis automatically retains only the factors that have eigenvalue greater than 1.

variables and low loadings for others (Hair, Anderson et al. 1994). Therefore, with rotation it is

easier to understand which dimensions each factor represents. In this study *Varimax* rotation was

used, as it is the most common rotation strategy and one that presents clearer loadings. (All these

analyses can be found in Appendix-VI.)

Then, factor scores were extracted and named according to the dimensions they represent.

As a result of this process, 14 new variables (factor scores/principal components) were obtained

to be later used in the regression analyses (see Table 60). Once the factor scores were obtained,

the other variables could be eliminated from the model as scores already represent the underlying

common dimensions among those variables.

Table 60: The list of principal components/factor scores that remained after factor analyses

Category	Factor score name	Dimension represented
INTERNATIONAL POLITICS	*fimfwb*	financial flows from the IMF and World Bank
	faidpercent	aid as percentage of national income
	flowregbilaid	low financial flows from regional and bilateral aid
	fhghmilexp	high military expenditure
POLITICAL REGIME	*fdemocracy*	level of democracy
	fregiminstbl	regime instability (change in regime, e.g. from democracy to authoritarianism or vice versa)
POLITICAL SYSTEM	*fparliament*	characteristics of parliamentary system
	fpolstabil	political stability (stability of or change in governments)
	fopppowr	power of the opposition
ELECTORAL and PARTY SYSTEM	*fgovfrac*	fractionalization among government parties
	foppfrac	fractionalization among opposition parties
	fproportnl	characteristics of proportional representation electoral system
INEQUALITY and POVERTY	*flowincome*	low income (per capita) level
	finequality	income inequality

9.2   REGRESSION ANALYSES

After getting the factor analysis results, the next step was to conduct regression analysis in order to explain the differences in the ability to decrease inflation (measured in terms of number of inflationary years). In this analysis negative binomial regression analysis was used because the dependent variable is composed of count data. Also, three equations were formed with different dependent variables depending on the definition of high inflation and a regression analysis was run for each equation. (See the equations at Table 61.)

Table 61: Model equations

inflyrs20 $=$ $a + b_1$ **fimfwb** $+ b_2$ **faidpercnt** $+ b_3$ **flowregbilaid** $+ b_4$
(no. of years with **fhghmilexp** $+ b_5$ **fdemocracy** $+ b_6$ **fregiminstbl** $+ b_7$
 inflation => 20%) **fparliament** $+ b_8$ **fpolstabil** $+ b_9$ **fopppowr** $+ b_{10}$ **fgovfrac** $+ b_{11}$ **foppfrac**
$+ b_{12}$ **fproportnl** $+ b_{13}$ **flowincome** $+ b_{14}$ **finequality** $+$ **u**

inflyrs50 $=$ $a + b_1$ **fimfwb** $+ b_2$ **faidpercnt** $+ b_3$ **flowregbilaid** $+ b_4$ **fhghmilexp** **(no. of**
years with $+ b_5$ **fdemocracy** $+ b_6$ **fregiminstbl** $+ b_7$ **fparliament** $+ b_8$
inflation => 50%) **fpolstabil** $+ b_9$ **fopppowr** $+ b_{10}$ **fgovfrac** $+ b_{11}$ **foppfrac** $+ b_{12}$ **fproportnl** $+$
b_{13} **flowincome** $+ b_{14}$ **finequality** $+$ **u**

inflyrs100 $=$ $a + b_1$ **fimfwb** $+ b_2$ **faidpercnt** $+ b_3$ **flowregbilaid** $+ b_4$ **fhghmilexp** **(no. of**
years with $+ b_5$ **fdemocracy** $+ b_6$ **fregiminstbl** $+ b_7$ **fparliament** $+ b_8$
 inflation => 100%) **fpolstabil** $+ b_9$ **fopppowr** $+ b_{10}$ **fgovfrac** $+ b_{11}$ **foppfrac** $+ b_{12}$ **fproportnl** $+$
b_{13} **flowincome** $+ b_{14}$ **finequality** $+$ **u**

One problem with running a regular regression analysis with the existing variables would be that one of the assumptions of unbiased best estimator was not met. As can be observed in Figure 11, Figure 12, and Figure 13, the dependent variable (number of inflationary years) does not have a normal distribution, because most of the 148 countries initially taken from the

databases have zero or only a small number of inflationary years and very few have high number of inflationary years. Thus, the regular regression analysis would not give reliable results.

As dependent variable, number of inflationary years between 1975 and 2000 are counted for each observation. Looking at the highly skewed distribution of the variable and the high number of observations with zero value (see Figure 11, Figure 12, Figure 13, Table 62, Figure 14, Figure 15, and Figure 16), the dependent variable is a typical count data. Count data can be analyzed by employing Poisson regression model (Greene 1997). Poisson regression is used to model the number of incidences of an event under investigation or the rate of incidence of that event, as a function of independent variables. Here the event under investigation is the number of occurrences of inflationary years.

Figure 11: The distribution of dependent variable (inflationary years>=20%) for 148 states
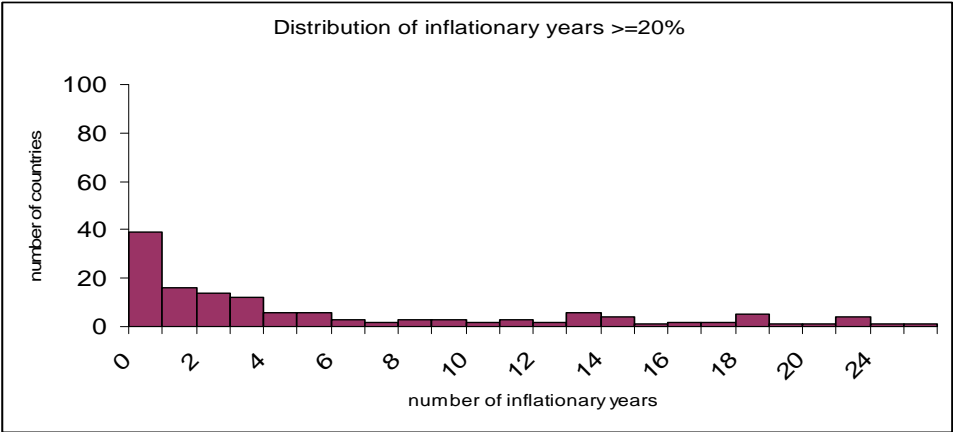
Figure 12: The distribution of dependent variable (inflationary years>=50%) for 148 states

Distribution of inflationary years>=50%
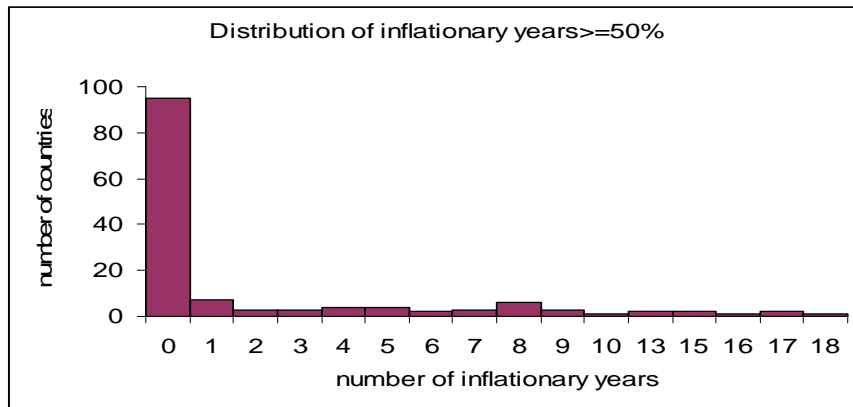
Figure 13: The distribution of dependent variable (inflationary years>=100%) for 148 states

Distribution of inflationary years>=100%
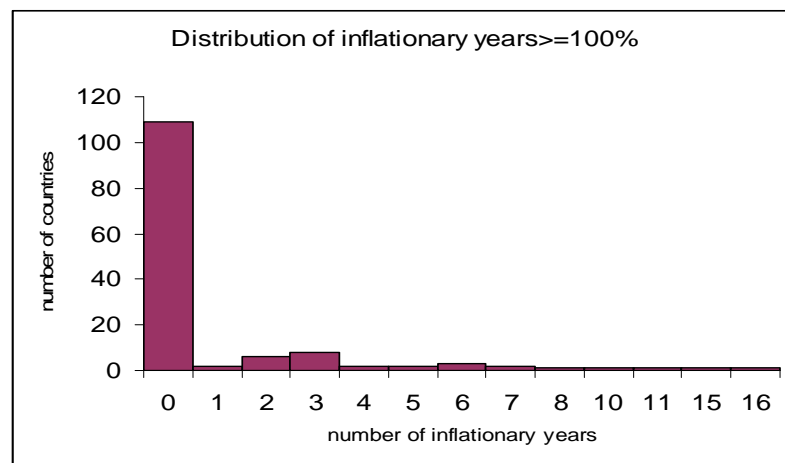
Table 62: The distribution of dependent variable for the sample of 45 states

Number of years	inflation >=20	inflation>=50	inflation>=100
equal to 0	*11*	*28*	*31*
between 0 and 9	29	41	45
between 10 and 19	12	4	0
between 20 and 26	4	0	0

Figure 14: The distribution of dependent variable (inflationary years>=20%) for 45 states
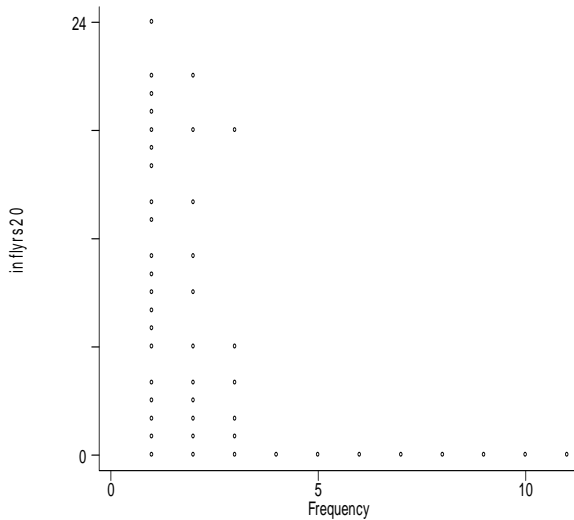
Figure 15: The distribution of dependent variable (inflationary years>=50%) for 45 states
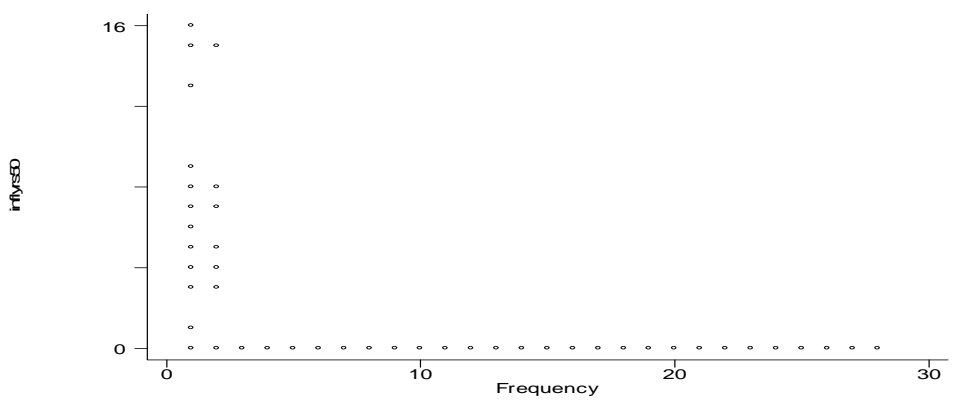
Figure 16: The distribution of dependent variable (inflationary years>=100%) for 45 states
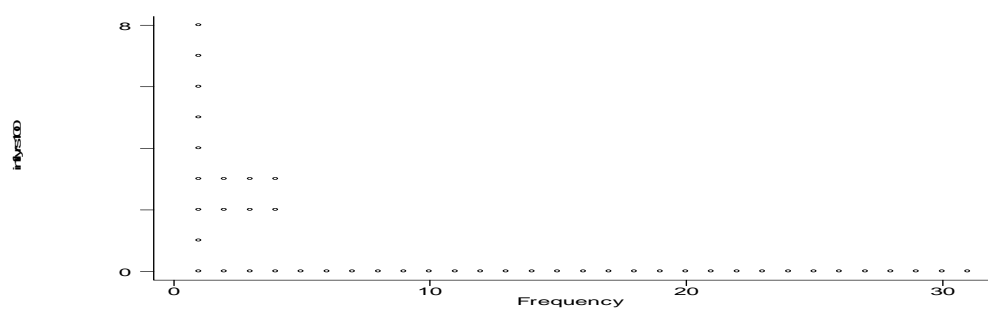
The disadvantage of the Poisson model is that it has strict assumptions. For instance, mean and variance of the dependent variable are assumed to be equal. If mean and variance are significantly different from each other, then it is better to use one of the extensions of the Poisson

distribution, such as negative binomial distribution. If the variance of the model is significantly higher than the mean, that is a sign of data overdispersion. On the contrary, if the variance of the model is significantly lower than the mean, the data are underdispersed. When there is overdispersion or underdispersion, a Poisson model is not a good fit for that data. In that case, the negative binomial distribution is usually used as a robust alternative to the Poisson distribution (Barron 1992; Gardner, Mulvey *et al.* 1995).

In order to find out whether the data are fit for Poisson model, the differences between the mean and variance values of the dependent variables were checked (see Appendix-VII for details of the analysis). As can be seen in Table 63, neither of the dependent variables has equal or even close mean and variance. That indicates that Poisson model is not a good fit for the data. Thus, a negative binomial model would probably fit better to the data, but the data also had to be checked for overdispersion.

Table 63: Summary of dependent variables

	Inflationary years (=>20%)	Inflationary years (=>50%)	Inflationary years (=>100%)
Mean	5.6	2.2	1.0
Variance	44.7	17.8	7.2

In order to test for overdispersion, *Poisson regression analyses* and their goodness of fit tests were utilized. In Table 64, it can be again seen that Poisson model is not a good fit for the data. We can conclude that the dependent variables are composed of count data with

overdispersed distribution, because chi-square values for all three equations are large numbers.[84]

Therefore, Poisson analysis would not be an appropriate tool, so instead *negative binomial regression analysis* was employed. (See Appendix-VIII for details.)

Table 64: Results of goodness of fit tests

```
No. of inflationary years (=>20%)
                Goodness-of-fit chi2  =   198.7078
                Prob > chi2(30)       =     0.0000

No. of inflationary years (=>50%)
                Goodness-of-fit chi2  =   142.1027
                Prob > chi2(30)       =     0.0000


No. of inflationary years (=>100%)
                Goodness-of-fit chi2  =    96.9120
                Prob > chi2(30)       =     0.0000
```

Another problem to take care of is *heteroskedasticity*. With count data dependent variable we cannot assume that there is homoskedasticity. With a heteroskedasticity problem, equation coefficients remain unbiased. However, they are no longer the best estimators and their variances are biased and confidence levels are not valid (Wooldridge 2002; Stock and Watson 2003). In order to eliminate this problem, *robust negative binomial regression* analyses were run with the same variables. As can be seen in the Appendix, each regression equation was run three times, testing for different levels of high inflation: high inflation defined as 20 percent and higher, high

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inflation defined as 50 percent and higher, and high inflation defined as 100 percent and higher. The coefficients extracted from the robust regression analyses are listed in Table 65.[85]

Table 65: Equations with coefficients

$inflyrs20$ = **1.75** + **1.46** *fimfwb* + -0.25 *faidpercnt* + 0.32 *flowregbilaid* + **1.25** *fhghmilexp* + - 0.18 *fdemocracy* + 0.47 *fregiminstbl* + **-1.42** *fparliament* + 0.38 *fpolstabil* + 0.41 *fopppowr* + 0.22 *fgovfrac* + **0.52** *foppfrac* + **0.48** *fproportnl* + 0.13 *flowincome* + - 0.17 *finequality* + **u**

$inflyrs50$ = **2.00** + **6.19** *fimfwb* + 0.78 *faidpercnt* + **1.12** *flowregbilaid* + **1.52** *fhghmilexp* + **-2.34** *fdemocracy* + 0.72 *fregiminstbl* + -0.45 *fparliament* + **-0.87** *fpolstabil* + **1.26** *fopppowr* + 0.23 *fgovfrac* + **1.26** *foppfrac* + **0.75** *fproportnl* + -1.30 *flowincome* + - 0.62 *finequality* + **u**

$inflyrs100$ = 0.46 + **5.11** *fimfwb* + 0.82 *faidpercnt* + 0.56 *flowregbilaid* + 1.21 *fhghmilexp* + **-2.75** *fdemocracy* + **1.60** *fregiminstbl* + -0.50 *fparliament* +   -0.34 *fpolstabil* + 0.31 *fopppowr* + 0.45 *fgovfrac* + **0.96** *foppfrac* + 0.49 *fproportnl* + -1.65 *flowincome* + - 0.64 *finequality* + **u**

Nevertheless, since factor scores were used for the regression analysis, it would not make sense to interpret coefficients of the variables in the equations. Therefore, instead of using regression coefficients in the results, *incidence rate ratios* (IRRs) were extracted and interpreted. IRRs provide estimates of exponential value of coefficients rather than the coefficients themselves. From the IRRs, it is easy to see by what factor each point increase in each variable decreases or increases the expected number of inflationary years, or equally, what percent each

[85] Only the variables that are significant are shown in bold. The rest of the variables in the equations are insignificant.

point increase in each variable decreases or increases the expected number of inflationary years, when the other variables are held constant.

As can be seen in the Appendix, the first dependent variable is inflyrs20, which is number of years with 20 percent or more inflation. The likelihood ratio test under the negative binomial regression analysis shows that the dependent variable is overdispersed. When the overdispersion parameter (alpha) is equal to zero, then negative binomial distribution is neither overdispersed nor underdispersed; it is a Poisson distribution. In our analysis, the parameter is significantly over zero (82.86), which corresponds to a very low probability value (0.00). Therefore, I conclude that negative binomial model seems to be the better choice for this equation.

The robust results of the negative binomial regression with IRRs indicate that in the equation with the total number of years with high as dependent variable, only five variables are significantly related to the dependent variable: funds from the IMF and the World Bank, military expenses, political system, fractionalization of the opposition, and proportionality of the electoral system. As can be seen from the R^2 value, those eight variables explain about 10.6 percent of the sample variation in total number of years with inflation equal to or higher than 20 percent.

We can conclude that, with everything else equal, financial flows from the World Bank and IMF have a positive relation with number of years with 20 percent inflation or more. Military expenses, fractionalization of the opposition, and proportionality of the electoral system also have positive relation with inflationary years. A variable that is negatively related to inflationary years is parliamentary political system.

The negative binomial regression analysis of the second dependent variable inflyrs50, number of years with 50 percent or more inflation, can be seen in the Appendix. By looking at

the likelihood ratio test, we can see that the dependent variable is overdispersed. The overdispersion parameter (alpha) is significantly over zero (59.34), which corresponds to a very low probability value (0.00). Therefore, we can again conclude that negative binomial model seems to be the right choice for this equation.

The robust regression results for the inflationary years defined as years with 50 percent or more inflation are similar to those obtained with dependent variable defined as years with 20 percent or more inflation. The explanatory power of the model is higher: 13.6 percent. Again the funds from the IMF and the World Bank are positively related to the inflationary years, but this time the IRR of this variable is much higher, i.e. one unit increase in funds from the IMF and the World Bank is associated with much higher incidence of years with 50 percent or more inflation. The rest of the variables that have a positive relation with inflationary years at 50 percent and above levels are: low regional and bilateral aid, military expenditure, power of the opposition, fractionalization of the opposition, and proportionality of the electoral system. On the other hand, level of democracy and political stability are negatively related to the years with 50 percent or more inflation.

The negative binomial regression analysis of the third dependent variable inflyrs100, number of years with 100 percent or more inflation, can be seen in the Appendix. By looking at the likelihood ratio test, we can see that again the dependent variable is overdispersed, because the overdispersion parameter (alpha) is 35.74, significantly over zero and the probability value is zero. Therefore, I conclude that negative binomial model is again better choice for the equation.

When I use the number of years with 100 percent or more inflation as dependent variable, only four variables come out as significant, as opposed to eight variables when I use the number of years with 50 percent or more inflation as dependent variable. The explanatory power of the

model is 13.4 percent. Again the funds from the IMF and the World Bank are positively related to the inflationary years and again they have high IRR. Also, regime instability and fractionalization of the opposition still have a positive relation with inflationary years at 100 percent and above. On the other hand, democracy has a very strong negative relation with inflationary years.

9.3   COMPARING DIFFERENT LEVELS OF HIGH INFLATION

The results of robust regression analyses are summarized in Table 66. These results demonstrate that, if we define high inflation differently, although the results are somewhat similar, different variables become important factors on inflationary years and with different levels of impact. Then, next step is to understand whether these political variables are more or less important at different levels of inflation.

Table 66: IRRs of variables obtained from negative binomial regression analyses*

Dependent variables / Independent variables	inflyrs20	inflyrs50	inflyrs100
funds from the IMF and World Bank ***	**4.31**	**487.66**	**166.17**
aid as percentage of national income	0.78	2.19	2.26
low funds from regional and bilateral aid *	1.38	**3.07**	1.75
high military expenditure **	**3.49**	**4.58**	3.34
level of democracy **	0.84	**0.10**	**0.06**
regime instability *	1.60	2.06	**4.97**
parliamentary system *	**0.24**	0.64	0.61
political stability *	1.46	**0.42**	0.71
power of the opposition *	1.50	**3.53**	1.36
fractionalization of government parties	1.25	1.26	1.56
fractionalization of opposition parties ***	**1.68**	**2.80**	**2.61**
proportional representation electoral system **	**1.62**	**2.12**	1.64
low income (per capita) level	1.13	0.27	0.19
income inequality	0.84	0.54	0.53
Pseudo R^2	*0.106*	*0.136*	*0.134*

NOTE: Only the variables in bold are statistically significant. And each (*) signifies how many times a variable came out as significant.

(*) Unlike coefficients, incidence rate ratios (IRRs) never take a negative value. However, values under 1.0 indicate a negative relationship between the dependent and independent variables. As IRR values between 0 and 1.0 get closer to 0, there is a bigger decrease in the dependent variable for each incidence of the independent variable when the other variables are held constant. For IRR values over 1.0, the increase in the dependent variable is bigger as IRR is higher.

Comparing equations with high inflation defined as 20 percent and above, 50 percent and above, and 100 percent and above, we observe that the explanatory power of the statistical model is lowest when I define high inflation as 20 percent and over. More political variables are significantly related to inflationary years when inflation is defined as 50 percent or over. The explanatory power of the model is the same when inflation is defined as 50 percent and over and when inflation is defined as 100 percent and over, although there are fewer significant variables when the dependent variable is defined as inflationary years with 100 percent inflation or over. Therefore, the statistical model built in this chapter works better for higher levels of inflation.

If we start with inflationary years defined as years with 100 percent or more inflation, we can see that financial funds from the IMF and the World Bank have a very strong relation with inflationary years. Their effect is even higher when high inflation is defined as 50 percent or over, but it drops when high inflation is defined as 20 percent or over. Fractionalization of the opposition is the only other variable which is positively related to inflationary years and significant for all definitions of high inflation. Its effect is weaker for high inflation defined widely as 20 percent or over. However, theory suggests that a fragmented opposition is weaker and, thus, less able to block stabilization programs. Here we see a positive association between opposition fractionalization and inflationary years, which was unexpected.

High military expenses are significantly related to inflationary years with a considerable impact when high inflation is defined widely as 20 percent and over or 50 percent and over. It becomes a statistically insignificant variable once high inflation is defined narrowly as 100 percent or over. A positive relation between inflationary years and high military expenses was already expected, as explained in chapter 4. It is interesting that this impact becomes

insignificant for very high (hyper) levels of inflation. It can be concluded that high military expenses can cause high inflation, but they are not cause of hyper inflation.

The variable that represents democracy is negatively related to inflationary years, i.e. more democratic regimes are associated with fewer inflationary years. This variable is insignificant only when I define inflationary years as years with 20 percent or more inflation. For other definitions of high inflation, we can conclude that democracy has a strong negative impact on inflationary years, as suggested by some theories explored in chapter 5.

Low regional and bilateral aid, political stability, and power of the opposition have a positive relation with inflationary years only when I define inflationary years as years with 50 percent or more inflation. It is consistent with the theory that lack of regional and bilateral aid makes states less able to stop inflation. It is also consistent with theory that strong opposition (strong in terms of number of seats held) decreases the ability of states to eliminate inflation.

Regime stability has a positive relation with inflationary years, but only when inflationary years are defined as years with 100 percent or more inflation. There is only one variable that is significant only if we define inflation years very broadly, as years with 20 percent inflation or more: the parliamentary system. As discussed in chapter 6, there are various theories that support this negative relationship and many which contradict it. On the other hand, proportionality of the electoral system has a positive relation with inflationary years, which is consistent with the hypothesis stated in chapter 7. Yet, this relation is not significant when inflationary years are defined as years with 100 percent inflation or above. Therefore, in countries with persistent hyperinflation, proportionality of the electoral system do not seem to have an effect.

The rest of the variables (aid relative to size of the economy, fractionalization of the government, income level, and inequality) have no significant relation with inflationary years for any level of inflation. Aid was expected to have negative and government fractionalization, low income level, and inequality were expected to have positive relation with inflationary years. However, none of these expectations are confirmed by this analysis, as these variables do not show any statistically significant relation with inflationary years.

9.4 CAUSALITY

The results of this analysis may help us to understand the political causes of persistence of inflation. Although this analysis confirms the relation between inflation and many political variables I focused on, the direction of these relations, i.e. the path of causality, is still unclear. In order to check the direction of the relations between the most suspicious political variables and inflation, some causality analyses were employed.

Association between variables does not necessarily prove causation, so it is not enough to find out that the variables are related to one another. The regression results obtained above do not say much about causality. In order to argue that a causal relation between variables exists, one variable must precede the other and other variables must be ruled out as potential causes of the existing relationship. In order to meet the first requirement, a time sequence was created to determine whether political variables precede the inflationary years or vice versa. In order to meet the second requirement of causality, partial correlations were used.

One way to check causality is through time series analyses, like Granger analysis. However, time series analysis could not be employed in this study because of incomplete data.

Instead, the period under consideration (1975-2000) was divided into two periods, one from 1975 to 1987 and another from 1988 to 2000.

Some of the variables in the analysis, such as political system and electoral system, do not show much change over time, so we do not expect inflation to cause changes in those variables. For some variables, such as high military expenses and fractionalization of the opposition, there are no theories suggesting that their relation with inflation goes the opposite way, i.e. inflation affects them. However, there are mainly four variables whose direction of causality is under suspicion: funds from IMF and World Bank, regional and bilateral aid, level of democracy, and regime stability. It can easily be argued that all these variables are affected by inflation, rather than or as well as vice versa. For instance, although I found significant relation between IMF and World Bank and inflationary years, this relation can easily be interpreted as countries with many inflationary years receive more IMF and World Bank funds. It can also be argued that inflation causes regime instability or undermines democracy.

In order to make the causality analysis, we need to use initial variables rather than factor scores. Thus, as the first step, most representative variables that characterize the factor scores of funds from IMF and World Bank, regional and bilateral aid, level of democracy, and regime stability (i.e. the variables that are highly correlated with the factors) were picked. For the factor that represents funds from IMF and World Bank, *use of IMF funds* is chosen as the representative variable and for the factor that represents regional and bilateral aid the variable *funds from regional development banks* is chosen. For democracy factor *polity2* (polity score) and for regime instability *d3* (regime transition) is chosen. Then, as the period under consideration was divided into two, the data of these variables were totaled and/or averaged under two separate periods. All this was to create a time sequence.

The next step was running partial correlations. The *partial correlation* is a method for examining the potential effect of other variables on the relationships between two variables. Specifically, it is the correlation between two variables with the effect of other variables removed (Diekhoff 1992). Therefore, partial correlations would let us find out the correlation between a political variable and inflationary years, while controlling the effect of other variables. If a political variable and inflationary years are still correlated after controlling for the shared variance of other variables, we can say that other variables are unlikely to cause the relationship between these two variables.

While running partial correlations, first partial correlations were run between the first period values of the political variables (*use of IMF funds, funds from regional development banks, polity score,* and *regime transition*) and the second period values of number of inflationary years. Then, partial correlations between the first period values of number of inflationary years and second period values of the same political variables were run. This was repeated for each definition of inflationary years (number of years with inflation equal to or higher than 20 percent, 50 percent, and 100 percent).

The results, which can be seen at the Appendix-IX, indicate that at least the use of IMF funds may actually increase as a result of high number of inflationary years as well as vice versa. However, the correlation between the first period of use of IMF funds and second period of inflationary years is stronger than the correlation between the second period of use of IMF funds and first period of inflationary years. That can be interpreted as use of IMF funds affecting inflation more than inflation affecting use of funds. This confirms the hypothesis that IMF funds increase persistence of inflation, as discussed in chapter 4.

The first period of inflationary years does not have significant correlation with the second period of funds from regional development banks for any definition of inflationary years. However, there is significant negative correlation that runs in the other way, when inflationary years are defined either by 50 percent and more or 100 percent and more. This indicates that, as argued previously, funds from regional development banks have a negative effect on number of inflationary years, not vice versa.

The first period of inflationary years does not have significant correlation with the second period the level of democracy for any definition of inflationary years. However, there is significant negative correlation that runs in the other direction for two definitions of inflationary years (inflation rate equal to or over 20 percent and inflation rate equal to or over 50 percent). This indicates that, as expected, democracy has a negative effect on number of inflationary years, but inflationary years do not have a significant effect on democracy.

First period of regime stability variable does not have a significant correlation with second period of inflationary years under any definition of inflationary years. This rules out the possibility that inflationary years affect regime stability. [86]

As a result, causality analyses employed do not contradict the initial finding that political variables influence persistence of inflation, more than persistence of inflation influences political variables. Therefore, it is assumed that the presumed path of causality is correct.

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[86] A similar causality analysis was also employed by averaging and/or totaling the data five years before and five years after the peak inflation year and taking their partial correlations with the average inflation rate for the opposite five year periods. There were no significant correlations found, but partial correlations between post-peak period inflation rate and pre-peak period democracy level, use of IMF funds and concessional funds from regional development banks were found stronger than the correlations between pre-peak period inflation rate and post-peak period democracy level, use of IMF funds and concessional funds from regional development banks.
Also, another causality analysis, Hausman test through two-step least squares analyses with instrumental variables, was also attempted. However, the results were not definite because of technical errors.

9.5 SUMMARY

In this chapter, some statistical analyses were employed to study the influence of political variables on the ability to decrease inflation on a larger sample of states. In order to decrease the number of variables, first principal component analysis was employed within different variable groups. With the factor scores extracted from this analysis, negative binomial regression analysis was employed. Three different equations were used with different definitions of inflationary years. Then, also the direction of causality was checked.

The results of the statistical analyses are summarized in Table 67. These results indicate that many political variables have either a positive or a negative relation with number of years with inflation. The social factors (inequality and poverty) do not seem to have a significant relation. As explained in Chapter 8, this may be because political institutions may provide a sufficient barrier between social demands and economic policymaking.

Table 67: Summary of findings

Factors	Analysis findings
International politics	Financial flows from the IMF and the World Bank have a very strong positive relation with inflationary years.
	Aid relative to size of the economy has no significant relation with inflationary years for all definitions of high inflation.
	Financial flows from regional and bilateral aid have positive relation with inflationary years, if inflationary years are defined as years with inflation >=50%.
	Military expenses have a significant positive relation with inflationary years, if inflationary years are defined as years with inflation >=20% or >=50%.

Table 67   *(Continued from previous page)*

Factors	Analysis findings
Political regime	Regime instability has a positive relation with inflationary years, if inflationary years are defined as years with inflation >=100%.
	The level of democracy has a negative relation with inflationary years, when high inflation is defined as >=50% or >=100%.
Political system	Political stability has a negative relation with inflationary years, only if high inflation is defined as >=50%.
	Parliamentarism has a negative relation with inflationary years, only if high inflation is defined as >=20%.
	Power of the opposition has a positive relation with inflationary years, if high inflation is defined as >=50%.
Electoral and party system	Effects of polarization cannot be verified because of lack of data.
	Proportionality of the electoral systems has a positive relation with inflationary years, only if high inflation is defined as >=20% or >=50%.
	Fractionalization of the government parties has no significant relation with inflationary years.
	Fractionalization of the opposition is positively related to inflationary years for all definitions of high inflation.
Inequality & poverty	Income level of countries has no significant relation with inflationary years.
	Income inequality has no significant relation with inflationary years.
	Effects of poverty cannot be verified because of lack of data.

It can be concluded that political factors affect the ability of states to eliminate inflation, especially when it comes to fractionalization of opposition, and also funding from the World Bank and IMF and high military expenses, which are both determined by international security concerns. These are the variables that are significantly related to number of years with inflation, regardless of how we define high inflation. Aid from regional and bilateral organizations, level of democracy, regime instability, the type political system, political stability, power of the opposition, and proportionality of the electoral system are also significantly related to number of

years with inflation. However, the significance of these relations depends on how we define high inflation. Some of these variables are significant only when high inflation is defined strictly as 100 percent or above, whereas others are significant only when we use more extended definitions, such as 50 percent and above or 20 percent and above. The social variables analyzed, the variables related to poverty and equality, do not seem to have any significant association with inflationary years. Neither government fractionalization nor aid relative to size of the economy has a significant relation with inflationary years either.

A final problem was that the direction of the causality could be questioned for some variables, such as funds from IMF and the World Bank, bilateral and regional aid, level of democracy, and regime stability. However, the causality analysis conducted through partial correlations does not prove stronger causality in the opposite direction, i.e. from number of inflationary years to these political variables.

In short, we can argue that the results of the cross-national statistical analysis confirm the general hypothesis that many political factors are significantly related to the ability to eliminate inflation. This was also suggested after the case studies. However, on variable basis, some statistical results confirm the results of the case study analysis, while some results contradict them. These will be discussed in detail in the next chapter.

10.0   CONCLUSION

This dissertation has sought to explain the variation in the ability of countries to reduce inflation with reference to largely political variables. Accordingly, although we cannot explain a successful battle with persistent inflation only by looking into socio-political variables, some of these socio-political variables can help us understand part of what traditional economic analysis leaves unexplained. A socio-political analysis complements the traditional explanations of successful price stabilization.

The first chapter of this dissertation introduces the problem of why some countries were not able bring persistent inflation to an end in a timely manner. Although many countries suffered from inflation in the 1970s and even 1980s, a few of them were still struggling with inflation by the end of 1990s. Turkey, one of our cases, is one of those countries.

Both comparative case studies and a cross-national analysis are used in this study in order to get plausible explanations of inflation stabilization. Chapter 2 presents the existing mainstream theories which have sought to explain inflation and it also introduces the "socio-political" approach which has guided this study. From Chapter 4 to Chapter 8, five cases are analyzed in line with the model developed in Chapter 3. Each chapter focuses on a particular set of socio-political variables that are used to explain the variation in success of our five cases: Argentina, Brazil, Israel, Mexico, and Turkey.

Chapter 4 argues that some international political factors, like strategic position and threats to security, may influence states' ability to battle persistent inflation, but this effect mostly comes indirectly through international assistance and the effects on the budget. Chapters 5, 6, and 7 focus on domestic political factors and how they affect the ability of states to battle inflation. After comparing the cases with regard to their political regimes, political systems, and electoral and party systems, those chapters suggest that regime stability, level of democracy, political stability, and the power of the executive have an effect on the ability of governments to eliminate persistent inflation. Chapter 8 focuses on poverty and inequality, and concludes that rich countries are more able to decrease inflation than the poorer countries, and inequality does not affect the ability to stabilize prices negatively.

Chapter 9 employs a large sample cross-national analysis in order to compare the results of a larger sample with the findings of the case studies. Cross-national analysis is conducted through various statistical methods, which includes factor analysis and regression analysis.

10.1 SUMMARY OF THE MAJOR FINDINGS

Some findings of the large sample cross-national analysis support the findings of the case studies, but not all findings are verified. The findings are compared in Table 68.

Table 68: Comparison of case study results with cross-national analysis results

Factors	Case Studies	Cross-national analyses
International politics	Financial funds from the IMF and World Bank do not help control inflation. (Section 4.3.1)	SUPPORTED (A significant positive relation is found between the amount of IMF and WB funds and persistence of inflation.)
	The amount of financial assistance from the IMF and World Bank is not necessarily determined by strategic importance of a state. (Section 4.3.1)	not analyzed
	Official aid may help price stabilization. (4.3.2)	CONTRADICTED (no significant relation found)
	Military expenses may make it difficult to decrease inflation (but military aid can offset that effect). (Sections 4.2.2 & 4.3.3)	SUPPORTED for inflation ≥20% or ≥50% (effect of military aid not analyzed)
Political regime	Regime stability helps eliminate persistent inflation. (Chapter 5)	SUPPORTED for inflation ≥100%
	Increasing democracy may actually increase inflation, until consolidation. (Chapter 5)	in part CONTRADICTED (A negative relation is found between democracy and persistence of inflation, for inflation ≥50% or ≥100%.)
Political system	Political stability increases the ability to eliminate inflation. (Section 6.2)	SUPPORTED for inflation ≥50%
	Political system itself does not have much effect on the ability to eliminate persistent inflation. (Chapter 6)	CONTRADICTED (A negative relation is found between parliamentarism and persistence of inflation, for inflation ≥20%.)
	Power of the governing party(ies) in the legislature increases the ability of the government to decrease inflation. (Sections 6.3 & 6.4)	SUPPORTED (A positive relation is found between the power of the opposition and persistence of inflation, for inflation ≥50%.)

Table 68 *(Continued from previous page)*

Factors	Case Studies	Cross-national analyses
Electoral and party system	Polarization does not necessarily decrease the ability to control inflation. (Section 7.2.2)	(cannot be verified because of lack of data)
	Proportionality of the electoral system, measured by threshold rates, does not determine ability to eliminate inflation. (Section 7.1)	CONTRADICTED (A positive relation is found between the proportionality of the electoral systems and persistence of inflation, for inflation ≥20% or ≥50%.)
	Fractionalization of the government parties in the legislature does not necessarily have an impact on the ability to decrease inflation. (Section 7.2.1)	SUPPORTED (no significant relation found)
	Fractionalization of the opposition in the legislature does not necessarily affect the ability to decrease inflation. (Section 7.2.1)	CONTRADICTED (A positive relation is found between the fractionalization of the opposition and persistence of inflation.)
Inequality & poverty	Inequality does not have a direct relation with the ability to decrease inflation. (Section 8.2)	SUPPORTED
	Countries with higher income are more able to overcome inflation. (Section 8.3)	CONTRADICTED (no significant relation found)
	Poverty does not have a relation with inflation. (Section 8.3)	(cannot be verified because of lack of data)

As can be observed from Table 68, many statistical analysis results support what is found in the case analyses, but some do not. Regarding international political factors, there is some evidence that strategic importance and security threats are related to inflation stabilization. It is concluded from the case studies that international assistance does not necessarily make it easier to control inflation. To understand how international funds affect the ability to eliminate inflation, we have to look at the type of funds received. Contrary to statistical analysis which

finds no significant relation, case studies argue that official aid may help price stabilization. Statistical analysis indicates that funds from the IMF and World Bank are associated with more inflationary years. Neither case studies find any evidence that IMF and World funding helps price stabilization. Both case studies and cross-national analysis suggest that high military expenses decrease the ability to eliminate inflation. Nonetheless, case studies argue that aid can offset the effect of military expenses.

There are also common findings regarding domestic political factors. Both case studies and cross-national analysis confirm that regime instability makes states less able to tackle persistent inflation. When it comes to the level of democracy, case studies demonstrate that increasing democracy may increase inflationary years, but cross-national analysis argues that higher levels of democracy are associated with less number of inflationary years. Yet, both analyses agree that consolidated regimes can better deal with the inflation problem.

The case studies and cross-national analysis both suggest that political stability is associated with fewer inflationary years. Case studies argue that the power of the executive is more important than the type of the political system in relation to the ability to decrease inflation, whereas the cross-national analysis argues that parliamentarism in general is associated with fewer inflationary years. Additionally, in line with case studies, cross-national analysis suggests that a powerful opposition, leading to weaker government, is associated with more inflationary years.

Case studies do not find a direct relation between polarization and ability to control inflation. They neither find any effect of proportionality of the electoral formula on the ability to eliminate inflation. However, cross-national analysis suggests that high proportionality is associated with more inflationary years. Neither case studies nor cross-national analysis finds

any evidence that fractionalization of the government is an important factor that affects the ability of governments to tackle inflation problem. Although case studies do not support it, cross-national analysis discovers that fractionalization of the opposition is associated with less ability to decrease inflation.

The case studies find no relation between poverty level and the ability to decrease inflation, and lack of data does not permit any analysis of that relation through cross-national analysis. Although case studies argue that rich countries are more able to eliminate inflation, cross-national analysis finds no evidence to support that argument. Lastly, neither case studies nor cross-national analysis finds a significant relation between inequality and persistence of inflation.

There is a general problem with findings of the cross-national statistical analysis. They assume that the relations between variables are valid when all other factors are held constant. However, in reality most individual countries do not have the same conditions and their conditions change through time. Another problem is that the effects are complex and multiplicative. Especially when we mention political conditions, we are talking about some unique characteristics and complex relationships that each country has. Therefore, case studies may actually tell us more about the conditions that help countries to eliminate their persistent inflation problem.

Israel is the case that was most successful in price stabilization. After experiencing 14 subsequent years of high and hyperinflation, Israel eliminated its inflation problem by 1987. For Israel, a major factor of success was probably its consolidated democracy. Although it did not have a very favorable political environment, due to its highly proportional electoral system and polarized party system, the stable political environment that brought price stabilization was

facilitated through the stability of the regime and the "national unity government" of 1984-88, which ended the governmental crises.

Another distinctiveness of the Israeli case was the exceptional amount of international aid received. Most of this aid was composed of official economic and military aid, which helped Israel to balance its economy during hard times, despite its high military spending. As a matter of fact, Israel is a primary political ally of the US in international arena and the principal recipient of US aid.

Mexico was considered the other successful case in this study. After battling inflation for 12 subsequent years, Mexico initiated its famous *Solidarity Pact* in 1987. Although this program worked slower than the Israeli disinflationary program, Mexico was no longer a high inflation country by early 1990s. The findings of the case study argued that major factors behind the Mexican success were its stable regime and stable government. It was not too difficult to implement the anti-inflationary program in Mexico with the existing one-party system dominated by the PRI. Lack of political competition, stability of both the regime and the government, and lack of polarization and fractionalization were favorable conditions for price stabilization. I doubt that Mexico can initiate a similar program under current more democratic, competitive, fractionalized, and polarized political conditions.

The next case was Argentina. Argentina struggled a long time with high and hyper-inflation and has been long time customer of the IMF. It was a major recipient of IMF assistance as it was considered an exemplar country in terms of economic liberalization, but this assistance did not necessarily help Argentina to stabilize its prices. After 22 subsequent years of high inflation, the 1991 disinflationary program quickly eliminated persistent inflation. Although that was unexpected for some, it should not come as a surprise if we look into the political factors.

Indeed, by 1991 Argentina was politically stabilized. The democratic regime was consolidated and the two terms of Menem's rule also created a stable government. Carlos Menem (1989-1999) was a very strong President and made extensive use of decrees to implement his economic programs. The success of his disinflationary program was due to the support he received from the opposition which helped him to pass the *Convertibility Law* (1991). Another advantage of Argentina has been that its two-party system did not have much polarization or fractionalization. Also, Argentina's highly disproportional electoral system may have helped it with price stabilization.

The Brazilian case is similar to Argentina in terms of long-term struggle with high inflation and hyperinflation. They are also similar in terms of their regime instabilities. However, after also struggling with high inflation and hyperinflation for many subsequent years, Brazil succeeded in stabilization three years later than Argentine did. For Brazil, implementing a successful disinflationary program was difficult because the Brazilian political system is more unstable due to its extremely fractionalized and undisciplined party system. Brazil did not enjoy a powerful government as Argentina did. Yet, Brazilian Presidents are given more extraordinary powers, especially for issuing presidential decrees which bypass the legislature. Fernando Henrique Cardoso, the Economy Minister of that time, made extensive use of this power when he initiated and implemented his anti-inflationary economic program in 1994. His economic program, which dropped inflation to below 20 percent level by 1996, was successful also because of the electoral reform in 1994. The new electoral rules allowed concurrent elections, and thus, produced stronger government, which was especially advantageous for Cardoso when he was the President in 1995-2002.

Turkey is considered as the least successful case throughout this study. Although Turkey never fell victim to hyperinflation, its battle with inflation lasted 27 years, longer than other countries. By the early 2000s, Turkey was still suffering from high inflation. What made Turkey such a failure in terms of price stabilization? It was not a single factor but a combination of factors that hindered the stabilization process in Turkey. Turkey did not have regime stability like Israel or Mexico had. Its democratic regime was still shaky when Argentina and Brazil had already stabilized their regimes. For instance, in 1997 the military ousted the democratically elected government through its political and institutional power. Like Israel, Turkey has a parliamentary system with unstable governments. Yet, in the Israeli case this weakness was offset by the regime stability and the "national unity" government, while in Turkey none of these advantages was present. Instead, fractionalization and unstable governments continued in Turkey until 2003. Again similar to Israel, Turkey is a strategically important country and it faces various threats to its security. However, unlike Israel, Turkey does not receive enormous amounts of aid to compensate for its military spending or to balance its deficits.

10.2   WHAT HAVE WE LEARNED? IMPLICATIONS AND
RECOMMENDATIONS

This study has identified some political factors that significantly affect the ability to decrease inflation. Some of these findings confirm existing presumptions, while some are contradicted.

The effect of international factors is not as significant as expected. However, this is probably good news for the governments, because these factors usually cannot be controlled by the governments themselves. With no surprise military expenses contribute to the persistence of

inflation. These expenditures are decided by governments themselves, but they may be inevitable facing important security threats. Thus, even if cutting military expenditures can be recommended in battling inflation, it may not be a feasible policy under a conflictual international environment.

Important strategic position may both help and hinder stabilization efforts. Strategically important countries usually face higher threats to their security and, thus, spend more on military. Yet, they also receive more international assistance from other countries. By looking at the Turkish and Israeli cases, we can argue that unless a country is exceptionally lucky to receive high amount of direct assistance, then the net effect of strategic position may be more negative than positive.

Contrary to existing presumptions, funds from international financial institutions do not seem to increase the chances of stabilizing prices. Indeed, these funds seem to worsen persistence of inflation, does not matter whether they come because of strategic importance, because of an economic crisis, or as a support for neo-liberal policies. The same can be said for regional and bilateral aid. This is an important finding, because financial assistance is seen as a remedy for countries which have serious economic imbalances. And the countries which are distressed with high inflation desperately look for IMF funds before they initiate disinflationary programs. According to this study such funds are not useful for price stabilization. The aid received from other countries (official aid) does not necessarily help price stabilization either. Although case studies suggest that official aid may improve the chances of government to succeed in stabilization, the large sample cross-national analysis does not find a significant relation.

When it comes to domestic political institutions, this study suggests that regime stability and democracy contribute to government efforts to battle inflation. Nevertheless, regime stability (consolidation) is more important than the level of democracy. Both authoritarian and democratic countries can end persistent inflation if they are stable. Yet, consolidated democracies may have a better chance of stabilizing prices. Especially for countries with unstable regimes it is better to establish a stable democracy before initiating a major disinflationary plan. Otherwise, as Argentina and Brazil cases demonstrate, political instability may hinder stabilization efforts and each failed attempt to stabilize prices may add up to the persistence of inflation.

Political system (parliamentarism, presidentialism, or mixed) has also some effect on the ability to decrease inflation. According to the cross-national statistical analysis, parliamentary systems fare better in battling inflation. However, according to the case studies, the most important features of a political system are not the type of system itself, but the stability and power of government. A stable and powerful executive can battle persistent inflation successfully both in a parliamentary and a presidential system. On the negative side, a powerful opposition seems to exacerbate persistence of inflation as it may block the government efforts to stabilize prices. Curiously a fractionalized opposition also seems to impair the ability to stabilize prices. This may be because it would be easier to negotiate with a unified opposition on economic policies than a fragmented opposition. Therefore, for success in price stabilization, the government should be strong enough to prevail over the opposition but there should also be a non-fragmented opposition that the government can negotiate with.

The other effects of electoral and party system should probably be evaluated in the light of above findings. Electoral and party reforms that make the governments more stable and powerful may positively affect the ability to stabilize prices. For instance, although not supported

by the case studies, statistical analysis indicates a negative relation between proportionality in the electoral system and the ability to stabilize prices. Therefore, a less proportional electoral system may also be suggested in order to create governments with solid support in the legislature.

When it comes to social factors, the expectation was to find a negative correlation between inequality and inflation stabilization and between poverty and inflation stabilization. However, poverty and inequality do not seem to affect the ability of governments to eliminate persistent inflation. Although this was not expected, it may be because very poor and disenfranchised people do not have much political power to influence economic policies.

The governments that are concerned about inflation usually ignore their inequality and poverty problems and instead focus on austerity measures that even worsen these problems by cutting social benefits. Unfortunately the findings of this research do not encourage governments to pay attention to these social problems either, because persistent inflation can be eliminated without paying attention to inequality and/or poverty issues. However, this does not mean that inequality and poverty are less important problems than inflation.

Many scholars suggest that inflation deteriorates income inequality and poverty (Agenor 1998; Romer and Romer 1998; Easterly and Fischer 2001). Therefore, it is assumed by most policymakers that disinflation would automatically improve distribution of income and benefit the poor. Yet, as can be observed in Table 53, income inequalities in Argentina and Brazil increased after eliminating persistent inflation. And as can be seen in Table 56, poverty increased in all three Latin American cases after high inflation ended. Thus, I suggest that ending persistent inflation is not sufficient to decrease inequality and poverty. These problems should be tackled by separate policies and also the adverse effects of disinflationary policies on income distribution and poverty should carefully be dealt with.

I conclude that in order to lead a successful battle against persistent inflation, there should be favorable political conditions that facilitate adoption of effective disinflationary economic policies. Although disinflationary economic policies are more or less same for all countries, their successful application calls for a powerful and stable government functioning in a consolidated democratic regime.

10.3   LIMITATIONS AND FURTHER RESEARCH

Like all studies, this one has a number of limitations. These limitations are not only related to data collection and data analysis but also related to the scope of research and the validity of the conclusions. Although these limitations do not necessarily invalidate the findings, it may inspire further research that overcomes those limitations and bring about further explanations of price stabilization.

First of all, this study has focused only on five case countries. As mentioned previously, case studies are a very important source if we want to know the details of conditions that facilitate price stabilization. The cases of this study were chosen among typical inflationary ones, and they represent different socio-political configurations. However, they are all middle income (or high income countries in the case of Israel) with free market institutions in effect for many decades. Thus, the results of the cases may not be applicable to low income developing countries or to middle-income countries without a long history of open markets.

Secondly, the lack of complete data has limited some cross-national statistical analyses. In analysis of the previous chapter, the number of observations has dropped from over 150 countries to 45 countries. Lack of data on some variables has also left some factors (e.g.

polarization and poverty) unexplored in the cross-national analysis. Similarly, the period I focused on was only 26 years. This was the period when inflation was most widespread in the world, especially among developing countries, and the goal of this dissertation is to explain persistent inflation of that particular period. Yet, if an overall explanation of inflation is sought, a longer time frame would probably provide us more and different explanations. Also, as the dependent variable (number of inflationary years) is count data, regular regression and causality analyses could not be employed.

Another problem is that all variables analyzed in this study may be endogenous variables that may be caused by other factors that are not taken into consideration in this study. There are various characteristics (e.g., geography, culture, and so on) omitted in this research and these characteristics may influence not only political structures and political institutions, but also economic policies. Also, I may be capturing reverse causality in some relations. I have focused on the effects of political structures and institutions on inflation, but inflation may also influence political structures and institutions. For instance, I found that political stability affects inflation stabilization negatively, but persistent inflation may also cause political instability because of the public dissatisfaction it causes. A better example is the relation between inflation and inequality. I have hypothesized that inequality has an impact on inflation, but it is well known that inflation also has adverse effects on inequality (Agenor 1998; Romer and Romer 1998; Easterly and Fischer 2001). If there is such reverse causality, then the findings may be biased.

Another limitation is that this study does not focus on the details of inflation stabilization programs and strategies, not even for the five cases studied. The assumption was that these programs and strategies are more or less similar. However, the details of these programs and their connection to political factors may reveal some more explanations and clarifications.

283

Indeed, the same political factors that I focused on may also shape the stabilization programs and strategies chosen.

Also, this study does not seek to test economic theories of inflation. It acknowledges that economic theories cannot explain the variation in the ability to stabilize prices unless supplemented by socio-political analyses. However, at the same time this study readily accepts the premises of some economic views. It would be very beneficial to test validity of these economic theories, but to do that this research should have included many economic variables to its analyses. Economic variables are not included in the model, not even the ones which were readily accepted to affect inflation, like budget deficits. Similarly this study neither mentions nor looks into the inertia of inflation. Obviously occurrence of an inflationary year is not independent of other years with inflation. Therefore, further research should probably take inertia into consideration, especially in statistical analyses.

Lastly, the findings of this research provide us some associations, but neither case studies nor cross-national analysis can help us precisely predict the success or failure of a price stabilization program that a country is planning. Each country has unique conditions, the variables do not stay constant, and there are always some uncontrollable factors which may affect the course of stabilization. However, at least the findings of this research can help us evaluate the chances of and impediments to successful inflation stabilization in a particular country.

The topic of price stabilization is far from being completely explored. For scholars who are planning to conduct a similar socio-political analysis, it would probably help addressing to some of these limitations listed above.

Table 69: **Variables Used in the Analyses**

variable	measure	source
Persistence of inflation	Total number of years with high inflation	Converted from online IMF data on Consumer Price Index
Military importance	Aggregate number of heavy weapons holdings	*Bonn International Center for Conversion (BICC) Database*
	Number of armed forces personnel	1974-89 data are from *World Military Expenditures and Arms Transfers, 1995, 1965,* US Arms Control and Disarmament Agency. 1990-2003 data are from *BICC Yearbook 2005,* Bonn International Center for Conversion (BICC) Database
Economic importance	FDI stock (inward) in $ millions	*World Investment Report 2003*, UNCTAD
	External debt	*World Development Indicators 2003*, The World Bank
Security threats	major conflicts in (1945-2005)	*Conflictbarometer 1997/2002/2003/ 2004/2005*, Heidelberg Institute for International Conflict Research (University of Heidelberg).
Military spending	Military expenditure as a share (%) of GNP	*SIPRI Yearbook* 1982, 1988, 1993, 2002, 2003
World Bank assistance	Net financial flows from IBRD (current US$)	*World Development Indicators*, The World Bank (2005)
IMF assistance	Total IMF credit & loans outstanding (million US$)	*International Financial Statistics*, International Monetary Fund (January 2006)
International aid	Official development assistance and official aid (current US$)	*World Development Indicators*, The World Bank (2005)
US aid	US Overseas Loans and Grants, 1962-2004 (million US$)	*The U.S. Loans & Grants (Greenbook),* USAID Center for Development Information and Evaluation. (http://qesdb.usaid.gov/gbk/) *World Development Indicators*, The World Bank (2005)
Military assistance	US military assistance 1970-2004 (in million $US)	*The U.S. Loans & Grants (Greenbook),* USAID Center for Development Information and Evaluation. (http://qesdb.usaid.gov/gbk/)
	Military assistance as a percentage of military expenditure	Calculated by using data from *The U.S. Loans & Grants (Greenbook),* USAID Center for Development Information and Evaluation. (http://qesdb.usaid.gov/gbk/) and *World Development Indicators*, The World Bank (www.worldbank.org)

Table 69 *(Continued from previous page)*

variable	measure	source
Degree of democracy	Polity2 (Revised Combined Polity Score)	*Polity IV Report* data and *World Economic Outlook Database*, 2003 (IMF)
Political freedom (degree of democracy)	Civil and political freedom ratings	*Freedom in the World Country Ratings*, 1972-73 to 2001-2002.
Political systems	System (categorical data grouped as direct presidential, mixed system, parliamentary)	Beck et al, *Database on Political Institutions* (DPI)
Political Stability	Political stability, point estimate (The choice of units for governance ensures that the estimates of governance have a mean of zero, a standard deviation of one, and range from around –2.5 to around 2.5. Higher or positive values indicate greater political stability.)	*World Bank Aggregate Governance Indicators 1996-2002.*
	PRTYIN (how many years the party of chief executive has been in office)	*Database of Democratic Institutions* (DPI), 2001
Government power	MAJ – margin of majority (This is the fraction of legislative seats held by the government. It is calculated by dividing the number of government seats by total seats.	*Database of Democratic Institutions* (DPI), 2001
	Thresholds, number of lower house seats, and district sizes	Taken or calculated from the data provided in Mianwaring and Shugart (eds*), Presidentialism and Democracy in Latin America* and the *Database of Political Institutions* (DPI) IV.
Political fractionalization	Government fractionalization (GOVFRAC)	*Database of Political Institutions IV*
	Legislative fractionalization (FRAC)	*Database of Political Institutions IV*
	Effective number of parties	Calculated from the FRAC data of the *Database of Political Institutions IV*
	Opposition Fractionalization (OPPFRAC)	*Database of Political Institutions IV*
	Political polarization (POLARIZ)	*Database of Political Institutions IV*
Income inequality	Gini coefficients	*Social Panorama*, ECLAC; *Word Development Indicators*, World Bank
	Income Distribution in Latin America [Gini coefficients, income share of the poorest 25 % (urban), income share of the richest 10 % (urban)]	Data taken from Economic Commission on Latin America and the Caribbean (ECLAC), *Social Panorama of Latin America: 1999-2000,* United Nations, Santiago, Chile, LC/G.2068-P/I, 2000 and *Social Panorama of Latin America: 2002-2003,* United Nations, Santiago, Chile, LC/G.2209-P/I, 2004.

Table 69   *(Continued from previous page)*

variable	Measure	Source
Income inequality	Share of income for different percentiles of population in Latin America, ratio of average income per capita	Economic Commission on Latin America and the Caribbean (ECLAC), *Social Panorama of Latin America: 2002-2003*, United Nations, Santiago, Chile, LC/G.2209-P/I, 2004.
	Inequality data for Turkey (GINI coefficient, share of poorest 20% of population)	*Statistical Yearbook 1981* (UN), *Statistical Yearbook 1994* (UN), World Bank, *World Development Indicators 2000* *State Institute of Statistics* (Turkey) website
	Gini coefficients of Israel (1973-2003)	*Israeli Ministry of Finance* 1998 Baer & Maloney 1997: World Bank, *World Development Report* *LIS* Data base World Bank*, World Development Indicators 1999*
Poverty	GDP per capita (constant 1995 US$)	*World Bank, Word Development Indicators* (the online database)
	Percentage of people living on less than $1 a day (PPP)	*World Bank, Word Development Indicators* (the online database)
	Poverty gap at $1 a day (% of people)	*World Bank, Word Development Indicators* (the online database)
	Percentage of people who live in poverty	Ramos, 1996.
	Households below the poverty line, Households below the indigence line (Latin American cases)	Economic Commission on Latin America and the Caribbean (ECLAC), *Social Panorama of Latin America*, United Nations, Santiago, Chile, : 1991, 1992, 1994, 2002-2003.

MAIN ECONOMIC DATA ON ARGENTINA, BRAZIL, ISRAEL, MEXICO, AND TURKEY

Table 70: Inflation, consumer prices (annual %)

	Argentina	Brazil	Israel	Mexico	Turkey
1960	*na*	*na*	*na*	*na*	*na*
1961	13.4	*na*	6.8	1.6	0.5
1962	28.3	*na*	9.4	1.2	2.9
1963	23.9	*na*	6.6	0.6	3.1
1964	22.2	*na*	5.2	2.3	1.7
1965	28.6	*na*	7.7	3.6	5.9
1966	31.9	*na*	7.9	4.2	4.4
1967	29.2	*na*	1.7	3.0	6.8
1968	16.2	*na*	2.1	2.3	0.4
1969	7.6	*na*	2.4	3.4	7.9
1970	13.6	22.3	6.1	5.2	6.9
1971	34.7	20.1	12.0	5.3	15.7
1972	58.4	16.5	12.9	5.0	11.7
1973	61.2	12.7	20.0	12.0	15.4
1974	23.5	27.6	39.7	23.8	15.8
1975	182.9	28.9	39.3	15.2	19.2
1976	444.0	42.0	31.3	15.8	17.4
1977	176.0	43.7	36.8	29.0	27.1
1978	175.5	38.7	50.5	17.5	45.3
1979	159.5	53.9	78.3	18.2	58.7
1980	100.8	132.6	131.0	26.4	110.2
1981	104.5	101.7	116.8	27.9	36.6
1982	164.8	100.5	120.4	58.9	30.8
1983	343.8	135.0	145.6	101.8	31.4
1984	626.7	192.1	373.8	65.5	48.4
1985	672.2	226.0	`304.7`	57.7	45.0
1986	90.1	147.1	48.1	86.2	34.6
1987	131.3	228.3	19.8	`131.8`	38.8
1988	343.0	629.1	16.3	114.2	73.7
1989	3,079.8	1,430.7	20.2	20.0	63.3
1990	2,314.0	2,947.7	17.2	26.7	60.3
1991	`171.7`	432.8	19.0	22.7	66.0

Table 70   *(Continued from previous page)*

	Argentina	Brazil	Israel	Mexico	Turkey
1992	24.9	951.6	11.9	15.5	70.1
1993	10.6	1,928.0	10.9	9.8	66.1
1994	4.2	2,075.9	12.3	7.0	106.3
1995	3.4	66.0	10.0	35.0	88.1
1996	0.2	15.8	11.3	34.4	80.3
1997	0.5	6.9	9.0	20.6	85.7
1998	0.9	3.2	5.4	15.9	84.6
1999	(1.2)	4.9	5.2	16.6	64.9
2000	(0.9)	7.0	1.1	9.5	54.9
2001	(1.1)	6.8	1.1	6.4	54.4
2002	25.9	8.4	5.6	5.0	45.0
2003	13.4	14.7	0.7	4.5	25.3
2004	4.4	6.6	(0.4)	4.7	8.6
2005	9.6	6.9	1.3	4.0	8.2

Source*: World Development Indicators*, World Bank (htpp://devdata.worldbank.org/wdi2006)

(Highlighted years are the initiation years of the successful disinflationary programs.)

Table 71: GDP growth (annual %)

	Argentina	Brazil	Israel	Mexico	Turkey
1960	*na*	*na*	*na*	*na*	*na*
1961	5.4	10.3	11.2	5.0	*na*
1962	-0.9	5.2	10.2	4.7	*na*
1963	-5.3	0.9	10.7	8.1	*na*
1964	10.1	3.5	7.9	11.9	*na*
1965	10.6	3.1	9.0	6.6	*na*
1966	-0.7	4.2	-0.1	6.1	*na*
1967	3.2	4.9	3.0	5.9	*na*
1968	4.8	11.4	16.2	9.4	*na*
1969	9.7	9.7	13.6	3.4	4.1
1970	3.0	8.8	7.3	6.5	3.2
1971	5.7	11.3	11.2	3.8	5.6
1972	1.6	12.1	13.7	8.2	7.4
1973	2.8	14.0	3.3	7.9	3.3
1974	5.5	9.0	6.8	5.8	5.6
1975	0.0	5.2	3.3	5.7	7.2
1976	-2.0	9.8	1.3	4.4	10.5

Table 71   *(Continued from previous page)*

	Argentina	Brazil	Israel	Mexico	Turkey
1977	6.9	4.6	0.0	3.4	3.4
1978	-4.5	3.2	4.8	9.0	1.5
1979	10.2	6.8	6.3	9.7	-0.6
1980	4.2	9.1	6.9	9.2	-2.4
1981	-5.7	-4.4	5.1	8.8	4.9
1982	-5.0	0.6	1.8	-0.6	3.6
1983	3.9	-3.4	3.5	-4.2	5.0
1984	2.2	5.3	0.9	3.6	6.7
1985	-7.6	7.9	3.4	2.6	4.2
1986	7.9	8.0	4.8	-3.8	7.0
1987	2.9	3.6	7.2	1.9	9.5
1988	-2.6	-0.1	2.0	1.2	2.1
1989	-7.5	3.3	0.9	4.2	0.3
1990	-2.4	-4.3	6.8	5.1	9.3
1991	12.7	1.3	7.7	4.2	0.9
1992	11.9	-0.5	5.6	3.6	6.0
1993	5.9	4.9	5.6	2.0	8.0
1994	5.8	5.9	6.9	4.5	-5.5
1995	-2.8	4.2	6.7	-6.2	7.2
1996	5.5	2.7	5.4	5.1	7.0
1997	8.1	3.3	3.6	6.8	7.5
1998	3.9	0.1	3.7	4.9	3.1
1999	-3.4	0.8	2.3	3.9	-4.7
2000	-0.8	4.4	7.7	6.6	7.4
2001	-4.4	1.3	-0.3	-0.2	-7.5
2002	-10.9	1.9	-1.2	0.8	7.9
2003	8.8	0.5	1.7	1.4	5.8
2004	9.0	4.9	4.4	4.1	8.9
2005	9.2	2.3	5.2	3.0	7.4

Source: *World Development Indicators*, World Bank (htpp://devdata.worldbank.org/wdi2006)

(Highlighted years are the initiation years of the successful disinflationary programs.)

Table 72: Unemployment, total (% of total labor force)

	Argentina	Brazil	Israel	Mexico	Turkey
1980	2.3	na	4.8	na	na
1981	4.5	4.3	5.1	na	na
1982	4.8	3.9	5.0	na	10.9
1983	4.2	4.9	4.5	na	12.1
1984	3.8	4.3	5.9	na	11.9
1985	5.3	3.4	6.7	na	11.2
1986	4.4	2.4	7.1	na	na
1987	5.3	3.6	6.1	na	na
1988	6.0	3.8	6.4	2.5	8.4
1989	7.3	3.0	8.9	na	8.6
1990	7.3	3.7	9.6	na	8.0
1991	5.8	na	10.6	3.0	8.2
1992	6.7	6.4	11.2	3.1	8.5
1993	10.1	6.0	10.0	3.2	9.0
1994	12.1	na	7.8	4.2	8.6
1995	6.7	6.0	6.9	5.8	7.6
1996	17.2	6.8	6.7	4.3	6.6
1997	14.9	7.7	7.7	3.4	6.8
1998	12.8	8.9	8.5	2.9	6.9
1999	14.1	9.6	8.9	2.1	7.7
2000	15.0	na	8.8	2.2	6.5
2001	17.4	9.3	9.3	2.1	8.4
2002	19.6	9.2	10.3	2.4	10.4
2003	15.6	9.7	10.7	2.5	10.5
2004	na	na	na	3.0	10.3

Source: *World Development Indicators*, World Bank (http://devdata.worldbank.org/wdi2006)

(Highlighted years are the initiation years of the successful disinflationary programs.)

Table 73: Classification of Political Regimes *

	Argentina	Brazil	Mexico	Israel	Turkey
1970	autocracy	bureucracy	bureucracy	parliamentarism	parliamentarism
1971	autocracy	bureucracy	bureucracy	parliamentarism	parliamentarism
1972	autocracy	bureucracy	bureucracy	parliamentarism	parliamentarism
1973	presidentialism	bureucracy	bureucracy	parliamentarism	parliamentarism
1974	presidentialism	bureucracy	bureucracy	parliamentarism	parliamentarism
1975	presidentialism	bureucracy	bureucracy	parliamentarism	parliamentarism
1976	autocracy	bureucracy	bureucracy	parliamentarism	parliamentarism
1977	autocracy	bureucracy	bureucracy	parliamentarism	parliamentarism
1978	autocracy	bureucracy	bureucracy	parliamentarism	parliamentarism
1979	autocracy	presidentialism	bureucracy	parliamentarism	parliamentarism
1980	autocracy	presidentialism	bureucracy	parliamentarism	autocracy
1981	autocracy	presidentialism	bureucracy	parliamentarism	autocracy
1982	autocracy	presidentialism	bureucracy	parliamentarism	autocracy
1983	presidentialism	presidentialism	bureucracy	parliamentarism	parliamentarism
1984	presidentialism	presidentialism	bureucracy	parliamentarism	parliamentarism
1985	presidentialism	presidentialism	bureucracy	parliamentarism	parliamentarism
1986	presidentialism	presidentialism	bureucracy	parliamentarism	parliamentarism
1987	presidentialism	presidentialism	bureucracy	parliamentarism	parliamentarism
1988	presidentialism	presidentialism	bureucracy	parliamentarism	parliamentarism
1989	presidentialism	presidentialism	bureucracy	parliamentarism	parliamentarism
1990	presidentialism	presidentialism	bureucracy	parliamentarism	parliamentarism
1991	presidentialism	presidentialism	bureucracy	parliamentarism	parliamentarism
1992	presidentialism	presidentialism	bureucracy	parliamentarism	parliamentarism
1993	presidentialism	presidentialism	bureucracy	parliamentarism	parliamentarism
1994	presidentialism	presidentialism	bureucracy	parliamentarism	parliamentarism
1995	presidentialism	presidentialism	bureucracy	parliamentarism	parliamentarism
1996	presidentialism	presidentialism	bureucracy	parliamentarism	parliamentarism
1997	presidentialism	presidentialism	bureucracy	parliamentarism	parliamentarism
1998	presidentialism	presidentialism	bureucracy	parliamentarism	parliamentarism
1999	presidentialism	presidentialism	bureucracy	parliamentarism	parliamentarism
2000	presidentialism	presidentialism	bureucracy	parliamentarism	parliamentarism
2001	presidentialism	presidentialism	presidentialism	parliamentarism	parliamentarism
2002	presidentialism	presidentialism	presidentialism	parliamentarism	parliamentarism

Source: Przeworski and Vreeland (2000)

* Highlighted regimes signify regimes in inflationary years.

Governments in Argentina, Brazil, Israel, Mexico, and Turkey

Table 74: Governments in Argentina (21 governments- 8 military)

2003- present Néstor Kirchner (JP)	1989-1994 Carlos Saúl Menem Akil (JP)	1976-1981 Jorge Rafael Videla (Military)
2002-2003 Eduardo Duhalde (JP)	1983-1989 Raúl Alfonsín Foulkes (UCR)	1974-1976 María Estela Martínez de Perón (JP)
2001-2002 Eduardo Oscar Camaño (acting)	1982-1983 Reynaldo Benito Bignone (Military)	1973-1974 Juan Domingo Perón (JP)
2001-2001 Adolfo Rodríguez Saá (acting)	1982 Alfredo Óscar Saint-Jean (Military)	1973 Raúl Alberto Lastiri (FREJULI)
2001-2001 Ramón Puerta (acting)	1981-1982 Leopoldo Fortunato Galtieri (Military)	1973-1973 Héctor José Camporá (FREJULI)
1999-2001 Fernando De La Rua (UCR-FREPASO)	1981 Horacio Tomás Liendo (Military)	1971-1973 Alejandro Agustín Lanusse Gelly (Military)
1994-1999 Carlos Saúl Menem Akil (JP)	1981 Roberto Eduardo Viola (Military)	1970-1971 Roberto Marcelo Levingston (Military)

Table 75: Governments in Brazil (9 governments- 3 military)

2002- Luis Ignacio "Lula" DaSilva (PT)	1990-1992 Fernando Collor de Mello (PRN)	1979-1985 João Baptista de Oliveira Figueiredo (military/ARENA/PDS)
1995-2002 Fernando Henrique Cardoso (PSDB)	1985-1990 José Sarney (PMDB)	1974-1979 Ernesto Geisel Beckmann (military/ARENA)
1992-1995 Itamar Augusto Cautiero Franco (PMDB)	1985 Tancredo Neves (PMDB)	1969-1974 Emilio Garrastazú Médici (military/ARENA)

Table 76: Governments in Mexico (6 governments)

2000- Vicente Fox Quesada(PAN)	1988-1994Carlos Salinas de Gortari (PRI)	1976-1982 José López-Portillo y Pacheco (PRI)
1994-2000 Ernesto Zedillo Ponce de León(PRI)	1982-1988 Miguel de la Madrid Hurtado (PRI)	1970-1976 Luis Echeverría Álvarez (PRI)

Table 77: Governments in Israel (16 governments)

2001-2003 Ariel Sharon (Likud)	1990-1992 Yitzhak Shamir (Likud)	1977-1981 Menachem Begin (Likud)
2001-2003 Ariel Sharon (Likud)	1988-1990 Yitzhak Shamir (Likud)	1974-1977 Yitzhak Rabin (Labor)
1999-2001 Ehud Barak (Labor)	1986-1988 Yitzhak Shamir (Likud)	1974-1974 Golda Meir (Mapai)
1996-1999 Benjamin Netanyahu (Likud)	1984-1986 Shimon Peres (Labor)	1969-1974 Golda Meir (Mapai)
1995-1996 Shimon Peres (Labor)	1983-1984 Yitzhak Shamir (Labor)	
1992-1995 Yitzhak Rabin (Labor)	1981-1983 Menachem Begin (Likud)	

Table 78: Governments in Turkey (26 governments- 3 military)

2003 – present Tayyip Erdoğan (AKP)	1991-1993 VII. Suleyman Demirel (DYP-SHP)	1975-1977 IV. Suleyman Demirel (AP-MCP-MHP-CGP)
2002-2003 Abdullah Gül (AKP)	1991-1991 I. Mesut Yılmaz (ANAP)	1974-1975 Sadi Irmak (Non-party caretaker)
1999-2002 V. Bulent Ecevit (DSP-MHP-ANAP)	1989-1991 Yildirim Akbulut (ANAP)	1974-1974 I. Bulent Ecevit (CHP-MSP)
1999-1999 IV. Bulent Ecevit (DSP minority)	1987-1989 II. Turgut Özal (ANAP)	1973-1974 Naim Talu (military-JP)
1997-1999 III. Mesut Yılmaz (ANAP-DSP-DTP)	1983-1987 I. Turgut Özal (ANAP)	1972-1973 Ferit Melen (military-JP)
1996-1997 Necmettin Erbakan (Refah-DYP)	1980-1983 Bulent Ulusu (military)	1971-1972 II. Nihat Erim (military-JP)
1996-1996 II. Mesut Yılmaz (ANAP-DYP)	1979-1980 VI. Suleyman Demirel (AP minority)	1971-1971 I. Nihat Erim (military-JP)
1995-1996 III. Tansu Çiller (DYP-CHP)	1978-1979 III. Bulent Ecevit (CHP)	1970-1971 III. Suleyman Demirel (AP)
1995-1995 II. Tansu Çiller (DYP)	1977-1978 V. Suleyman Demirel (AP-MCP-MHP)	1969-1970 II. Suleyman Demirel (AP)
1993-1995 I. Tansu Çiller (DYP-SHP)	1977-1977 II. Bulent Ecevit (CHP minority)	

Table 79: Variables Used In the Statistical Analyses

Group	variable	measure	source
Persistence of inflation	inflyrs20	Total number of years with inflation over 20%	Converted from online IMF data on Consumer Price Index
	inflyrs50	Total number of years with inflation over 50%	
	inflyrs100	Total number of years with inflation over 100%	
Strategic and security concerns	miltryexp	Military expenditure as a share (%) of GNP, average	*World Development Indicators (WDI)*, The World Bank (2005)
	miltrypers	Number of armed forces personnel, average	
	strategic	Strategic importance	Coded according to a country's geographic position (Middle East, Pakistan & Afghanistan included; US neighbors; North East Asia; all Europe; and Caribbean), oil reserves (top 20 countries with the biggest oil reserves taken from http://www.scaruffi.com/politics/oil.html), size of military personnel (20 countries with the biggest army, taken from the *WDI*), and size of the economy (20 biggest economies of the world, taken from the *WDI*).
International assistance	milibrdflows	Net financial flows from IBRD (current million US$), average	*World Development Indicators*, The World Bank (2005)
	milidaflows	Net financial flows from IDA (current million US$), average	
	milimfconflws	Net financial flows from IMF, concessional (current military US$), average	
	milimfnconflw	Net financial flows from IMF, non-concessional (current million US$), average	
	milrbdconflw	Net financial flows from regional and development banks, concessional (current million US$), average	

Table 79   *(Continued from previous page)*

Group	variable	measure	source
International assistance	milrbdnconflw	Net financial flows from regional and development banks, concessional (current million US$), average	
	miltotalflows	Net total financial flows (current million US$), average	
	milothrflow	Net other financial flows (current million US$), average	
	miluseofimf	Use of IMF credit (current million US$), average	
	aidexp	Aid (% of central government expenses) , average	
	aidgni	Aid (% of Gross National Income) , average	
	miloffaid	Official development assistance and official aid (current US$), average	
Political regime	polity2	*Polity2* (Revised Combined Polity Score), average	*Polity IV Report* data
	polity2chng	Percentage change in *polity2* variable (compared to previous year), average	calculated from the *Polity IV Report* data
	polity2var	Variance of *polity2* variable, average	
	legelec	Number of legislative elections ("1" for each year where there was a legislative election in a year), total	*Database of Democratic Institutions* (DPI), 2001
	exelec	Number of executive elections ("1" for each year where there was a executive election in a year), total	
	liec1	Modified version of *liec* in DPI (Legislative Index of Electoral Competitiveness); 1 for years with *liec* >=6, average	calculated from the *Database of Democratic Institutions* (DPI), 2001
	eiec1	Modified version of *eiec* in DPI (Executive Index of Electoral Competitiveness); 1 for years with *eiec* >=6, average	
	durable	Regime durability, average	*Polity IV Report* data

Table 79 *(Continued from previous page)*

Group	variable	measure	source
Political regime	xrcomp1	Competitiveness of Executive Recruitment, total (coded "1" for each year where the executive of one of the executives is selected through competitive elections), total	coded from the *XRCOMP* data of the *Polity IV Report* data
	reprsupp	Competitiveness of Participation, total (coded "1" if PARCOMP is 1 [repressed] or 2 [suppressed]), total	coded from the *PARCOMP* data of the *Polity IV Report* data
	competpar	lack of competitiveness of participation, total (coded "1" for each year where PARCOMP is 5 [competitive]), total	
	d3	Regime Transition Completed, total ("1' for each year where regime transition is completed), total	*Polity IV Report* data
Political systems	president	categorical data of the political system (presidential systems are coded 1, the rest 0)	Coded from the *SYSTEM* variable of the *Database on Political Institutions* (DPI)
	parliament	categorical data of the political system (parliamentary systems are coded 1, the rest 0)	
	prtyin	how long the Party of Chief executive has been in office, total	*Database on Political Institutions* (DPI)
	allhouse	Does party of executive control all relevant houses? (total)	
	oppmajh	Does one opposition party have majority in the House? (total)	
	majority	MAJ – margin of majority (This is the fraction of legislative seats held by the government. It is calculated by dividing the number of government seats by total seats.) [total]	
	tensys	Tenure of system or executive, total	
	checks	Checks and Balances, total	

Table 79   *(Continued from previous page)*

Group	variable	measure	source
Political systems	stabs	% of veto players who drop from the government in any given year, total	
	powerexect	Executive Constraints, total (coded "1" if XCONST is 1 [Unlimited Authority], 2 [Intermediate Category], or 3[Slight to Moderate Limitation on Executive Authority])	coded from the *XCONST* data of the *Polity IV Report* data
	nopowerexect	Executive Constraints, total (coded "1" if XCONST is 7 [Executive Parity or Subordination]	
Electoral & Party System	govfrac	Government fractionalization (GOVFRAC)	*Database of Political Institutions*
	frac	Legislative fractionalization (FRAC)	
	oppfrac	Opposition Fractionalization: The probability that two deputies picked at random from among the opposition parties will be of different parties (average)	
	herfgov	Herfndahl Index Government: The sum of the squared seat shares of all parties in the government (average)	
	herfopp	Herfindahl Index Opposition: The sum of the squared seat shares of all parties in the opposition (average)	
	herftot	Herfindahl Index Total: The sum of the squared seat shares of all parties in the legislature (average)	

Table 79   *(Continued from previous page)*

Group	variable	measure	source
Electoral & Party System	polarization	Political polarization (POLARIZ)- the maximum difference between the chief executive's party's value (EXECRLC) and the values of the three largest government parties and the largest opposition party. [average]	
	partyage	This is the average of the ages of the 1st government party, 2nd government party, and 1st opposition party, or the subset of these for which age of party is known. [average]	
	mdmh	mean district magnitude (House)--The weighted average of the number of representatives elected by each constituency size, if available. If not, the number of seats is divided by the number of constituencies [average]	
	pluralty	Plurality? (1 if yes, 0 if no), average	
	propor	Proportional Representation? (1 if yes, 0 if no), average	
Income Inequality & Poverty	gini	Gini index, average	*World Bank, Word Development Indicators* (the online database)
	incmlow10	Income share held by lowest 10% percentile of the population, average	
	incmdiff10	income share difference between lowest %10 and highest %10 percentile of the population, average	calculated from the *World Bank, Word Development Indicators* (the online database)
	lggdpcapt	Logarithm of GDP per capita (constant 1995 US$), average	
	emplyagr	Employment in agriculture (% of total employment), average	*World Bank, Word Development Indicators* (the online database
	emplyind	Employment in industry (% of total employment), average	

FACTOR ANALYSES

1.
. factor aidexp aidgni milibrdflws milidaflws milothrflow milrbdconflw milrbdnconflw milimfconflw milimfnconflw miltotalflows miloffaid miluseofimf miltryexp miltrypers strategic, pcf
(obs=82)

(principal component factors; 4 factors retained)

Factor	Eigenvalue	Difference	Proportion	Cumulative
1	4.66949	2.46865	0.3113	0.3113
2	2.20084	0.24822	0.1467	0.4580
3	1.95262	0.35730	0.1302	0.5882
4	1.59532	0.63949	0.1064	0.6946
5	0.95583	0.02676	0.0637	0.7583
6	0.92907	0.11988	0.0619	0.8202
7	0.80919	0.29558	0.0539	0.8742
8	0.51361	0.02965	0.0342	0.9084
9	0.48395	0.17773	0.0323	0.9407
10	0.30623	0.07882	0.0204	0.9611
11	0.22741	0.07451	0.0152	0.9762
12	0.15290	0.01942	0.0102	0.9864
13	0.13348	0.06345	0.0089	0.9953
14	0.07004	0.07004	0.0047	1.0000
15	-0.00000	.	-0.0000	1.0000

Factor Loadings

Variable	1	2	3	4	Uniqueness
aidexp	-0.49776	0.67754	0.11757	0.23991	0.22180
aidgni	-0.50414	0.55355	0.24124	0.24804	0.31971
milibrdflws	0.92714	0.18242	0.15790	-0.12397	0.06683
milidaflws	0.32450	0.40351	-0.52198	0.30024	0.36928
milothrflow	0.26773	-0.29460	-0.57959	0.19665	0.46693
milrbdconflw	-0.00718	0.37269	-0.32646	0.53421	0.46910
milrbdncon~w	0.60960	-0.05689	-0.43633	-0.23336	0.38031
milimfconflw	-0.22169	0.22228	0.13574	0.07480	0.87742
milimfncon~w	0.66451	0.26405	0.60686	-0.04995	0.11793
miltotalfl~s	0.93203	0.31726	0.10877	0.01661	0.01856
miloffaid	0.60219	0.27910	-0.29063	0.43982	0.28157
miluseofimf	0.82189	0.22398	0.35766	-0.13921	0.12703
miltryexp	0.12645	-0.35424	0.45166	0.62443	0.26462
miltrypers	0.05574	-0.57680	0.35847	0.57726	0.20246
strategic	0.58541	-0.45201	-0.08310	0.21887	0.39817

. rotate

(varimax rotation)

```
               Rotated Factor Loadings
       Variable |     1         2         3         4      Uniqueness
    ------------+---------------------------------------------------
         aidexp |  -0.16340   0.84206  -0.15767  -0.13256   0.22180
         aidgni |  -0.15838   0.80849  -0.03844  -0.00843   0.31971
     milibrdflws|   0.91392  -0.27253  -0.14462  -0.05236   0.06683
      milidaflws|   0.14844   0.00143  -0.75362  -0.20184   0.36928
      milothrflow|  -0.14609  -0.53217  -0.47670   0.03579   0.46693
    milrbdconflw |  -0.08062   0.27926  -0.66578   0.05614   0.46910
     milrbdncon~w|   0.32781  -0.57389  -0.29482  -0.30979   0.38031
     milimfconflw|  -0.06020   0.34349   0.03070  -0.00465   0.87742
     milimfncon~w|   0.90640   0.11850   0.15001   0.15483   0.11793
     miltotalfl~s|   0.92640  -0.16006  -0.31007  -0.03819   0.01856
        miloffaid|   0.42080  -0.08736  -0.72551   0.08579   0.28157
      miluseofimf|   0.92741  -0.11289   0.01113   0.00260   0.12703
        miltryexp|   0.10890   0.03482  -0.00682   0.84986   0.26462
       miltrypers|  -0.05914  -0.14538   0.05623   0.87735   0.20246
         strategic|   0.27502  -0.58400  -0.20331   0.37922   0.39817
```

. score fimfwb faidpercnt flowregbilaid fhghmilexp
            (based on rotated factors)
```
              Scoring Coefficients
       Variable |     1         2         3         4
    ------------+-----------------------------------------
         aidexp |   0.02345   0.33972  -0.12662  -0.01963
         aidgni |   0.02990   0.32709  -0.06908   0.04121
     milibrdflws|   0.32654  -0.00624  -0.01200  -0.05819
      milidaflws|   0.04979   0.04876  -0.39281  -0.07949
     milothrflow|  -0.11761  -0.21327  -0.24760   0.01956
    milrbdconflw |  -0.04052   0.14445  -0.37627   0.08300
    milrbdncon~w |   0.06182  -0.20622  -0.09704  -0.19510
     milimfconflw|   0.02396   0.13832  -0.00560   0.01360
     milimfncon~w|   0.42552   0.16198   0.10029   0.05675
     miltotalfl~s|   0.00000   0.00000   0.00000   0.00000
        miloffaid|   0.05515   0.04173  -0.34637   0.07823
      miluseofimf|   0.26870   0.04450   0.08933  -0.01854
        miltryexp|   0.02322   0.06943  -0.04385   0.47546
       miltrypers|  -0.04038  -0.02488  -0.01851   0.48049
         strategic|   0.00168  -0.19085  -0.07892   0.18942
```

2.
. factor legelec exelec liec1 eiec1 polity2 polity2chng polity2var durable
xrcomp1 reprsupp competpar d3, pcf
(obs=137)

```
          (principal component factors; 2 factors retained)
     Factor      Eigenvalue     Difference     Proportion    Cumulative
    -------------------------------------------------------------------
        1          5.02323       2.50406         0.4186        0.4186
        2          2.51917       1.55319         0.2099        0.6285
        3          0.96598       0.08145         0.0805        0.7090
        4          0.88453       0.26821         0.0737        0.7827
        5          0.61632       0.10512         0.0514        0.8341
        6          0.51119       0.08334         0.0426        0.8767
```

```
    7       0.42785        0.06980      0.0357      0.9124
    8       0.35805        0.08874      0.0298      0.9422
    9       0.26932        0.05700      0.0224      0.9646
   10       0.21232        0.03334      0.0177      0.9823
   11       0.17898        0.14591      0.0149      0.9972
   12       0.03306           .         0.0028      1.0000
```

```
                Factor Loadings
     Variable  |     1          2      Uniqueness
-------------+-------------------------------
     legelec  |   0.71721    0.35492    0.35964
      exelec  |  -0.08539    0.55537    0.68427
       liec1  |   0.83996    0.31689    0.19405
       eiec1  |   0.36954   -0.05386    0.86054
      polity2 |   0.93751    0.23323    0.06668
  polity2chng |  -0.35904    0.70746    0.37058
   polity2var |  -0.27854    0.66571    0.47924
      durable |   0.55488   -0.46512    0.47577
      xrcomp1 |   0.81268    0.27004    0.26663
      reprsupp |  -0.85203   -0.31671    0.17375
     competpar |   0.84564   -0.19020    0.24871
           d3 |  -0.40576    0.74674    0.27773
```

. rotate

```
           (varimax rotation)
             Rotated Factor Loadings
     Variable  |     1          2      Uniqueness
-------------+-------------------------------
     legelec  |   0.79823    0.05644    0.35964
      exelec  |   0.13160    0.54627    0.68427
       liec1  |   0.89739   -0.02530    0.19405
       eiec1  |   0.32151   -0.18997    0.86054
      polity2 |   0.95593   -0.13971    0.06668
  polity2chng |  -0.06395    0.79078    0.37058
   polity2var |  -0.00529    0.72161    0.47924
      durable |   0.33706   -0.64080    0.47577
      xrcomp1 |   0.85438   -0.05831    0.26663
      reprsupp |  -0.90849    0.03004    0.17375
     competpar |   0.71035   -0.49667    0.24871
           d3 |  -0.09227    0.84484    0.27773
```

. score fdemocracy fregiminstbl

```
           (based on rotated factors)
             Scoring Coefficients
     Variable  |     1          2
-------------+-------------------
     legelec  |   0.18554    0.07622
      exelec  |   0.06787    0.21044
       liec1  |   0.20243    0.05299
       eiec1  |   0.05996   -0.04768
      polity2 |   0.20780    0.01489
  polity2chng |   0.04036    0.28696
   polity2var |   0.04890    0.26555
      durable |   0.03220   -0.21273
      xrcomp1 |   0.19035    0.03784
      reprsupp |  -0.20462   -0.05201
```

```
    competpar |    0.12714    -0.13370
           d3 |    0.03767     0.30492




3.
. factor  president parliament prtyin allhouse oppmajh majority tensys checks
stabs powerexect nopowerexect,  pcf
(obs=122)


          (principal component factors; 3 factors retained)
   Factor     Eigenvalue      Difference      Proportion     Cumulative
--------------------------------------------------------------------
      1         5.45247         3.90682         0.4957         0.4957
      2         1.54565         0.45706         0.1405         0.6362
      3         1.08859         0.32841         0.0990         0.7352
      4         0.76018         0.14902         0.0691         0.8043
      5         0.61117         0.16009         0.0556         0.8598
      6         0.45108         0.10731         0.0410         0.9008
      7         0.34377         0.07368         0.0313         0.9321
      8         0.27009         0.06567         0.0246         0.9566
      9         0.20442         0.04129         0.0186         0.9752
     10         0.16313         0.05368         0.0148         0.9901
     11         0.10945            .            0.0099         1.0000


              Factor Loadings
     Variable |     1           2           3      Uniqueness
-------------+-------------------------------------------------
    president |  -0.52382    -0.67293     0.05411     0.26986
   parliament |   0.81305     0.39894    -0.11757     0.16596
       prtyin |  -0.41386     0.57099     0.19502     0.46466
      allhouse |  -0.74943     0.30300    -0.05264     0.34378
       oppmajh |   0.10311    -0.40569     0.79286     0.19615
      majority |  -0.81387     0.32543     0.05796     0.22834
        tensys |   0.74159     0.30885     0.29143     0.26972
        checks |   0.90608     0.01193     0.03168     0.17787
         stabs |   0.44067    -0.35609    -0.54945     0.37711
   powerexect |  -0.88951     0.09987    -0.05597     0.19566
 nopowerexect |   0.86875     0.11410     0.08994     0.22417


. rotate


           (varimax rotation)
            Rotated Factor Loadings
     Variable |     1           2           3      Uniqueness
-------------+-------------------------------------------------
    president |  -0.78803    -0.17859     0.27796     0.26986
   parliament |   0.86706    -0.20860    -0.19680     0.16596
       prtyin |   0.00116     0.72547    -0.09507     0.46466
      allhouse |  -0.46126     0.62113    -0.24012     0.34378
       oppmajh |  -0.00574    -0.04765     0.89529     0.19615
      majority |  -0.48407     0.71649    -0.15484     0.22834
        tensys |   0.82617    -0.07611     0.20479     0.26972
        checks |   0.75790    -0.48631     0.10597     0.17787
         stabs |   0.07968    -0.72041    -0.31232     0.37711
   powerexect |  -0.68750     0.54950    -0.17243     0.19566
 nopowerexect |   0.79216    -0.36800     0.11349     0.22417
```

```
. score fparliament fpolstabil fopppowr
            (based on rotated factors)
              Scoring Coefficients
      Variable |     1         2         3
------------+---------------------------------
    president |  -0.30744   -0.24581    0.21518
   parliament |   0.24533    0.06370   -0.19047
       prtyin |   0.16742    0.38247    0.00394
      allhouse |  -0.01464    0.20180   -0.13684
      oppmajh |  -0.00786    0.07938    0.77030
     majority |   0.00012    0.25841   -0.05169
       tensys |   0.26432    0.17392    0.17315
       checks |   0.14581   -0.07611    0.03829
        stabs |  -0.14111   -0.40954   -0.35599
    powerexect |  -0.10768    0.11874   -0.08797
  nopowerexect |   0.18483   -0.00313    0.05908
```

4.
```
. factor  herfgov govfrac herfopp oppfrac herftot frac partyage mdmh pluralty
propor polarization, pcf
(obs=115)


          (principal component factors; 3 factors retained)
    Factor     Eigenvalue     Difference     Proportion    Cumulative
  --------------------------------------------------------------------
      1         4.25398        2.03861         0.3867        0.3867
      2         2.21537        0.58751         0.2014        0.5881
      3         1.62787        0.69138         0.1480        0.7361
      4         0.93648        0.20625         0.0851        0.8212
      5         0.73023        0.24695         0.0664        0.8876
      6         0.48329        0.08038         0.0439        0.9316
      7         0.40291        0.06297         0.0366        0.9682
      8         0.33994        0.33096         0.0309        0.9991
      9         0.00897        0.00807         0.0008        0.9999
     10         0.00090        0.00083         0.0001        1.0000
     11         0.00007           .            0.0000        1.0000


              Factor Loadings
      Variable |     1         2         3      Uniqueness
------------+---------------------------------------------
      herfgov |  -0.85816    0.18925    0.28397    0.14710
      govfrac |   0.85854   -0.18835   -0.28458    0.14644
      herfopp |  -0.28976    0.80768   -0.45805    0.05388
      oppfrac |   0.24339   -0.82416    0.45422    0.05521
      herftot |  -0.90203   -0.03397    0.23098    0.13183
         frac |   0.90172    0.03586   -0.23384    0.13093
     partyage |   0.19252    0.54678    0.04086    0.66230
         mdmh |   0.20038    0.17270    0.57551    0.59882
     pluralty |  -0.46022   -0.47589   -0.50357    0.30814
       propor |   0.38838    0.45904    0.58656    0.29439
 polarization |   0.75540    0.20992    0.10750    0.37375
```

```
. rotate
          (varimax rotation)
              Rotated Factor Loadings
       Variable |      1          2          3    Uniqueness
     ------------+---------------------------------------------
        herfgov |  -0.90910    0.16205    0.01318    0.14710
        govfrac |   0.90964   -0.16105   -0.01302    0.14644
        herfopp |  -0.12689    0.96427   -0.01403    0.05388
        oppfrac |   0.08667   -0.96802   -0.01433    0.05521
        herftot |  -0.91720    0.00979   -0.16378    0.13183
           frac |   0.91794   -0.00668    0.16252    0.13093
       partyage |   0.13290    0.40398    0.39603    0.66230
           mdmh |  -0.05115   -0.18689    0.60303    0.59882
       pluralty |  -0.20029   -0.05917   -0.80514    0.30814
         propor |   0.10255    0.01478    0.83359    0.29439
   polarization |   0.64053   -0.01117    0.46459    0.37375

. score fgovfrac foppfrac fproportnl
          (based on rotated factors)
              Scoring Coefficients
       Variable |      1          2          3
     ------------+------------------------------------
        herfgov |  -0.25814    0.01690    0.10726
        govfrac |   0.25834   -0.01638   -0.10729
        herfopp |   0.02961    0.46281   -0.04081
        oppfrac |  -0.03831   -0.46593    0.03111
        herftot |  -0.24968   -0.04903    0.02419
           frac |   0.25026    0.05067   -0.02509
       partyage |   0.01914    0.18619    0.16900
           mdmh |  -0.09975   -0.12515    0.32813
       pluralty |   0.03325   -0.00178   -0.39043
         propor |  -0.06841   -0.02795    0.41910
   polarization |   0.13223    0.01444    0.16486


5.
. factor   gini incmlow10 incmdiff10 lggdpcapt emplyagr emplyind, pcf
(obs=90)


          (principal component factors; 2 factors retained)
    Factor     Eigenvalue     Difference     Proportion     Cumulative
   ------------------------------------------------------------------------
       1         3.01748        0.64294         0.5029         0.5029
       2         2.37454        2.11570         0.3958         0.8987
       3         0.25884        0.07992         0.0431         0.9418
       4         0.17892        0.09054         0.0298         0.9716
       5         0.08838        0.00654         0.0147         0.9864
       6         0.08184           .            0.0136         1.0000


              Factor Loadings
       Variable |      1          2    Uniqueness
     ------------+------------------------------
           gini |   0.83762    0.48747    0.06076
      incmlow10 |  -0.67798   -0.66617    0.09656
     incmdiff10 |   0.72069    0.60575    0.11367
      lggdpcapt |  -0.74195    0.53924    0.15873
```

306

```
emplyagr |    0.59493    -0.76422     0.06203
emplyind |   -0.65755     0.67185     0.11623
```

. rotate
```
          (varimax rotation)
            Rotated Factor Loadings
   Variable |       1          2     Uniqueness
-------------+-------------------------------
       gini |    0.18773     0.95079     0.06076
   incmlow10 |    0.05188    -0.94908     0.09656
  incmdiff10 |    0.02169     0.94120     0.11367
   lggdpcapt |   -0.89503    -0.20045     0.15873
    emplyagr |    0.96672    -0.05858     0.06203
    emplyind |   -0.93879    -0.04947     0.11623
```

. score flowincome finequality
```
          (based on rotated factors)
            Scoring Coefficients
   Variable |       1          2
-------------+---------------------
       gini |    0.02939     0.34400
   incmlow10 |    0.06206    -0.35403
  incmdiff10 |   -0.03360     0.34784
   lggdpcapt |   -0.33293    -0.03445
    emplyagr |    0.37184    -0.06473
    emplyind |   -0.35636     0.02345
```

SUMMARY DESCRIPTION OF DEPENDENT VARIABLES

1.
. summarize inflyrs20, detail

```
                         inflyrs20
-------------------------------------------------------------------
      Percentiles        Smallest
  1%            0                 0
  5%            0                 0
 10%            0                 0        Obs                   135
 25%            0                 0        Sum of Wgt.           135

 50%            2                          Mean             5.607407
                         Largest           Std. Dev.        6.688257
 75%           11                21
 90%           17                21        Variance         44.73278
 95%           20                24        Skewness          1.14048
 99%           24                26        Kurtosis         3.164191
```

2.
. summarize inflyrs50, detail

```
                         inflyrs50
-------------------------------------------------------------------
      Percentiles        Smallest
  1%            0                 0
  5%            0                 0
 10%            0                 0        Obs                   135
 25%            0                 0        Sum of Wgt.           135

 50%            0                          Mean             2.155556
                         Largest           Std. Dev.        4.214167
 75%            2                15
 90%            8                17        Variance          17.7592
 95%           13                17        Skewness         2.144043
 99%           17                18        Kurtosis         6.885776
```

3.
. summarize inflyrs100, detail

```
                         inflyrs100
-------------------------------------------------------------------
      Percentiles        Smallest
  1%            0                 0
```

5%	0	0		
10%	0	0	Obs	135
25%	0	0	Sum of Wgt.	135
50%	0		Mean	1.022222
		Largest	Std. Dev.	2.675111
75%	0	10		
90%	3	11	Variance	7.156219
95%	7	15	Skewness	3.492957
99%	15	16	Kurtosis	16.42554

REGRESSION ANALYSES AND OVERDISPERSION TESTS

1.

Poisson regression analysis with Goodness of fit test for inflation years ≥20% with IRR:

```
. poisson  inflyrs20  fimfwb faidpercnt flowregbilaid fhghmilexp fdemocracy
fregiminstbl fparliament fpolstabil fopppowr fgovfrac foppfrac fproportnl  flowincome
finequality, irr


Iteration 0:   log likelihood =  -164.8538
Iteration 1:   log likelihood = -164.57967
Iteration 2:   log likelihood = -164.57908
Iteration 3:   log likelihood = -164.57908
```

```
Poisson regression                          Number of obs   =         45
                                            LR chi2(14)     =     170.12
                                            Prob > chi2     =     0.0000
Log likelihood = -164.57908                 Pseudo R2       =     0.3407
```

```
------------------------------------------------------------------------------
    inflyrs20 |       IRR   Std. Err.       z    P>|z|     [95% Conf. Interval]
--------------+---------------------------------------------------------------
        fimfwb |  3.496879   .8766857     4.99   0.000     2.139341    5.715856
    faidpercnt |  .7149622   .0827166    -2.90   0.004     .5699075    .8969366
  flowregbil~d |  1.275003   .1300588     2.38   0.017     1.043958    1.557182
    fhghmilexp |  2.522086   .4510101     5.17   0.000     1.776415    3.580761
    fdemocracy |  .7522215   .1212032    -1.77   0.077     .5485222    1.031567
  fregiminstbl |  1.432334   .1820061     2.83   0.005     1.116561    1.837411
   fparliament |  .4725077   .0973845    -3.64   0.000     .3154823    .7076893
    fpolstabil |  1.125044   .1378357     0.96   0.336     .8848788    1.430392
      fopppowr |  1.489539   .2340996     2.54   0.011     1.094649    2.026884
      fgovfrac |  1.099604   .1440759     0.72   0.469      .850565     1.42156
      foppfrac |  1.561305   .1126999     6.17   0.000     1.355331    1.798581
    fproportnl |  1.421836   .1350424     3.71   0.000     1.180333    1.712752
    flowincome |  1.371821   .1998052     2.17   0.030     1.031146    1.825049
   finequality |  .9788256   .0731297    -0.29   0.775     .8454942    1.133183
------------------------------------------------------------------------------
```

. poisgof

```
        Goodness-of-fit chi2  =   198.7078
        Prob > chi2(30)       =     0.0000
```

Negative binomial regression results for inflation years ≥20% with IRR:

```
. nbreg  inflyrs20  fimfwb faidpercnt flowregbilaid fhghmilexp fdemocracy
fregiminstbl fparliament fpolstabil fopppowr fgovfrac foppfrac fproportnl  flowincome
finequality, irr

Fitting comparison Poisson model:

Iteration 0:   log likelihood =  -164.8538
Iteration 1:   log likelihood = -164.57967
Iteration 2:   log likelihood = -164.57908
Iteration 3:   log likelihood = -164.57908

Fitting constant-only model:

Iteration 0:   log likelihood = -139.22872
Iteration 1:   log likelihood = -137.73926
Iteration 2:   log likelihood =  -137.7381
Iteration 3:   log likelihood =  -137.7381

Fitting full model:

Iteration 0:   log likelihood = -129.56291
Iteration 1:   log likelihood = -124.32882
Iteration 2:   log likelihood = -123.19346
Iteration 3:   log likelihood = -123.15158
Iteration 4:   log likelihood = -123.15155
Iteration 5:   log likelihood = -123.15155
```

Negative binomial regression					Number of obs	=	45
					LR chi2(14)	=	29.17
					Prob > chi2	=	0.0099
Log likelihood = -123.15155					Pseudo R2	=	0.1059

inflyrs20	IRR	Std. Err.	z	P>|z|	[95% Conf.	Interval]
fimfwb	4.307668	3.083782	2.04	0.041	1.058967	17.52274
faidpercnt	.7809068	.219036	-0.88	0.378	.4506572	1.353169
flowregbil~d	1.382077	.3357778	1.33	0.183	.8584822	2.225015
fhghmilexp	3.492295	1.531195	2.85	0.004	1.478775	8.247453
fdemocracy	.8358954	.3813311	-0.39	0.694	.3418521	2.043928
fregiminstbl	1.603142	.4950743	1.53	0.126	.8752017	2.936539
fparliament	.2426906	.1452642	-2.37	0.018	.0750862	.7844147
fpolstabil	1.458761	.4963459	1.11	0.267	.7487923	2.841888
fopppowr	1.501892	.6354118	0.96	0.336	.6554165	3.441598
fgovfrac	1.246025	.3994236	0.69	0.493	.6647632	2.335535
foppfrac	1.684622	.3345602	2.63	0.009	1.141449	2.486269
fproportnl	1.61688	.4115774	1.89	0.059	.9817569	2.662879
flowincome	1.133348	.449011	0.32	0.752	.5213549	2.463731
finequality	.8409457	.1689794	-0.86	0.389	.567189	1.246832
/lnalpha	-.3706669	.3074367			-.9732317	.2318979
alpha	.6902738	.2122155			.3778599	1.260991

```
Likelihood ratio test of alpha=0:  chibar2(01) =   82.86 Prob>=chibar2 = 0.000
```

Robust negative binomial regression results for inflation years ≥20% with IRR:

```
. nbreg  inflyrs20  fimfwb faidpercnt flowregbilaid fhghmilexp fdemocracy
fregiminstbl fparliament fpolstabil fopppowr fgovfrac foppfrac fproportnl  flowincome
finequality, irr robust

Getting starting values from Poisson model:

Iteration 0:   log likelihood =  -164.8538
Iteration 1:   log likelihood = -164.57967
Iteration 2:   log likelihood = -164.57908
Iteration 3:   log likelihood = -164.57908

Fitting constant-only model:

Iteration 0:   log likelihood = -139.22872
Iteration 1:   log likelihood = -137.73926
Iteration 2:   log likelihood =  -137.7381
Iteration 3:   log likelihood =  -137.7381

Fitting full model:

Iteration 0:   log likelihood = -129.56291
Iteration 1:   log likelihood = -124.32882
Iteration 2:   log likelihood = -123.19346
Iteration 3:   log likelihood = -123.15158
Iteration 4:   log likelihood = -123.15155
Iteration 5:   log likelihood = -123.15155
```

Negative binomial regression				Number of obs	=	45
				Wald chi2(14)	=	50.85
				Prob > chi2	=	0.0000
Log likelihood = -123.15155				**Pseudo R2**	**=**	**0.1059**

inflyrs20	IRR	Robust Std. Err.	z	P>|z|	[95% Conf.	Interval]
fimfwb	**4.307668**	2.539584	2.48	**0.013**	1.35649	13.67942
faidpercnt	.7809068	.2236689	-0.86	0.388	.4454474	1.368996
flowregbil~d	1.382077	.2846972	1.57	0.116	.9229774	2.069537
fhghmilexp	**3.492295**	1.205343	3.62	**0.000**	1.775515	6.869065
fdemocracy	.8358954	.3212633	-0.47	0.641	.3935555	1.775407
fregiminstbl	1.603142	.4804291	1.57	0.115	.8910132	2.884429
fparliament	**.2426906**	.1328519	-2.59	**0.010**	.0830032	.7095963
fpolstabil	1.458761	.470103	1.17	0.241	.7756654	2.74343
fopppowr	1.501892	.7650291	0.80	0.425	.5534221	4.075877
fgovfrac	1.246025	.4357865	0.63	0.529	.6278072	2.473017
foppfrac	**1.684622**	.3109979	2.83	**0.005**	1.173173	2.419038
fproportnl	**1.61688**	.3462059	2.24	**0.025**	1.062719	2.46001
flowincome	1.133348	.4890697	0.29	0.772	.4864602	2.640458
finequality	.8409457	.1728061	-0.84	0.399	.5621528	1.258003
/lnalpha	-.3706669	.3284676			-1.014452	.2731176

```
------------+----------------------------------------------------------------
      alpha |   .6902738   .2267326                      .3626013   1.314055
------------------------------------------------------------------------------
```

Robust negative binomial regression results for inflation years ≥20% with coefficients:

```
. nbreg  inflyrs20  fimfwb faidpercnt flowregbilaid fhghmilexp fdemocracy
fregiminstbl fparliament fpolstabil fopppowr fgovfrac foppfrac fproportnl  flowincome
finequality, robust

Getting starting values from Poisson model:

Iteration 0:   log likelihood =  -164.8538
Iteration 1:   log likelihood = -164.57967
Iteration 2:   log likelihood = -164.57908
Iteration 3:   log likelihood = -164.57908

Fitting constant-only model:

Iteration 0:   log likelihood = -139.22872
Iteration 1:   log likelihood = -137.73926
Iteration 2:   log likelihood =  -137.7381
Iteration 3:   log likelihood =  -137.7381

Fitting full model:

Iteration 0:   log likelihood = -129.56291
Iteration 1:   log likelihood = -124.32882
Iteration 2:   log likelihood = -123.19346
Iteration 3:   log likelihood = -123.15158
Iteration 4:   log likelihood = -123.15155
Iteration 5:   log likelihood = -123.15155
```

```
Negative binomial regression                    Number of obs   =         45
                                                Wald chi2(14)   =      50.85
                                                Prob > chi2     =     0.0000
Log likelihood = -123.15155                     Pseudo R2       =     0.1059
```

```
------------------------------------------------------------------------------
             |               Robust
   inflyrs20 |      Coef.   Std. Err.      z    P>|z|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
      fimfwb |   1.460397   .5895497     2.48   0.013     .3049004   2.615893
  faidpercnt |  -.2472994    .286422    -0.86   0.388    -.8086762   .3140773
 flowregbil~d |   .3235871   .2059924     1.57   0.116    -.0801505   .7273247
  fhghmilexp |   1.250559   .3451434     3.62   0.000     .5740905   1.927028
  fdemocracy |  -.1792518   .3843343    -0.47   0.641    -.9325333   .5740296
 fregiminstbl |   .4719654   .2996797     1.57   0.115    -.1153961   1.059327
 fparliament |  -1.415968   .5474124    -2.59   0.010    -2.488876  -.3430591
  fpolstabil |   .3775875   .3222618     1.17   0.241     -.254034   1.009209
     fopppowr |   .4067258   .5093768     0.80   0.425    -.5916343   1.405086
     fgovfrac |   .2199584   .3497414     0.63   0.529    -.4655222    .905439
     foppfrac |   .5215409   .1846099     2.83   0.005     .1597121   .8833698
```

```
  fproportnl |   .4804982    .2141198     2.24   0.025     .0608311    .9001652
  flowincome |   .1251762    .4315264     0.29   0.772    -.7206001    .9709525
  finequality |  -.1732282    .2054902    -0.84   0.399    -.5759816    .2295252
       _cons |   1.751103    .4150878     4.22   0.000     .9375461     2.56466
-------------+----------------------------------------------------------------
     /lnalpha |  -.3706669    .3284676                    -1.014452    .2731176
-------------+----------------------------------------------------------------
       alpha |   .6902738    .2267326                     .3626013    1.314055
------------------------------------------------------------------------------
```

2.

Poisson regression analysis with Goodness of fit test for inflation years ≥50% with IRR:

```
. poisson  inflyrs50  fimfwb faidpercnt flowregbilaid fhghmilexp fdemocracy
fregiminstbl fparliament fpolstabil foppowr fgovfrac foppfrac fproportnl  flowincome
finequality, irr

Iteration 0:   log likelihood = -103.68449
Iteration 1:   log likelihood =  -102.4677
Iteration 2:   log likelihood = -102.46605
Iteration 3:   log likelihood = -102.46605

Poisson regression                              Number of obs   =         45
                                                LR chi2(14)     =     153.71
                                                Prob > chi2     =     0.0000
Log likelihood = -102.46605                     Pseudo R2       =     0.4286


------------------------------------------------------------------------------
    inflyrs50 |      IRR    Std. Err.      z    P>|z|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
       fimfwb |  29.63351   15.70301     6.40   0.000     10.48879    83.72226
   faidpercnt |  1.063596   .2276818     0.29   0.773     .6991359    1.618049
 flowregbil~d |  2.092296   .4699978     3.29   0.001     1.347149    3.249606
   fhghmilexp |  2.930476   .9200285     3.42   0.001     1.583805    5.422187
   fdemocracy |  .4452353   .1295966    -2.78   0.005     .2516672    .7876848
 fregiminstbl |  2.048248   .4997312     2.94   0.003     1.269716    3.304141
  fparliament |  .7654772   .2958197    -0.69   0.489      .358909    1.632602
   fpolstabil |  .4774658   .1136843    -3.10   0.002     .2994138    .7613998
      foppowr |  2.478778   .7854981     2.86   0.004      1.33199    4.612902
     fgovfrac |  .6382545   .1790647    -1.60   0.109     .3682868    1.106118
     foppfrac |   1.97736   .2586266     5.21   0.000      1.53022    2.555158
   fproportnl |  1.275248    .217853     1.42   0.155     .9123942    1.782408
   flowincome |   .947011   .2311233    -0.22   0.823     .5869682    1.527902
  finequality |  .8402118   .1067424    -1.37   0.171     .6550135    1.077773
------------------------------------------------------------------------------

. poisgof

        Goodness-of-fit chi2  =   142.1027
        Prob > chi2(30)       =     0.0000
```

Negative binomial regression results for inflation years ≥50% with IRR:

```
. nbreg  inflyrs50  fimfwb faidpercnt flowregbilaid fhghmilexp fdemocracy
fregiminstbl fparliament fpolstabil fopppowr fgovfrac foppfrac fproportnl  flowincome
finequality, irr

Fitting comparison Poisson model:

Iteration 0:   log likelihood = -103.68449
Iteration 1:   log likelihood =  -102.4677
Iteration 2:   log likelihood = -102.46605
Iteration 3:   log likelihood = -102.46605

Fitting constant-only model:

Iteration 0:   log likelihood =  -99.46001
Iteration 1:   log likelihood = -84.400155
Iteration 2:   log likelihood = -84.247995
Iteration 3:   log likelihood = -84.247811
Iteration 4:   log likelihood = -84.247811

Fitting full model:

Iteration 0:   log likelihood =  -79.95223  (not concave)
Iteration 1:   log likelihood = -75.382146
Iteration 2:   log likelihood = -74.346298
Iteration 3:   log likelihood = -72.808683
Iteration 4:   log likelihood =  -72.79383
Iteration 5:   log likelihood =  -72.79381
Iteration 6:   log likelihood =  -72.79381
```

```
Negative binomial regression                   Number of obs   =         45
                                                LR chi2(14)     =      22.91
                                                Prob > chi2     =     0.0618
Log likelihood =  -72.79381                     Pseudo R2       =     0.1360
```

inflyrs50	IRR	Std. Err.	z	P>|z|	[95% Conf. Interval]	
fimfwb	487.6632	1049.028	2.88	0.004	7.195711	33049.6
faidpercnt	2.19103	1.320834	1.30	0.193	.6722216	7.141415
flowregbil~d	3.073162	2.305758	1.50	0.135	.7062177	13.3731
fhghmilexp	4.579668	4.457252	1.56	0.118	.6798064	30.85195
fdemocracy	.0964281	.1127773	-2.00	0.046	.0097428	.9543871
fregiminstbl	2.056814	1.24895	1.19	0.235	.625639	6.76186
fparliament	.6392501	.8198691	-0.35	0.727	.0517564	7.895468
fpolstabil	.4208955	.3276278	-1.11	0.266	.0915363	1.93533
fopppowr	3.531493	3.13847	1.42	0.156	.6187109	20.15714
fgovfrac	1.255403	.9343939	0.31	0.760	.2919007	5.399218
foppfrac	2.799476	1.182381	2.44	0.015	1.22339	6.406024
fproportnl	2.121442	1.177245	1.36	0.175	.7149517	6.294853
flowincome	.2733139	.252838	-1.40	0.161	.0445892	1.675304
finequality	.5405536	.2464773	-1.35	0.177	.2211641	1.321183
/lnalpha	.7177075	.3839412			-.0348034	1.470218
alpha	2.049729	.7869753			.9657953	4.350185

```
Likelihood ratio test of alpha=0:  chibar2(01) =   59.34 Prob>=chibar2 = 0.000
```

Robust negative binomial regression results for inflation years ≥ 50% with IRR:

```
. nbreg  inflyrs50  fimfwb faidpercnt flowregbilaid fhghmilexp fdemocracy
fregiminstbl fparliament fpolstabil fopppowr fgovfrac foppfrac fproportnl  flowincome
finequality, irr robust


Getting starting values from Poisson model:


Iteration 0:   log likelihood = -103.68449
Iteration 1:   log likelihood =  -102.4677
Iteration 2:   log likelihood = -102.46605
Iteration 3:   log likelihood = -102.46605


Fitting constant-only model:


Iteration 0:   log likelihood =  -99.46001
Iteration 1:   log likelihood = -84.400155
Iteration 2:   log likelihood = -84.247995
Iteration 3:   log likelihood = -84.247811
Iteration 4:   log likelihood = -84.247811


Fitting full model:


Iteration 0:   log likelihood =  -79.95223  (not concave)
Iteration 1:   log likelihood = -75.382146
Iteration 2:   log likelihood = -74.346298
Iteration 3:   log likelihood = -72.808683
Iteration 4:   log likelihood =  -72.79383
Iteration 5:   log likelihood =  -72.79381
Iteration 6:   log likelihood =  -72.79381
```

Negative binomial regression

Number of obs	= 45
Wald chi2(14)	= 22.11
Prob > chi2	= 0.0763

Log likelihood = -72.79381   **Pseudo R2   =   0.1360**

inflyrs50	IRR	Robust Std. Err.	z	P>|z|	[95% Conf. Interval]	
fimfwb	**487.6632**	1034.299	2.92	**0.004**	7.634525	31149.99
faidpercnt	2.19103	1.11848	1.54	0.124	.8056117	5.958966
flowregbil~d	**3.073162**	1.530076	2.25	**0.024**	1.158207	8.154261
fhghmilexp	**4.579668**	3.221268	2.16	**0.031**	1.15375	18.17842
fdemocracy	**.0964281**	.1051223	-2.15	**0.032**	.011383	.8168667
fregiminstbl	2.056814	1.017931	1.46	0.145	.7797038	5.425757
fparliament	.6392501	.6212091	-0.46	0.645	.0951682	4.293878
fpolstabil	**.4208955**	.2194265	-1.66	**0.097**	.151501	1.16932
fopppowr	**3.531493**	2.644367	1.69	**0.092**	.8139212	15.32267
fgovfrac	1.255403	.7206716	0.40	0.692	.4075167	3.867413
foppfrac	**2.799476**	1.083169	2.66	**0.008**	1.311389	5.976161
fproportnl	**2.121442**	.9527109	1.67	**0.094**	.8797677	5.115573
flowincome	.2733139	.2395589	-1.48	0.139	.049044	1.523133

```
finequality |   .5405536   .2278316   -1.46   0.144     .2366333   1.234814
------------+----------------------------------------------------------------
   /lnalpha |   .7177075   .3670981                     -.0017916   1.437207
------------+----------------------------------------------------------------
      alpha |   2.049729   .7524516                        .99821   4.208922
-----------------------------------------------------------------------------
```

Robust negative binomial regression results for inflation years ≥ 50% with coefficients:

. nbreg inflyrs50 fimfwb faidpercnt flowregbilaid fhghmilexp fdemocracy fregiminstbl fparliament fpolstabil fopppowr fgovfrac foppfrac fproportnl flowincome finequality, robust

```
Getting starting values from Poisson model:

Iteration 0:   log likelihood = -103.68449
Iteration 1:   log likelihood =  -102.4677
Iteration 2:   log likelihood = -102.46605
Iteration 3:   log likelihood = -102.46605

Fitting constant-only model:

Iteration 0:   log likelihood =  -99.46001
Iteration 1:   log likelihood = -84.400155
Iteration 2:   log likelihood = -84.247995
Iteration 3:   log likelihood = -84.247811
Iteration 4:   log likelihood = -84.247811

Fitting full model:

Iteration 0:   log likelihood =  -79.95223  (not concave)
Iteration 1:   log likelihood = -75.382146
Iteration 2:   log likelihood = -74.346298
Iteration 3:   log likelihood = -72.808683
Iteration 4:   log likelihood =  -72.79383
Iteration 5:   log likelihood =  -72.79381
Iteration 6:   log likelihood =  -72.79381
```

```
Negative binomial regression                    Number of obs   =         45
                                                Wald chi2(14)   =      22.11
                                                Prob > chi2     =     0.0763
Log likelihood =  -72.79381                     Pseudo R2       =     0.1360
```

inflyrs50	Coef.	Robust Std. Err.	z	P>|z|	[95% Conf. Interval]	
fimfwb	**6.189625**	**2.120929**	**2.92**	**0.004**	**2.032681**	**10.34657**
faidpercnt	.7843718	.5104814	1.54	0.124	-.2161534	1.784897
flowregbil~d	**1.122707**	**.4978835**	**2.25**	**0.024**	**.1468731**	**2.098541**
fhghmilexp	**1.521626**	**.7033847**	**2.16**	**0.031**	**.1430178**	**2.900235**
fdemocracy	**-2.338957**	**1.090162**	**-2.15**	**0.032**	**-4.475636**	**-.2022794**
fregiminstbl	.7211581	.4949067	1.46	0.145	-.2488412	1.691157
fparliament	-.4474595	.971778	-0.46	0.645	-2.352109	1.45719

```
     fpolstabil |  -.8653706    .5213324    -1.66   0.097    -1.887163    .1564221
       fopppowr |   1.261721    .7487956     1.69   0.092    -.2058918    2.729333
       fgovfrac |   .2274562    .5740562     0.40   0.692    -.8976732    1.352586
        foppfrac |   1.029432    .3869183     2.66   0.008     .2710865    1.787778
      fproportnl |    .752096    .4490865     1.67   0.094    -.1280974    1.632289
      flowincome |  -1.297134    .8764974    -1.48   0.139    -3.015038    .4207691
     finequality |  -.6151615    .4214783    -1.46   0.144    -1.441244    .2109207
           _cons |   2.003243    .9094657     2.20   0.028     .2207232    3.785763
----------------+----------------------------------------------------------------
        /lnalpha |   .7177075    .3670981                     -.0017916    1.437207
----------------+----------------------------------------------------------------
           alpha |   2.049729    .7524516                       .99821    4.208922
---------------------------------------------------------------------------------
```

3.

Poisson regression analysis with Goodness of fit test for inflation years $\geq 100\%$ with IRR:

```
. poisson inflyrs100  fimfwb faidpercnt flowregbilaid fhghmilexp fdemocracy
fregiminstbl fparliament fpolstabil fopppowr fgovfrac foppfrac fproportnl  flowincome
finequality, irr


Iteration 0:   log likelihood = -70.002016
Iteration 1:   log likelihood = -69.742719
Iteration 2:   log likelihood = -69.741834
Iteration 3:   log likelihood = -69.741834

Poisson regression                            Number of obs   =          45
                                              LR chi2(14)     =       36.98
                                              Prob > chi2     =      0.0007
Log likelihood = -69.741834                   Pseudo R2       =      0.2096


---------------------------------------------------------------------------------
     inflyrs100 |        IRR   Std. Err.       z    P>|z|     [95% Conf. Interval]
----------------+----------------------------------------------------------------
          fimfwb |   7.969274    5.563823     2.97   0.003     2.028358    31.31072
      faidpercnt |   1.227753    .3647925     0.69   0.490      .685804     2.19797
     flowregbil~d |  1.368641    .3512593     1.22   0.221     .8276188    2.263336
      fhghmilexp |   1.866035    .8284708     1.41   0.160     .7816428    4.454829
      fdemocracy |   .4791557    .2075909    -1.70   0.089     .2049744    1.120092
    fregiminstbl |   2.347283    .8760686     2.29   0.022     1.129469    4.878166
     fparliament |   .7245207    .4069812    -0.57   0.566     .2409406    2.178671
      fpolstabil |   .7810621    .2587245    -0.75   0.456     .4080634    1.495008
        fopppowr |   1.266315    .5572561     0.54   0.592     .5345167    3.000009
        fgovfrac |   .8411206    .2945782    -0.49   0.621     .4233986    1.670964
        foppfrac |   1.552377    .3004401     2.27   0.023      1.06233     2.26848
      fproportnl |   1.051596    .2619738     0.20   0.840     .6453528    1.713564
      flowincome |   .6950639    .2534849    -1.00   0.319     .3400929    1.420535
     finequality |   .8337824    .1573758    -0.96   0.336     .5759556    1.207025
---------------------------------------------------------------------------------

. poisgof

        Goodness-of-fit chi2  =   96.91199
```

```
          Prob > chi2(30)       =     0.0000
```

Negative binomial regression results for inflation years ≥100% with IRR:

```
. nbreg  inflyrs100  fimfwb faidpercnt flowregbilaid fhghmilexp fdemocracy
fregiminstbl fparliament fpolstabil fopppowr fgovfrac foppfrac fproportnl  flowincome
finequality, irr

Fitting comparison Poisson model:

Iteration 0:   log likelihood = -70.002016
Iteration 1:   log likelihood = -69.742719
Iteration 2:   log likelihood = -69.741834
Iteration 3:   log likelihood = -69.741834

Fitting constant-only model:

Iteration 0:   log likelihood = -66.354507
Iteration 1:   log likelihood = -65.815182
Iteration 2:   log likelihood = -60.525149
Iteration 3:   log likelihood = -59.886863
Iteration 4:   log likelihood = -59.886249
Iteration 5:   log likelihood = -59.886249

Fitting full model:

Iteration 0:   log likelihood = -56.409875
Iteration 1:   log likelihood = -53.843679
Iteration 2:   log likelihood =    -51.911
Iteration 3:   log likelihood = -51.872676
Iteration 4:   log likelihood = -51.872563
Iteration 5:   log likelihood = -51.872563
```

```
Negative binomial regression                    Number of obs   =         45
                                                LR chi2(14)     =      16.03
                                                Prob > chi2     =     0.3117
Log likelihood = -51.872563                     Pseudo R2       =     0.1338
```

```
------------------------------------------------------------------------------
   inflyrs100 |      IRR   Std. Err.      z    P>|z|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
       fimfwb |  166.1737   410.4464    2.07   0.038     1.312524    21038.61
   faidpercnt |  2.259828   1.509318    1.22   0.222     .6103317     8.36729
  flowregbil~d |  1.746918   1.311036    0.74   0.457     .4012904    7.604776
    fhghmilexp |   3.34131   3.952686    1.02   0.308     .3288263    33.95212
    fdemocracy |  .0638462   .1039407   -1.69   0.091     .0026266     1.55195
  fregiminstbl |  4.968216   4.947151    1.61   0.107     .7056803    34.97784
   fparliament |  .6082002   .9785201   -0.31   0.757     .0259757    14.24053
    fpolstabil |  .7090199   .6494051   -0.38   0.707     .1177678    4.268649
      fopppowr |  1.359063    1.40059    0.30   0.766     .1803139    10.24354
      fgovfrac |   1.56372    1.32388    0.53   0.597     .2975178    8.218735
      foppfrac |  2.607271   1.392034    1.79   0.073     .9156417    7.424149
    fproportnl |  1.639573   1.116259    0.73   0.468     .4317306    6.226566
    flowincome |  .1926452   .2138409   -1.48   0.138     .0218728     1.69673
   finequality |    .52531    .290795   -1.16   0.245     .1775078    1.554583
```

```
-------------+------------------------------------------------------------------
   /lnalpha |  .8665747   .4231508                        .0372144   1.695935
-------------+------------------------------------------------------------------
      alpha |  2.378749    1.00657                        1.037915   5.451742
-------------+------------------------------------------------------------------
Likelihood ratio test of alpha=0:  chibar2(01) =    35.74 Prob>=chibar2 = 0.000
```

Robust negative binomial regression results for inflation years ≥ 100% with IRR:

. nbreg inflyrs100 fimfwb faidpercnt flowregbilaid fhghmilexp fdemocracy fregiminstbl fparliament fpolstabil fopppowr fgovfrac foppfrac fproportnl flowincome finequality, robust irr

```
Getting starting values from Poisson model:

Iteration 0:   log likelihood = -70.002016
Iteration 1:   log likelihood = -69.742719
Iteration 2:   log likelihood = -69.741834
Iteration 3:   log likelihood = -69.741834

Fitting constant-only model:

Iteration 0:   log likelihood = -66.354507
Iteration 1:   log likelihood = -65.815182
Iteration 2:   log likelihood = -60.525149
Iteration 3:   log likelihood = -59.886863
Iteration 4:   log likelihood = -59.886249
Iteration 5:   log likelihood = -59.886249

Fitting full model:

Iteration 0:   log likelihood = -56.409875
Iteration 1:   log likelihood = -53.843679
Iteration 2:   log likelihood =    -51.911
Iteration 3:   log likelihood = -51.872676
Iteration 4:   log likelihood = -51.872563
Iteration 5:   log likelihood = -51.872563
```

```
Negative binomial regression                    Number of obs   =         45
                                                Wald chi2(14)   =      14.89
                                                Prob > chi2     =     0.3854
Log likelihood = -51.872563                     Pseudo R2       =     0.1338
```

inflyrs100	IRR	Robust Std. Err.	z	P>|z|	[95% Conf. Interval]	
fimfwb	**166.1737**	398.9114	2.13	**0.033**	1.503813	18362.45
faidpercnt	2.259828	1.29985	1.42	0.156	.7319227	6.977269
flowregbil~d	1.746918	.8162478	1.19	0.233	.6991149	4.365124
fhghmilexp	3.34131	2.876099	1.40	0.161	.618341	18.05533
fdemocracy	**.0638462**	.084598	-2.08	**0.038**	.0047563	.8570386
fregiminstbl	**4.968216**	2.8595	2.79	**0.005**	1.607993	15.3503
fparliament	.6082002	.6058233	-0.50	0.618	.086332	4.28471

320

```
    fpolstabil |   .7090199   .3860352   -0.63   0.528    .2438993   2.061134
       fopppowr |   1.359063   .7357788    0.57   0.571    .4703385   3.927072
       fgovfrac |    1.56372   .8979478    0.78   0.436    .5074186    4.81894
        foppfrac |   2.607271   1.271303    1.97   0.049    1.00263    6.780027
      fproportnl |   1.639573    .833723    0.97   0.331     .605194    4.44188
      flowincome |   .1926452   .2095941   -1.51   0.130    .0228385   1.624981
     finequality |     .52531   .2624068   -1.29   0.197    .1973408   1.398345
------------+----------------------------------------------------------------
      /lnalpha |   .8665747   .3633639                      .1543945   1.578755
------------+----------------------------------------------------------------
         alpha |   2.378749   .8643516                      1.166951   4.848915
-----------------------------------------------------------------------------
```

Robust negative binomial regression results for inflation years ≥ 100% with coefficients:

```
. nbreg  inflyrs100  fimfwb faidpercnt flowregbilaid fhghmilexp fdemocracy
fregiminstbl fparliament fpolstabil fopppowr fgovfrac foppfrac fproportnl  flowincome
finequality, robust

Getting starting values from Poisson model:

Iteration 0:   log likelihood = -70.002016
Iteration 1:   log likelihood = -69.742719
Iteration 2:   log likelihood = -69.741834
Iteration 3:   log likelihood = -69.741834

Fitting constant-only model:

Iteration 0:   log likelihood = -66.354507
Iteration 1:   log likelihood = -65.815182
Iteration 2:   log likelihood = -60.525149
Iteration 3:   log likelihood = -59.886863
Iteration 4:   log likelihood = -59.886249
Iteration 5:   log likelihood = -59.886249

Fitting full model:

Iteration 0:   log likelihood = -56.409875
Iteration 1:   log likelihood = -53.843679
Iteration 2:   log likelihood =    -51.911
Iteration 3:   log likelihood = -51.872676
Iteration 4:   log likelihood = -51.872563
Iteration 5:   log likelihood = -51.872563
```

```
Negative binomial regression                   Number of obs   =         45
                                                Wald chi2(14)   =      14.89
                                                Prob > chi2     =     0.3854
Log likelihood = -51.872563                     Pseudo R2       =     0.1338
```

```
-----------------------------------------------------------------------------
             |               Robust
    inflyrs100 |     Coef.   Std. Err.      z    P>|z|     [95% Conf. Interval]
------------+----------------------------------------------------------------
        fimfwb |   5.113033   2.400569    2.13   0.033    .4080037   9.818063
     faidpercnt |   .8152886   .5751988    1.42   0.156   -.3120803   1.942658
```

```
flowregbil~d |   .5578532    .4672501     1.19   0.233    -.3579402    1.473647
  fhghmilexp |   1.206363     .86077      1.40   0.161    -.4807152    2.893441
  fdemocracy |  -2.751278    1.325027    -2.08   0.038    -5.348283   -.1542724
fregiminstbl |   1.603061    .5755586     2.79   0.005     .4749868    2.731135
  fparliament |  -.4972511    .9960918    -0.50   0.618    -2.449555    1.455053
   fpolstabil |  -.3438717    .5444631    -0.63   0.528       -1.411    .7232565
     fopppowr |   .3067957    .5413867     0.57   0.571    -.7543027    1.367894
     fgovfrac |   .4470675    .5742383     0.78   0.436    -.6784189    1.572554
      foppfrac |    .958304    .4875993     1.97   0.049     .0026268    1.913981
   fproportnl |   .4944357    .5085002     0.97   0.331    -.5022063    1.491078
   flowincome |  -1.646905    1.08798     -1.51   0.130    -3.779306     .485496
   finequality |  -.6437668    .4995276    -1.29   0.197    -1.622823    .3352894
        _cons |   .4637129    .9121237     0.51   0.611    -1.324017    2.251442
-------------+----------------------------------------------------------------
    /lnalpha |   .8665747    .3633639                       .1543945    1.578755
-------------+----------------------------------------------------------------
       alpha |   2.378749    .8643516                      1.166951    4.848915
------------------------------------------------------------------------------
```

CAUSALITY ANALYSIS

1.
. pcorr inf20sec polity2first d3first miluseimf1 milrbdflw1
(obs=131)

Partial correlation of **inf20sec** with

```
    Variable |   Corr.     Sig.
-------------+------------------
polity2first | -0.2493     0.005
     d3first | -0.0404     0.651
   miluseimf1 |  0.1987     0.025
    milrbdflw1 | -0.1129     0.205
```

. pcorr inf20first polity2sec d3sec miluseimf2 milrbdflw2
(obs=131)

Partial correlation of **inf20first** with

```
    Variable |   Corr.     Sig.
-------------+------------------
  polity2sec | -0.0754     0.397
       d3sec |  0.0543     0.543
   miluseimf2 |  0.1560     0.079
    milrbdflw2 |  0.0056     0.950
```


2.
. pcorr inf50sec polity2first d3first miluseimf1 milrbdflw1
(obs=131)

Partial correlation of **inf50sec** with

```
    Variable |   Corr.     Sig.
-------------+------------------
polity2first | -0.1438     0.105
     d3first | -0.0394     0.659
   miluseimf1 |  0.3180     0.000
   milrbdflw1 | -0.2122     0.016
```

. pcorr inf50first polity2sec d3sec miluseimf2 milrbdflw2
(obs=131)

Partial correlation of **inf50first** with

```
    Variable |   Corr.     Sig.
-------------+------------------
```

```
    polity2sec |   -0.0290     0.745
        d3sec |   -0.0621     0.486
    miluseimf2 |    0.2830     0.001
    milrbdflw2 |   -0.0362     0.685
```

3.
```
. pcorr  inf100sec polity2first d3first miluseimf1 milrbdflw1
(obs=131)
```

Partial correlation of **inf100sec** with

```
    Variable |    Corr.       Sig.
-------------+------------------
polity2first |   -0.1759     0.047
      d3first |   -0.0729     0.414
   miluseimf1 |    0.3982     0.000
   milrbdflw1 |   -0.2935     0.001
```

```
. pcorr  inf100first polity2sec d3sec miluseimf2 milrbdflw2
(obs=131)
```

Partial correlation of **inf100first** with

```
    Variable |    Corr.       Sig.
-------------+------------------
   polity2sec |    0.0418     0.640
        d3sec |   -0.0791     0.375
    miluseimf2 |    0.3092     0.000
    milrbdflw2 |   -0.0280     0.754
```

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