

WPS 1889

POLICY RESEARCH WORKING PAPER 1889

Development Strategy Reconsidered

Mexico, 1960–94

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In development strategy, the Mexican government has been politically inclined to favor agricultural or rural states over nonagricultural states — and less productive rural states over highly productive rural states — although its focus on the subsistence sector seems to have diminished recently.

The World Bank
Development Research Group
March 1998



Summary findings

Different ways of discussing development strategy often reflect different definitions of development. Analysts who emphasize income or production as indicators of development may focus on macroeconomics or sectors. Other analysts may focus on distribution and social aspects as development. Economists tend to see development strategy from the normative, technocratic perspective of welfare economics. Political scientists may see development as a process of political interaction between different interests.

Using Mexico as a case, Yanagihara and Hisamatsu examine macroeconomic conditions and policies (based on flow of funds tables) and estimates of resource transfers between sectors and regions, to relate them to development strategies. They find that:

- Macroeconomic conditions and policies have exerted a strong impact on resource transfers between the productive sector and the financial and fiscal sectors.
- Because of the strong impact of macroeconomic conditions and policies, resource transfers between productive sectors were not necessarily evident for either financial or fiscal transfers. But combined transfers from nonagricultural states to agricultural states were significant in three out of four periods examined.

- The government more effectively controls fiscal transfers because it is directly involved in decisionmaking about public investment and federal participation. Figures on fiscal transfers suggest that the government favored agricultural states in the quarter century studied.

- Fiscal transfers dominated financial transfers — hence the general transfer from nonagricultural states to agricultural states. The Mexican government maintained a strong interventionist stance toward the rural and agricultural sector even as it espoused reducing the government's role in economic management.

- During the era of shared development, the government favored less productive agricultural states over highly productive agricultural states. As agrarian reform was reformed, this favoritism diminished and eventually disappeared.

- The study results reflect the Mexican government's political inclination to favor agricultural or rural states in coping with macroeconomic turmoil. In terms of development strategy, the federal government may have maintained that preference in securing resource flows, but that focus on the subsistence sector seems to have diminished recently.

This paper — a product of the Development Research Group — is part of a larger study of the political economy of rural development strategies. Copies of the paper are available free from the World Bank, 1818 H Street NW, Washington, DC 20433. Please contact Kari Labrie, room MC3-347, telephone 202-473-1001, fax 202-522-3518, Internet address klabrie@worldbank.org. March 1998. (58 pages)

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Development Strategy Reconsidered: Mexico 1960-1994 *

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* We are grateful for the comments on early versions to a number of experts, especially to David Ibarra, Jesús Silva Herzog, Leopoldo Solís among them, as well as to the participants at the World Bank seminar. Research assistance of Hiroyuki Ukeda is gratefully acknowledged.



1. Introduction

Development strategy is discussed in a number of different ways. First of all, there are diverse views and positions with regard to the very definition of development. Some emphasize economic aspects taking income or production as central indicators of development. In doing so focus might be placed on the macro or sectoral level. Others pay more attention to distributional or social aspects pointing to them as ultimate goals of development. Secondly, strategy is discussed in different manners. Typically, economists take a welfare economics view and see development strategy in a normative, technocratic perspective. Political scientists, in contrast, tend to interpret it as a summarizing device in the process of political interactions and aggregation of diverse interests.

Mexico offers an important case for the examination of development strategy. It has a political system that apparently allows one to view development strategy from a normative, technocratic perspective. Discourse on development and development strategy reflects diverse approaches and the dominant views have shifted over time. More importantly, its development records have shown a number of contrasts both across time periods and across productive sectors or regions. It might be arguably the case that Mexico represents an ideal-type case for the study of the sequence of development strategies. It is a challenge to conceptualize and identify characteristic features of Mexico's development strategy and relate them to developmental performances. Implications and lessons could be of value for Mexican policymakers as well as those from other developing countries.

In this paper we will review and analyze Mexican experiences placing analytical foci on: (1) the examination of macroeconomic conditions and policies based on the Flow of Funds tables; (2) the estimation of intersectoral/interregional resource transfers; and (3) the attempt at relating them to the evaluation of development strategies identified. This choice of research strategy is essentially predicated on the common goal of the present collaborative project under the direction of Prof. Teranishi. It is also based on our conviction of the importance of tracing and accounting for development strategy as actually implemented and reflected in macro-level flow of funds and intersectoral/interregional resource transfers.

In reporting the results of our research, this paper has the following construction.

In Section 2 we will first trace Mexican experiences in economic development and present the conventional view of the sequence of development strategies from around 1960 on. Secondly, we will give a brief chronology of agricultural sector development strategy.

In Section 3 we will discuss the motivations and methodologies for the estimation and examination

of intersectoral resource flows in relation to development strategy. First, we will review various ways in which development strategies are identified and discussed. Secondly, we will try to clarify the connection between various elements of discourse on development strategy and intersectoral resource flows. Thirdly, we will review the existing works on intersectoral resource transfers. Finally, we will close this section by defining our task based on the consideration of some of the characteristic features of the Mexican experiences and the existing works on intersectoral resource flows. We will also discuss the availability and limitation of relevant data.

In Section 4 we will present a brief overview of macroeconomic developments from the perspective of the financial flows between the private, public, financial and external sectors as represented in the standard Flow of Funds (FoF) tables. We will then discuss their relations to development strategy.

In Section 5 we will present our tentative results on the estimation of intersectoral/interregional resource transfers as captured by utilizing state-level fiscal and banking statistics. We will then discuss their relations to development strategy.

Brief concluding remarks close the paper.

2. Mexico's Development Records and Strategies

2.1. Overview: Growth and Poverty

Long-term growth performance of the Mexican economy since the 1940s can be summarized as follows (Figure 1):

1. Growth of the non-agriculture sector exhibits a slow upward trend between 1940 and 1965 and a declining trend thereafter;
2. Growth of the agricultural sector shows a persistent downward trend from the 1950s on;
3. Growth rate differentials between non-agriculture and agriculture clearly emerged in the late 1950s and remained significant all through the early 1980s.
4. In the 1990s growth is slow and unstable both for agriculture and non-agriculture.

Restoring growth on a sustainable basis remains a central task of development strategy for both agricultural and non-agricultural sectors.

Mexico also faces a serious and persistent problem of poverty. According to a joint study by INEGI and CEPAL, out of the total population of 84.3 million in 1992, 37.2 million (44.1%) lived below the poverty line and 13.6 million (16.1%) in extreme poverty (Table 1). Of the people in extreme poverty, 8.8 million live in rural areas. This number represents 25.6% of the rural population. Extreme poverty in rural areas is of endemic nature in that it is rooted in the lack of basic capabilities to engage in more productive economic activities or have access to alternative income opportunities.

2.2. Development Phases and Strategies

Mexico has gone through a number of clearly identifiable phases of economic management in the recent past. These phases are often identified with macroeconomic policies and conditions. To use conventional labels for periodization: the 1960s was the period of "stabilizing development" (*desarrollo estabilizador*) characterized by high and steady rates of growth, low rates of inflation and stable value of currency; the 1970s was characterized by the pursuit of "shared development" (*desarrollo compartido*) and by fiscal populism, financed by oil exports and by external borrowings, which resulted in the debt crises of the mid 1970s and early 1980s; and the 1980s and 1990s have turned out to be a prolonged period of macroeconomic stabilization and structural adjustment. These developments make it imperative to pay due attention to macroeconomic conditions and policies in discussing development policies.

At the level of broad productive sectors the three phases identified above roughly correspond to the following sequences of sectoral developments.

In industry, the first phase was characterized by sustained high rates of growth based on expanding domestic demands in consumer goods and import substitution in some intermediate products; the second phase saw conscious efforts to deepen industrial composition through backward linkages and capital goods procurement on the strength of public investment expenditures; and the third phase witnessed a complete halt in growth and a drastic policy shift to trade liberalization and export promotion as reflected in and institutionalized by the accession to WTO and NAFTA.

In agriculture, the first phase was characterized by the growth of the capitalist subsector and the stagnation of the subsistence subsector; the second phase saw the continuation of the divergent trend of the previous phase and faced an abrupt negative turn in the supply-demand balance in basic grains (i.e.

maize and wheat). The third phase was marked by overall stagnation of the sector and a historic policy shift toward market-oriented agriculture ("reform of the agrarian reform").

As briefly reviewed above, one can surmise main orientations of development strategy for each of the three phases. During the first phase, private investment was promoted both in industry and the commercial subsector of agriculture while the public sector financial balance was kept in check. In the second phase, government intervened more actively to promote import substitution and industrial deepening and also to address the increasingly serious problem of rural poverty and subsequently of food shortage. The third phase is characterized as a shift toward a new development model based on market-mediated resource allocation in the context of opening and liberalization amid continued efforts toward macroeconomic stabilization.

The nature of development strategy in Mexico changed drastically over the past three decades. In the 1960s and 70s development strategy was mostly captured in terms of providing resources for certain sectors. Productive sectors received higher output prices via protection and price support and lower input prices via subsidies. Finance was often earmarked and subsidized. Similar approach was taken for the maintenance of the standard of living: wages were protected and key consumption items were subsidized; infrastructure was provided to satisfy needs of the population in certain location.

The 1960s saw a continuation of economic development strategy based on state support to private business and expansion of the parastatal sector and also a return of social considerations as indicated by increased pace of redistribution of agrarian land. This simultaneous pursuit of economic and social goals was carried out, however, within the overall framework of economic management initiated in the mid 1950s, which subsequently came to be called "stabilizing development". In the domain of political economy "[S]tability for economic growth was also provided by tacit pacts which the Official Party had begun to make with an increasing number of socioeconomic sectors beginning in the late 1930s" (Wilkie (1990), p.2)

The 1960s ended in a political turmoil as a student-led protest in the fall of 1968 resulted in a violent crackdown by the government and subsequent emergence of guerrilla movements. Assuming office in 1970, President Echeverría sought to find a solution to this political problem by expanding tacit pacts, i.e., by aiming at improving income distribution and coopting young critics through public sector patronage. These policy orientations were pursued by means of expansionary fiscal and monetary policies, breaking with the conservative tradition of "stabilizing development". By 1976, macroeconomic imbalance became unsustainable and the peso underwent a maxidevaluation. Under President López Portillo (1976-82) Mexico started a stabilization program to restore macroeconomic balance supported by an Extended Fund Facility accord with IMF. This program was soon aborted, however, as Mexico

emerged as a major exporter of oil and thus regained its international creditworthiness. Mexican government expanded its economic role significantly as it embarked on state-led programs of industrial development and food self-sufficiency. In April 1980, under the López Portillo administration, the government published a National Development Plan (Plan Global) covering the period 1980-82. The plan postulated as the central goals of development strategy the following macroeconomic objectives: maintaining a high growth rate; increasing employment; satisfying the basic needs of the population; and improving regional and family distribution of income. Social policies were closely linked to employment and regional development objectives and were to be implemented in coordination with the ongoing Rural Development Investment Program (PIDER) and the Plan for Marginal Areas (COPLAMAR). The public investment program was to give priority to the social sector, agriculture and basic transportation. This expansionary policy produced a temporary period of high growth but ended in another crisis in 1982 engendered by rapidly expanded public sector deficits.

After the economic crisis of the early 1980s, development came to be viewed as collorary to the immediate task of macroeconomic stabilization and structural adjustment. The new thinking was that development would follow in the successful completion of macroeconomic stabilization and structural adjustment. Macroeconomic stabilization would remove a major source of uncertainty for private investors. Structural adjustment would eliminate distortions in the incentive structure and open up an array of new investment opportunities in accordance with comparative advantage of the economy. It will also realize conditions in which factors of production are allocated in response to market-determined rates of return. At the same time, more effective targeting is sought in directing fiscal and financial resources for the alleviation of poverty.

The de la Madrid Administration (1982-88) faced an extremely difficult task of macroeconomic stabilization under what might be called systemic uncertainties in the handling of external debt and internal stagflation. Restructuring the whole system of economic management and responding to changes in social and political conditions was the central task for the government. Long-term development concerns had to recede to the backstage and could only be addressed as implications of the short-term necessity of reducing the size of the public sector and improving the external balance. In view of the overriding demands of short-term macroeconomic management, it is remarkable that the government succeeded in initiating and sustaining reform programs for liberalization of international trade and deregulation of domestic economic activities. These reforms were presented as necessary measures to eliminate distortions created under the previous policy regime of import-substituting industrialization and to redirect the economy toward a new model of export-oriented development. The turning point was July 1985 when the government decided to initiate a program of import liberalization. The commitment to the new trade regime was confirmed by the decision to accelerate the pace of import liberalization when

Mexico faced a renewed balance-of-payment crisis in the wake of the collapse of the international petroleum market in 1986.

The Salinas administration (1988-94) approached the task of macroeconomic stabilization and structural adjustment in a resolute and systematic manner. Macroeconomic management during the Salinas Administration was mostly focused on the interrelated goals of the control of inflation and the elimination of the public sector deficit, and the successful application of the Brady accord further alleviated the debt-servicing burden and the inflow of foreign funds gradually resumed. Inflation, which reached three digit levels in 1987 and 88 came down rapidly in 1989 and was in the single digit ranges in 1993 and 94. The public sector deficit was reduced rapidly and by 1991 the public sector was in surplus. Structural reforms were deepened as well as broadened under the general goal of "modernization". Reform in external trade was locked into GATT and NAFTA accords. Deregulation and privatization was carried out in a wide range of areas including finance, agriculture, social sectors and labor market. Poverty alleviation and regional development was accorded renewed emphasis in the Solidarity Program (PRONASOL).

The brief chronology of economic management since the 1960s given above may be summarized in the following propositions on the relation between development strategy and resource transfer. In the 1960s development strategy in effect consisted of a combination of preference schemes for private businesses, provision of fiscal and financial resources to them, and expansion of parastatal enterprises. In the 1970s the new emphasis on social goals of income distribution and poverty alleviation was added to the previous list, with more fiscal and financial resources directed to the rural poor. In the 1980s, in contrast, development strategy came to be discussed in relation to the need for policy and institutional reform designed to change incentive frameworks of the economy. Fiscal resources were to be directed to strictly limited public goods such as infrastructure and social services. Financial resources were to be allocated according to efficiency criteria as realized through liberalization of the financial sector. In reality, however, fiscal and financial mechanisms continued to be subjected to short-term needs of macroeconomic management and did not provide adequate conditions for the growth of the real sector of the economy.

2.3. Strategy for Agricultural/Rural Development¹

Agricultural sector and rural areas are important considerations in the overall development strategy in relation to growth and in particular to poverty alleviation.

In Mexico development strategy has aimed at the simultaneous realization of goals of industrial expansion and the maintenance of income for agricultural producers. The key variables in this set of simultaneous equations were the consumer and producer prices of basic food items such as maize, beans and sugar. The desired policy goals were to keep the consumer prices low and the producer prices high. These goals were mainly pursued through the operation of CONASUPO established in 1961.

The government set both consumer and producer prices for major agricultural products and financed the deficits incurred by CONASUPO. This scheme of global food subsidies (i.e., available to all consumers) became particularly significant during the early 1980s, with the total amount of subsidies reaching 1% of GDP by 1983. Facing a serious need for drastic fiscal adjustment the government decided to phase out the global subsidies scheme thereby putting an end to one critical aspect of the development strategy followed since the 1960s. Another aspect of policy toward the agricultural sector was subsidies on agricultural inputs such as fertilizer, fuel, water, credit and crop insurance. This was another significant source of fiscal deficits and would come to be similarly slated for a phase-out.

The 1960s saw the establishment of the policy and institutional scheme for industrial and agricultural development. Policy measures favorable for industrial development were introduced one after another; at the same time, compensatory measures based on fiscal subsidies were instituted to help alleviate some of the adverse impacts of industrial development policies.

One of the central components of support policy for the agricultural sector was public investment in irrigation and other forms. During the 1960s the government also established public enterprises supplying agricultural inputs including fertilizer (FERTIMEX) and seed (PRONASE). They provided inputs at subsidized prices. Between 1958 and 1972 the ratio of output to input prices for agriculture recorded an increase thanks to input subsidies although agricultural prices followed a downward trend in relation to the general price level.

Subsidies on official rural credits amounted to 40 to 60% of the value of the loans, or 9% of the

¹ The description of this section is based on various World Bank project reports.

sectoral GDP. Public expenditures on the maintenance and management of irrigation systems and other facilities amounted to 6%, and the subsidies on inputs equaled 5% of the agricultural output. Put together, the subsidies for agricultural production amounted to the peak level of around 30% of the agricultural GDP in 1981-82.

The question needs to be posed: Was this strategy of counteracting anti-agricultural bias through subsidization effective or efficient?

In addressing this question one needs to pay attention to the internal structure of the agricultural sector. In 1950, the half of the number of agricultural units covering the lower levels of production accounted for 6% of the total production. In 1960, this ratio was 4%. In 1970, it reached as low as almost 2%. Virtually all the benefits of fiscal subsidies were received by commercial farmers. On the other hand, the large majority of small producers did not benefit from none of those measures; thus, they faced only the adverse impacts of the macro and industrial policies. This lopsided incidence of the benefits of governmental support for agriculture is likely to be an important factor behind the increasing marginalization of the small producers observed over the 1950s and 60s. Rainfed agriculture, accounting for two thirds of cultivated land, received only about 10% of public expenditures in the agricultural sector up to mid 1970s. The main product for small producers is maize. The ratio of the price of maize to the minimum wage exhibited a strong downward trend between 1958 and 1973, prompting small farmers to seek wage labor opportunities.

During the period 1971-1981, encompassing the two presidential terms characterized by state activism, the role of state in agricultural sector was further expanded with more conscious attention directed to the support for the traditional producers.

The first conscious application of technocratic approach to sectoral development strategy for agriculture took place under the Echeverría Administration that started in December 1971. Guidelines for Economic and Social Policy for the Agricultural Sector [Lineamientos de la Política Económica y Social del Sector Agropecuario] was issued by the Ministry of Presidency in 1973. One of the principal authors of this document was Leopoldo Solís. Let us summarize the key messages of the document.

The document observes with concern the loss of dynamism in the agricultural sector since the 1960s as manifested in the slowdown in production and employment as well as in the worsening of trade balance and also pays attention to "the emergence of problems that had remained hidden during the period of agricultural expansion, connected with the uneven pattern of development of the sector". It then determines that "the main focus of the new agricultural development strategy" be placed on "the solution of two sets of related problems: how to restore dynamism to the sector, and how to wipe out the

inequalities in income distribution that have arisen within it". Moreover these two problems are viewed as interrelated in that "[T]he decline in agricultural production has affected subsistence farmers more than commercial farmers, since the slowdown in the expansion of cultivated land has been more marked in non-irrigated areas".

Four objectives of the development strategy are established. They are: employment, output, net foreign exchange earnings, and an adequate income for the least-favored stratum of the population. It is to be noted that the goal of improvement of income distribution is sought "mainly through an increase in the level of productive employment among smallholders and landless laborers". In achieving these objectives a two-stage strategy is proposed, the first stage (1973-77) emphasizing the expansion of the area under cultivation while the second stage (1978-) placing more emphasis on increases in yields and changes in crop composition. Then issues in the following four areas are discussed in an attempt to identify principal lines of new agricultural policy: investment in physical resources; investment in human resources; new methods of organizing the production and distribution of inputs; and new forms of market organization and new price policies.

Public expenditures in agriculture expanded rapidly during the presidency of Echeverría , with its share in the total rising from 7% for 1970-71 to 15% for 1974-75. A similar change took place in the allocation of public investment.

In April 1980, the government published a National Development Plan (Plan Global) covering the period 1980-82. The plan postulated as the central goals of development strategy the following macroeconomic objectives: maintaining a high growth rate; increasing employment; satisfying the basic needs of the population; and improving regional and family distribution of income. Social policies were closely linked to employment and regional development. The public investment program was to give priority to the social sector, agriculture and basic transportation.

In mid 1980, under the López Portillo administration, the government launched a major program called the Mexican Food System (SAM). Its main goals were achieving food self-sufficiency, meeting the minimum nutritional needs of the poor and increasing rural employment. These objectives were to be implemented in coordination with the ongoing Rural Development Investment Program (PIDER) and the Plan for Marginal Areas (COPLAMAR). Its central strategic pillar consisted of a Basic Food Production Program. This program concentrated on rainfed areas with small irrigation works. It consisted of technical assistance, provision of credit and insurance, and price support schemes. The prices of corn and beans were to be increased by 30% and 50% in real terms between 1980 and 82.

The Salinas administration's agricultural strategy was outlined in the National Program for

Modernizing the Countryside 1990-1994 (PMNC) published in early 1990. The main thrust of the Program was to establish a policy and institutional framework for a market-based agricultural economy. Thus the Program underlined the importance of trade liberalization, deregulation and privatization, international competitiveness, and efficient resource allocation. At the same time, however, attention was paid to the heterogeneity of the agricultural sector, especially in the reform of the rural credit schemes. Also, agricultural sector was completely considered in the NAFTA framework.

In sum, strategies for agricultural/rural development have passed through three clearly identifiable periods. The first one is characterized by the wide-spread price support and active public expenditures; the second period by the strengthened state involvement; and the third one by the ongoing reduction and change in the role of the state.

3. Conceptual Issues, Existing Literature and Research Agenda

3.1. Development Strategies, Intersectoral Balance and Resource Transfers

The central task of our research is to trace the evolution and identify the nature of development strategy in Mexico since the 1960s to the early 90s, specially focusing on agricultural and rural sector. Here development strategy is stipulated to be concerned, on the one hand, with the level of investment and its allocation across productive sectors, and on the other hand, with securing certain levels of welfare for targeted socio-economic groups.

The level and allocation of private investment is construed to be affected by a relevant incentive structure. It will be reasonable to assume that private investments will be promoted whenever there are prospects for higher and more stable rates of return. Financial and fiscal preferences constitute one set of incentives; and protection from imports and other forms of mitigating market forces represent another. Both of these measures also facilitate investment on the side of internal financing insofar as retained earnings represent an important component of total funds to cover project costs. Besides, financial preferences have much to do with external financing of the firms. More generally, public policy on long-term financial facilities will affect the level and composition of private investment. These and whatever other factors that affect expected rates of return and net cash flows, as well as those impinging on the amount and condition of financing, will impact on investment decisions of the private sector. As for the public sector's part, in many cases government goes beyond its catalytic role and takes on a role of direct

investor and/or entrepreneur. Development strategy thus encompasses the level and composition of public expenditures as additional set of instruments. In relation to private investment, public expenditure has both supply-side and demand-side effects. On the supply side, better availability of infrastructure and other public services is expected to raise the rates of return of private projects. On the demand side, public sector purchases will enhance revenue prospects of some private projects. In relation to the financing of investment, however, public sector might absorb funds that could have been used to finance private investment.

Let us now turn our attention to the other goal of development strategy, i.e., securing certain levels of welfare for targeted socio-economic groups. This second goal will partly overlap with the first to the extent that the increased profitability and expansion of production leads to higher incomes of those who supply factors of production. This harmonious or trickle-down scenario might not be sufficient or might not work at all, however. In some situations it might even be overwhelmed by backwash effects, and income opportunities of many people might be eroded. The goal of securing certain levels of welfare for targeted socio-economic groups may be approached in two different ways, one economic and the other social. The economic approach will address the question by trying to raise the earning capacity of targeted groups. The social approach will take a more direct route and focus on providing income supplements or relevant goods and services at subsidized prices to targeted groups. These two approaches are not necessarily contradictory to each other and may be usefully combined in some cases.

To sum up the discussion so far, development strategy is understood to consist of the weighting between the goals of investment promotion and increased welfare for some groups and also of the choice of combination of policy instruments. Governmental decisions on goals and instruments will determine the incentive structure for private decisionmakers and will affect income opportunities and welfare levels of various groups.

Concern with "intersectoral balance" constitutes one of the primary motivations for our research. In spite of its central importance in the debate over development strategy this concept is not well defined. It could relate to one or more of the following aspects of economic life. First, it might refer to incidence of investment opportunities and allocation of investible funds. Second, it may refer to the standard of living of various socio-economic groups. Third and more fundamentally, it may refer to the capability to participate in economic activities on the part of individuals and socio-economic groups.

"Resource transfers" could be related to any of the concerns with intersectoral balance as discussed above. Thus, it might be linked to financing of investment, living standard, and/or participation in economic activities. It might be reasonable to assume that, other things being equal, the larger the market-based resource transfer to one sector, the better the conditions of that sector in all the three aspects. But, at

the same time, we have counteractive resource transfer based on the public initiative. For example, with regard to the third aspect, it might be argued that governmental initiatives to strengthen a certain sector's capability to engage in economic life would be reflected in larger (fiscal) resource transfers to that sector. It should be noted, however, that all the above discussion relate to ex-ante intentions and designs. It is not obvious how and to what extent ex-ante decisions and actions will be realized as or reflected in ex-post resource flows into designated sectors. It will be useful to distinguish carefully these three aspects and identify impacts on particular forms of resource transfer accordingly in interpreting actual resource flows.

There is another important conceptual clarification to make. The concept of "resource transfer" could only be understood properly when it is related to a specific accounting and/or analytical framework. In the existing literature, it is used in the context of two different frameworks.

First, the concept is used to refer to "actual resource flows" related to a certain sector (Ishikawa (1988), Teranishi (1976, 1977), Ueno and Teranishi (1974)). One typical approach based on this definition will be the estimation of the "current account balance" ("balance on goods, services and factor incomes" to be exact) for the sector. This concept of sectoral "current account balance" is analogous to that in the conventional international balance of payments. And similarly to the case of a national economy, sectoral "current account balance" is identifiable with the difference between realized savings and investment of the sector. It is to be remembered that the actual resource flows could be estimated either on the side of the "current account balance" (i.e., goods, services and factor incomes) or on the side of the "capital and transfer balance", which consists of (1) financial flows to and from the financial sector; (2) tax payments to and subsidy receipts from the government sector; and (3) private transfer payments to and receipts from other sectors. We will refer to this accounting framework in what follows. (Figure 2)

Secondly, the concept of resource transfers is used in a totally different analytical setting, i.e., counterfactual simulation (Krueger, Schiff, and Valdes (1991)). What is presented as resource transfer (or more properly "income transfer") in that analytical framework is the difference between the actual level of income for a certain group and a hypothetical level estimated under a counterfactual set of parameter values. This difference is interpreted to signify "implicit resource transfers" to a sector generated by the presence of the actual set of parameters. This type of exercise is often carried out contrasting a distorted (actual) situation with a distortion-free (counterfactual) situation with a view to assessing quantitatively distributive impacts of sectoral and macroeconomic policies. It should be noted that "implicit resource transfers" thus estimated logically correspond to some items in the actual resource flows (or the "current account balance" as defined above), as they affect the magnitude of some components of revenue or expenditure, although the actual balance will also reflect whatever secondary effects of those implicit transfers.

In this paper we will deal mainly with "actual resource flows" and estimate them from the side of the "capital and transfer balance". The balance consists of all the monetary and financial flows that do not have corresponding entries in the "current account" (or, to be exact, "goods, services and factor incomes account"). Specifically it comprises (1) financial flows to and from the financial sector; (2) tax payments to and subsidy receipts from the government sector; and (3) private transfer payments to and receipts from other sectors, as discussed above.

Public expenditures pose a minor conceptual problem. Certainly they do not have corresponding entries in expenditure items in the "current account". But then they do not generate actual monetary or financial flows either. In relation to the accounting framework adopted here, public expenditures constitute "official transfers" and could be added to both the "current account" and the "capital and transfer account" to produce a broader concept of resource transfers. It is to be noted that this broadened concept of resource transfers is premised on the presumption that the sector's economic agents evaluate the public services as equal to the expenditures made by the public sector.

In this section, we have identified two combined goals of development strategy, their relations to the intersectoral balance, and various conceptual issues regarding the "resource transfer" between sectors.

3.2. Existing Literature on Intersectoral Resource Flows in Mexico

To the best of our knowledge, the first study on intersectoral transfer was done by Leopoldo Solís (Solís (1967)). The research program of Solís was to examine whether agriculture provided resource to the rest of the economy for investment between 1942 and 1962, and if so, how important it was for the investment of the rest of the economy. Behind this research interest of his was a hypothesis that agriculture is the source of capital for the industrialization. Solís calculated and estimated resource transfer via banking system and via fiscal mechanism between agriculture and the rest of the economy. His finding was that there was resource flow from agriculture to the rest of the economy via banking system, but that resource flow via fiscal mechanism was in the opposite direction and larger than the former. Therefore, he concluded that for Mexican economic development of the period 1942-62, the hypothetical role of agriculture as capital source for the rest of the economy had to be denied.

After the pioneering work by Solís, there have been a number of studies such as Reyes Osorio (1974) and Gómez-Oliver (1978) on the intersectoral transfer issue. Luis Gómez-Oliver investigated extensively on this subject when he coordinated a part of a large-scale joint study between Mexico's

Department of Agriculture and ECLAC's Mexico office (Centro de Estudios en Planeacion Agropecuaria (1984, 1990)). He followed the same method as Solís's regarding the banking sector and the fiscal mechanism but also introduced relative price effects as well as government price regulation and subsidies as new components in the intersectoral transfer. He calculated resource transfer via changes in relative prices between agriculture and the rest of the economy on the basis of an arbitrarily selected base year and using sectoral GDP deflators as price indices. Additionally, he calculated fiscal effect of price regulation and subsidies. Then, he summed up all the transfer components to calculate a consolidated intersectoral transfer flow. He argued that three periods could be notable between 1940 and 1987. As for the first period (1940-1969), he found that agriculture transferred a significant amount of resource to the rest of the economy. The difference between Solís's observation and his could be attributed to the fact that he included the relative price effect. As for the second period (1970-1979), he found that the net transfer was to the agriculture sector, again thanks to the relative price effect. As for the third period (1981-1987), he found a massive transfer from agriculture to the rest of the economy.

Gómez-Oliver had an objective of investigating impacts of policies on income distribution in studying intersectoral transfer. Certainly, it was reasonable that he tried to consider the relative price effect in the sense that income transfer relative to a counterfactual situation could be estimated, but his method of simply summing up all the numbers was wrong as we argued in the section on conceptual clarification. Two transfer numbers calculated from an accounting identity (actual fiscal and financial transfers) could not be added up to a number based on counterfactual simulation (hypothetically constructed relative price effect) without certain explicit assumptions.

There is another line of research which shares interest in sectoral balance with our approach. So called "Urban Bias" approach focuses on balance or imbalance of inter-sectoral resource allocation of social and infrastructure spending between rural and urban areas. Aspe and Baristain (1984) studied the regional distribution of government resources for health and education, and found the contrast between increase of overall spending for education on the one hand, and decreasing share allocated to elementary education in rural areas on the other hand.

Though two approaches above mentioned share common interest in allocation of public expenditures between agricultural/rural areas and non-agricultural/urban areas, there is one important difference in government role. While intersectoral resource transfer approach focuses on flow of investible funds, urban bias approach focuses on allocation of public goods. In other words, the former approach tends to consider government as fiscal mechanism of redistribution and/or setter of incentive mechanism, while the latter approach considers government as producer and supplier of public goods.

In this section, we have surveyed the existing literature of intersectoral resource flows in Mexico.

None of the existing studies on this theme attempted an empirical treatment of the dualistic nature of Mexican agriculture.

3.3. Research Agenda

This paper tries to trace and evaluate development strategy in Mexico from the perspectives of macroeconomic management and of intersectoral/interregional resource transfer. First, given the macroeconomic turmoil of 80-90s, we trace salient changes in macroeconomic balances utilizing the Flow of Funds tables. Secondly, we estimate intersectoral/interregional resource transfers by utilizing state-wise data on federal government revenues and expenditures as well as state-wise data on deposits and credits of commercial banks.

The methodology adopted here has a number of advantages over that adopted in earlier studies aimed at estimating resource flows across productive sectors. First, it allows explicit discussion of links between macroeconomic management and resource allocation. Second, it can circumvent the difficulty of assigning public expenditures and revenues as well as banking deposits and loans to productive sectors. Third, our approach allows one to estimate net resource flows to the subsectors within agriculture (labeled as High-Productivity AGRO and Low-Productivity AGRO). Fourth, state-wise data provides not only approximations to sector-wise disaggregation of resource flows but allows one to capture interregional resource flows, an important developmental perspective in its own right.

Our methodology, however, faces a number of limitations and problems, some possibly serious. First, there are some unresolved conceptual and theoretical issues. While the concept of financial transfer is clear and unambiguous, that of fiscal transfer leaves room for alternative definitions and interpretations. The cause of this ambiguity lies in the definition of what is fiscal or public and also in the determination of what constitutes resource transfers. For example, it is not clear whether public expenditures should be regarded as resource transfers from the public sector to the private sector. And even if the answer to that question is affirmative, it is open to question whether expenditures should be valued at actual amounts of payment. Secondly, there are theoretical issues. We have not fully identified the channels through which various policy measures impact on fiscal and financial transfers. Therefore, we will not be able to separate out the influences of policies from those of other factors in a formal manner. Thirdly, there is the limitation of data availability/accessibility. With regard to financial transfer, we do not have state-wise breakdown of loans by development banks. Our estimates of financial transfer have a downward bias due to this omission. In relation to fiscal transfer, our estimates fail to capture current expenditures of federal

government while they include investments by public enterprises. Besides the above-mentioned problems, there could be criticism against our premise of identifying geographical units (i.e., states) with particular productive activities. This is the central premise of our empirical approach to intersectoral resource flows but, obviously, it is nothing more than an approximation. But, as stated above, interregional resource flows might be of interest in their own right.

Examination of flow of investible funds across regions has not been undertaken so far as we know. One of the purposes of our research is to explore what patterns emerge from the estimated fiscal and financial flows across states and groups of states characterized by their productive characteristics. Interpretation of those patterns as resource flows across productive sectors might be problematic and will need to be supported by relevant sector-wise information.

4. Results of Empirical Research

4.1. Macroeconomic Management and Development Strategy

The sequence of macroeconomic balances is captured in Table 2 and Figure 3.

Macroeconomic management throughout the "stabilizing development" period was characterized by modest levels of the public sector deficit as well as the external deficit (Table 2). This reflected the institutional power of the Treasury Department in economic management. As discussed above, the Echeverría Administration changed the basic tone of economic management toward activist state role in economic development disregarding the requirements of sound macroeconomic management. Another feature observed in Table 2 is that when the public sector showed deficits, they were covered by surpluses of the private sector. It is true that certain portions of those deficits were covered by the external sector. But, significant portion of resources were proffered from the private sector. This feature was very remarkable in the more recent periods, too, and we can say that in this accounting sense macroeconomic

situation is very important for overall flow of funds.² In what follows we will use the Flow of Funds tables compiled by the Banco de Mexico to characterize the pattern of macroeconomic balances over the period 1976-95, i.e., the latter half of the "macroeconomic populism" phase and the whole of the "stabilization and structural adjustment" phase (Figure 3). We can identify three periods corresponding to each six-year presidential term of López Portillo (1976-82), de la Madrid (1982-88) and Salinas (1988-94).

During the López Portillo Administration (1976-82), the public sector deficit initially came down from 9% (of GDP) to around 6% but shot up to around 15% in 1981 and 82. The private sector surplus followed a similar movement. The gap between the public sector deficit and the private sector surplus, i.e. the external deficit, initially shrank from 4% to 2% but subsequently expanded to exceed 5% in 1981. In 1982, the external deficit had to be abruptly eliminated in the wake of the halt of the inflow of new money.

Macroeconomic situations during the de la Madrid Administration (1982-88) were nothing short of dramatic and traumatic. The public sector deficit initially came down from 17% in 1982 to 6% in 1984 but shot up again to exceed 15% in 1986 and 87. The private sector surplus followed a similar movement, but at a slightly higher level on the whole. The external balance was in surplus for most of the years while a series of debt reschedulings alleviated crisis situations in the balance of payments. This was also a period of high and volatile inflation with annual rate varying from the initial high of 100% in 1982 to a temporary trough of 60% in 1984 to their historical record high of 160% in 1987 and eventually to 50% in 1988.

Macroeconomic management during the Salinas Administration (1988-94) was mostly focused on the interrelated goals of the control of inflation and the elimination of the public sector deficit, as the successful application of the Brady accord further alleviated the debt-servicing burden and the inflow of foreign funds gradually resumed. The public sector deficit was reduced rapidly and by 1991 the public sector was in surplus. The private sector balance followed a similar movement but in an even more drastic manner, swinging from a surplus of 17% in 1987 to a deficit of 14% in 1992. The external balance recorded continuously expanding deficits, from 1.5% in 1988 to nearly 8% in 1994.

As noted above, the main feature of Figure 3 is "synchronized" movements of the public sector balance and the private sector balance. An interesting question we will address in the next section will be: how macroeconomic balances are reflected in the flow of investible funds across productive sectors or

² We are certainly aware that this is significantly affected by inflation. But, again we would like to emphasize that inflation itself is the result of macroeconomic situations.

across regions.

4.2. Intersectoral/Interregional Resource Transfer: Resource Flow to Targeted Sector

4.2.1. Methodological Notes

In this section, we will discuss the methodology adopted in estimating intersectoral resource flows over the three decades and present tentative results. We will then try to relate them to the sequence of development strategy.

In general, economic development of a country may be viewed as a process in which various interactions between sectors take place. Sectors may be defined in a number of alternative ways. One typical way is to aggregate economic activities according to physical/technical nature of products or productive processes. From this perspective a national economy is often divided into the agricultural sector on the one hand and the industrial and service sector (or the non-agricultural sector) on the other. Based on that same perspective, however, an economy might be disaggregated in a different manner, for example, into the leading sector and the decaying sector. Another definition of sectors is based on locational characteristics of economic agents and leads to the disaggregation of a national economy into geographical units, as in the case of the contrast between the rural sector and the urban sector.

In this paper we will essentially adopt the conceptual distinction between the agricultural sector and the non-agricultural sector although we will rely on regional (state-level) data in statistical estimation. That decision was made in view of the common framework of this collaborative research project and also in view of a tradition in development economics in which most of discourse is couched in terms of agriculture vs. industry. In Mexico, both productive and regional sectorization are employed in discussing development strategy. This is partly due to the fact that the productive sectors, and the agriculture sector in particular, exhibit high degrees of heterogeneity within them. Roughly speaking, each productive sector may be divided into the modern subsector and the traditional subsector. In the case of agriculture, this distinction largely overlaps with geographical location, with the northern part being more advanced in technology and management and the southern part typically more stagnant. We will utilize regional (state-level) data in our estimation of resource flows to capture this contrast within the agricultural sector that.

As discussed in the previous section we intend to relate our estimation of resource flows to

development strategy as actually implemented by the government. The two aspects of development strategy mentioned in the previous section correspond to the sectoral divisions only to a limited extent, however. The promotion of investment may or may not be designed or carried out in broad sectoral scopes. In the Mexican context, the most relevant distinction from this perspective might be one between the capitalist sector and the subsistence sector cutting across productive or regional groupings. On the other hand, the poverty alleviation aspect of the development strategy may be broadly identified with the rural sector and the support for traditional agriculture.

In this paper, we utilize regional (state-level) statistics in estimating intersectoral resource flows. Specifically, we classify all the states initially into two categories, the agricultural states and the non-agricultural states. Then we classify the agricultural states into two subgroups, i.e. the modern and traditional agricultural states, on the basis of productivity and irrigation characteristics of individual states. There are two major advantages for this approach. First, there exists data on both loans and deposits for commercial banks disaggregated by state for the period 1978 - 94. The existing studies resorted to the estimation of agricultural deposits on the assumption that the percentage of deposits accounted for by the agricultural sector is equal to the share of agriculture in GDP. Given that loan and deposit data is available, we can directly calculate financial transfers. Second, we can reasonably approximate the dichotomy in the agricultural sector by the two subgroups within the agricultural sector. In the literature, there have been numerous references to the bi-modal structure of Mexican agriculture. But, as far as we know, there has been no attempt to have that characteristic feature reflected in the estimation of resource flows in and out of the agricultural sector in Mexico.

We focus on the federal government as the designer and executor of national development strategy. It is important for us to make clear as to how we treat local governments (state and municipal governments) and public organizations and enterprises. We treat those public entities as constituents of the real economy rather than as executors of governmental functions. We have the following reasons for this decision. First, we are interested in relating intersectoral/interregional flows to development strategy at the national level. Therefore, federal government is the only relevant decision-maker from our perspective. Second, as for local governments specifically, the federal government has maintained a centralized system of control all through the period we study in this paper. Third, as for public organizations and enterprises, we have the following reasonings. Most public organizations and enterprises are administered by the federal government and therefore it is presumed that their behaviors are essentially determined by the decisions of the federal government. To the extent the functions of the parastatals are defined in terms of their interactions with the private sector, they can be viewed as an extension of the federal government. From a different perspective, however, public enterprises in particular will be seen as constitute part of the productive sector of the economy along with private

enterprises. For the federal government they will constitute but one part of the productive sector and targets of its development policies. Given our interest in resource flows between productive sectors, it will be more appropriate to treat them separately from the federal government and instead group them together with private entities. Accordingly, we separate the rest of the economy in two: financial sector on the one hand, and combined sector of productive sector and state and municipal government on the hand.

There are various forms of transaction among sectors. We use only two means of transaction because of limited availability of the data: financial transfer via commercial banks and fiscal transfer via federal government. We briefly comment other means of transfers.

First, there is resource transfer by way of selling and buying of securities (bonds and equities) of (private and public) corporate sector. We have not used any information on this transaction because we don't have information. But, the effect of omission might be small given that in Mexico major financial intermediation occur through banking sector even though there has been recently emerging role of direct finance.

Second, we don't use any information on resource transfer via development bank and non banking financial institutions. It is primarily because we don't have relevant data (credit and liabilities holding by state). Certainly we have information of credit provided by development bank by various types of sectors which includes agriculture. But, precisely we have decided not to use this type of information because we don't have information of bank liabilities holding by sectors either for commercial bank or for development bank.

Third, as for expenditure side of fiscal transfer via federal government, we only use participation data and public investment data. We should make some comments on this. First of all, we have decided to use this only two specific data because these are the ones only available information by state disaggregation. Therefore, we underestimate federal outflow of federal funds. Even though there are current expenditures, and subsidies and transfers which affect fiscal mechanism of transfer, we have decided not to use this data because there is no available data by regional basis. Certainly there is disaggregation by sector (e.g., agricultural sector) in federal expenditure. But, usually this expenditure is total sum of expenditures of federal secretaries in charge of agricultural and rural sector. This budget is not necessarily transferred to rural or agricultural sector because this budget is used for rural and agricultural sector. It means that, for example, building construction of office use of agricultural secretary is categorized in this agricultural and rural sector. This money is not used for transfer to agricultural or rural sector. Of course, it does not mean that those rural expenditure for building is not *for* rural sector. We don't want to count on rural service provision from federal government but federal fund provision to rural sector.

Fourth, as for revenue side of fiscal transfer via federal government, we use estimation of federal domestic taxation numbers (*tributario*). It means we exclude taxation of foreign trade as well as non taxation revenue (*no tributario*). We exclude foreign tariffs and export tax because we are concerned about domestic resource transfer of investible funds. We exclude non taxation revenue because major part of this taxation comes from transfer of profit of public enterprise (such as PEMEX). Since we don't know which part of this profit transfer comes from each state, we have decided not to include non taxation revenue in our estimation.

For financial data, we use regional (by state) deposit and credit data of commercial bank collected by Banco de Mexico. It appears in some issues of INEGI's Anuario Estadístico and some presidential Informe de Gobierno. We have checked that this covers all the governments and public and private sector. Therefore, we have to exclude federal government's involvement in the data since we are concerned with transfer between two productive sectors via financial mechanism. We have found that credit data from government of District Federal is almost equal to Federal Government's credit data which appears in Banxico's Informe Anual. So, we excluded credit to government from total credit for our use. On deposit side, we have confirmed that federal deposit is relatively small. Thus, we don't change deposit data.

For fiscal data, we use Informe de Gobierno, INEGI's Anuario Estadístico, INEGI's Ingreso y gasto de finanzas públicas, INEGI's Ingreso y gasto de estados y municipales.

4.2.2. Approximation of Sectors by States

We use regional data, specifically state level data, for our resource transfer study. There are 32 states (including Federal District) in Mexico. (Figure 4) We classify all the states into agricultural (AGRO) states and non-agricultural (NON-AGRO) states. We use mainly two criteria in classification: percentages of agriculture in production and in employment. In other words, agriculture is a major activity of production or a major source of employment in AGRO states, while non-agriculture is a major activity or a major source of employment in NON-AGRO states. Additionally, we check urbanization rate, as it is often taken for granted in the literature that the agricultural sector dominates economic activities in rural areas in developing countries.

4.2.2.1. Criteria for Classification

A number of criteria are considered to classify states into two sectors. Although we learned from the literature that there was a bias against agriculture through Mexico's economic development from 1960s, we consider entire periods to classify every state into one of two categories.

Mexican agriculture has an interesting feature which makes this intent of categorization somewhat difficult. On the one hand, there is a mainly private, highly productive sub-sector. This sub-sector mainly produces very competitive and commercial agricultural products. On the other hand, there is a mainly community based, low productivity sub-sector. This sub-sector mainly produces basic crops.

The first three criteria are used to classify AGRO states against NON-AGRO states.

(1) Percentage of agriculture in Gross State Product (GSP) (Table 3)

This is one of the most important criteria to classify AGRO states. If the significant portion of the state's activity is based on agriculture, we can call it AGRO state. But, Low Productivity (LP) AGRO state might fall out precisely because of its low productivity.

(2) Percentage of agriculture in Economically Active Population (EAP) (Table 4)

This ratio is also very important. When the significant portion of people in a state is engaged in agriculture, we can call it AGRO states. But, High Productivity (HP) AGRO state might fall out because of its high labor productivity.

(3) Urbanization Ratio (Table 5)

In general urban (or urbanization ratio) is defined in proportion of population who lives in cities. HP-AGRO state might be classified as urban area because of its high labor productivity. This ratio shows similar trend to agriculture share in EAP.

Now, we will consider three criteria to classify High Productivity AGRO states (HP-AGRO) against Low Productivity AGRO (LP-AGRO) states. (Table 6)

(4) Agricultural Labor Productivity Ratio: (Agriculture in GSP) / (Agricultural in EAP)

This ratio focuses on labor aspect of productivity. We use this ratio primarily to classify HP-AGRO and LP-AGRO.

(5) Agricultural Land Productivity Ratio: (Agriculture in GSP) / (Agricultural Area)

This ratio focuses on land aspect of productivity. We consider this ratio as secondary in classification because it is affected largely by product choice.

(6) Agricultural Irrigated Land Ratio: (Irrigated Land Area) / (Non-irrigated Land Area)

Irrigation is one major source of high productivity. This ratio also focuses on land aspect of productivity.

4.2.2.2. Method of Classification

We classify a certain state as AGRO state if it satisfies one of the following two conditions:

- (1) its agricultural share in GSP is higher than the median more than 4 periods (out of 6 periods);
- (2) its agricultural share in EAP is higher than the median more than 3 periods (out of 4 periods).

Then we classify all the AGRO states into HP-AGRO and LP-AGRO using the following condition:

- (3) two of the three productivity measures (labor productivity, land productivity, and irrigation ratio) are above the national averages.

4.2.2.3. Results of Classification

Based on (1) and (2), we classify the following states as AGRO states:

BS, CA, CH, CS, CL, DF, GR, HG, MI, NA, OA, PU, QR, SI, SL, SO, TA, TX, VE, YU, ZA. (21 states)

Conversely, the following states are classified as NON-AGRO states:

AG, BC, CO, DF, GT, JA, ME, MO, NL, QT, TM (11 states)

Then, based on (3), the following states are classified as HP-AGRO states:

BS, CH, CL, DG, NA, SI, SO (7 states)

Conversely, the following states are classified as LP-AGRO states:

CA, CS, GR, HG, MI, OA, PU, QR, SL, TA, TX, VE, YU, ZA (14 states)

The result is presented in Figure 5.

4.2.3. Estimated Resource Transfers

4.2.3.1. Fiscal Transfer

Fiscal transfer (FisT) for each state is defined as follows:

$$\begin{aligned} \text{FisT} &= \text{Federal Participation in State and Municipalities} \\ &+ \text{Federal Public Investment} \\ &- \text{Federal Taxation in State} \end{aligned}$$

Since we don't have taxation number in state level for all the period, we estimate the number. We subtract foreign trade tax, and non-tax revenue from total revenue (almost equal to sum of direct and indirect tax). Then we multiply this figure by the proportion of GSP of each state in total. Our underlying assumption is that taxation is proportional to certain representative figure of state income. We use Gross State Product for this variable.³ As we noted before, we use federal public investment data which includes not only investment by federal government budget but also investment by public organization and enterprise. At the revenue side, we use only federal government data. Our justification is that we consider

³ We checked correlation between our estimated taxation by state and reported taxation revenue by state for 1985. The correlation ratio is 0.95.

all the public investment as grant-in-aid.

The calculated fiscal transfer numbers of each state is aggregated according to the category of AGRO (HP-AGRO and LP-AGRO) states and NON-AGRO states (Table 7).

Several comments on this table are as follows. First, every column is almost negligible in 1970. It was the last year of “Stabilizing Development” phase. As for 1975, there exists transfer from NON-AGRO states to AGRO states. Second, As for both 1970 and 1975, total amounts of transfer are very small. But, from 1980 on, total amounts of transfer become large. This contrast is consistent with Macroeconomic populism of late 70s and turmoil and adjustment of 80s. Third, from 1980 on, the numbers on difference between total amount and investment of public organization and enterprise are available. These numbers reflect how much federal government bought goods and services from productive sector. It is stable around 6-7 % of GDP. Fourth, as for 1980, all the numbers on productive sectors and subsectors are positive. It means that mainly because of initiatives of public organizations and enterprises, there were large amount of financial inflow via fiscal mechanism. It was consistent with macroeconomic populism of late 70s. Fifth and finally, for all those periods, NON-AGRO states contributed more or gained less than AGRO states. This tendency was consistent with historical initiative of federal government to transfer funds to AGRO or rural states.

4.2.3.2. Financial Transfer

Financial Transfer (FinT) is calculated according to the following formula:

$$\text{FinT} = \text{Net Credit to the State} - \text{Net Deposit in the State.}$$

The calculated financial transfer numbers of each state is aggregated according to the category of AGRO (HP-AGRO and LP-AGRO) states and NON-AGRO states (Table 8).

Several comments are in order. First, it suffices to say that macro financial picture is very important. The other components of the balance sheet of the commercial banks are affected by macro situation. Cash, reserve at central bank and securities purchase in the asset side and capital increase in the

liabilities side is example. Therefore, there is not inter-sectoral resource transfer except 1985. Second, in 1980 all the numbers are negative. It means that commercial banks obtained assets other than credit. It is consistent with the notion that in this period fiscal authorities obtained finance through central bank via higher reserve requirement. Third, in 1985 there was financial transfer from AGRO states to NON-AGRO states. Also this year was special in the sense that commercial banks' credit to federal government was huge. It was consistent with nationalization of commercial banks. Fourth, as for both 1988 and 1993, credit to government was negative. Also for those two years, all the numbers of transfer to productive sectors and subsectors are positive. It is consistent with financial deregulation of commercial banks. Fifth, from 1985 on, commercial banks' transfer revealed preferences in the following order: NON-AGRO, HP-AGRO, and LP-AGRO states. It is consistent with the so-called preference to investment opportunity perceived by private sector.

4.2.3.3. Combined Fiscal and Financial Transfer

We combine two tables to calculate combined transfer (Table 9).

Even though each period shows its unique feature, all the periods demonstrate one common characteristics. All through the periods, NON-AGRO states contributed more to funds inflow than AGRO states. In fact, except 1985, which was adjustment year, resource transfer from AGRO states to NON-AGRO states occurred. And there is a contrast between 1980 and 1985 on regarding comparison of HP-AGRO states and LP-AGRO states. In 1980, LP-AGRO states gained more resources than HP-AGRO states, while from 1985 on, this situation completely reversed. This might reflect that in 1980 there was an active policy initiative (e.g., SAM) towards rural sector, while from 1985 on, "reform of agricultural reform" based on market mechanism has been in progress.

4.2.4. Fiscal and Financial Transfers at State Level

So far we have examined fiscal and financial transfers separately and in an aggregated manner. We have been concerned with the relationship between the composite resource transfer and sector characteristics. We classified all the Mexican states into three groups and used them to approximate productive sectors in our examination of the flow of investible funds. These sectoral numbers are

constructed by summing up state-wise data. It will be also interesting to look at those numbers for individual states. It will be also interesting to look at the relationship between the financial transfer and the fiscal transfer.

Looking at the contrast and interaction between the two transfers, we can understand more the relationship between the financial transfer mediated by commercial banks and the fiscal transfer mediated by federal government. We take the percentage ratio of each transfer relative to Gross State Product of each state, because we try to capture the importance of those transfers from the point of view of each state economy. We have four years: 1980, 1985, 1988, and 1993.

The year 1980 was under López Portillo's presidential term. As we described in the section on flow of funds, banks were privately owned and government intervention was extensive in the economy. The scatter diagram of the financial and fiscal transfers for 1980 is presented in Figure 6. The relationship is of a weak negative correlation. First of all, we can confirm that this was a year of fiscal expansion. Many states received heavy fiscal transfers. The outlier of the fiscal transfer is a petroleum state (Campeche), where huge public investment was made. No LP-AGRO states have recorded positive financial transfer, and many NON-AGRO states are located in the lower left part of the diagram.

The year 1983 shows a weak negative correlation, too. (Figure 7) The commercial banks had been nationalized and were forced to provide credit to federal government, which was trying to achieve fiscal discipline. No huge fiscal transfer was observed in contrast to the situation in 1980. No LP-AGRO states showed positive financial transfer this year as well as in 1980. No NON-AGRO states showed positive fiscal transfer.

The year 1988 neither shows a positive nor negative correlation. (Figure 8) In this year, financial intermediation by commercial banks was so highly regulated that deposits declined heavily. With the change of administration, interest rates were liberalized later that year. Also some important public enterprises had been already privatized. Either deposit withdrawal or credit revival due to liberalization caused overall financial transfer. Many of LP-AGRO states showed positive financial transfers. As for fiscal transfer, no NON-AGRO states recorded positive fiscal transfers.

The year 1993 shows a negative correlation between the two transfers. (Figure 9) The commercial banks were privatized in 1991-2 and were very active in making loans. The government showed a fiscal surplus. All the states except two showed positive financial transfers, while no NON-AGRO states showed positive fiscal transfers. The outlier state which recorded a level higher than 30 % for the fiscal transfer to GSP ratio was Tlaxcala.

In sum, no clear-cut relationships are observed between the fiscal transfer and the financial

transfer. This finding could be very important because this gray relationship confirm neither the hand-in-hand relationship between public funds and private funds, nor division-of-labor relationship between the two. Thus, this finding might suggest us that there are something beyond simple nation-wide common interactions over the country.

5. Concluding Remarks

There are a number of findings that merit recapitulation and also there are several issues to be explored further.

First, key findings and some thoughts around them.

1) Macroeconomic conditions and policies have exerted strong impacts on the overall level of resource transfers between the productive sector as a whole and the financial and fiscal sectors. These impacts have been observed at the level of the broad disaggregation adopted in this paper.

2) Resource transfers between productive sectors were not necessarily evident either for financial or fiscal transfers when considered separately, largely because of the macroeconomic impacts mentioned above. Combined intersectoral transfers were significant in three out of the four periods we examined, however. The direction of transfer was from the NON-AGRO states to the AGRO states for all those three periods.

3) It will be reasonable to assume that fiscal transfer are more effectively under the control of the government, because the government is directly involved in the decision-making on public investment and federal participation. If we interpret government development strategy from fiscal transfer figures, we could say that the government accord preference to AGRO states throughout the past quarter century we have examined in this paper.

4) Fiscal transfers have dominated financial transfers thus resulting in the composite intersectoral transfer from the NON-AGRO states to the AGRO states. This shows the Mexican government has maintained a strong interventionist stance toward the agricultural/rural sector even as it has espoused a reduction in the role of government in economic management. In this sense, one of the historical characteristics of Mexican development strategy has been maintained through early 1990s.

5) The distinction between the HP-AGRO states and the LP-AGRO states proved instructive. During the shared development era, the LP-AGRO states were more favored than HP-AGRO states. In the

course of the "reform of the agrarian reform", this notable difference diminished and eventually disappeared.

6) We believe that these results reflect the political inclination of the Mexican government in favor of the AGRO or rural states in coping with macroeconomic turmoil. From the perspective of development strategy, it might be surmised that Mexican federal government has maintained its preference for AGRO states in securing resource flows but that its focus on the subsistence sector seems to have diminished recently.

Finally, promising themes for future study:

1) Data search and compilation:

There are a number of issues not covered in the present study on resource transfer mainly because of data constraint. First, we would like to improve our fiscal transfer figures taking into account various fiscal subsidies. Second, given its importance in the Mexican economy, it is desirable to include financial transfers via public development banks. Third, we have not included flows of funds related to the issuance and purchase of securities of public and private entities. So far, we have not encountered state-wise data for those categories.

2) The factors influencing market-mediated transfers and government-mediated ones:

We do not know much about the decision-making processes and setting in the determination of fiscal and financial transfers. Empirical and historical analysis on this theme will be highly instructive in relating broad development strategy to specific policy concerns. This information will be also valuable in modeling transfers with explicit identification of specific institutional factors in Mexico.

3) Understanding of the incentive Structure:

Even though our provisional conclusion is that in Mexico intersectoral transfer occurred from non-agricultural/urban areas to agricultural/rural areas in the accounting sense, we do not mean to claim that in Mexico agriculture/rural area has been favored in the overall sense. The incentive structure affects the direction and magnitude of the flow of funds. The examination of incentive structures also leads to the proper understanding of the policy initiatives on the intersectoral transfers.

4) Institutional factors:

Our approach calls for some supplementary viewpoints. We do not know exactly how the allocation mechanism of public funds has changed in the era of the "exit of federal government". Comparative study

on institutions impinging on the allocation of public funds at state level will add valuable information to our study. Combined, our approach and this type of comparative studies will provide an anatomy of the flow of public funds in a more comprehensive way.

5) Connection to current policy issues (e.g., fiscal federalism):

Another promising area for future study will be a much more detailed focus on federal government's role as redistributor of public funds to state and municipal governments. In the literature, much attention has been paid to the governmental role as provider of public goods. Given the plural political setting and fiscal federalism proposed by the current administration, the role of transfer of investible funds among different regions at the different development stages will be more important concern.

6. References:

- Aspe, Pedro and J. Beristain, (1984) "Distribution of Education and Health Opportunities and Services," in Pedro Aspe and P. Sigmund, eds., *The Political Economy of Income Distribution in Mexico*, Holmes and Meier.
- Banco Nacional de México (BANAMEX), México Social, various issues.
- Bautista, Romeo and Alberto Valdés. (1993) "The Relevance of Trade and Macroeconomic Policies for Agriculture," in Romeo Bautista and Alberto Valdés eds., *The Bias against Agriculture: Trade and Macroeconomic Policies in Developing Countries*, International Center for Economic Growth and International Food Policy Research Institute.
- Centro de Investigaciones del Desarrollo Rural, Area de Investigación Básica. (1977) "Proyecto de investigación: Economía Campesina y acumulación de capital en la agricultura mexicana.
- Centro de Estudios en Planeación Agropecuaria (CESPA), (1984), *El Desarrollo Agropecuario de México -Pasado y Perspectivas-*, Tomo VII: El Ingreso y su Distribución, SARH-ONU/CEPAL, México.
- Centro de Estudios en Planeación Agropecuaria (CESPA), (1990), *El Desarrollo Agropecuario de México: Pasado y Perspectivas*, Tomo VII: El Ingreso Agropecuario y su distribución, SARH/CEPAL, México.
- Dewalt, Billie and Martha W. Rees, Arthur D. Murphy, (1994), *The End of the Agrarian Reform in Mexico: Past Lessons, Future Prospects*, Center for U.S. - Mexican Studies, University of San Diego.
- Diaz Cayeros, Alberto, (1995), *Desarrollo económico e inequidad regional: hacia un nuevo pacto federal en México*, Fundación Friedrich Naumann and Grupo editorial Miguel Angel Porrúa, México.
- Fox, Jonathan and Josefina Aranda, (1996), *Decentralization & Rural Development in Mexico: Community Participation in Oaxaca's Municipal Funds Program*, Center for U.S. - Mexican Studies, University of California, San Diego.
- Freebairn, Donald K., (1996), "El pasado como prólogo: progreso agrícola y rural en México", *Revista Mexicana de Sociología*, vol. 59, no. 2, april-junio.
- Gomez Oliver, Luis. (1977) "Hacia una fundamentación analítica para una nueva estrategia de desarrollo rural" Centro de Investigaciones del Desarrollo Rural, Area de Investigación Básica, México.
- Gómez-Oliver, Luis, (1978), "Crisis Agrícola, crisis de los campesinos", *Comercio Exterior*, vol. 28, no. 6, June.
- Gómez-Oliver, Luis, (1995), *El papel de la agricultura en el desarrollo de México*, Oficina regional de la FAO para América Latina y el Caribe, Santiago, Chile.
- Hewitt de Alcántara, Cyntia, ed., (1994), *Economic Restructuring and Rural Subsistence in Mexico: Corn and the Crisis of the 1980s*, Center for U.S. - Mexican Studies, University of California, San Diego and UNRISD, Geneva.
- Ibarra, David, (1995), "Problemas institucionales y financieros de la agricultura", *Comercio Exterior*, vol. 45, no. 9, Septiembre.

- Instituto Nacional de Estadística, Geografía e Informática, Anuario Estadístico de los Estados Unidos Mexicanos, various issues.
- Instituto Nacional de Estadística, Geografía e Informática, Censo General de Población y Vivienda, various issues.
- Instituto Nacional de Estadística, Geografía e Informática, Finanzas Públicas Estatales y Municipales de México, various issues.
- Instituto Nacional de Estadística, Geografía e Informática, El Ingreso y el Gasto Público en México, various issues.
- Instituto Nacional de Estadística, Geografía e Informática, Sistema de Cuentas Nacionales de México, various issues.
- Instituto Nacional de Estadística, Geografía e Informática, (1993) Sistema de Cuentas Nacionales de México: Producto Interno Bruto por Entidad Federativa.
- Ishikawa, Shigeru. (1988) "Patterns and Processes of Intersectoral Resource Flows: Comparison of Cases in Asia" in Gustav Ranis and T. Paul Shultz eds., *The State of Development Economics: Progress and Perspectives*, New York: Basil Blackwell.
- Knight, John. (1995) "Price Scissors and Intersectoral Resource Transfers: Who Paid for Industrialization in China?" *Oxford Economic Papers* 47, pp. 117-135.
- Krueger, Anne O, Maurice Schiff, and Alberto Valdés, eds., (1991) *The Political Economy of Agricultural Pricing Policy: Latin America*, John Hopkins University Press.
- Levy, Santiago (1991) *Poverty Alleviation in Mexico*, World Bank Working Papers WPS 679, Latin America and the Caribbean Regional Office, World Bank.
- Reyes Osorio, Sergio. (1974) *Estructura agraria y desarrollo agrícola en México*. Fondo de Cultura Económica. 1a. edición. México.
- Robinson, Sherman. (1991) "Macroeconomics, Financial Variables, and Computable General Equilibrium Models," *World Development*, Vol. 19, No. 11, pp. 1509-1525
- Solís, Leopoldo, (1967), "Hacia un análisis general a largo plazo del desarrollo económico de México", *Demografía y Economía*, vol. 1, no. 1, El colegio de México.
- Solís, Leopoldo. (1981) *La realidad económica mexicana: retrovisión y perspectivas* (versión revisada), México: Siglo XXI.
- Solís, Leopoldo, (1988), *Intento de la reforma económica de México*, El Colegio Nacional, México.
- Stiglitz, Joseph E., and Raaj Kumar Sah. (1984) "The Economics of Price Scissors" *American Economic Review*, Vol. 74 No.1, March, pp. 125-138.
- Stiglitz, Joseph E., and Raaj Kumar Sah. (1992) *Peasants versus City-Dwellers: Taxation and the Burden of Economic Development*, Oxford: Clarendon Press.
- Teranishi, Juro, (1976), "No-ko-kan-shikin-ido-saiko, 1" *Keizai-kenkyu*.
- Teranishi, Juro, (1977), "No-ko-kan-shikin-ido-saiko, 2" *Keizai-kenkyu*.

- Télez Kuenzler, Luis (1994), *La modernización del sector agropecuario y forestal*, Fondo de Cultura Económica, México.
- Ueno, Hiroya and Juro Teranishi, (1974) "Choki-model-bunseki-no-kiso-to-kadai: 2 bumon-model-no-rironteki-framework" in Kazushi Ohkawa and Ryoshin Minami, eds., *Kindai-Nihon-no-Keizai-Hatten*, Toyo-Keizai-Shinpo-sha.
- Villa Issa, Luis. (1987?) "Macroeconomic Policies and Agricultural Sector: The Mexican Case (1940 - 1986)" mimeograph.
- Wilkie, James W., (1990), "The Six Ideological Phases of Mexico's "Permanent Revolution" since 1910", in James W. Wilkie ed. (1990), *Society and Economy in Mexico*, UCLA latin American Center Publications.
- Zedillo, Ernesto, (1995) *Primer Informe de Gobierno (Anexo)*.

7. Tables and Figures

| | Million | Poor | | | Rest | Total Population |
|------|----------|--------------|---------------|-------|-------|------------------|
| | | Extreme Poor | Moderate Poor | Sum | | |
| 1984 | National | 11 | 19.4 | 30.4 | 41 | 71.4 |
| | Urban | 4.3 | 11.9 | 16.2 | 28.7 | 44.9 |
| | Rural | 6.7 | 7.5 | 14.2 | 12.3 | 26.5 |
| 1989 | National | 14.9 | 22.9 | 37.8 | 41.3 | 79.1 |
| | Urban | 6.5 | 14.1 | 20.6 | 28.3 | 48.9 |
| | Rural | 8.4 | 8.8 | 17.2 | 13 | 30.2 |
| 1992 | National | 13.6 | 23.6 | 37.2 | 47.1 | 84.3 |
| | Urban | 4.8 | 13.5 | 18.3 | 31.6 | 49.9 |
| | Rural | 8.8 | 10.1 | 18.9 | 15.5 | 34.4 |
| | percent | Poor | | | Rest | Total |
| | | Extreme Poor | Moderate Poor | Sum | | |
| 1984 | National | 15.4% | 27.2% | 42.6% | 57.4% | 100.0% |
| | Urban | 6.0% | 16.7% | 22.7% | 40.2% | 62.9% |
| | Rural | 9.4% | 10.5% | 19.9% | 17.2% | 37.1% |
| 1989 | National | 18.8% | 29.0% | 47.8% | 52.2% | 100.0% |
| | Urban | 8.2% | 17.8% | 26.0% | 35.8% | 61.8% |
| | Rural | 10.6% | 11.1% | 21.7% | 16.4% | 38.2% |
| 1992 | National | 16.1% | 28.0% | 44.1% | 55.9% | 100.0% |
| | Urban | 5.7% | 16.0% | 21.7% | 37.5% | 59.2% |
| | Rural | 10.4% | 12.0% | 22.4% | 18.4% | 40.8% |

Source: INEGI-CEPAL, Magnitud y Evolución de la pobreza en México, 1984-1992, México, 1993, cited in Banamex, México Social 1994-1995.

| Table 2 Macroeconomic Balance: 1960-76 (Percent of GDP) | | | | |
|---|---------|---------|---------|---------|
| | 1960-64 | 1965-68 | 1969-72 | 1973-76 |
| Public Sector | | | | |
| Saving | 3.0 | 4.5 | 4.2 | 1.2 |
| Investment | 6.5 | 7.5 | 7.3 | 9.2 |
| Balance | -3.5 | -3.0 | -3.1 | -8.0 |
| Finance | | | | |
| Domestic | 1.9 | 2.3 | 2.5 | 5.4 |
| External | 1.6 | 0.7 | 0.6 | 2.6 |
| Private Sector | | | | |
| Saving | 11.7 | 12.2 | 12.8 | 16.6 |
| Investment | 9.9 | 11.1 | 11.8 | 12.3 |
| Balance | 1.8 | 1.1 | 1.0 | 4.3 |
| External Balance | -1.7 | -1.9 | -2.1 | -3.7 |

Source: E.V.K. FitzGerald, "The Fiscal Deficit and Development Finance: A Note on the Accumulation Balance in Mexico", Working Papers No. 35, Centre of Latin American Studies, University of Cambridge (1979).

Table 3
Share of Agriculture in Gross State Product

| Year | 1970 | 1975 | 1980 | 1985 | 1988 | 1993 |
|--------|-------|-------|-------|-------|-------|-------|
| TOTAL | 12.2% | 11.4% | 8.4% | 9.5% | 7.9% | 6.8% |
| AG | 19.2% | 15.1% | 13.0% | 7.6% | 8.1% | 6.3% |
| BC | 8.2% | 8.3% | 8.6% | 8.7% | 9.1% | 4.2% |
| BS | 21.4% | 17.4% | 12.6% | 11.8% | 12.1% | 9.0% |
| CA | 29.9% | 26.3% | 26.3% | 20.9% | 3.7% | 3.5% |
| CO | 9.6% | 10.1% | 6.2% | 6.9% | 5.8% | 5.2% |
| CL | 26.4% | 24.6% | 16.3% | 17.0% | 10.6% | 8.7% |
| CS | 31.0% | 25.8% | 22.2% | 31.1% | 19.7% | 18.4% |
| CH | 14.7% | 17.4% | 12.0% | 15.8% | 12.6% | 10.6% |
| DF | 0.3% | 0.3% | 0.2% | 0.2% | 0.1% | 0.1% |
| DG | 25.5% | 24.8% | 21.1% | 24.1% | 19.2% | 17.4% |
| GT | 21.2% | 22.4% | 12.3% | 13.5% | 11.0% | 9.8% |
| GR | 19.5% | 17.8% | 14.2% | 20.9% | 13.2% | 10.5% |
| HG | 16.1% | 15.2% | 13.0% | 13.0% | 8.6% | 9.0% |
| JA | 17.2% | 15.1% | 12.0% | 12.6% | 11.1% | 8.7% |
| ME | 6.2% | 5.5% | 4.7% | 4.7% | 3.1% | 2.7% |
| MI | 24.7% | 26.2% | 20.6% | 22.6% | 16.9% | 17.5% |
| MO | 20.6% | 17.3% | 11.1% | 9.1% | 5.9% | 11.7% |
| NA | 31.3% | 31.3% | 23.8% | 22.8% | 16.9% | 20.6% |
| NL | 5.3% | 7.5% | 5.5% | 6.9% | 2.2% | 1.4% |
| OA | 25.9% | 29.3% | 23.3% | 26.8% | 20.6% | 18.9% |
| PU | 14.6% | 13.0% | 12.2% | 12.2% | 9.9% | 9.0% |
| QT | 17.9% | 18.7% | 11.6% | 10.8% | 3.8% | 4.6% |
| QR | 33.5% | 12.9% | 6.8% | 8.9% | 5.0% | 1.7% |
| SL | 16.8% | 15.3% | 11.3% | 10.4% | 10.5% | 12.8% |
| SI | 29.0% | 29.2% | 21.8% | 26.6% | 23.6% | 22.8% |
| SO | 29.5% | 25.0% | 17.2% | 21.8% | 16.3% | 13.5% |
| TA | 19.5% | 11.0% | 7.8% | 5.3% | 7.8% | 7.5% |
| TM | 14.1% | 12.2% | 12.6% | 13.0% | 12.4% | 9.7% |
| TX | 11.6% | 12.8% | 14.6% | 13.8% | 6.9% | 8.6% |
| VE | 19.3% | 14.5% | 13.3% | 13.5% | 11.5% | 10.4% |
| YU | 11.7% | 11.0% | 8.2% | 9.5% | 8.3% | 9.1% |
| ZA | 29.8% | 29.3% | 22.5% | 30.1% | 30.3% | 25.6% |
| median | 19.4% | 16.3% | 12.6% | 13.0% | 10.5% | 9.1% |

Source: INEGI, (1993) Sistema de Cuentas nacionales de México: Producto Interno Bruto por Entidad Federativa.

Table 4
Share of Agriculture in Economically Active Population

| | 1960 | 1970 | 1980 | 1990 |
|--------|-------|-------|-------|-------|
| TOTAL | 54.1% | 39.4% | 25.8% | 22.6% |
| AG | 49.2% | 36.9% | 17.9% | 15.0% |
| BC | 39.4% | 22.2% | 9.5% | 10.4% |
| BS | 56.2% | 34.5% | 19.4% | 18.3% |
| CA | 54.6% | 45.8% | 31.9% | 34.3% |
| CO | 44.7% | 29.6% | 15.8% | 12.1% |
| CL | 53.7% | 43.8% | 27.9% | 24.0% |
| CS | 79.4% | 72.8% | 57.4% | 58.3% |
| CH | 49.8% | 36.4% | 20.7% | 17.0% |
| DF | 2.6% | 2.2% | 6.1% | 0.7% |
| DG | 70.2% | 55.0% | 30.9% | 28.6% |
| GT | 64.2% | 49.0% | 19.2% | 23.0% |
| GR | 80.2% | 77.8% | 44.3% | 36.4% |
| HG | 71.0% | 61.3% | 37.0% | 37.0% |
| JA | 52.1% | 34.1% | 18.9% | 15.1% |
| ME | 61.2% | 30.3% | 15.3% | 8.7% |
| MI | 73.9% | 59.0% | 39.5% | 34.0% |
| MO | 60.4% | 43.0% | 25.1% | 20.3% |
| NA | 71.3% | 59.4% | 40.4% | 38.2% |
| NL | 32.2% | 17.3% | 8.4% | 6.1% |
| OA | 82.0% | 71.5% | 55.3% | 52.9% |
| PU | 67.0% | 56.0% | 41.4% | 36.9% |
| QT | 69.7% | 48.1% | 29.0% | 17.9% |
| QR | 69.1% | 53.5% | 29.2% | 19.6% |
| SL | 68.7% | 53.3% | 34.1% | 31.1% |
| SI | 65.0% | 51.3% | 27.5% | 36.7% |
| SO | 53.4% | 38.5% | 20.8% | 22.7% |
| TA | 70.9% | 59.1% | 38.9% | 35.6% |
| TM | 50.0% | 33.1% | 18.0% | 16.3% |
| TX | 68.3% | 54.5% | 37.7% | 28.6% |
| VE | 66.2% | 53.0% | 37.7% | 39.4% |
| YU | 58.9% | 55.1% | 31.4% | 27.0% |
| ZA | 80.1% | 64.1% | 49.3% | 39.8% |
| median | 64.6% | 50.2% | 29.1% | 25.5% |

Source: INEGI, Censo General de Población y Vivienda, various issues.

Table 5
Urbanization Ratio

| | 1960 | 1970 | 1980 | 1990 |
|--------|-------|-------|--------|-------|
| TOTAL | 36.5% | 44.7% | 51.8% | 57.4% |
| AG | 52.2% | 53.5% | 56.4% | 68.4% |
| BC | 72.1% | 77.9% | 77.7% | 82.4% |
| BS | 29.4% | 35.9% | 53.5% | 59.2% |
| CA | 38.6% | 41.3% | 47.8% | 51.0% |
| CO | 53.7% | 62.7% | 67.7% | 79.7% |
| CL | 51.1% | 50.2% | 54.6% | 66.7% |
| CS | 10.1% | 14.6% | 17.5% | 23.5% |
| CH | 43.8% | 54.6% | 60.6% | 69.3% |
| DF | 96.6% | 97.1% | 100.0% | 98.3% |
| DG | 23.5% | 27.0% | 34.5% | 43.7% |
| GT | 31.6% | 39.8% | 47.6% | 53.7% |
| GR | 7.9% | 17.7% | 23.1% | 35.6% |
| HG | 9.5% | 10.1% | 16.2% | 25.7% |
| JA | 40.1% | 50.0% | 59.7% | 67.4% |
| ME | 17.0% | 44.2% | 58.8% | 71.1% |
| MI | 17.2% | 25.1% | 33.6% | 40.6% |
| MO | 29.0% | 37.3% | 32.4% | 55.4% |
| NA | 13.8% | 23.0% | 30.2% | 38.4% |
| NL | 64.8% | 66.8% | 80.3% | 87.1% |
| OA | 5.5% | 10.4% | 15.1% | 19.9% |
| PU | 20.4% | 27.5% | 31.8% | 40.3% |
| QT | 19.4% | 26.6% | 35.0% | 46.5% |
| QR | 0.0% | 27.2% | 48.2% | 59.8% |
| SL | 20.6% | 28.0% | 34.8% | 43.2% |
| SI | 26.0% | 34.2% | 41.8% | 47.7% |
| SO | 44.7% | 54.3% | 59.1% | 67.2% |
| TA | 11.1% | 15.1% | 23.4% | 31.6% |
| TM | 52.9% | 61.0% | 66.5% | 73.3% |
| TX | 4.6% | 13.1% | 24.1% | 35.1% |
| VE | 21.4% | 29.1% | 34.3% | 37.7% |
| YU | 30.6% | 33.0% | 49.6% | 55.7% |
| ZA | 10.0% | 12.1% | 18.2% | 25.8% |
| median | 24.8% | 33.6% | 44.7% | 52.4% |

Note: Urbanization ratio is percentage of population living in the locality which has more than 15000 persons.

Source: INEGI, Censo General de Población y Vivienda, various issues.

Table 6
Various Agricultural Productivity Measures

| | Labor Productivity (1970) Total=100 | Land Productivity (1990) Total=100 | Irrigation Rate (1990) Total=100 |
|----|--|---------------------------------------|-------------------------------------|
| AG | 140 | 116 | 210 |
| BC | 184 | 144 | 678 |
| BS | 277 | 82 | 26772 |
| CA | 168 | 88 | 18 |
| CO | 131 | 124 | 517 |
| CL | 159 | 111 | 184 |
| CS | 72 | 53 | 9 |
| CH | 139 | 190 | 113 |
| DF | 64 | 41 | 2 |
| DG | 121 | 238 | 131 |
| GT | 108 | 122 | 144 |
| GR | 59 | 110 | 14 |
| HG | 49 | 69 | 65 |
| JA | 167 | 175 | 43 |
| ME | 74 | 76 | 75 |
| MI | 82 | 85 | 158 |
| MO | 127 | 51 | 136 |
| NA | 129 | 87 | 121 |
| NL | 152 | 149 | 130 |
| OA | 43 | 59 | 28 |
| PU | 52 | 61 | 43 |
| QT | 97 | 126 | 70 |
| QR | 193 | 50 | 11 |
| SL | 62 | 125 | 39 |
| SI | 169 | 104 | 491 |
| SO | 358 | 166 | 1497 |
| TA | 82 | 57 | 9 |
| TM | 149 | 262 | 203 |
| TX | 33 | 92 | 35 |
| VE | 99 | 66 | 18 |
| YU | 50 | 129 | 10 |
| ZA | 92 | 229 | 29 |

Definitions:

Output Productivity: (Agriculture in GSP) / (Agriculture in EAP)

Land Productivity: (Agriculture in GSP) / (Agricultural Area)

Irrigation Rate: Irrigated area / Non-irrigated area

Source: Authors' calculation based on INEGI data

| Table 7 Fiscal Transfer (Percent of GDP) | | | | | | |
|--|--------|--------|-------|--------|--------|--------|
| | 1970 | 1975 | 1980 | 1985 | 1988 | 1993 |
| AGRO | 0.64% | 1.24% | 3.41% | 0.07% | -0.56% | -0.73% |
| HP-AGRO | 0.02% | -0.13% | 0.46% | -0.30% | -0.40% | -0.28% |
| LP-AGRO | 0.61% | -1.37% | 2.95% | 0.37% | -0.16% | -0.45% |
| NON-AGRO | -0.24% | -1.56% | 0.05% | -2.35% | -2.91% | -3.07% |
| Total | 0.39% | -0.32% | 3.46% | -2.27% | -3.47% | -3.80% |

Source: Authors' calculation.

| Table 8 Financial Transfer (Percent of GDP) | | | | |
|---|--------|--------|-------|-------|
| | 1980 | 1985 | 1988 | 1993 |
| AGRO | -0.48% | -1.17% | 1.18% | 1.42% |
| HP-AGRO | -0.07% | -0.23% | 0.70% | 0.60% |
| LP-AGRO | -0.42% | -0.94% | 0.48% | 0.83% |
| NON-AGRO | -1.29% | 0.57% | 0.98% | 1.83% |
| Total | -1.78% | -0.60% | 2.17% | 3.25% |

Source: Authors' calculation.

| Table 9 Composite Transfer (Percent of GDP) | | | | |
|---|--------|--------|--------|--------|
| | 1980 | 1985 | 1988 | 1993 |
| AGRO | 2.93% | -1.09% | 0.62% | 0.69% |
| HP-AGRO | 0.40% | -0.53% | 0.30% | 0.32% |
| LP-AGRO | 2.53% | -0.56% | 0.32% | 0.38% |
| NON-AGRO | -1.24% | -1.78% | -1.93% | -1.24% |
| Total | 1.69% | -2.87% | -1.30% | -0.55% |

Source: Authors' calculation.

| Table A1 | | | | |
|----------------------------------|--------|--------|--------|--------|
| Fiscal Transfer by State | | | | |
| (Percent of Gross State Product) | | | | |
| | 1980 | 1985 | 1988 | 1993 |
| National | 3.63% | -2.26% | -3.47% | -3.80% |
| AG | -1.47% | -3.59% | -1.03% | -1.75% |
| BC | 6.60% | -2.69% | -3.32% | -5.06% |
| BS | 25.30% | 3.65% | 0.04% | 0.31% |
| CA | 64.83% | 8.27% | 4.67% | 2.08% |
| CO | 11.67% | -3.19% | -5.20% | -2.48% |
| CL | 19.08% | 3.22% | 0.22% | -3.11% |
| CS | 16.91% | -1.45% | -1.57% | 1.70% |
| CH | -0.08% | -4.92% | -5.82% | -5.83% |
| DF | 0.24% | -1.98% | -2.19% | -3.39% |
| DG | 2.72% | -4.27% | -5.14% | -4.24% |
| GT | -0.01% | -5.81% | -6.31% | -5.73% |
| GR | 4.63% | -0.29% | -4.20% | -3.40% |
| HG | 3.22% | 2.56% | -3.77% | 0.96% |
| JA | -3.36% | -6.36% | -6.86% | -6.66% |
| ME | -4.07% | -6.05% | -7.26% | -5.63% |
| MI | 4.91% | 8.04% | 5.78% | -4.04% |
| MO | -2.94% | -3.81% | -5.87% | -6.15% |
| NA | 4.43% | -2.08% | -2.41% | 3.54% |
| NL | -2.64% | -5.73% | -7.45% | -7.54% |
| OA | 10.39% | -0.40% | 2.58% | 0.04% |
| PU | -2.93% | -4.89% | -5.94% | -5.53% |
| QT | 0.30% | -3.58% | -5.64% | -4.81% |
| QR | 10.50% | 1.19% | -2.57% | -7.14% |
| SL | 1.49% | -2.02% | -5.21% | -2.70% |
| SI | 8.59% | -1.42% | -4.61% | -3.91% |
| SO | 1.95% | -2.86% | -0.97% | 0.71% |
| TA | 20.76% | -0.28% | 6.64% | 7.07% |
| TM | 13.31% | -0.94% | -2.68% | -6.42% |
| TX | 1.39% | -5.64% | -2.46% | 33.10% |
| VE | 18.10% | 2.78% | 0.31% | -4.40% |
| YU | 2.60% | -2.64% | -4.43% | -6.12% |
| ZA | 5.61% | -3.20% | -5.26% | -4.93% |
| NON-AGRO | 0.08% | -3.96% | -4.79% | -4.89% |
| HP-AGRO | 4.73% | -2.72% | -3.57% | -2.61% |
| LP-AGRO | 11.24% | 1.23% | -0.57% | -1.69% |

Source: Authors' calculation.

Table A2
Financial Transfer by State
(percent of Gross State Product)

| | 1980 | 1985 | 1988 | 1993 |
|----------|--------|--------|--------|--------|
| National | -1.86% | -0.60% | 2.16% | 3.63% |
| AG | -3.48% | -5.67% | 3.55% | 3.02% |
| BC | -5.40% | -1.07% | -3.23% | 5.62% |
| BS | -1.21% | -4.58% | 3.65% | 0.79% |
| CA | -2.69% | -0.41% | 1.42% | 3.80% |
| CO | -1.87% | -3.85% | 3.69% | 2.44% |
| CL | -4.45% | -4.43% | 3.03% | 6.26% |
| CS | -0.03% | -2.68% | 3.22% | 3.23% |
| CH | 1.59% | -2.31% | 4.96% | 6.87% |
| DF | -2.66% | 5.83% | 1.12% | -2.18% |
| DG | 1.27% | -3.94% | 2.15% | 4.27% |
| GT | -0.13% | -6.56% | 6.31% | 7.37% |
| GR | -1.25% | -3.47% | 1.91% | 0.59% |
| HG | -1.09% | -4.43% | 2.03% | 0.51% |
| JA | -6.35% | -2.44% | 1.71% | 12.75% |
| ME | 1.37% | -0.20% | 1.32% | 4.79% |
| MI | -1.24% | -7.86% | 5.40% | 5.89% |
| MO | -2.40% | -5.07% | 1.35% | 5.34% |
| NA | -2.85% | -5.57% | 3.07% | 1.64% |
| NL | -1.15% | 1.71% | 0.70% | 7.57% |
| OA | -2.68% | -4.92% | 0.33% | 0.94% |
| PU | -0.43% | -2.49% | 1.63% | 7.12% |
| QT | 0.59% | 1.31% | 1.54% | 4.73% |
| QR | -0.85% | -1.03% | 3.95% | 3.69% |
| SL | -2.93% | -0.92% | -2.77% | -3.70% |
| SI | -3.40% | -1.13% | 5.77% | 6.98% |
| SO | -0.45% | 0.40% | 11.73% | 7.73% |
| TA | -0.70% | -1.61% | 2.82% | 5.97% |
| TM | -4.42% | -5.28% | 4.73% | 3.60% |
| TX | -0.85% | -2.12% | 1.66% | 0.79% |
| VE | -2.74% | -3.57% | 0.06% | 4.32% |
| YU | -4.59% | -4.83% | 4.63% | 6.84% |
| ZA | -1.74% | -5.13% | 2.87% | 2.71% |
| NON-AGRO | -2.18% | 0.97% | 1.61% | 3.25% |
| HP-AGRO | -0.67% | -2.08% | 6.18% | 6.17% |
| LP-AGRO | -1.59% | -3.11% | 1.72% | 3.48% |

Source: Authors' calculation.

| Table A3 Public Investment and Participation (Percent of Gross State Product) | | | | |
|---|-------|-------|-------|-------|
| | 1980 | 1985 | 1988 | 1993 |
| TOTAL | 13.9% | 7.0% | 8.2% | 7.8% |
| AG | 8.7% | 5.8% | 10.6% | 9.8% |
| BC | 16.8% | 5.7% | 8.3% | 6.5% |
| BS | 35.4% | 12.5% | 11.7% | 11.9% |
| CA | 74.9% | 9.3% | 16.3% | 13.6% |
| CO | 21.9% | 5.7% | 6.5% | 9.1% |
| CL | 28.8% | 11.8% | 11.9% | 8.5% |
| CS | 23.9% | 6.4% | 10.1% | 13.3% |
| CH | 10.1% | 4.2% | 5.8% | 5.7% |
| DF | 12.0% | 10.1% | 9.5% | 8.2% |
| DG | 13.0% | 4.4% | 6.5% | 7.3% |
| GT | 10.2% | 3.4% | 5.4% | 5.8% |
| GR | 14.8% | 7.7% | 7.5% | 8.2% |
| HG | 13.5% | 10.3% | 7.9% | 12.5% |
| JA | 6.9% | 3.2% | 4.8% | 4.9% |
| ME | 6.2% | 2.9% | 4.4% | 5.9% |
| MI | 15.2% | 17.8% | 17.4% | 7.5% |
| MO | 7.2% | 3.9% | 5.8% | 5.4% |
| NA | 14.6% | 6.1% | 9.3% | 15.1% |
| NL | 7.5% | 3.5% | 4.2% | 4.0% |
| OA | 20.5% | 7.6% | 14.2% | 11.6% |
| PU | 7.3% | 4.0% | 5.7% | 6.0% |
| QT | 10.5% | 4.1% | 6.0% | 6.8% |
| QR | 20.7% | 9.1% | 9.1% | 4.4% |
| SL | 11.7% | 6.7% | 6.5% | 8.9% |
| SI | 18.7% | 7.5% | 7.1% | 7.7% |
| SO | 12.2% | 5.4% | 10.7% | 12.3% |
| TA | 25.7% | 10.1% | 18.3% | 18.6% |
| TM | 23.3% | 8.1% | 9.0% | 5.1% |
| TX | 11.9% | 4.2% | 9.2% | 44.7% |
| VE | 27.4% | 11.3% | 12.0% | 7.2% |
| YU | 13.1% | 6.8% | 7.2% | 5.4% |
| ZA | 15.9% | 4.8% | 6.4% | 6.6% |
| NON-AGRO | 10.9% | 6.1% | 6.9% | 6.7% |
| HP-AGRO | 14.9% | 6.0% | 8.1% | 9.0% |
| LP-AGRO | 20.2% | 9.0% | 11.1% | 9.9% |

Source: Authors' calculation

Table A4
Net Loans
(Percent of Gross State Product)

| | 1980 | 1985 | 1988 | 1993 |
|-----------------|------|-------|-------|-------|
| TOTAL | 4.8% | 4.9% | 4.9% | 7.8% |
| AG | 5.2% | 3.5% | 5.2% | 2.4% |
| BC | 5.4% | 4.0% | 3.6% | 6.3% |
| BS | 4.4% | 1.3% | 2.8% | -0.2% |
| CA | 2.9% | 0.4% | 0.7% | 3.0% |
| CO | 4.5% | 2.1% | 3.6% | 4.3% |
| CL | 2.6% | 1.8% | 1.6% | 6.3% |
| CS | 2.8% | 1.4% | 2.4% | 3.3% |
| CH | 6.3% | 2.9% | 4.4% | 7.8% |
| DF | 8.4% | 13.8% | 10.2% | 14.0% |
| DG | 3.7% | 0.9% | 2.4% | 5.0% |
| GT | 5.8% | 2.6% | 4.4% | 6.9% |
| GR | 2.4% | 1.1% | 1.2% | 1.1% |
| HG | 1.7% | 0.3% | 1.1% | 1.0% |
| JA | 1.7% | 4.9% | 4.7% | 18.0% |
| ME | 1.9% | 1.2% | 1.2% | 2.8% |
| MI | 3.6% | 2.9% | 3.2% | 4.2% |
| MO | 1.6% | 1.1% | 0.8% | 4.9% |
| NA | 2.0% | 0.9% | 2.3% | 1.5% |
| NL | 7.5% | 5.5% | 8.3% | 9.0% |
| OA | 1.6% | 0.5% | 1.3% | 1.6% |
| PU | 3.0% | 3.2% | 4.8% | 7.6% |
| QT | 7.8% | 1.5% | 1.1% | 5.0% |
| QR | 3.6% | 3.2% | 5.7% | 3.1% |
| SL | 3.7% | 4.4% | 2.1% | 2.6% |
| SI | 4.8% | 5.5% | 5.1% | 5.2% |
| SO | 6.3% | 5.6% | 9.6% | 6.5% |
| TA | 1.0% | 1.0% | 1.2% | 5.5% |
| TM | 4.6% | 2.0% | 2.8% | 3.4% |
| TX | 1.5% | 0.7% | 1.2% | 1.2% |
| VE | 2.2% | 1.4% | 1.8% | 3.4% |
| YU | 3.5% | 4.0% | 4.3% | 6.6% |
| ZA | 3.0% | 1.0% | 1.4% | 5.2% |
| NON-AGRO | 5.7% | 6.8% | 6.0% | 9.9% |
| HP-AGRO | 5.1% | 3.5% | 5.3% | 5.8% |
| LP-AGRO | 2.5% | 1.7% | 2.3% | 3.7% |

Source : Authors' calculation

| Table A5 Indigenous People (1990) | |
|---|---|
| State | Indigenous Language Speaking People: Percent of Total Population |
| AG | 0.1% |
| BC | 1.3% |
| BS | 1.0% |
| CA | 15.2% |
| CO | 0.2% |
| CL | 0.4% |
| CS | 25.0% |
| CH | 2.9% |
| DF | 1.5% |
| DG | 1.5% |
| GT | 0.3% |
| GR | 12.0% |
| HG | 19.4% |
| JA | 0.5% |
| ME | 3.6% |
| MI | 3.5% |
| MO | 1.9% |
| NA | 3.4% |
| NL | 0.2% |
| OA | 38.9% |
| PU | 14.2% |
| QT | 2.3% |
| QR | 32.2% |
| SL | 12.0% |
| SI | 1.6% |
| SO | 2.9% |
| TA | 3.7% |
| TM | 0.4% |
| TX | 3.4% |
| VE | 10.7% |
| YU | 44.2% |
| ZA | 0.1% |
| Source: Banamex, México Social 1994-1995. | |

Table A6
Ejido Use (1988)

| State | Total Land (ha.) | Ejido Land (ha.) | Percent | Ejido Use (percent) | | | | |
|-------|---------------------|---------------------|---------|---------------------------------|--------------------------------|--------------|----------------|------------|
| | | | | Agricultural Ejido Irrigated | Agricultural Ejido Rain-fed | Forest Ejido | Pastoral Ejido | Other Uses |
| Total | 195,820,100 | 95,108,066 | 48.6% | 3.5 | 17.8 | 17.3 | 57.0 | 4.3 |
| AG | 547,100 | 240,297 | 43.9% | 13.8 | 29.4 | 1.3 | 55.5 | 0.1 |
| BC | 6,992,100 | 5,113,394 | 73.1% | 2.8 | 1.6 | 0.9 | 93.5 | 1.2 |
| BS | 7,347,500 | 5,051,062 | 68.7% | 0.4 | 0.0 | 0.4 | 97.9 | 1.3 |
| CA | 5,081,200 | 3,115,750 | 61.3% | 0.3 | 10.6 | 53.0 | 35.1 | 1.0 |
| CO | 14,998,200 | 6,284,397 | 41.9% | 1.9 | 2.1 | 2.5 | 90.4 | 3.1 |
| CL | 519,100 | 289,291 | 55.7% | 10.8 | 24.4 | 21.3 | 40.1 | 3.4 |
| CS | 7,421,100 | 3,130,892 | 42.2% | 1.7 | 39.2 | 22.4 | 29.5 | 7.3 |
| CH | 24,493,800 | 9,748,552 | 39.8% | 2.2 | 9.6 | 24.8 | 59.7 | 3.7 |
| DF | 147,900 | 66,213 | 44.8% | 0.0 | 42.4 | 38.7 | 11.8 | 7.0 |
| DG | 12,318,100 | 8,028,347 | 65.2% | 1.3 | 8.0 | 28.7 | 57.8 | 4.1 |
| GT | 3,049,100 | 1,154,565 | 37.9% | 17.4 | 37.8 | 4.3 | 38.3 | 2.3 |
| GR | 6,428,100 | 3,771,753 | 58.7% | 2.0 | 34.8 | 20.9 | 41.0 | 1.4 |
| HG | 2,081,300 | 912,550 | 43.8% | 5.2 | 38.9 | 11.5 | 36.9 | 7.5 |
| JA | 8,083,600 | 3,046,499 | 37.7% | 4.8 | 27.5 | 22.8 | 40.8 | 4.1 |
| ME | 2,135,500 | 1,068,096 | 50.0% | 9.0 | 45.6 | 20.9 | 20.8 | 37.0 |
| MI | 5,992,800 | 2,692,184 | 44.9% | 9.8 | 26.9 | 20.3 | 38.2 | 4.8 |
| MO | 495,000 | 311,492 | 62.9% | 19.0 | 35.8 | 11.6 | 27.4 | 6.2 |
| NA | 2,697,900 | 2,118,246 | 78.5% | 6.0 | 20.9 | 23.6 | 47.0 | 2.5 |
| NL | 6,492,400 | 1,868,555 | 28.8% | 2.0 | 10.0 | 9.3 | 78.3 | 0.4 |
| OA | 9,395,200 | 7,412,619 | 78.9% | 1.7 | 34.9 | 29.0 | 25.8 | 8.7 |
| PU | 3,390,200 | 1,545,634 | 45.6% | 5.2 | 35.4 | 9.2 | 46.1 | 4.1 |
| QT | 1,144,900 | 547,764 | 47.8% | 7.7 | 22.7 | 10.7 | 56.2 | 2.7 |
| QR | 5,021,200 | 2,743,286 | 54.6% | 0.1 | 12.2 | 61.9 | 25.7 | 0.0 |
| SL | 6,306,800 | 3,717,396 | 58.9% | 1.8 | 19.1 | 5.3 | 68.1 | 5.6 |
| SI | 5,832,800 | 3,230,533 | 55.4% | 15.4 | 20.9 | 15.8 | 43.3 | 4.6 |
| SO | 18,205,200 | 5,664,948 | 31.1% | 4.9 | 1.7 | 4.9 | 76.8 | 11.7 |
| TA | 2,526,700 | 1,011,991 | 40.1% | 0.2 | 22.8 | 9.4 | 56.1 | 11.6 |
| TM | 7,938,400 | 2,398,191 | 30.2% | 9.6 | 23.7 | 9.4 | 55.1 | 2.2 |
| TX | 401,600 | 190,883 | 47.5% | 7.3 | 66.7 | 10.6 | 14.6 | 0.8 |
| VE | 7,169,900 | 2,840,561 | 39.6% | 2.6 | 43.4 | 9.5 | 40.4 | 4.1 |
| YU | 3,840,200 | 2,162,147 | 56.3% | 2.3 | 24.4 | 12.5 | 49.6 | 12.0 |
| ZA | 7,325,200 | 3,629,978 | 49.6% | 2.5 | 22.1 | 1.8 | 72.5 | 12.0 |

Source: Banamex, México Social 1994-1995.

| State | Total | Parcelized Ejido Land (ha.) | Non Parcelized | Number of Ejidos and Communities | Number of Ejidatarios | | |
|-------|-------------|-----------------------------------|-------------------|--|-----------------------|------------------------------|---------------------------------|
| | | | | | Total | With Individual Parcel | Without Individual Parcel |
| Total | 102,876,789 | 28,440,523 | 74,436,269 | 29,951 | 3,538,948 | 3,022,340 | 516,608 |
| AG | 241,235 | 102,071 | 139,164 | 180 | 15,800 | 14,928 | 872 |
| BC | 5,916,599 | 413,918 | 5,502,681 | 224 | 16,218 | 10,523 | 5,695 |
| BS | 5,478,391 | 24,470 | 5,453,921 | 100 | 6,076 | 2,611 | 3,465 |
| CA | 3,498,252 | 781,490 | 2,716,762 | 401 | 39,676 | 31,707 | 7,969 |
| CO | 7,087,020 | 312,692 | 6,774,328 | 881 | 55,131 | 46,517 | 8,614 |
| CL | 334,101 | 227,389 | 106,712 | 153 | 13,130 | 11,688 | 1,442 |
| CS | 4,063,563 | 2,278,911 | 1,784,652 | 2,072 | 248,097 | 235,386 | 12,711 |
| CH | 9,897,017 | 980,421 | 8,916,596 | 953 | 105,839 | 84,769 | 21,070 |
| DF | 59,057 | 13,602 | 45,455 | 43 | 33 | 10,469 | 22,905 |
| DG | 8,415,947 | 944,878 | 7,471,069 | 1,083 | 138,252 | 88,054 | 50,198 |
| GT | 1,224,047 | 697,959 | 526,089 | 1,480 | 98,245 | 93,537 | 4,708 |
| GR | 4,488,730 | 1,935,303 | 2,553,427 | 1,223 | 198,201 | 175,430 | 22,771 |
| HG | 1,072,810 | 524,530 | 548,280 | 1,157 | 160,037 | 148,104 | 11,933 |
| JA | 3,146,372 | 1,766,528 | 1,379,844 | 1,389 | 131,526 | 117,800 | 13,726 |
| ME | 1,155,185 | 691,845 | 463,340 | 1,238 | 287,330 | 252,135 | 35,195 |
| MI | 2,750,829 | 1,477,235 | 1,273,594 | 1,846 | 197,230 | 158,080 | 39,150 |
| MO | 381,905 | 190,733 | 191,172 | 239 | 47,983 | 45,330 | 2,653 |
| NA | 2,199,951 | 759,424 | 1,440,527 | 401 | 63,045 | 56,431 | 6,614 |
| NL | 2,273,571 | 242,696 | 2,030,875 | 608 | 34,245 | 28,623 | 5,622 |
| OA | 7,663,594 | 2,884,056 | 4,779,539 | 1,646 | 424,260 | 355,764 | 68,496 |
| PU | 1,578,588 | 692,462 | 886,126 | 1,146 | 175,941 | 158,041 | 17,900 |
| QT | 594,592 | 189,483 | 405,109 | 360 | 34,377 | 30,692 | 3,685 |
| QR | 2,795,064 | 615,539 | 2,179,525 | 267 | 29,624 | 21,495 | 8,129 |
| SL | 4,177,816 | 1,005,379 | 3,172,437 | 1,263 | 136,340 | 128,790 | 7,550 |
| SI | 3,728,481 | 1,684,289 | 2,044,192 | 1,263 | 137,056 | 121,085 | 15,971 |
| SO | 5,811,793 | 930,459 | 4,881,334 | 851 | 72,734 | 34,416 | 38,318 |
| TA | 1,114,778 | 826,403 | 288,376 | 761 | 53,601 | 50,549 | 3,052 |
| TM | 2,449,224 | 1,051,781 | 1,397,443 | 1,370 | 75,252 | 68,983 | 6,269 |
| TX | 194,675 | 151,929 | 42,746 | 240 | 39,771 | 38,541 | 1,230 |
| VE | 2,944,094 | 2,474,609 | 469,485 | 3,612 | 256,748 | 236,580 | 20,168 |
| YU | 2,295,243 | 640,776 | 1,654,467 | 726 | 113,582 | 71,828 | 41,754 |
| ZA | 3,844,265 | 927,263 | 2,917,002 | 775 | 100,227 | 93,454 | 6,773 |

Source: Banamex, México Social 1994-1995.

Table A8
Flow of Funds (flow)
(percent of GDP)

| Average of following years: from | 1969 | 1973 | 1977 | 1980 | 1983 | 1986 | 1989 | 1992 |
|---|-------------|-------------|-------------|-------------|-------------|--------------|-------------|-------------|
| to | 1972 | 1976 | 1979 | 1982 | 1985 | 1988 | 1991 | 1994 |
| Financial Sector | | | | | | | | |
| Funds to Private Sector | #N/A | #N/A | 5.3 | 3.8 | 4.7 | 5.7 | 8.3 | 10.2 |
| Funds to Public Sector | 2.5 | 5.4 | 3.7 | 8.3 | 7.4 | 9.7 | 0.9 | -2.1 |
| Net Change in Foreign Currency Denominated Assets (exc. Central Bank's Foreign Reserve) | 3.8 | -2.1 | 0.5 | -1.9 | 0.1 | -0.6 | -0.7 | -2.3 |
| Non-classified Resources | #N/A | #N/A | -0.5 | -1.6 | -1.9 | -2.4 | -0.1 | 0.0 |
| Funds Supplied from Private Sector | #N/A | #N/A | 9.0 | 8.6 | 10.3 | 12.4 | 8.4 | 5.8 |
| Private Sector | | | | | | | | |
| Funds to Financial Sector | #N/A | #N/A | 9.0 | 8.6 | 10.3 | 12.4 | 8.4 | 5.8 |
| Funds from Financial Sector | #N/A | #N/A | 5.3 | 3.8 | 4.7 | 5.7 | 8.3 | 10.2 |
| <i>Net Supply of Funds to Financial Sector</i> | -3.3 | -0.1 | 3.7 | 4.8 | 5.6 | 6.7 | 0.1 | -4.4 |
| Government Securities Purchase | #N/A | #N/A | #N/A | 0.9 | 1.0 | 4.3 | 2.3 | -0.3 |
| Foreign Debt (net) | -2.3 | 3.2 | 0.2 | -1.0 | -3.6 | -1.3 | 3.7 | 4.1 |
| Net Supply of Funds of Private Sector | -1.0 | -4.3 | 3.6 | 6.7 | 10.2 | 12.3 | -1.3 | -8.9 |
| Public Sector | | | | | | | | |
| Funds from Financial Sector | 2.5 | 5.4 | 3.7 | 8.3 | 7.4 | 9.7 | 0.9 | -2.1 |
| Government Securities Purchase of Private Sector | #N/A | #N/A | #N/A | 0.9 | 1.0 | 4.3 | 2.3 | -0.3 |
| Foreign Debt (net) | 0.6 | 2.6 | 3.1 | 3.3 | 1.5 | 0.5 | -1.2 | 0.8 |
| Statistical Discrepancy | | | -0.6 | -0.9 | | | | |
| Consolidated Public Sector Deficit | 3.1 | 8.0 | 6.3 | 12.2 | 9.9 | 14.5 | 1.9 | -1.7 |
| External Sector | | | | | | | | |
| Foreign Debt of Financial Sector (net) * excluding Central Bank's Foreign Reserve | 3.8 | -2.1 | -0.5 | 1.9 | -0.1 | 0.6 | 0.7 | 2.3 |
| Foreign Debt of Private Sector (net) | -2.3 | 3.2 | 0.2 | -1.0 | -3.6 | -1.3 | 3.7 | 4.1 |
| Foreign Debt of Public Sector (net) | 0.6 | 2.6 | 3.1 | 3.3 | 1.5 | 0.5 | -1.2 | 0.8 |
| Capital Account Surplus | 2.1 | 3.7 | 2.8 | 4.1 | -2.3 | -0.2 | 3.2 | 7.2 |
| (Central Bank's Foreign Reserve Change) | #N/A | #N/A | #N/A | #N/A | 0.9 | 0.5 | 1.5 | -1.0 |
| Current Account Surplus | -2.1 | -3.7 | -2.8 | -4.1 | 2.3 | 0.1 | -3.1 | -7.2 |
| Total Assets of Financial Institutions, Percent of GDP | | | | | | | | |
| Banco de México | 8.3 | 12.1 | 16.7 | 17.1 | 18.8 | 15.8 | 11.2 | 9.4 |
| Development Bank | 15.7 | 16.6 | 19.4 | 19.7 | 23.7 | 28.3 | 16.1 | 15.3 |
| Commercial Bank | 30.9 | 26.9 | 26.5 | 29.1 | 29.0 | 28.0 | 29.5 | 45.3 |
| Total | 54.9 | 55.6 | 62.6 | 65.9 | 71.5 | 72.1 | 56.8 | 70.0 |
| Credit to Government in Total Credit, Percent | | | | | | | | |
| Development Bank | 23.0 | 40.5 | 46.0 | 34.4 | 46.6 | 59.5 | 59.8 | 44.8 |
| Commercial Bank | 2.2 | 2.7 | 3.6 | 9.4 | 20.3 | 29.0 | 6.3 | 2.8 |
| Total | 10.3 | 19.5 | 23.6 | 21.5 | 33.6 | 45.4 | 25.1 | 13.8 |
| CPI Inflation (annual average, %) | 4.7 | 16.6 | 21.4 | 37.0 | 74.0 | 109.9 | 23.1 | 10.7 |
| Real GDP growth (annual average, %) | 6.5 | 6.1 | 6.9 | 5.1 | 0.6 | -0.2 | 3.8 | 2.3 |

Source: E. V. K. Fitzgerald, "The Fiscal Deficit and Development Finance: A Note on the Accumulation Balance in Mexico", Center of Latin American Studies, Working Paper number 35, Cambridge, Cambridge University, 1979.
Banco de México, Indicadores Económicos, various years.
Nafin, México en cifras, various years.

Figure 1

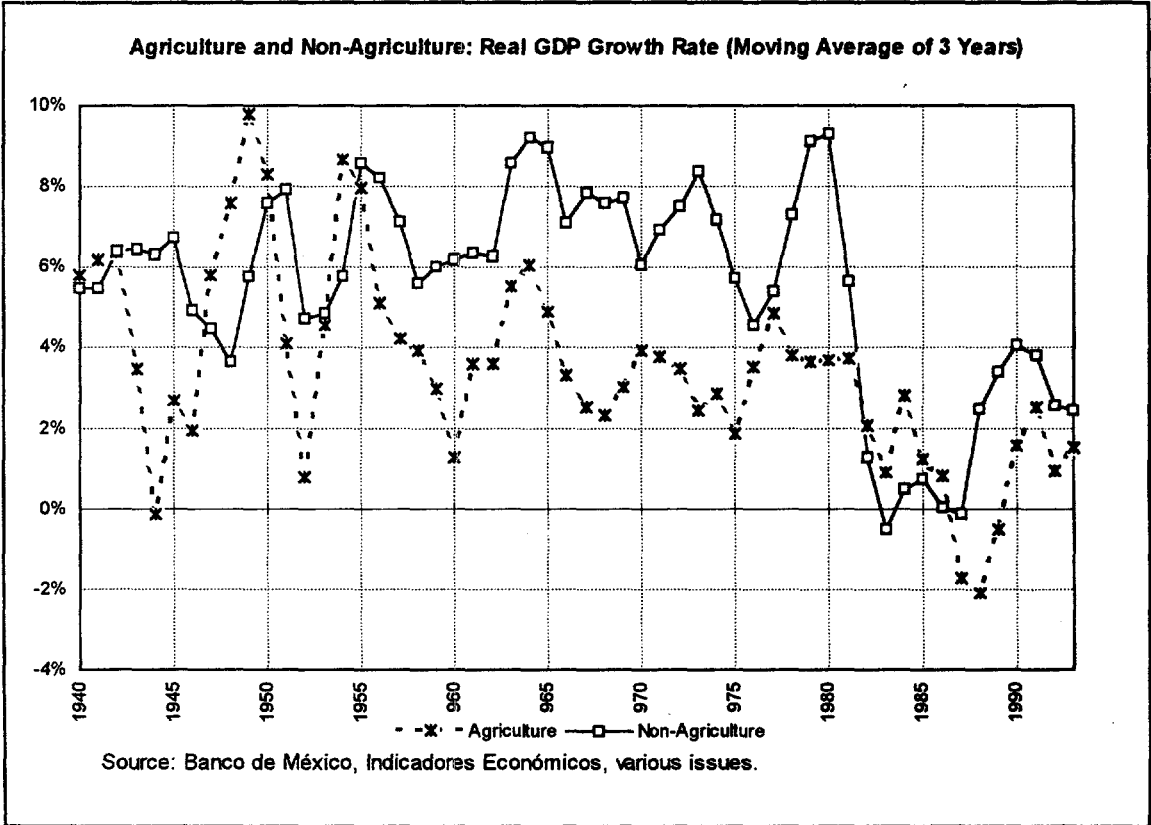


Figure 2

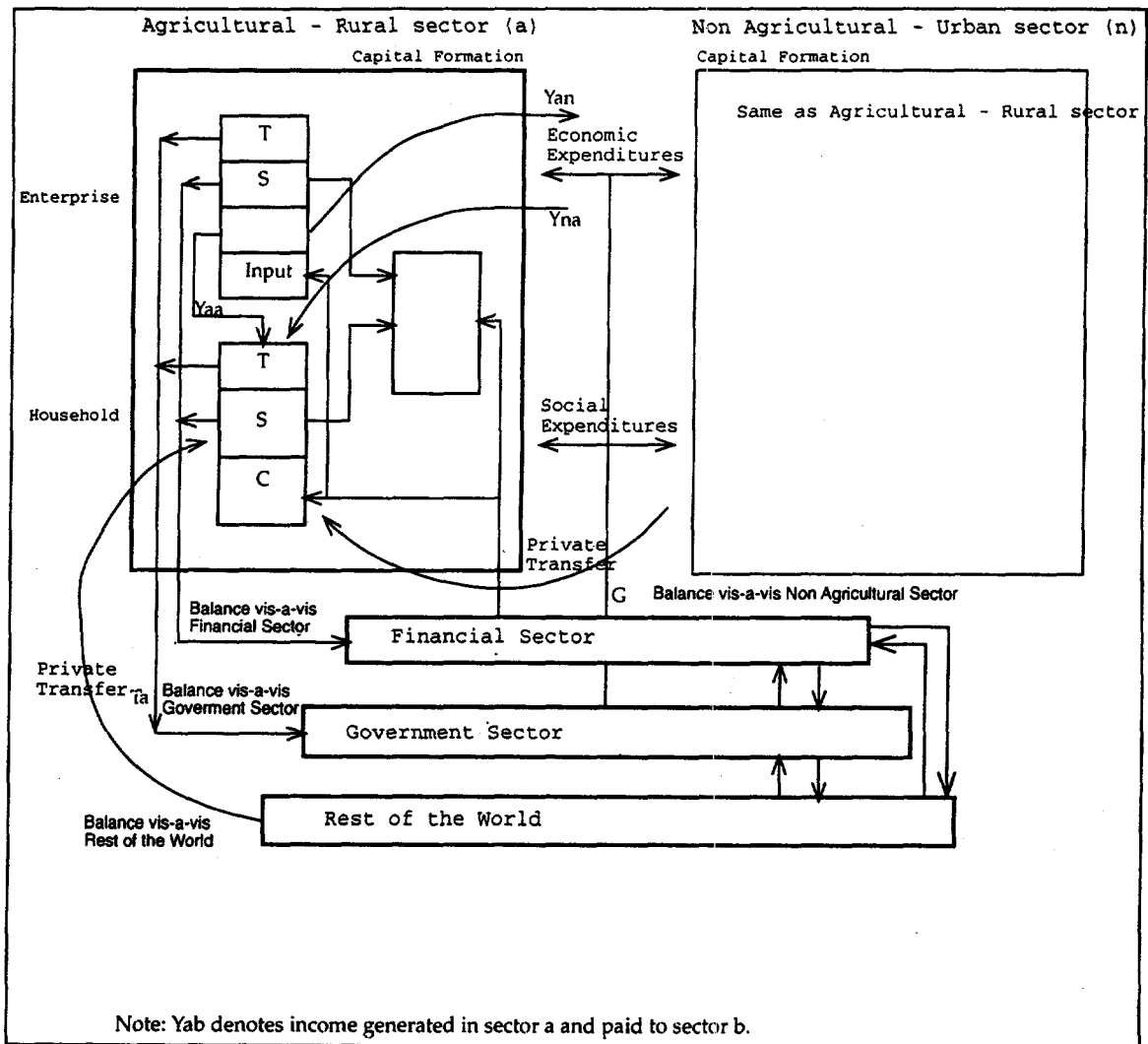


Figure 3

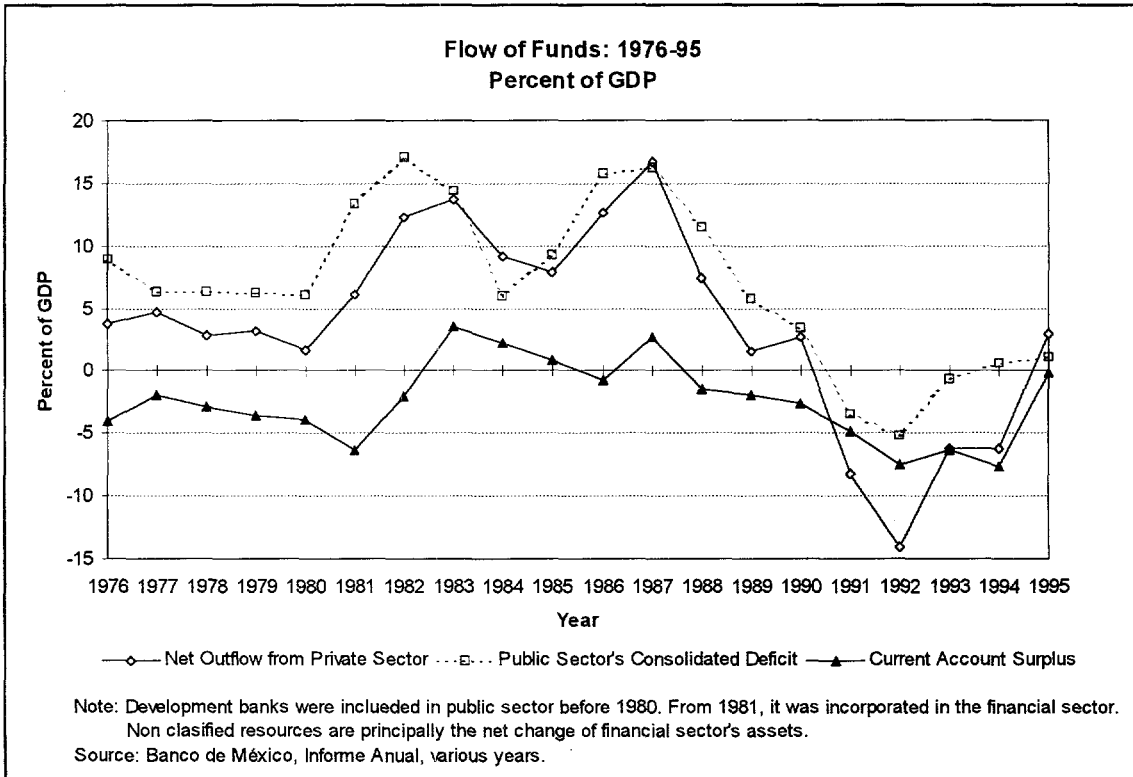


Figure 4: Mexican States



| Abbreviations for the States | | | | | |
|------------------------------|---------------------|--------------|--------|-----------------|--------------|
| Number | State | Abbreviation | Number | State | Abbreviation |
| 1 | Aguascalientes | AG | 17 | Morelos | MO |
| 2 | Baja California | BC | 18 | Nayarit | NA |
| 3 | Baja California Sur | BS | 19 | Nuevo León | NL |
| 4 | Campeche | CA | 20 | Oaxaca | OA |
| 5 | Coahuila | CO | 21 | Puebla | PU |
| 6 | Colima | CL | 22 | Querétaro | QT |
| 7 | Chiapas | CS | 23 | Quintana Roo | QR |
| 8 | Chihuahua | CH | 24 | San Luis Potosí | SL |
| 9 | Distrito Federal | DF | 25 | Sinaloa | SI |
| 10 | Durango | DG | 26 | Sonora | SO |
| 11 | Guanajuato | GT | 27 | Tabasco | TA |
| 12 | Gurrero | GR | 28 | Tamaulipas | TM |
| 13 | Hidalgo | HG | 29 | Tlaxcala | TX |
| 14 | Jalisco | JA | 30 | Veracruz | VE |
| 15 | México | ME | 31 | Yucatán | YU |
| 16 | Michoacán | MI | 32 | Zacatecas | ZA |

Figure 5: Classification of Mexican States

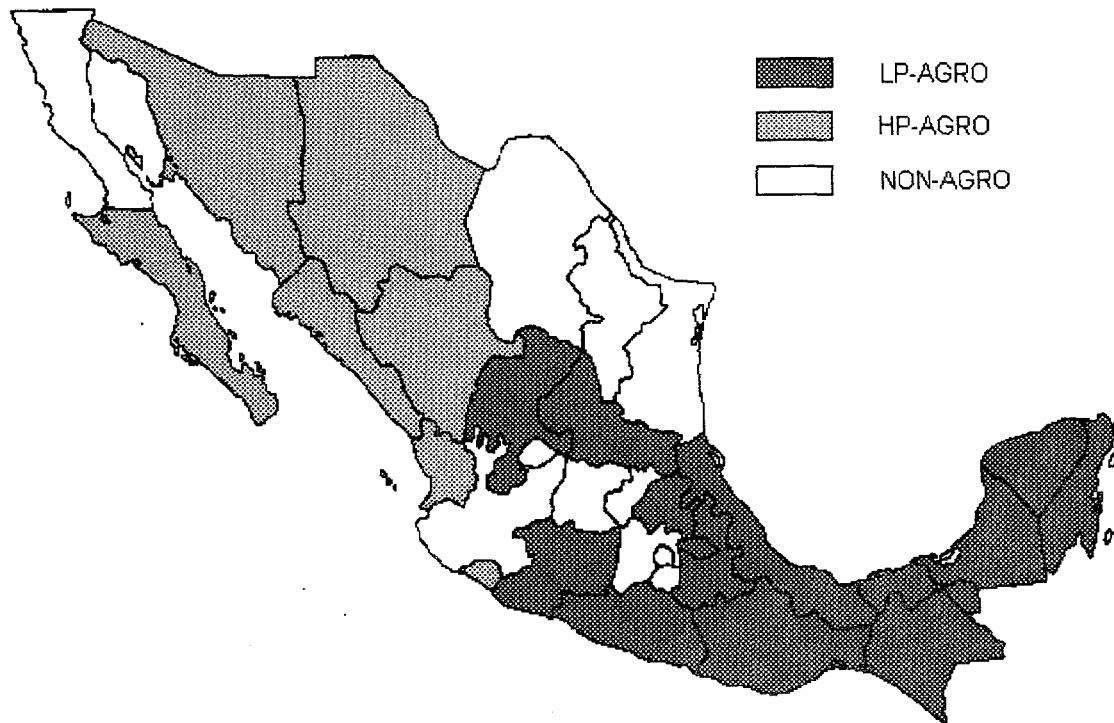


Figure 6

Fiscal Transfer & Financial Transfer relative to GSP, 1980

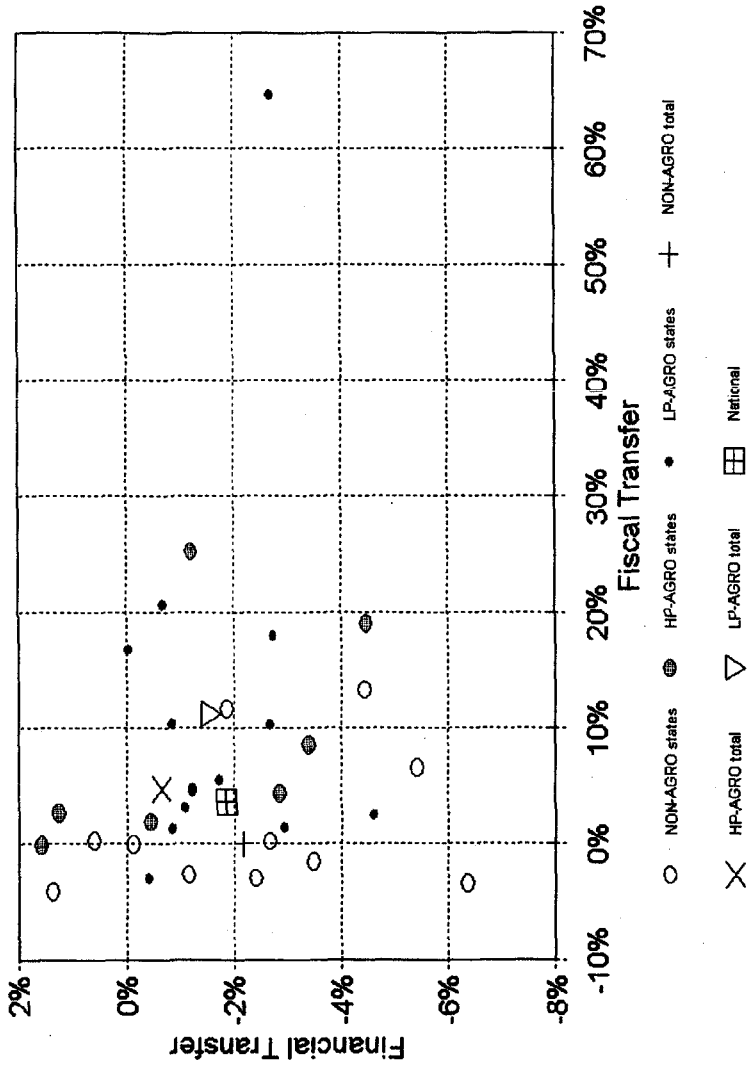


Figure 7

Fiscal Transfer & Financial Transfer relative to GSP, 1985

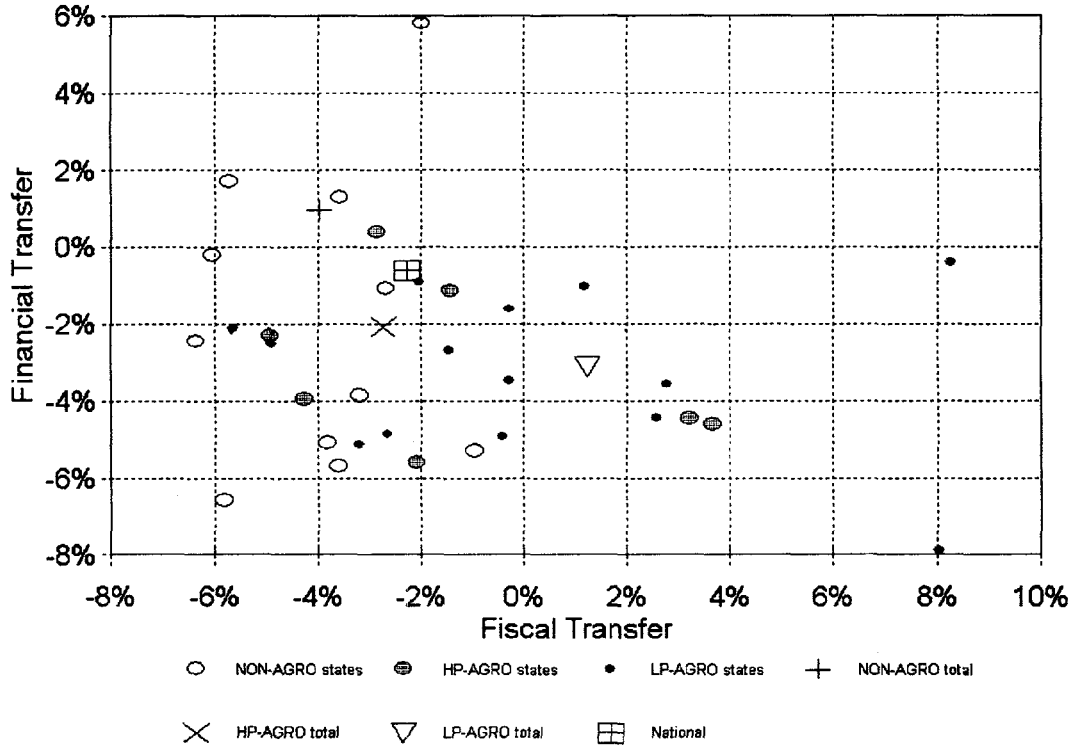


Figure 8

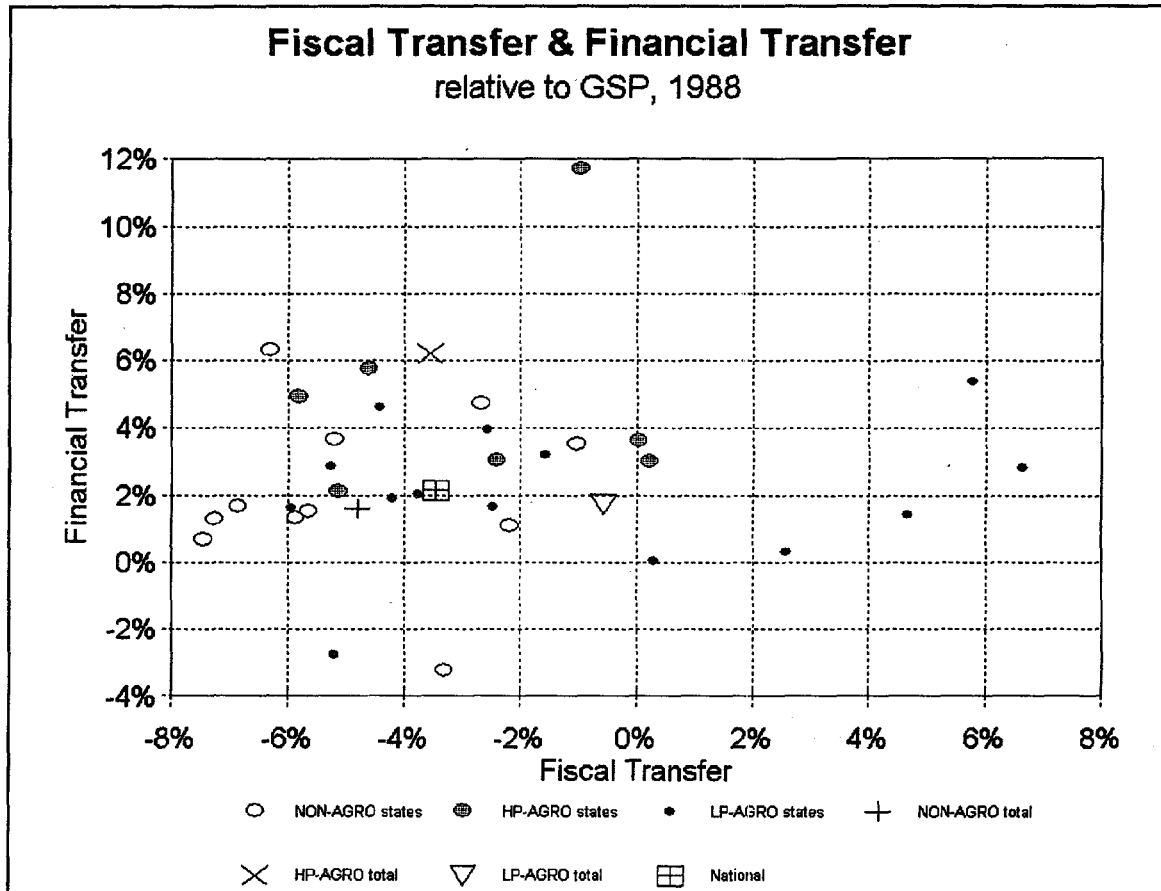
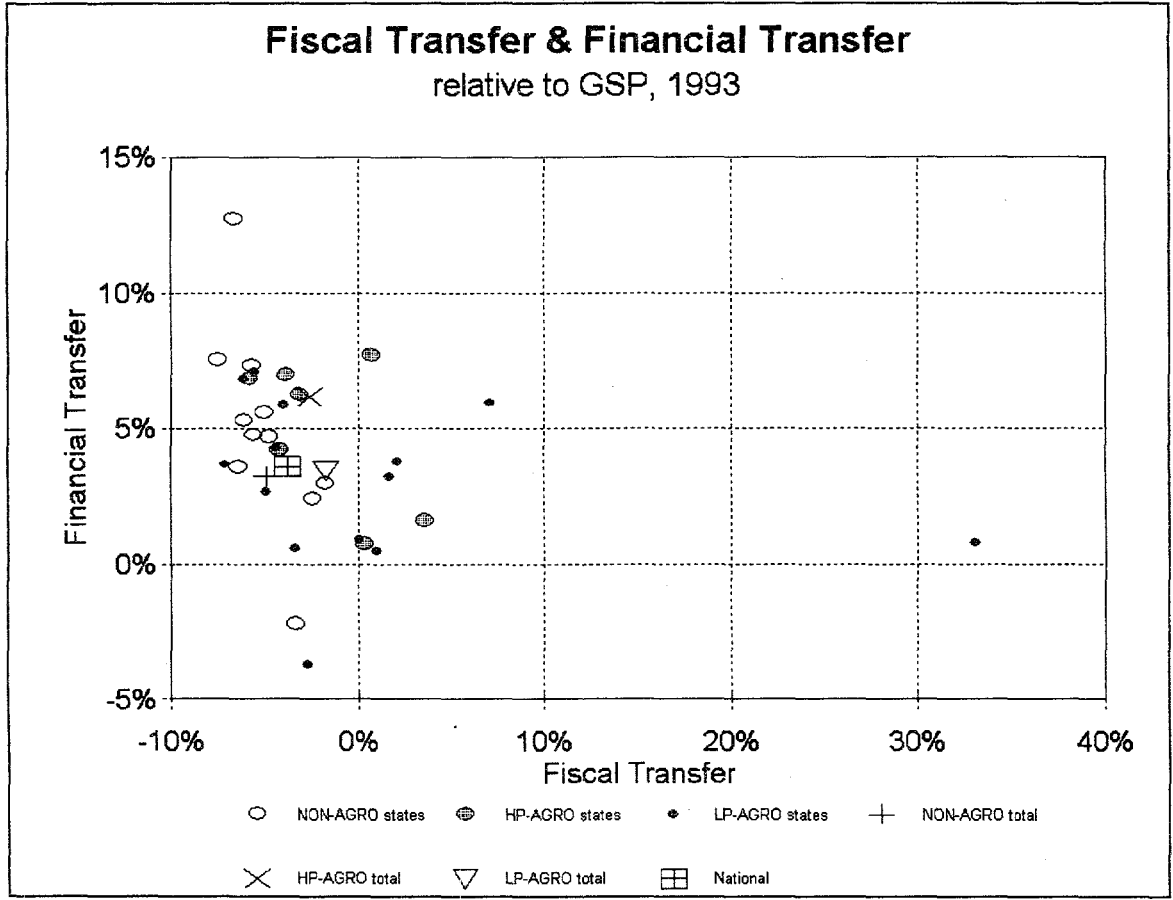


Figure 9



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