Centro de Estudios Económicos
www.colmex.mx
El Colegio de México, A.C.

Serie documentos de trabajo

DISTRIBUTIVE EFFECTS OF FINANCIAL POLICIES IN MEXICO

Adalberto García Rocha

DOCUMENTO DE TRABAJO

Núm. VIII - 1990

Distributive effects of financial policies in Mexico

by

Adalberto García Rocha*

Centro de Estudios Económicos
El Colegio de México

Conference on Mexico's search for a new development strategy

New Haven, April 6-8, 1989

* The author wishes to thank the valuable help of Miguel Szekely and Patrick Low.

Introduction

Mexico's progress in addressing distributive issues has been inadequate. The country ranks among the highest in the world in terms of inequality. Mexico's distributive deficiencies, which are not new, have been aggravated by the country's economic difficulties in the present decade. The explanation of the lack of distributive progress is to be found in the long sustained import substitution strategy that biased resource allocation through protectionism, favored capital intensive techniques, and followed a wage policy that restrained labor employment. After 1982, inflation and an unprecedented recession have put new distributive forces in operation that have had a strong impact. Among them, the income transfers channeled by the financial system have gained importance.

This paper examines the distributive effects of financial policies in Mexico in the present decade. Despite the importance of the problem, it is only very recently that it has begun to receive attention. Both the data and the theory are still insufficient to perform formal tests of hypotheses, so the present work explores these matters as a first step to a research agenda.

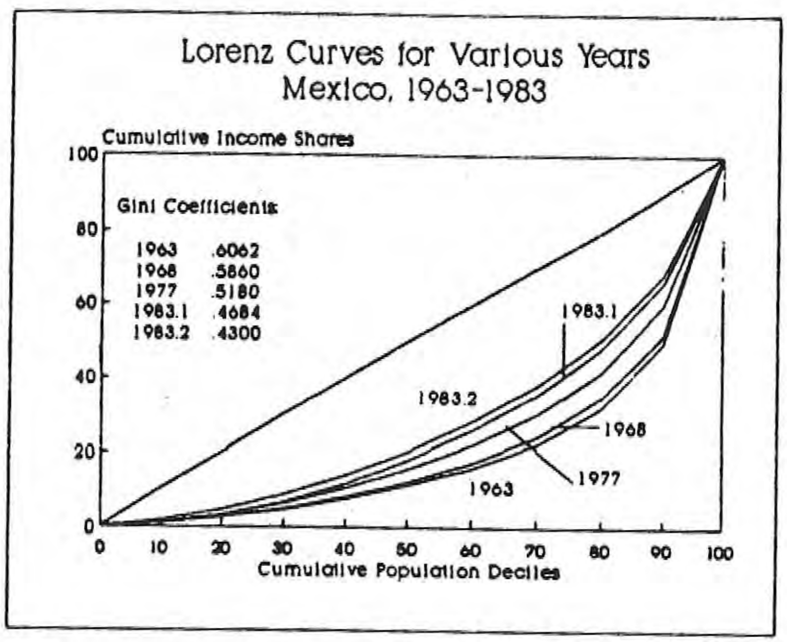
Statistical evidence and the results of previous studies are first examined to determine the order of magnitude of the redistributions of income that have occurred in Mexico during the present decade. First, a brief account is given of the distribution of income in Mexico from 1963 to 1983. This description is meant to establish a context to assess the relative importance of the various redistributive forces - financial and otherwise - in operation.

Next, the probable magnitudes and mechanisms of income redistribution concerning the inflationary tax, debt financing and the financial sector are examined.

Inequality in Mexico

Inequality levels in Mexico, which are among the highest in the world, appear to have declined steadily from 1963 to the beginning of the present decade (see Figure 1).

Figure 1



The import substitution growth policy brought very uneven progress. During that period the incomes of a large part of the population did not grow enough to eliminate widespread poverty. The proportion of the poor in the total population - the head count ratio - in Mexico has been estimated at 70% (in 1977). This estimate takes the average income of the seventh decile as the poverty line, that is, as the bare minimum to purchase the basic basket of goods. [1] Growth did raise the levels of income of the urban middle classes, but gave rise to large income differentials, especially between the rural and the urban areas. The declining trend in inequality was due essentially to a reduction of income disparities between the rich and the middle income groups. The lower income groups saw very little improvement in their shares of total income, as the income shares of the poorest 20% of the households indicate (see Table 1).

Table 1

Deciles	Mexico Income Shares of the Poorest 20%				
	1963	1968	1977	1983.1	1983.2
1	1.0	0.9	1.1	0.9	1.7
2	1.6	1.6	2.1	2.2	3.0
Sum	2.6	2.5	3.2	3.1	4.7

Although the import substitution strategy brought little distributive progress in Mexico, substantial achievements were made in areas such as education and health. The economic difficulties during the present decade have affected predominantly the living standards of the middle clases in the urban modern sector. The data from the most recent household survey (1983) shows a reduction of inequality in the second year of the crisis period. Even if such decline in inequality did in fact occur, it would correspond to a much lower income per capita (see Figure 2). Although there is no data on the distribution of income after 1983, it is very likely that the deterioration of urban incomes after that year has increased overall income disparities, in addition to the welfare loss that resulted

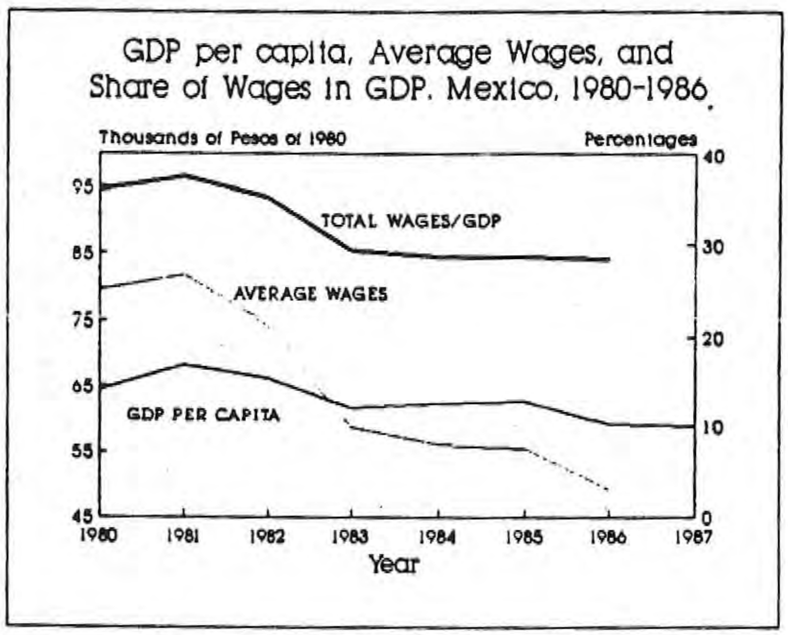
[1] See COPLAMAR, 1982

from the very large fall in income per capita. We will try to show that such is the case.

Real Wages and Factor Shares

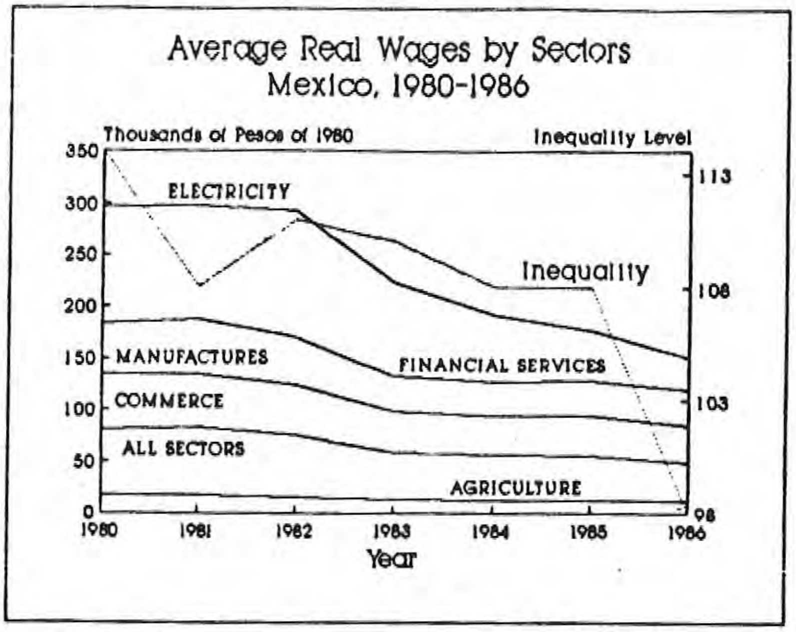
Since 1982, the fall in incomes, together with inflation and very stringent fiscal policies have caused a notable shift in factor shares. Factor shares are not a direct indicator of income disparities, at least not in Mexico, where a large proportion of low income groups obtain their incomes from informal activities. Under the new circumstances, however, the fall in real wages and the decline in the share of wages in GDP implied an unprecedented impoverishment of the middle classes.

Figure 2



Average wages have fallen faster than GDP per capita. The relatively better position of wage earners in the income distribution has been reversed. Between 1981 and 1986 an unprecedented fall in real annual wages of nearly 40% is observed (see Figure 3). The reduction of real wages occurred in all sectors of the economy and affected more those sectors where average annual wages were higher.

Figure 3

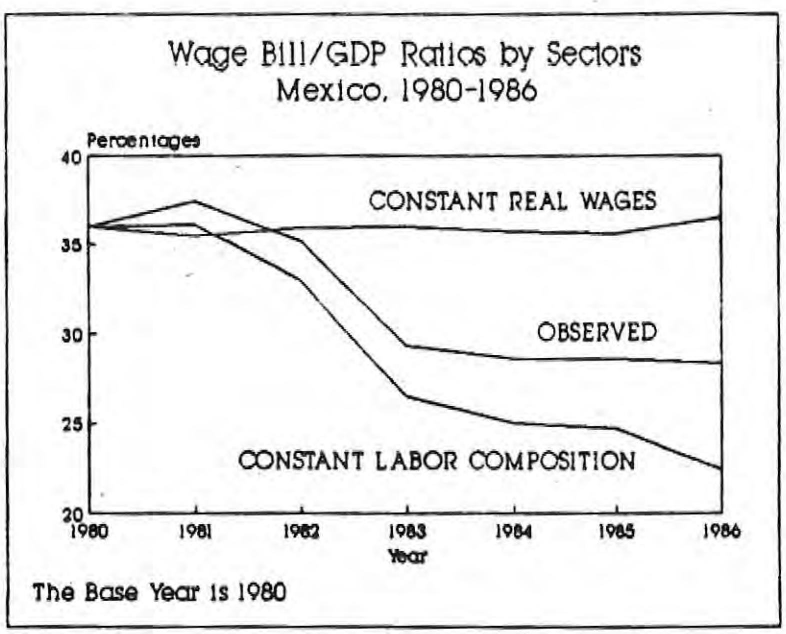


The fall of real wages probably reduced wage inequality. National accounts allow for the estimation of inequality of average sectoral wages (per year). The dotted line in Figure 3 shows that this component of total inequality decreased from 1982 to 1986. This is only one constituent of inequality that does not take into account the inequality between different job positions. The decline in the inequality of sectoral wages, however, suggests strongly that overall wage inequality declined, since wage bargaining tends to maintain the structure of relative wages by occupations within firms or industries.

The shares of wages measured by national accounts are much lower than those reported by household surveys. The higher wage/income shares in households surveys implies that wages are the major source of inequality by factor components. A decomposition of inequality by income sources measured with household survey data will show that over two thirds of total inequality is due to wage disparities. Thus, the reduction of wage inequality probably had a significant effect on overall inequality. This could explain the reduction of inequality between 1977 and 1983.

The composition of the labor force by sectors changed to lessen the decline in the share of wages in GDP. Most of this is due to the fall of wage rates. This can be seen by comparing the wage shares computed with the sectoral composition of labor in 1980 with the shares that would have been observed, had wages and the sectoral composition of labor remained constant (see Figure 4). The share of wages in value added would have been higher than that observed if wages had remained constant, and would have been lower if the sectoral composition of the labor force had remained fixed. A change in the sectoral composition of the labor force occurred to reduce the impact of falling wages on the wage share. The sectors with higher wages - higher productivity - managed to survive better.

Figure 4



Effects of Financial Policies

This section examines some distributive consequences of financial policies. Such effects are difficult to assess due to lack of information and adequate analytical tools. It is difficult to trace the impact of financial policies on the personal or household distribution of income. However, some speculation is possible on the order of magnitude of some of the effects and the income groups affected.

Financial and fiscal policies are closely linked. The distributive effects can be classified into a) the effects of contractionary policies on the income distribution, and b) the way the financial system transmits the effects of inflation and higher interest rates resulting from deficit financing. The figures shown in the previous section reflect partly the first of the above effects.

Budgetary restrictions. Both the reduction of public expenditure and the mechanisms to finance the public deficit since 1982 have had a large regressive impact on the income distribution. Total debt service has grown dramatically relative to GDP (see Figure 5 and Table 2), to 19.5% of GDP in 1987. The behavior of the debt service, especially its domestic component, dominates the time pattern of total government expenditures relative to GDP. The adjustment of federal expenditures has meant a reduction in the payroll and public investment.

The distributive effect of the reduction in public expenditures is likely to be very large, given that the rate of population growth in Mexico is still very high and public services are insufficient. The groups affected most are the urban middle income groups, who have been the main beneficiaries of public expenditures in education, health, food subsidies, low cost housing programs, and government wages.

Figure 5

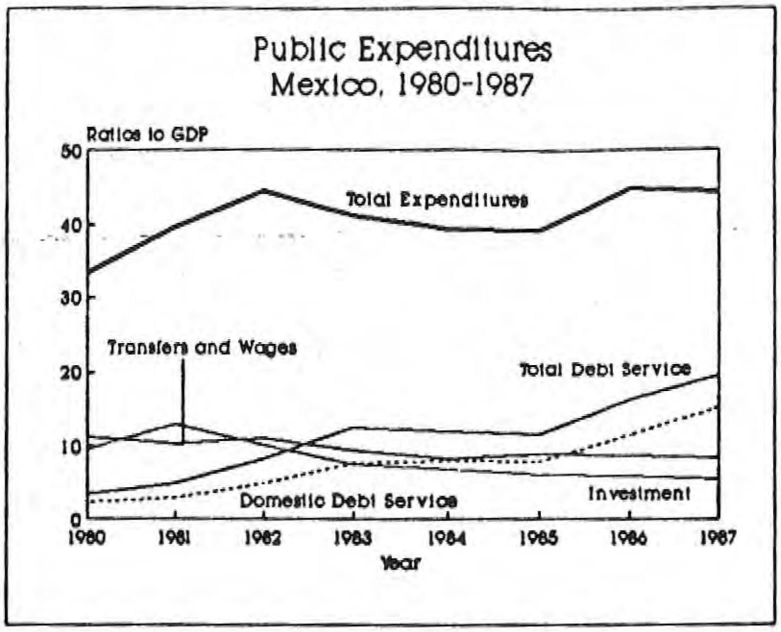


Table 2
Public Expenditures
Mexico, 1980-1987
Ratios to GDP

Item	1980	1981	1982	1983	1984	1985	1986	1987
Total Expenditures	33.5	39.7	44.5	41.0	39.3	39.2	44.8	44.4
Current	23.3	26.4	33.4	33.0	32.1	32.6	38.1	38.7
Debt Service	3.5	5.0	8.2	12.4	11.9	11.5	16.3	19.5
Domestic	2.4	2.9	4.9	7.7	8.0	7.8	11.5	15.2
External	1.1	2.1	3.3	4.6	3.9	3.7	NA	4.3
Net Transfers	4.1	2.9	2.9	2.8	1.8	2.2	2.6	2.0
Government Wages	7.0	7.3	8.0	6.7	6.5	6.6	6.1	6.3
Transfers and Wages	11.1	10.2	11.0	9.4	8.3	8.8	8.7	8.4
Capital Expenditures	9.6	12.9	10.2	7.5	6.7	6.0	5.9	5.5
Public Works	8.0	9.2	7.8	5.3	5.0	4.7	NA	4.2
Other	1.6	3.7	2.4	2.2	1.7	1.4	NA	1.2
Other	0.6	0.5	1.0	0.5	0.5	0.6	0.8	0.2
Total Revenues	26.9	26.7	28.9	32.9	32.2	31.2	3.0	30.2

Debt Financing and Inflation. Mexico's public deficits have had a regressive distributive effect whether they are financed by credit from the Central Bank or from the public.

The inflationary pressures that result from the financing of the federal deficit through the issuing of new currency gives rise to a transfer or resources from the private to the public sector. The size of this inflationary tax depends on the public's ability to reduce their cash holdings and on the inflation rate. The impact can be considerable when the inflation rate is 6 per cent per month or higher, as it was in Mexico in 1987.

The inflationary tax reached its highest level in 1982, almost 6% of GDP, corresponding to an inflation rate of nearly 99% per year (see Figure 6 and Table 3). After that year inflation declined and then increased to its highest level in 1987. The inflation tax declined in 1983 and then increased again in 1986 and 1987, but not by as much, indicating that a shift occured as the public reacted by reducing their non interest bearing holdings. This shift, of course, also reflects changes in fiscal policy and in the manner in which the deficit was financed.

In short, in 1986 and 1987 a lower level of the inflation tax corresponds with a higher inflation rate. The lower-most line in Figure 6 (the last column in Table 3), labeled Composition Effect, measures the change in the operational deficit due to changes in monetized vs. non-monetized debt financing. This effect fluctuates somewhat with inflation, and does not appear to be very large. However, the implicit base of the inflationary tax, also shown in Figure 5, reflects more clearly the reduction of cash holdings induced by inflation.

Figure 6

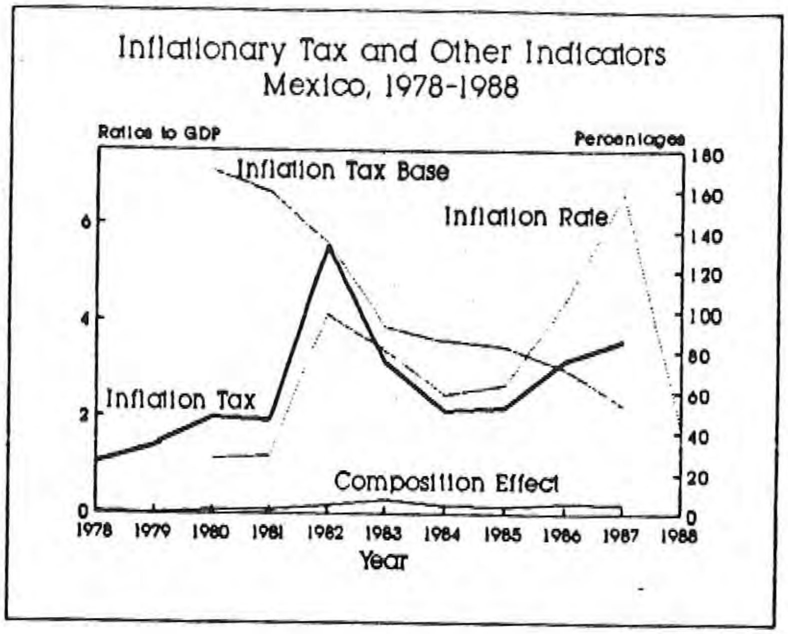


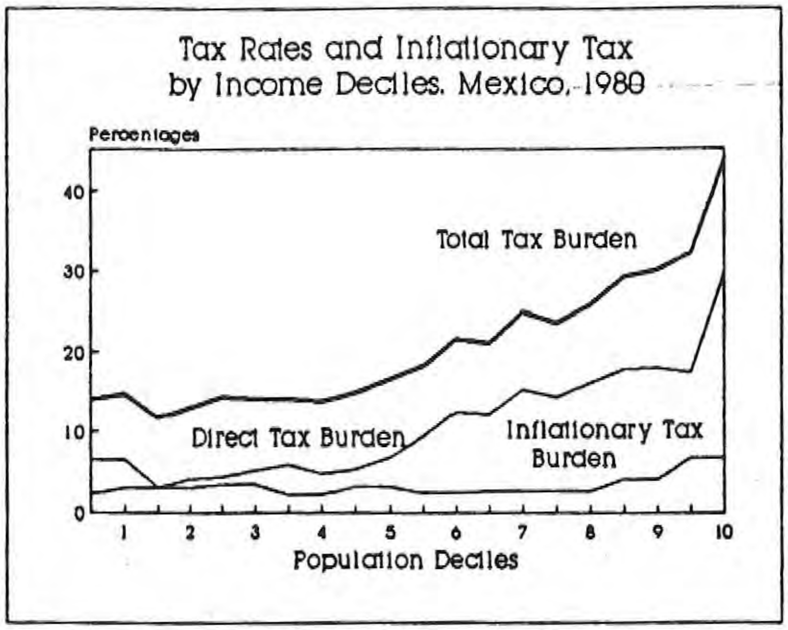
Table 3
Operational Deficit and Inflationary Tax
Mexico, 1978-1980
Proportions of GDP

Year	Operational Deficit	Inflation Rate *	Inflationary Tax	Composition Effect
1980	8.26	28.0	1.98	0.07
1981	11.59	28.7	1.91	0.07
1982	15.37	98.9	5.52	0.17
1983	5.67	80.8	3.12	0.28
1984	2.03	59.2	2.12	0.17
1985	2.73	63.7	2.20	0.14
1986	5.08	105.7	3.17	0.22
1987	3.38	159.2	3.56	0.20
1988		42.2		

* Rate of growth of Consumers Price Index
Source: Banco de México, Informe Anual, 1987.

It is not difficult to see why the inflationary tax is highly regressive. Reducing cash holdings is a possibility available to the wealthy, but hardly to low income groups. There is no information available on the impact of the inflationary tax by income groups in the recession period, but an estimate of such effect exists for 1980, which shows the inflationary tax has a regressive effect. The burden of the tax is higher for the lowest and highest income groups than for the middle groups (see Figure 7).

Figure 7



Other evidence also leads to expect that inflation and the financing of the deficit have had a strong regressive impact after 1982. The explanation is partly in the negative or very low savings of low income groups, in the very low access of these groups to interest bearing holdings in Mexico, and to the fact that interest rate disparities have increased considerably with inflation since 1982. The financial system gives big savers and short-run account holders a much higher yield than small savers and long-run account holders. Small savers actually received a negative real interest rate, as shown in Table 3 for 1986.

Table 4
Maximum Real Interest Rates for Various Instruments
Mexico, 1986

Instrument	Rate
Savings	-41.7
Interest Bearing Deposits	-41.1
Bank IOU's	3.3
Other	2.8
Treasury Bills (CETES)	11.9
Commercial paper	13.7
Oil bonds	16.0
Average savings rate	2.9
Average loans rate	13.7

Source: Reyes H. Table 4

The financing of the public deficit through the issuing of public debt (CETES)[1] and forced lending on the part of the banks is also likely to have a deteriorating effect on the income distribution. In this case the holders of claims have received high nominal and real interest rates more than sufficient to offset inflationary erosion and to obtain a high real return. The mechanism is highly regressive. First, if the economy has had practically zero growth during the present decade, the positive interest rate means essentially that a minority of high income groups received transfers from taxpayers and other sources of government revenues. Second, tax evasion practices are likely to be more frequent among high income brackets, so that the bulk of the fiscal burden falls on captive taxpayers, such as the wage earning population.

[1] The deficit is financed through the tendering of Treasury Bills (CETES). The Bank of Mexico purchases the documents not purchased by the public of the banks.

The order of magnitude of the above transfers is very high, since domestic debt service on the domestic debt is 15 per cent of GDP (see Table 2). The real interest paid on this debt, at a real annual interest rate of 11% would amount to an income transfer of 1.7% of GDP.

Conclusions

Distributive problems are not new in Mexico. The majority of the population did not receive significant benefits from past policies. It is this fact, and not particularly the crisis that made a change in the growth strategy unavoidable. The need for a change in policy, however, has been made urgent by the present crisis, that has caused considerable impoverishment of the wage earning labor force and their dependents. During the present decade income losses have fallen mainly on the groups that benefited from the import substitution policies. The income distribution is undergoing extensive changes in the direction of polarizing the distribution into rich and poor.

Both the inflationary tax and non-monetized mechanisms have triggered large regressive transfers. These effects add to those resulting from the decline of real wages and the increase in open unemployment. The imperfections of the financial and tax systems made most of the burden fall on low income groups and the middle classes.

Inflation, lack of economic growth, and adjustment policies have increased the number of the poor. Such impoverishment has created social tension among organized labor, political divisions, and a generalized increase in violence.

The social and distributive consequences of financial policies require more attention from research. The social costs of inflation, stagnation and adjustment policies have been enormous. The financial system plays a crucial role in determining how those costs are allocated among the social groups. It is surprising that Mexico's political system has managed to maintain social unrest within peaceful limits in the face of such a large decline in the standard of living.

The inflationary experience of Mexico and other Latin American countries, and the various adjustment programs put into effect, have put all the emphasis on the macroeconomic consistency of policy, but very little on which groups bear the costs of the adjustment. Many such costs could be more justly distributed if the financial system had a less imperfect response to deficit financing.

References:

Coordinación General del Plan Nacional de Zonas Deprimidas y Grupos Marginados (COPLAMAR), Necesidades Esenciales en México, Situación Actual y Perspectivas al año 2000, Presidencia de la República, México, 1982.

Gil Díaz, Francisco. "The Incidence of Taxes in Mexico, 1977" October 1981, unpublished.

Gil Díaz, F. y Fernández, A. "Reflexiones Sobre el Sistema Impositivo Mexicano: Consideraciones Económicas". October, 1987, unpublished.

Cervantes, Jesús "La inflación y la distribución del ingreso y la riqueza en México, in Bazdresch C., Reyes H., J. and Vera F., Gabriel, Distribución del Ingreso en México. Ensayos, Cuaderno 2, tomo II, Banco de México, 1982.

Kanbur, S. M. R. Poverty, Measurement, Alleviation and the Impact of Macroeconomic Adjustment", Discussion Paper #125, Woodrow Wilson School, Princeton N. J., november 1985.

Reyes Heroles, Jesús. "Las Políticas Financieras y la Distribución del Ingreso en México", (mimeo), forthcoming.

Reynolds, Clark and Corredor, Jaime "The Effect of the Financial System on the Distribution of Income and Wealth in Mexico", Food Research Institute Studies, XV,I, Stanford.

Trigueros, Ignacio. "El Problema de la Inflación y las Estrategias Antiinflacionarias: Algunas Reflexiones en Torno a la Experiencia Reciente de la Economía Mexicana". ITAM, Octubre, 1988.

SERIE DOCUMENTOS DE TRABAJO

Los siguientes documentos de trabajo de publicación reciente pueden ser solicitados a:

Rocío Contreras,
Centro de Documentación, Centro de Estudios Económicos, El Colegio de México A.C., Camino al Ajusco # 20 C.P. 01000 México, D.F.

85/I	Bhaduri, Amit. "The race in arms: its mathematical commonsense".
85/II	Garber, Peter M. and Vittorio U. Grilli. "The belmont Morgan syndicate as an optimal investment banking contract".
85/III	Ros, Jaime. "Trade, growth and the pattern of specialization".
85/IV	Nadal, Alejandro. "El sistema de precios de producción y la teoría clásica del mercado".
85/V	Alberro, José Luis. "Values and prices in joint production: discovering inner-productivities".
85/VI	Urquijo Hernández, Luis Alfredo de. "Las plácticas de ajuste en el sector externo: análisis de un modelo computable de equilibrio general para la economía mexicana".
85/VII	Castañeda Sabido, Alejandro I. "La proposición de inefectividad de la nueva macroeconomía clásica un estudio crítico".
85/VIII	Alba, Enrique de y Ricardo Samaniego, "Estimación de la demanda de gasolinas y diesel y el impacto de sus precios sobre los ingresos del sector público".

85/IX Alba, Enrique de y Yolanda Mendoza"Disaggregation and forecasting: A bayesian analysis"

86/I Blanco, Herminio. "The term structure of the futures exchange rates for a fixed exchange rate system: the mexican case".

86/II Ize, Alain and G. Ortíz."Fiscal rigidities, public debt and capital flight".

86/III Alberro, José. "La dinámica de los precios relativos en un ambiente inflacionario".

86/IV Bucay, Nisso ."Wage rigidity and the firm alternative approaches".

86/V Alberro, José y Jorge Cambiaso."Características del ajuste de la economía mexicana.

87/I Alberro, José, José Córdoba and Eytan Sheshinsky "On measures of dispersion of relative prices under inflation".

87/II Alberro, José, Herminio Blanco and Peter Garber "The effects of terminating the mexican two-tiered exchange rate system".

87/III Fernández, Oscar y Nora Lustig. "Estrategias de crecimiento, sustitución de importaciones y balanza de pagos en un modelo de crecimiento multisectorial".

87/IV Tornell, Aaron. "Insulating properties of dual exchange rates: a new-classical model".

87/V Villarreal, Roberto."El manejo de la deuda externa de México en la década 1978-1987"

87/VI Mercado, Alfonso. "Automatización asistida por computadora y desarrollo industrial en México. El uso de las máquinas-herramienta de control numérico computarizado".

87/VII García Alba, Pascual. "Un enfoque para medir la concentración industrial y su aplicación al caso de México".

87/VIII Villarreal, Robert I. "Investment and financing interactions at the firm's level: an econometric simultaneous equation approach".

87/IX Lustig, Nora. "México: size and impact of non transfer expenditures: 1920-1985".

87/X Lustig, Nora. "Del estructuralismo al neoestructuralismo: la búsqueda de un paradigma heterodoxo"

88/I Guerrero, Víctor M. "Obtención de pronósticos óptimos, sujetos a restricciones, con modelos arima".

88/II Lustig, Nora. "Stabilization and adjustment in post 1982,Mexico:are there signs of export-led growth?

88/III Yúnez, Antonio. "Theories of the exploited peasantry; a critical review".

88/IV Unger, Kurt y Luz C. Saldaña, "Las economías de escala y de alcance en las exportaciones mexicanas más dinámicas".

88/V García Rocha, Adalberto, Aurora Gómez y Miguel Szequely. "Estrutura de la desigualdad en México".

88/VI Hart, Michael. "Dispute settlement and the Canada- United States free trade agreement".

88/VII Pérez Motta, Eduardo, Evelyn Greenwell y Gabriela Quezada. "Participación de la mujer casada en el mercado laboral del área urbana en México: un análisis económico de su relación con la división sexual del trabajo dentro de la estructura familiar".

88/VIII Baillet, Alvaro. "An analysis of direct taxation on mexican taxpayers: a microsimulations approach"

88/IX Baillet, Alvaro y Arlette Cisneros. "La inversión extranjera directa en el sector de servicios en México".

88/X Baillet, Alvaro. "La evolución de los ingresos del sector público".

88/XI	Kehoe, Timothy. "A general equilibrium analysis of the indirect tax reform in Spain".
88/XII	Férnadez, Oscar and Nora Lustig. "Optimal allocation of investment and the role of import substitution".
88/XIII	Fernández, Oscar. "Valores y precios en producción análisis de comportamientos destructivos ocultos".
89/I	Unger, Kurt and Luz Saldaña. "MNC, global strategies and technical change: implications for industrializing countries"
89/II	Cuddington, John and Carlos Urzúa. "Primary commodity prices: a time-series analysis of trends and cycles".
89/III	Urzúa, Carlos M. "Tests for multivariate normality of observations and residuals".
89/IV	Crane, Randall. "Tax-price specification and the demand for local public goods".
89/V	Crane, Randall. "A note on hedonic prices in cost/ benefit analysis".
90/I	Ize, Alain. "Trade liberalization, stabilization, and growth: some notes on the mexican experience".
90/II	Sandoval Musi, Alfredo "Construction of new monetary aggregates: the case of Mexico".
90/III	Fernández, Oscar. " Algunas notas sobre los modelos de Kalecki del ciclo económico".
90/IV	Sobarzo, Horacio E. "A consolidated social accounting matrix for input-output analysis".
90/V	Urzúa, Carlos M. "El déficit del sector público y la política fiscal en México, 1980 - 1989".
90/VI	Romero, José. "Desarrollos recientes en la teoría económica de la unión aduanera".
90/VII	García Rocha, Adalberto. "Note on mexican economic development and income distribution".

90/VIII García Rocha, Adalberto. "Distributive effects of financial policies in Mexico".