MPRA

Munich Personal RePEc Archive

Stages of Development, Economic Policies and a New World Economic Order

Polterovich, Victor and Popov, Vladimir

2006

STAGES OF DEVELOPMENT, ECONOMIC POLICIES

AND A NEW WORLD ECONOMIC ORDER

Victor Polterovich and Vladimir Popov

(Central Economics and Mathematics Institute and New Economic School, Moscow)

ABSTRACT

This paper summarizes theoretical arguments, empirical evidence, and econometric findings to support the statement that rational economic policies depend qualitatively on stages of development that are defined by productivity and institutional indicators of a country. We consider the impact of industrial policies, speed of foreign exchange reserves accumulation, technology transfers and immigration policies, as well as FDI and liberalization of capital flows, on rate of economic growth. It is argued that the impact may be positive or negative; in many cases a threshold combination of GDP per capita and institutional quality indicators may be found to separate two different outcomes. A precondition of economic success is the timely switching of economic policies to avoid both types of mistakes: excessive inertia or premature use of instruments that are effective for more advance countries only.

The stage of development theory implies that international financial institutions (including IMF, WB, and EBRD) should work out a list of differentiated prescriptions that may be efficiently followed by countries with different levels of institutional and technological development, and so the system of assistance to developing countries could be improved. This and some other elements of "a New World Economic Order" are discussed in the paper.

1. Introduction

Rational economic policy has to depend on the level of economic and social development of a country. This statement seems to be quite trivial. Up to the middle of 1990s, however, most of research devoted to institutional and policy reform implicitly assumed that a developing country has to move along a strict line connecting a current point and an ideal point in institutional space. In most cases the modern USA economy was set up as a model. Price liberalization, privatization, financial market deregulation, and elimination of tariff and non-tariff trade barriers were unconditionally recommended to all developing and transition economies. No distinctions were made between Latin America, Africa or East Europe. The discussion concentrated around the speed of these changes.

The outcome of these recipes has been disappointing. Per capita GDP for Latin America and Caribbean countries decreased by an average 0.8 percent per year in the 1980s, and grew by mere 1.5 percent per year in the 1990s. In the Middle East and North Africa we observed the average fall of 1.0 percent per year in the 1980s and the average growth of 1.0 percent per year in the1990s. For 28 countries of East Europe and former USSR, the total loss of GDP amounted to 30% in the 1990s. In Sub-Sahara Africa there was a reduction if the GDP per capita.

It is now widely accepted that the most important causes of the recession were the weakness of the new market institutions and the low quality of governance and that the role of government was underestimated (World Bank (1997), Stiglitz (1998), Popov (2000). A number of recent empirical studies have shown that the recommendations mentioned above could not be considered as universal recipes. Privatization does not necessary entail restructuring and increase in efficiency. Deregulation may cause financial crises. A thorough analysis of statistical data does not reveal any positive connection between trade liberalization openness and growth (Rodrik, 2003). A possible conclusion is an agnostic view: only general principles like a necessity of market oriented incentives, economic stability, and property right enforcement merit to be beliefs; each country is unique, therefore concrete policy recommendations can not be extracted from theoretical considerations or data analysis (Rodrik, 2003).

A different approach is based on the presumption that there exists a link between a set of technological, institutional and cultural indicators and rational economic policy. The absence of general universal recipes means that what may be good for developed countries is not necessarily

good for developing ones. Elimination of tariff or subsidies to producers, liberalization of capital flows and deregulation of domestic financial markets, strengthening government control and promotion of competition may be good or bad for an economy depending on its stage of development.

There are four general methodologies to support this statement and to reveal how a rational policy depends on economic and institutional variables. First, past experience of now-developed countries may be very useful. In a recent book Chang (2002) argue that most Western economies at some stages of their development relied heavily on industrial policies, and did not follow either today's standards of openness or patent law, protection of environment and human rights. Advocating the acceptance of these standards in less wealthy parts of the world, and even threatening developing countries with economic sanctions in case they refuse to accept such standards, the West, whatever the good intentions may be, *de facto* preserves the backwardness of poorer economies "kicking away the ladder" by which developed countries climbed to their prosperity.

Second, comparisons of economic policies of a few countries that recently reached their catching up goals and much more numerous set of less successful economies are very useful (see, in particular, Kuznets (1988), Rodrik (1995), Nam (1995), Cho et all (1996), Hayamy (1996), Lee (1998), Oian (1999)). Following this line of research Rodric (1995) concludes that the East Asia miracle countries were much more gradual in the use of Western policy standards than Latin American economies. Author cited above describe how Japan, Korea, Taiwan, and China changed their policies in the process of development. It turns out that the sequences of the changes were very similar for all these countries.

Third, there are several theoretical developments that try to explain connections between economic policies and stages of development[1]. Two recent papers by Acemoglu, Aghion, Zilibotti (2002a, b) are particularly important. The authors offer a model to demonstrate the dependence of economic policies on the distance to the technological frontier. They assume that a change of a country technological level is equal to the weighted sum of technological change due to imitations and innovations. The speed of imitation is fixed whereas the speed of innovation is larger for more advanced economies. The experience of new managers is most important for imitations, whereas

---

[1] Note that these connections were not studied systematically in the classical theory of the stages of economic growth suggested by Walt W. Rostow.

their talents are crucial for innovation. If the distance to the technological frontier is large, the economy would be better off giving managers long-term contracts that would lead to imitation and investment based growth. But once the economy approaches the technological frontier and innovation yields greater returns than imitation, the life-time employment system should be replaced by the competitive selection. It is argued also that the optimal size of firms is an increasing function of the distance to frontier.

 Fourth approach systematically used in Polterovich, Popov (2003, 2004, 2005) is based on econometric calculations aimed to reveal threshold levels that separate efficiency areas of different economic policies. A general idea is to run regressions of the following shape

$$GR = \text{Control variables} + bX(a - Y),$$

where *GR* is rate of growth (or another outcome indicator); *X* is a policy variable (level of tariffs, speed of foreign exchange reserves accumulation, etc.); *b, a* are regression coefficients; and Y is a characteristics of stage of development of a country (GDP per capita, an institutional indicator or their combinations). Obviously, an increase of variable *X* has positive impact on *GR* if *Y<a*, and negative impact if *Y>a*. A threshold level, *a*, defines a switching point.

 Below we summarize results showing how efficiency of different policies depends on GDP per capita and institutional indicators. Then we formulate a hypothesis that different policies are interconnected so that one can say on policy sets related to different stages of development. Evolution of economic policies in Japan and Korea seems to support this hypothesis. In the last section it is argued that international expert society has to differentiate standards of proper political and economic institutions and policies and work out a list of requirements that may be demanded to governments dependently on the development levels of their countries. This may substantially improve assistance institutions and norm of interactions between developed and developing worlds.

1.   Industrial policy, protectionism and export orientation

 It is quite standard to consider import substitution and export oriented policies as two incompatible alternatives. In 1950-th and 1960-th many economists supported import substitution policies. After 1980-th, outward orientation is usually considered as "a necessary condition for rapid economic growth" (Krueger (1995)). However, recent empirical studies (see Rodriguez and Rodrik, 1999, and Williamson, 2002, for surveys) did not find any conclusive evidence that free

trade is always good for growth. Moreover, some students of the history of the economic policies point out that the most successful economies implemented both kinds of policies the same time. Hayami writes: "At least until the 1960s in Japan and until the 1980s in Korea and Taiwan, export-promotion policies were superimposed on the import-substitution policies rather than replacing them" (Hayami (1995, p.21)). With respect to Japan, a similar observation is made by Nam (1995, p. 168).

The absence of the conclusive evidence on whether free trade is good for growth may be associated with the fact that the impact of lower trade barriers on growth depends upon the level of development and quality of institutions. An attempt to check this hypothesis was done in Polterovich, Popov (2004). Using Corruption perception index (CPI) for 1980-85 and the data of World Development Indicators we construct our own measure of corruption. First, we regress the actual CPI on PPP GDP per capita[2] and take the residual (a measure of "abundant" corruption); second, we subtract this residual from 10 to have a residual positive corruption index (the higher the index, the greater the corruption):

CORRres = 10 – [CPI – (2.3 + 0.00082*Ycap75)] = 12.3 – CPI + 0. 00082*Ycap75,   (1)

where CORRres is residual positive corruption index, CPI – actual average corruption perception index in 1980-85 from Transparency International, Ycap75 - GDP per capita at 1975.

Using CORRres , we test how tariffs affect growth. The best equation we found was the following:

GR = CONST.+CONTR.VAR.+Tincr.(0.06–0.0004Ycap75us–0.004CORRpos–0.005T), (2)

where the dependent variable, GR, is the annual average growth rate of GDP per capita in 1975-99, the control variables are population growth rates during the period and net fuel imports (to control for "resource curse"), T – average import tariff as a % of import in 1975-99, Tincr. – increase in the level of this tariff (average tariff in 1980-99 as a % of average tariff in 1971-80), Ycap75us – PPP GDP per capita in 1975 as a % of the US level. Here R^2=40%, N=39, all coefficients are significant at 5% level, except the last one, but exclusion of the last term (a multiple of T by Tincr.) does not ruin the regression and the coefficients do not change much.

---

[2] The regression equation is CPI = 2.3 + 0,00082*Ycap75, N=45, R^2 =59%, T-statistics for Ycap75 coefficient is 9. 68.

Regression (2) demonstrates the existence of threshold for a linear combination of three variables: 0.0004Ycap75us+ 0.004CORRpos+0.005T. At lower than threshold levels the impact of the increase in tariff protection on economic growth is positive, whereas at higher than threshold levels the impact of protectionist policies is negative. The threshold levels are such that for poor countries (GDP per capita at below 50% of the US level), but with relatively low corruption (below 10, whereas CORRpos varies from 6 to 13) and low initial levels of tariff protection, growth can be stimulated by the increase in import tariffs. For wealthier and/or more corrupt countries the impact of tariffs on growth is negative.

WTO rules prohibiting increases in protection of domestic markets, except for special circumstances, may thus actually be destructive for developing countries. Not to speak about most appalling cases, such as subsidies to agricultural producers in Western countries. These subsidies amounted to $14,000 per farmer a year in EU and to $20,000 per farmer in the US (2000, OECD estimate) – this makes it simply impossible for the farmers from developing countries to compete with the heavily subsidized agricultural products from EU and the US. EU support to agriculture is equivalent to double the combined aid budgets of the European Commission and all 15 member states. Sugar production costs in Europe are among the world's highest, but EU is the second largest world exporter due to subsidies to European producers allowing them to sell sugar at three times the international price (Bailey, Fowler, Watkins, 2002). Overall, according to the World Bank estimate, rich countries spend more than 300 billion a year in agricultural subsidies, which exceeds total official development assistance of rich countries by a fraction of six and is roughly equivalent to nearly 2% of PPP GDP of the developing countries.

3. Foreign exchange reserve accumulation

At the stage of industrialization many countries followed import substitution policies and kept their real exchange rate (RER) overvalued (Rodrik (1986)). Switching to the export promotion policies, fast growing countries usually have undervalued RER (*ceteris paribus* lower ratio of domestic to US prices). The influence of RER on economic growth was studied in a number of researches. The results are controversial. Rodrik (2003) believes that large real exchange rate devaluation has played a big role in some of the more recent growth accelerations, notably in Chile and Botswana. Dollar (1992) and Easterly (1999) includes variables that characterize the

undervaluation of RER into standard growth regressions and show that overvaluation is detrimental for economic growth of developing countries. However, Calvo, Reinhart and Vegh (1995) argue that undervaluation of the exchange rate is inflationary in theory and was inflationary in practice for Latin American countries in the 1980s, and therefore had rather negative impact (see also Kamin, Rogers (2000)).

A RER devaluation may be reached by different instruments that can influence differently on economic performance. Therefore, in Polterovich, Popov (2004) we concentrated on accumulation of foreign exchange reserves (FER) that is the most powerful means of the RER control. It turns out that fast FER accumulation is a typical policy for quickly developing countries (see Table 1 and Fig. 1). Empirical evidence seem to suggest that the accumulation of foreign exchange reserves (FER) contributes to economic growth of developing economies by increasing both the investment/GDP ratio and capital productivity. This is not the case for developed economies, however. Therefore the following hypothesis was put forward: fast FER accumulation may accelerate economic growth only if a country does not reach a threshold level of GDP per capita.

To check this hypothesis we used the indicator of the policy-induced changes in reserves where the impact of the objective factors (GDP per capita and trade to GDP ratio) on the reserves to GDP ratio is netted out. First, we computed the regression linking the increase in the reserves/GDP ratio in 1975-99 to initial (1975) GDP per capita, average ratio of foreign trade to GDP over the period and the increase in the same ratio over the period ($\Delta R = 38 - 11.4 \lg Y + 0.1(T/Y) + 0.24(\Delta T/Y)$, R^2=34%, N=82, all coefficients significant at 0.1% level). Then we considered the residual ΔR_{pol} as the policy-induced change in reserves. The logic behind such an approach was to net out changes in reserve/GDP ratio caused by objective circumstances, such as the level of development and the level and dynamics of foreign trade. Afterwards we used the *policy induced change in foreign exchange reserves* as one of the explanatory variables in growth regressions. In this way we deal with the possible endogeneity problem: policy-induced change in reserve to GDP ratio in 1975-99 could be regarded as a exogenous policy variable.

One of the results is the following.

GR = CONST. + CONTR. VAR. + 0.1ΔR_{pol}(66.7 – Ycap75us), (3)

where the dependent variable, GR, is the annual average growth rate of GDP per capita in 1975-99, the control variables are population growth rates during, the period, residual positive corruption

index CORRres (see (1)), and Ycap75us – PPP GDP per capita in 1975 as a % of the US level (signs of all corresponding coefficients are negative).Here R^2=49%, N=40, all coefficients are significant at 5% level.

Equation (3) implies that accumulation of reserves stimulates growth in relatively poor countries, but the impact of this policy is getting smaller and smaller as countries approach the threshold level of GDP per capita. It is equal to 67% of the US level. Thus accumulation of reserves in relatively rich countries is detrimental to economic growth[3].

Some countries use tariff and the same time quickly accumulate FER. We have run a number of regressions with these two types of policies. Thresholds for tariffs were always lower than FER thresholds. Thus for countries like Chile and Korea the appropriate policy since 1975 was to lower import duties, whereas for poorer countries elimination of trade barriers was at that stage premature. On the contrary, the accumulation of foreign exchange reserves was good for middle income countries (for developed countries the marginal impact of such a policy was miniscule or even negative). The reason that "exchange rate protectionism" is more efficient policy to stimulate growth in middle income countries than import duties is probably the indiscriminate non-selective nature of low exchange rate policy: tariff protection is prone to lobbying pressure whereas exchange rate undervaluation via reserve accumulation is not. This makes it especially efficient growth promoting instrument in middle income countries that generally suffer from corruption .

The positive influence of fast FER accumulation is a puzzle since, at the first glance, it results in pure losses. Why do not spend the abundant reserves to increase consumption or investment? A modification of AK endogenous growth model developed in Polterovich, Popov (2004) answers this question: fast FER accumulation may accelerate growth due to externalities that influence knowledge accumulation in the economy. If the export sector externality dominates in the knowledge accumulation, then, in accordance to the logic of AK-models, the FER accumulation both decrease RER and accelerate growth. Moreover, under some more restrictive conditions, it may also increase discounted utility value even if the accumulated reserves do not earn any interest and can not be used in the future. If, however, the import externality prevails and FER build up attracts large inflow of foreign direct investments (due to signaling of low risk) then the FER

---

[3] It would be preferable to get a regression with two thresholds to explain why very pure countries do not accumulate abundant FER. We were not able to get it, probably, due to insufficient size of our sample.

accumulation may accelerate growth by increase of RER. Of cause, abundant FER accumulation is always a second best policy. It is used, instead of tariffs or subsidies, to avoid distorting lobbing.

In practical terms, there are no formal limits for the accumulation of reserves by developing countries, but "exchange rate protectionism" can result in "beggar-thy-neighbor policies" – obviously all countries cannot exercise these policies at the same time. The Plaza Accord of 1985 involved the coordinated efforts of major Western countries to appreciate their currencies against the dollar in order to reduce the US trade deficit. Japan and Korea were forced to appreciate their currencies as well. Afterwards both economies experienced long depression.

4. Imitation versus innovation and protection of the intellectual property.

To what extent should a developing country rely upon the technology transfer from the West, and what should be its own innovation efforts?   To answer this question, a number of regressions were run in Polterovich, Popov (2003). There were just 28 observation for 1980-99 period because of limited data on technology transfers, so regressions included only a few variables. A typical result is as follows:

$$GR = CONST.+CONTR.VAR.+ 0.115TT (20.8 - Ycap75us + 0.27R\&D), (4)$$

where Ycap75us – PPP GDP per capita in 1975 as a % of the US level, TT – average technology imports, R&D – average research and development expenditure as percentage of

GDP . Investment climate index and average investment/GDP ratio in 1975-99 were used as control variables. All coefficients are significant at 5% level.

Equation (4) shows that imports of technology is unambiguously good for relatively poor countries (with Ycap75us, < 20.8% of the US level in 1975 - level of Colombia and Turkey), but in the process of development it should be more and more supplemented with own research in order to have a positive impact on performance. This conclusion is supported by theoretical researches (Acemoglu, Aghion, Zilibotti (2002a), Polterovich, Tonis (2005)) that stress the importance of imitation for developing countries. However effective imitation may be hampered due to strong system intellectual property rights protection.

TRIPs (trade related intellectual property) rules that resulted from WTO agreements require the protection of patents for no less than 20 years and the protection of copyrights for no less than 50 years. Many authors have cast serious doubt upon the usefulness of stricter protection of intellectual property rights (Chang, 2001; Boldrin, Levine, 2002). Sakakibara and Bransletter

(2001) studied the 1998 Japanese patent law reforms and did not find any evidence of its positive impact. These and a number of other results "…raise the possibility that strengthened intellectual property rights have led to the socially wasteful accumulation of defensive patent portfolios." (Sakakibara and Bransletter (2001, p. 99)).

Even if there is a need to protect intellectual property rights, there is no reason to force developing countries to protect them as strict as developed countries do. There seems to be an agreement that the accelerated development of the poor countries is a priority for the world and for the rich countries in particular (since it reduces the threat of terrorism, for example). There seems to be a consensus among economists and policymakers that the transfer of technology to the poor countries is the most efficient way of assistance. Yet, the TRIPS agreements are undoubtedly limiting the transfer of technology to the South. Moreover, TRIPS are making it more difficult for the poor countries to develop not only in economic, but also in social terms. Copyrights hinder the dissemination of information, knowledge and culture, whereas patents on pharmaceutical products limit the ability of the poor countries to fight diseases and decrease mortality. It is only in cases of national emergency, such as a really bad AIDS epidemic in South Africa, that drugs can be purchased/produced with no regard to patent protection.

Current WTO practice links the access to Western markets to the protection of intellectual property rights. Developing countries thus find themselves between the rock and the hard place: either the access to Western markets with no easy transfer of technology, or easy transfer of technology without any access to the Western markets.

This system should be changed. A special UN Intellectual property right commission has to be created to work out recommendation on the terms of patent and copyrights protection. The terms have to be differentiated for a broad spectrum of innovation dependently on the development level of a country.

5. FDI and liberalization of capital flows.

It is widely accepted that the inflows of FDI that are not volatile and that are often the most efficient channels for the new technology transfers, are good for developing countries. With respect to portfolio and especially to short term capital flows, the balance of costs and benefits is much less clear.

There is no evidence that the free movement of short term capital promotes economic growth (Stiglitz, 2000; Griffith-Jones, Montes, Nasution, 2001; Singh, 2002). Whereas the conventional wisdom before Asian 1997 currency crises recommended full liberalization of capital accounts, today's consensus, if any, leans towards the understanding that cost associated with free short-term capital flows are too high, while benefits are not obvious (Montes, Popov, 1999). The IMF has admitted that forcing developing countries to open their markets to foreign investors could increase the risk of financial crises. "The process of capital account liberalization appears to have been accompanied in some cases by increased vulnerability to crises," the fund said in a report (Prasad et al. 2003).

It may be hypothesized that the FDI inflows into countries with poor investment climate do actually more harm than good. First, there is a self-selection of investors – if the investment climate is bad, foreign investors come mostly for short term profit and/or resource projects, where the transfer of technology, the main benefit of FDI, is at best limited. Second, foreign investors do not reinvest profits in countries with poor investment climate, so the outflow of profits with time outweighs the inflow of FDI. Third, purchases of companies in countries with bad investment conditions do not necessarily lead to the increase in total investment because the inflow of FDI is often completely absorbed by an outflow of short term capital.

Regression below (Polterovich, Popov (2003)) supports these conclusions. It implies that FDI positively influence growth in countries with good investment climate and negatively – in countries with poor investment climate:

$$GR = CONST. + CONTR. \ VAR. + 0.02*FDI \ (ICI -80.5), (5)$$

where ICI – investment climate index, FDI – average foreign direct investment inflow as a % of GDP in 1980-99. Coefficients are significant at 10% level.

Equation (5) gives a very high threshold of investment climate index – about 80%, which is basically the level of developed countries. Only a few developing countries (Botswana, Hong Kong, Kuwait) have such a good investment climate. The worse is investment climate of a country the larger may be losses from FDI, hence, the stronger foreign investments should be regulated by the state.

6. Migration policy

The most important restrictions and barriers that remain in the world economy today are not those in international trade and capital flows, but in the movement of people across national borders. In words of Dani Rodrik, "if international policy makers were really interested in maximizing worldwide efficiency, they would spend little of their energies on a new trade round or on the international financial architecture. They would all be busy at work liberalizing immigration restrictions" (Rodrik, 2001).

Compared to 100 years ago, the world is much less globalized today in terms of the free flow of labor. Annual migration flows right before the first world war – about 2 million people a year – were actually no less significant than now in absolute terms and about 4 times more intensive (as a % of the population) than now (Williamson, 2002). The pressure for immigration, however, did not decrease – differences in wage levels in 2000 ranged from $32 per hour in Germany to 25 cents in India, whereas the progress in the means of transportation and communications obviously reduced the costs of immigration dramatically. To put it differently, the decrease in the international migration in recent 100 years is due primarily to the tightening of the immigration control by Western countries.

The following regression estimates the impact of net migration flows[4] on economic growth.

GR = CONST. + CONTR. VAR. + M(3.08lgY – 9.08), (6)

 where Y is PPP GDP per capita in 1975, M – net inflow of migrants in 2000. Coefficients are significant at 10% level.

Equation (6) implies that for countries with PPP GDP of less than 10% of US level of 1975 (level of Bolivia and Cote d'Ivoire, lgY = 2.95), the impact of the immigration on growth was negative. To put it differently, migrants coming to poor countries were probably less educated than the rest of the population, so then inflow of migrants lowered rather than increased the level of human capital. When a country develops the net outflow turns out to be more and more costly. On the contrary, immigration to rich countries provided them with a "brain gain" that outweighed the negative impact on growth associated with the increase in population growth rates.

---

[4] Net migration flows are measured as the net inflow of migrants in 2000 as a % of total population of receiving country (U.S. Bureau of the Census, 2002). Although other variables are for the period of 1975-99, unfortunately we were not able to find data on net migration for developing countries in the same period.

It may well be that mass emigration from Europe played a crucial role in the transition to the modern growth regime from a Malthusian regime. The latter was characterized by the growth of population that was "eating up" all the potential increases in income per capita resulting from technological change (Galor, Weil, 2000). When technological progress accelerated in the 19th century, but the population growth rates still remained high and growing (0.6% in 1820-70) because the demographic transition has not yet occurred, mass migration to North America helped to alleviate pressure on the scarce resource – land, and to avoid diminishing returns (Pomeranz, 2000). Today the inability of low income countries to "export" unskilled labor to the West may be keeping them in a demographic trap where all available investment are spent on creating new jobs for the rapidly growing population. At other hand, "brain drain" from a middle income country may be very costly as well.

In short, the North and the South may have conflicting migration objectives: the former is interested in attracting migrants who are highly endowed with human and other forms of capital, and restrict entry of migrants with limited endowments; the latter would like to stem the flight of human and other forms of capital, and would prefer free emigration of unskilled labor as a partial solution to poverty[5] (Schiff, 1997). Bhagwati and Hamada (1974) proposed a tax on emigrants, with that tax levied by the receiving (developed country) party and transmitted in one form or other to the sending (developing) country. This tax cannot be levied by developing countries unilaterally without violating freedom of movement, so there is not much they can do without the cooperation of the West.

International organizations that deal with migration issues (UN International Labour Organization, and United Nations Population Division of the Department of Economic and Social Affairs) should work out appropriate North-South agreement on free movement of people including a system of compensations for brain drain.

---

[5] The other effect of migration that is usually omitted from the theoretical analysis is remittances of migrants to their home countries. Today the amount of remittances by migrant workers to their countries of origin ($80 billion, according to the World Bank) exceeds the total official development assistance of all Western world (50 billion a year).

7. Stages of development and economic policies

It was demonstrated above how rational tariff policy, FER accumulation, FDI, technology transfer, and migration policies have to depend on productivity and institutional indicators of a country. There are a number of other policies that were studied in a similar context. For example, it may be argued that, under poor investment climate and strong international competition, only large companies may serve as an engine of economic growth. Therefore, at some stage, this companies merit to be supported by the state even if such a support weakens competition. All East Asian tigers followed this policy. In Japan 4 major zaibatsu, powerful family-based merchant groups that were transformed into holding companies in the Taisho period (1912-26), controlled in 1945 25% of capital in industry, trade, finance and transportation (10 largest zaibatsu – 35% of capital). In 1945-50, the American occupation authorities dissolved zaibatsu. However, the major pre-war zaibatsu (Mitsui, Mitsubishi and Sumitoto) reemerged in the form of reorganized business groups, so that by the late 1980s six major business groups accounted for about 15% of the value of shipments of all non-financial corporations (Lee, 1998). In South Korea in the 1970s rapid growth was going hand in hand with the increase in the share of monopolistic and oligopolistic markets (Lee (1998)). Fast growth of big corporations is observed in modern China as well, large firms are supported by China governments (Nolan (1996)). An explanation of this pattern of development may be found in Acemoglu, Aghion, Zilibotti (2002b).

The Environmental Kuznets Curve, an inverted U-shaped relationship between income and CO_2 emissions (Panayotou, Peterson, Sachs (2000)) is a clear demonstration of the fact that rational environmental policy is different for developed and developing countries.

Similar argument can be made with respect to labor standards (safety, child labor, etc.). Increases in mortality due to the reduction of income resulting from the prohibition to use child labor may be a too high price to pay. It is not occasional that these standards arisen in comparatively rich economies (Chang (2000), Kitching, 2001)[6].

In view of results described above it is useful to differentiate among four stages of development: (1) initial modernization (industrialization) stage; (2) stage of initialization of export oriented growth; (3) stage of accelerated development; (4) developed market stage.

---

[6] We do not touch here a huge set of related problems concerning institutional reforms - privatization, price liberalization, tax and financial sector reforms, etc. A rational choice of new institutions, sequencing and methods of their building also depend on the level of county development.

At the initial stage a backward economy starts to modernize its industrial production and create new industries. Modern machinery and equipment, as well as technology are purchased abroad. The most important externality at this stage is the one associated with imports of machinery and technology, so rational economic policy should be aimed at facilitating imports of machinery and equipment and protecting domestic consumer goods industries. Such a policy could use, as instruments, low import duties for investment goods, subsidies for imports of machinery, support to firms importing technology, high import duties for consumer goods and overvalued exchange rate to facilitate imports. The average size of the enterprises increases at this stage of initial industrialization, and it makes sense to provide benefits to large companies. The initial industrialization stage is similar (and sometimes even coincides) with the period of recovery from the recession caused by wars and revolutions, as was the case in South Korea in the 1950s or in Russia in the 1920s. As the domestic industrial production expands at the first stage, import externality weakens, whereas domestic industrial production is constraint by the limited size of the national market. The access to export markets becomes crucial – export externality (learning from international experiences in technology, management and marketing) starts to predominate and this is where the second stage starts. Countries that managed to reap fully the benefits of the second stage of export-oriented growth used a variety of selective and non-selective instruments[7] to promote exports of industrial goods – direct state support of reconstruction of large enterprises, indicative planning, export subsidies and import tariffs, state sponsored development banks and credits to export oriented industries, undervaluation of the exchange rate via accumulation of foreign exchange reserves, not to speak about general government financing of investment into infrastructure and human capital[8].

Not all countries used these measures, but all fast growing countries resorted to at least some of these measures at the second, export-oriented stage of their development. Simultaneously, market infrastructure was created and decentralization of the economy was started.

If fast growth is reached it makes possible to accelerate institutional reforms. In fact, they are necessary to support fast development. At the third stage, direct state interference in the economy has to be diminished, non-selective instruments (like FER accumulation) should substitute for

---

[7] It makes sense to characterize an instrument by its degree of selectivity.

[8] Import tariffs and non-tariff barriers are used at the first stage of import substitution modernization, as well as at the second stage of export-oriented growth. The difference is that at the second stage protection of domestic

selective ones, and foreign trade and financial markets may be gradually deregulated. This is a time to particularly care on support of small enterprises.

The fourth stage of developed market is characterized by the ability of the economy to maintain the optimal share of external trade in GDP by itself, without the interference of the government. Industrial policy (except for providing public goods, such as infrastructure, education, fundamental R&D, etc.) is thus loosing its "magic" ability to speed up economic development. Most of the selective instruments that were widely used at the previous two stages are phased out and used only in extraordinary situations. At this stage, regular countercyclical macroeconomic policy becomes the cornerstone of government economic regulation.

The four- stage picture described above is just a hypothesis. It is supported, however, by the histories of successful catching up cases. Students of Japan, Korea, Taiwan, and China divide their development into periods that roughly coincides with our stages (Cho et al (1996), Nam (1995), Hayami (1996), Qian (1999)). All these countries came through import substitution stage, then used active state policies to promote export, and gradually decentralized their economies at the stage of fast growth.

Our econometric findings may be also considered as supportive. First, we have shown that for a number of policies switching points really exist. Second, we have found that the effect of tariff policy diminishes in the process of catching up, and switching point is less than 50% of US GDP per capita level, whereas, for reserve accumulation, switching point is larger (about 65%). We demonstrated also that good investment climate is a prerequisite for positive influence of FDI. This result supports recommendations do not liberalize capital markets too early (Stiglitz (2000)). Besides, it was corroborated that technology imitation is useful for growth at lower stage even if a country does not have its own R$D sector.

Thus, to ensure successful development the government is supposed to follow a non-trivial strategy of changing the policy every time the economy enters the new stage of development. The art of the policymakers is not to stick to a particular set of "good policies" but to change the policy so that it is most adequate to changing targets of development. Otherwise the economy gets into underdevelopment trap. Not surprisingly, only a handful of countries were able to stand up to the challenge of switching the gears at the right time. Many more countries missed growth

---

industry is supplemented by measures promoting export   In particularly, protection is given to domestic exporters.

opportunities: USSR and India of the 1950s-1980s, as well as many Latin America countries failed to abandon the import substitution policies and excess government involvement, whereas African countries in the 1980s and 1990s and transition economies in the 1990s tried to copy directly and straightforwardly policies and institutions of developed countries. In both cases results were disappointing – inequalities increased, the

fight for the greater share of the national pie intensified, and production stagnated or even dropped[9].

8. About a New World Economic Order

 The stages of development theory suggested above implies that rules and norms of interactions between developed and developing worlds have to be changed, and the system of assistance should be substantially improved.

  First, the international expert society has to recognize that the concepts of proper (correct, good) political and economic institutions and policies are conditional and depend on a level of national development. It is a very challenging task to work out a list of differentiated prescriptions that may be followed by countries at different stages of development. In particularly, this is important to improve the system of international financial assistance.

   Second, industrial policy, including the use of direct and indirect subsidies, tariffs, price and wage restrictions, foreign exchange reserves accumulations, etc. may be necessary to support fast economic growth in developing countries where markets are distorted whereas developed countries may need to resort to these instruments in exceptional cases only. WTO and other international trade organizations as well as international financial institutions (IMF, WB, EBRD, etc.) have to take this asymmetry into account.

   Third, terms of patent and copyrights protection have to be differentiated for a broad spectrum of innovation dependently on the development level of a country.

  Fourth, an international agreement to compensate developing countries for brain drain has to be worked out.

  Fifth, the mechanism of the international development assistance has to be reformed. The situation when the same people develop programs of reforms and make decisions on their

---

[9] This difficulty is clearly demonstrated by Brazilian economic history. Brazilian governments used import substitution policy in 1940-1964 and also in 1974-1990, whereas in 1964 - 1974 as well as in 1990-1997, export oriented policy prevailed. In 1974 and also in 1997 Brazilian economy experienced economic crises (Baer (2001)).

financing may create conflict of interests. A new assistance system has to be built to avoid this possibility. Assume, for example, that each country gets a financial quota for improving its own institutions, and may suggest an international group of specialists to develop programs of institutional reforms. Assume also that an international financial organization (IMF?) may approve the candidates or not but can not influence on the program directly. It is quite possible that this system will prove to be more effective than current one.

These would be some elements of a New World Economic Order that has to decrease the gap between developed and developing world.

9. Conclusions.

It seems to be not reasonable to apply the modern Western patterns of tradeoffs between different development goals (wealth, education, life expectancy, equality, environmental standards, human rights, etc.) to less developed countries. Policies that prohibit child labor, for instance, may be an unaffordable luxury for developing countries, where the choice is not between putting a child to school or into a factory shop, but between allowing the child to work or to die from hunger. The marginal cost of adopting stricter regulations in such areas as environment and human rights (reproductive rights, work conditions and safety standards, children's and prisoners' rights) in developing countries in terms of deterioration of other developmental indicators (life expectancy, consumption) may be prohibitively high.

The past experience of now-developed economies, more recent experience of successful developing countries, econometric calculations, and theoretical arguments imply that different stages of economic development require different sets of economic policies.

However in our interdependent world "good policies" for developing countries, whether its trade protectionism or control over short-term capital flows, in most instances cannot be pursued unilaterally, without the co-operation of the West or at least without some kind of understanding on the part of the rich countries. The international society has to recognize that the non-decreasing gap between developing and developed worlds is dangerous for both of them. To shorten this gap the current economic order, norms of trade agreements and the structure of assistance institutions have to be substantially improved.

REFERENCES

Acemoglu, Daron, Philippe Aghion, and Fabrizio Zilibotti (2002a). Distance to Frontier, Selection, and Economic Growth. June 25, 2002

(http://post.economics.harvard.edu/faculty/aghion/papers/Distance_to_Frontier.pdf).

Acemoglu, Daron, Philippe Aghion and Fabrizio Zilibotti (2002b). Vertical Integration and Distance to Frontier. August 2002

(http://post.economics.harvard.edu/faculty/aghion/papers/vertical_integration.pdf).

Bailey, Michael, Penny. Fowler and Kevin Watkins (2002). Europe's Double Standards. How EU Should Reform Its Trade Policies with Developing World. – Oxfam Briefing Paper 22, 2002 (http://www.oxfam.org.uk/policy/papers/22europe/22europe.html).

Baer, Werner (2001). Brazilian Economy. Growth and Development. Westport: Praeger. 498 pp.

Bhagwati, Jagdish N. and Koichi Hamada (1974). The Brain Drain, International Integration of Markets for Professionals and Unemployment: A Theoretical Analysis. *Journal of Development Economics* vol.1, No.1, 19-42.

Boldrin, M., and Levine, D. (2002). The Case Against Intellectual Property. Centre for Economic Policy Research, Discussion Paper Series, No.3273.

Castaniera, Micael and Vladimir Popov (2001). Framework Paper on the Political Economy of Growth in Transition Countries. EERC working paper. See: http://www.gdnet.org/pdf/425_Casta-Popov.pdf and http://orion.forumone.com/gdnet/files.fcgi/425_Casta-Popov.pdf

Chang, H.-J. (2001). Intellectual Property Rights and Economic Development – Historical Lessons and Emerging Issues. Journal of Human Development (forthcoming).

Chang, H.-J. (2002). Kicking Away the Ladder. London: Anthem Press. 187 pp.

Cho D.-S., Lee D.-H., Ryu S.-F., Cho D.-W., and Kim D.-J. (1996). A Comparative Study of Korean and Japanese Industrial Policies Through Content Analysis of Official Documents. Hitotsubashi Journal of Commerce and Management. V.31, 59-74.

Dollar, David (1992), Outward-oriented developing economies really do grow more rapidly: evidence from 95 LDCs, 1976-1985. – *Economic Development and Cultural Change*, Vol. 40, No. 3, April 1992, pp.523-44.

Easterly, William (1999). The Lost Decades: Explaining Developing Countries Stagnation 1980-1998. World Bank, 1999

Galor, Oded, D. Weil (2000). Population, Technology, and Growth: From Malthusian Stagnation to the Demographic Transition and Beyond. – *American Economic Review,* 90(4):806-828, September, 2000.

Griffith-Jones, Stephany, Manuel F. Montes, and Anwar Nasution (2001). Short-Term Capital Flows and Economic Crises. OUP, 2001.

Hayami Y. (1996). Toward an East Asian Model of Economic Development. The International Economic Association. Round Table Conference. The Institutional Foundation of Economic Development in East Asia/ Tokio, 16-19, December. 1-42.

Kamin, S., Rogers, J. (2000). Output and Real Exchange Rate in Developing Countries: An Application to Mexico. – *Journal of Development Economics*, Vol. 61 (2000), pp. 85-109.

Kitching, Gavin (2001). Seeking Social Justice Through Globalization: Escaping a Nationalist Perspective. University Park: Pennsylvania State University Press, 2001.

Kuznets, P.W.(1988). An East Asian Model of Economic Development: Japan, Taiwan, and

Lee, Kyu Uck (1998). Competition Policy, Deregulation and Economic Development. The Korean Experience. Korea Institute for Industrial Economics and Trade, 1998.

Montes, M., Popov, V. (1999), *The Asian Crisis Turns Global.* Institute of Southeast Asian Studies, Singapore, 1999

Nam Chong-Hyun. (1995). The role of trade and exchange rate policy in Korea's growth. In: Takatoshi Ito and Anne O.Krueger (eds.). Growth Theories in Light of the East Asian Experience. The University of Chicago Press, ch.6, p. 153-177.

Nolan, Peter (1996). Large firms and industrial reform in former planned economies: the case of China. Cambridge Journal of Economics, 20, 1-29.

Polterovich, Victor (2002). Political Culture and Transformational Recession. A Comment on the article by A. Hillman "En Route to the Promised Land" – Economics and Mathematical Methods, 2002 (in Russian).

Polterovich, V., and V. Popov (2003). Stages of Development and Economic Growth. Manuscript.

Polterovich, Victor, V. Popov (2004). Accumulation of Foreign Exchange Reserves and Long Term Economic Growth. In: T.Shinichiro&I. Akihiro (eds.) Slavic Eurasia's Integration into the World Economy and Community. Sapporo, Slavic Research Center, Hokkaido University. N2, 161-195. See also

http://www.nes.ru/english/about/10th-Anniversary/papers-pdf/Popov-Polterovich.pdf

http://www.nes.ru/english/about/10th-Anniversary/papers-pdf/Popov-charts.pdf.

Polterovich, V., V. Popov (2005). Appropriate Economic Policies at Different Stages of Development. http://www.wider.unu.edu/conference/conference-2005-3/conference-2005-3.htm

Polterovich, V., A. Tonis (2005). Innovation and Imitation at Various Stages of Development: A Model with Capital. Working paper #2005/048. Moscow: New Economic School, 32 pp.

Popov, Vladimir (2000), Shock Therapy versus Gradualism: The End of the Debate (Explaining the magnitude of the Transformational Recession). – *Comparative Economic Studies*, Vol. 42, No.1, Spring 2000.

Prasad, Eswar, Kenneth Rogoff, Shang-Jin Wei and M. Ayhan Kose (2003). Effects of Financial Globalization on Developing Countries: Some Empirical Evidence, IMF, March 17, 2003.

Qian, Y. (1999). The Process of China's Market Transition (1978-1998): The Evolutionary, Historical, and comparative Perspectives. Journal of Institutional and Theoretical Economics symposium on "Big-Bang Transformation of Economic Systems as Challenge to New Institutional Economics", June 9-11, 1999, Wallerfangen/Saar, Germany, 34 pp.

Rodriguez, Francisco and Dani Rodrik (1999). Tade Policy and Economic Growth: A Skeptic's Guide to the Cross-National Evidence.   CEPR Discussion Paper No. 2143

Rodrik, Dani (1986), "Disequilibrium" Exchange Rate as Industrialization Policy. Journal of Development Economics, 23, 89-106.

Rodrik, Dani (1995), Understanding Economic Policy Reform. – *Journal of Economic Literature*, 1995, Vol. 34, 9-41.

Rodrik, Dani (2001). Comments at the Conference on "Immigration Policy and the Welfare State", Trieste, June 23rd, 2001.

Rodrik, Dani (2003). Growth Strategies. Working draft for eventual publication in the *Handbook of Economic Growth*. April 2003 (http://ksghome.harvard.edu/~.drodrik.academic.ksg/growthstrat10.pdf).

Sakakibara and Bransletter (2001). Do Stronger Patents Induce More Innovation? Evidence from the 1988 Japanese Patent Law Reforms. *The Rand Journal of Economics*, 32(1): 77-100.

Schiff, Maurice (1997). South-North Migration and Trade: Survey and Policy Implications. World Bank, October 1997 (http://www.worldbank.org/research/trade/pdf/wps1696.pdf).

Singh, Ajit (2002). Capital account liberalization, free long-term capital flows, financial crises, and economic development. Queens' College, University of Cambridge, 2002.

Stiglitz, J. (1998). More Instruments and Broader Goals: Moving Toward the Post-Washington Consensus. WIDER Annual Lecture. WIDER/UNU.

Stiglitz, J. (2000). Capital Market Liberalization, Economic Growth, and Instability. World Development, Vol. 28 (6), 1075 – 1086.

Wei, Shang-Jin, and Yi Wu (2001). Globalization and Inequality: Evidence from Within China, NBER Working Paper 8611, National Bureau of Economic Research, 2001.

Williamson, Jeffrey G. (2002). Winners and Losers over Two centuries of Globalization. WIDER Annual lecture 6. WIDER/UNU, November 2002.

World Bank (1996), *From Plan to Market. World Development Report,* NY: Oxford University Press.
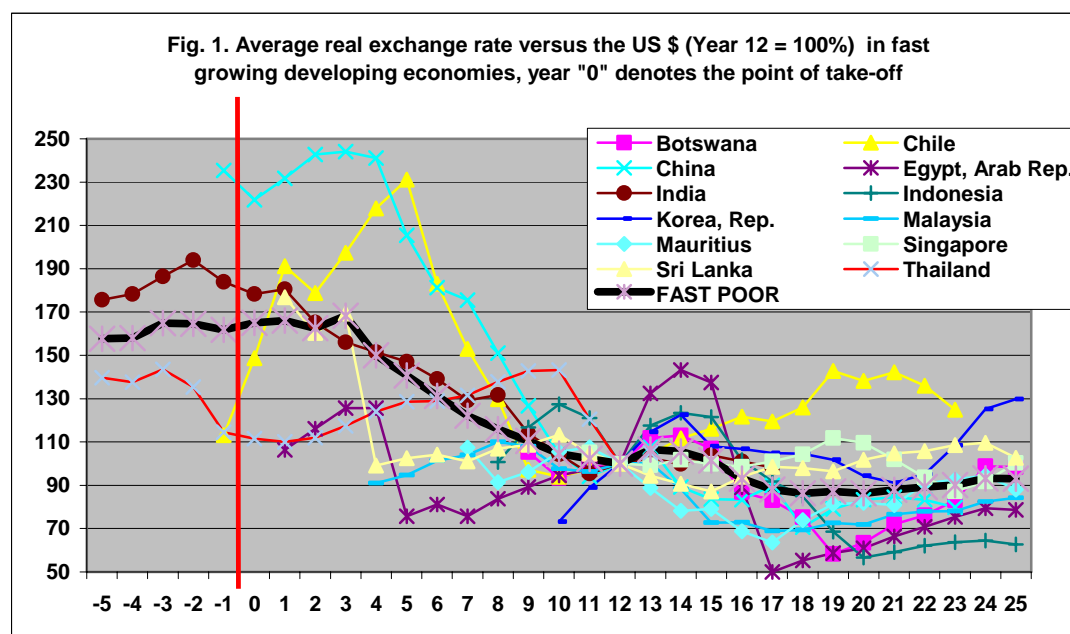
Table1. Some macroeconomic indicators for rapidly growing countries in 1960-99

Countries	Annual average per growth %	Increase FER/GDP p.p., 1960-99	Average FER/GDP %	Highest FER/GD ratio in 99, %	Average in month import, 1975-99	Ratio of to of exchange in 1975-99	An. av. in-flow FDI in 99, % of	Avera export P ratio	Increase export/ratio, p.p.	Average investm GDP %
Countries with average annual growth rate of GDP per capita of over 4%										
Botswana	6,13	86,93 (1976-99)	68,89 (99)	121,82 (99)	13,64	53,86	2,20	41,83	3,88	27,61
China	4,94	13,72 (99)	8,68 (1977	16,31 (19	7,36	38,26	2,26	11,76	20,77 (99)	31,31
Hong China	5,12	27,59 (99)	42,74 (99)	60,56 (19	3,61	83,03	-1,10	103,37	48,8	27,33
Japan	4,18	2,37	3,42	6,76 (199	3,54	115,98	-0,62	11,20	-0,34*	32,01
Korea, Rep.	5,82	14,17	5,89	18,21 (19	2,11	58,23	-0,07	25,08	38,9	27,93
Singapore	5,87	72,76	60,55	90,52 (19	4,76	93,93	6,80	163,66	41,96 (96)	34,57
Thailand	4,51	14,44	14,75	27,97 (19	4,47	41,69	1,61	41,63	26	27,98
Countries with average annual growth rate of GDP per capita of 3 to 4%%										
Hungary	3,11	27,59 (	14,18 (	22,67 (19	3,52	36,05	4,27	38,06	22,44 (	28,79

		99)	99)			(1990-99)		99)	
Greece	3,36	9,90	6,83	15,64 (1994)	3,86	69,99	1,08	14,42	10,76	27,02
Indonesia	3,43	19,09 (..99)	6,65 (1967	23,89 (19	3,36	42,54	0,93 (1990	22,04	19,9	22,34
Ireland	3,89	-11,22	14,61	22,51 (19	2,46	93,99	2,08	49,20	57,9	18,71
Luxembourg	3,06	-3,61 (..99)	2,10 (1984	4,29 (1980	0,03	123,23		103,76	14,4	18,43
Malaysia	3,91	24,55	21,26	42,13 (19	4,19	59,12	4,36	58,80	71,1	27,83
Mauritius	3,30	6,94	14,53	32,32 (19	2,74	42,99	0,50	50,29	36,9	22,83
Norway	3,03	6,94	10,57	22,56 (19	3,91	125,96	-0,51	38,19	2,22	22,83
Portugal	3,83	-9,31	26,77	51,40 (19	2,86	56,78	0,98	24,98	15,28 (98)	24,66
Spain	3,31	1,80	8,18	13,06 (19	5,25	80,05	0,61	15,56	19,2	23,13

* In 1960-84 the ratio increased by 4,09 p.p.   Source: WDI.

Fig. 1. Average real exchange rate versus the US $ (Year 12 = 100%) in fast growing developing economies, year "0" denotes the point of take-off

Source: WDI.