

The Social Failure of the Mexican Revolution: Redistributive Constraints under High Inequality

John Scott
CIDE

PRELIMINARY DRAFT: April 2009

Abstract

Why has inequality in Mexico persisted at historically and comparatively unprecedented levels over the 20th century, despite the construction and consolidation of a strong redistributive post-Revolutionary State? This paper presents an evaluation of the redistributive impact of the Mexican Revolution based on a historical analysis of the evolution and incidence of the principal redistributive instruments implemented in Mexico over the 20th Century (including agrarian reform and agricultural subsidies, the social security, health, and education systems, anti-poverty programs, and generalized consumer subsidies). The chronically truncated and regressive incidence of these instruments, until the end of the century, and their failure to reduce inequality in income as well as education and health achievements over the century, is interpreted as evidence of a failed redistributive State. More generally, the paper identifies endogenous constraints to the redistributive capacities of the State under conditions of high inequality accounting for the truncated Welfare States typical of the region. These include two types of redistributive constraints under conditions of high inequality: the capture of redistributive instruments by organized groups, notably public sector unions and private sector producer groups, but also the endogenous exclusion of large parts of the population from traditional instruments (progressive taxation; contributive social security; “universal” health and education services; generalized consumer subsidies) when applied in these distributive conditions.

“Why has 20th century Latin American inequality history been so unique, while everything else about their inequality history from 1491 to the 1920s was so ordinary?”

Williamson (2009)¹

1. Introduction

An important recent literature traces the comparatively modest and unequal growth rates of Latin America (LA) over the last three centuries to the Colonial institutional legacy perpetuating extreme income and asset inequalities in the region (Engerman and Sokoloff 1997; Acemoglu et al. 2001), with somewhat different hypothesis about the origins of these institutions. The empirical basis for this view has recently been questioned as new evidence on the long-term evolution of income inequality in the region is emerging (Prados de la Escosura 2007, Coatsworth 2008, Williamson 2009). Though this evidence must be interpreted with some care, it suggests that it is mostly over the last century, rather than the previous four, that LA inequality diverged dramatically from much of the rest of the world (see below, graph 1). As Williamson’s concluding question implies (quoted above), this should shift the focus of attention from the Colonial legacy to the construction of the modern LA States: What explains the exceptional *persistence* of inequality over in the 20th century?

This persistence is surprising both in time and space. It is exceptional in relation to the rest of the world, and perplexing given the dramatic transformation of the societies in the region over this century in all other aspects, economic, technological, demographic, epidemiological, educational and institutional.

The persistence of high inequality in LA in the last century must be contrasted in particular with three groups of countries which have achieved high growth with modest inequality over the same period: the mature, fiscally massive and highly institutionalized OECD Welfare States, and the more recent equitable development paths of emerging Asian and transitional Eastern European countries. In all three cases, equitable growth has been sustained by a broad distribution of productive assets, especially human capital and (in the emerging economies) land. The modern Welfare States have added a sizable and similarly broad-based tax-transfer system, accounting for further reductions in disposable income inequality estimated in the order of 20-50%.²

At the other end of the world inequality ranking, most LA countries present a mirror image to these qualities, burdened by both high historic levels of asset and market income inequality, and historically limited fiscal and institutional redistributive capabilities. While the equitable development models of the 20th century have been studied in some detail (see for example Lindert 2004 on the emergence of the modern Welfare States, and Drèze and Sen 1989 on equitable, “support-led” emerging economies), the converse causes of comparative redistributive failure in 20th century LA are less well understood (BID 1998, WB 2006...).

¹ “History without Evidence: Latin American Inequality since 1491”, Jeffrey G. Williamson. NBER Working Paper 14766, February 2009.

² Ervik (1998), Smeeding and Ross (1999) and other studies using the *Luxembourg Income Study* data series. These reductions are measured in purely accounting terms: *pre-transfer* Gini - *post-transfer* Gini.

This paper suggests a general answer to the above question, documented through a detailed analysis of the history of redistribution in post-Revolutionary Mexico. The case-study is of particular interest because the redistributive ideals and agenda of the Mexican Revolution and 1917 Constitution, and the ambitious redistributive institutions created in its aftermath—agrarian reform, social security and national health and education systems—functioned as central pillars in the construction and legitimization of the modern Mexican State in the 20th century. The post-Revolutionary corporatist regime owes its uniquely stable and peaceful survival for the rest of the century in part to these instruments, which have in turn survived the democratic transition largely unreformed, as its principal legacy and constraint on Mexico's future economic and social development. The gap between official redistributive rhetoric and expectations in the history of modern Mexico, and the actual redistributive outcomes achieved by the end of this history, present a stark contrast to the noted redistributive success-stories. This is a case of State-led redistributive failure.

Surprisingly, given the central place of the redistributive agenda in the construction of the post-Revolutionary State and official history, there is scarcely any quantitative historical literature of any depth and rigor on the redistributive impact of the Mexican Revolution and ensuing redistributive institutions (for example Wilkie (1967) limits his analysis to the broadest possible functional allocation of federal spending). Similarly, the comparative stories of Engerman-Sokoloff and Acemoglu-Robinson are limited to basic indicators readily available in long-term comparative historic series (enfranchisement, literacy rates, land size).

This paper presents detailed evidence on the evolution and incidence of the principal redistributive instruments implemented in post-Revolutionary Mexico, as a contribution to the evaluation of the redistributive impact of the Mexican Revolution, with the hindsight of its first centenary. Secondly, the paper derives a more general analysis of *failed redistributive States* (or truncated Welfare States), in the region and elsewhere, identifying endogenous constraints to redistribution under conditions of high (original) inequality, or inequality traps. These constraints include the traditional *capture* of redistributive instruments by organized groups, notably in the case of Mexico public sector unions and private sector producer groups, but also the *exclusion* of large parts of the population through structural, non-political constraints on the design and implementation of these instruments under conditions of high inequality. In other words, some of the instruments which work reasonably well under less extreme distributive conditions, and have commonly been imported from more fortunate distributive contexts—progressive taxation, “universal” public provision of education and health services, Bismarckian contributive social security, generalized consumer subsidies on basic goods and services—tend to generate truncated Welfare States under typical LA distributive conditions. Understanding this second cause of redistributive failures is important to generate relevant innovative instruments for such conditions. An important but solitary example of a successful adaptation of social policy is the recent introduction of targeted *conditional cash transfers* (CCT) in Mexico (*Progres-a-Oportunidades*) and other countries in the region.

The rest of the article is structured as follows. Section 2 reviews the evidence available on the evolution of inequality in the 20th century, in income as well as

human (education) and physical (land) assets. Section 3 presents an incidence analysis of the principal redistributive instruments implemented in Mexico in the last century and up to the present. Finally, section 4 presents a general interpretation of the failed (truncated) redistributive State under conditions of high inequality, as documented by the case of Mexico.

2. One Hundred Years of Solitude: The Persistence of High Inequality in the 20th Century

Considering only income inequality data drawn from nationally representative household surveys, available for Mexico since 1950, reveals a history of consistently high inequality over the second half of the 20th Century to the present, within a +/- 10% band of a 0.50 Gini coefficient, declining significantly from the mid-sixties to the mid-eighties, growing back in 1984-1994, and declining again since then (graph 1). It is natural to assume that inequality levels must have been similar or higher in the earlier historical, given that this post-Revolutionary period coincides with ambitious redistributive efforts through agrarian reform and the construction and expansion of the public education, social security and health systems (section 3).

Other data sources have recently become available to estimate income inequality in the very long-term (graphs 1-3). These include social tables (Milanovic, Lindert and Williamson 2008), regressions based on macro-level determinants of inequality, including factor quantities and prices, population densities, urbanization, etc (Prados de la Escosura 2007, Williamson 2009), and anthropometric data (Steckel et al. 2002; Boix and Rosenbluth 2004; López-Alonso 2006).

While this long-term evidence and estimates must be interpreted with some care, it does suggest that for most of the previous centuries inequality levels in Mexico and Nueva España may actually have been significantly lower than the levels measured over the last Century to the present. The data also reveals that before this century the levels and evolution of inequality in Mexico/NE was not too different from what has been estimated for other parts of the world, including today's industrialized countries.³ What can be affirmed with some confidence (given the quality of the more recent data), and is more relevant for the purposes of the present paper, is that the present inequality gap with respect to the older Welfare States was accumulated over the course of the 20th Century, as inequality declined in the latter but persisted at its highest historic levels in Mexico.

The long-term anthropometric evidence is particularly disturbing as it suggests not only increasing inequality up to the 20th Century, but declining absolute living standards for the poorest groups, as represented by rural soldiers and indigenous population (graph 3).

³ We illustrate this with UK data because these are available for the whole period of analysis, but the declining inequality trend in the post-War decades, has been documented for the principal OECD countries (Lindert (2000); Atkinson and Piketty 2006).

The evolution of absolute extreme poverty⁴ over the second part of the century (graph 4)⁵ indicates a sharp fall in the 1950's and 60's, followed by three "lost" decades (with the absolute number of poor increasing from 11 to 23 million), and finally a rapid decline in 2000-2006. Underlying this uneven historic progress, extreme regional inequalities persist between the rural south and the urban centers and northern regions of the country: extreme poverty in rural areas of the poorest states (Chiapas, Guerrero) today is comparable to the national poverty rates half a century ago.

The persistence of high inequality in the 20th century is remarkable because it coincides with the most dramatic economic, social and institutional transformation in the history of Mexico (graphs 5 and 6), including the creation of the post-Revolutionary State and its redistributive instruments (section 3). Over this century, Mexico evolved from a population of 13.6 million, 70% rural, 80% illiterate, with an infant mortality rate of 250 per thousand and (mostly for this reason) a life expectancy at birth of barely 30 years—similar to prehispanic-era estimates—to a society of 100 million, 75% urban, 90% literate, with an IMR of 20 per thousand, and a 75 year average life expectancy. Over the second half of the century, average schooling of the adult population increased from 2 to 8 years.

Historically unprecedented levels of progress in human development have been achieved the world over in the last two centuries, and are associated with a virtuous cycle of economic growth, technological change, institutional change, and public policy. Today's emerging economies entered this cycle later but more rapidly than the advanced industrialized countries. To evaluate the role of public policy in these achievements it is useful to consider the rates of social progress achieved in relation to the level of economic development, as well as the distribution of the social achievements among the population.

In the case of Mexico, such an analysis reveals that the dramatic advances in human development over the last century have not been equally shared. Comparable historic and international data on education and (especially) health inequalities is scarce, but the evidence available suggests that over the past century Mexico has suffered from exceptionally high levels of inequality not only in income and wealth, but also in the latter dimension (Scott 2006). As in the case of regional poverty, we find that by the end of the century even basic educational and health achievements by the poorest population groups in Mexico were comparable to the levels achieved by the nation half a century earlier.

⁴ "Extreme poverty" in this paper refers to the lowest of three poverty lines currently used in Mexico as official poverty measures, referred to as "food poverty". This is calculated as the cost of a basic food basket, which for 2006 was valued at 1.8 pesos per person per month in rural areas, and 2.5 pesos in urban areas.

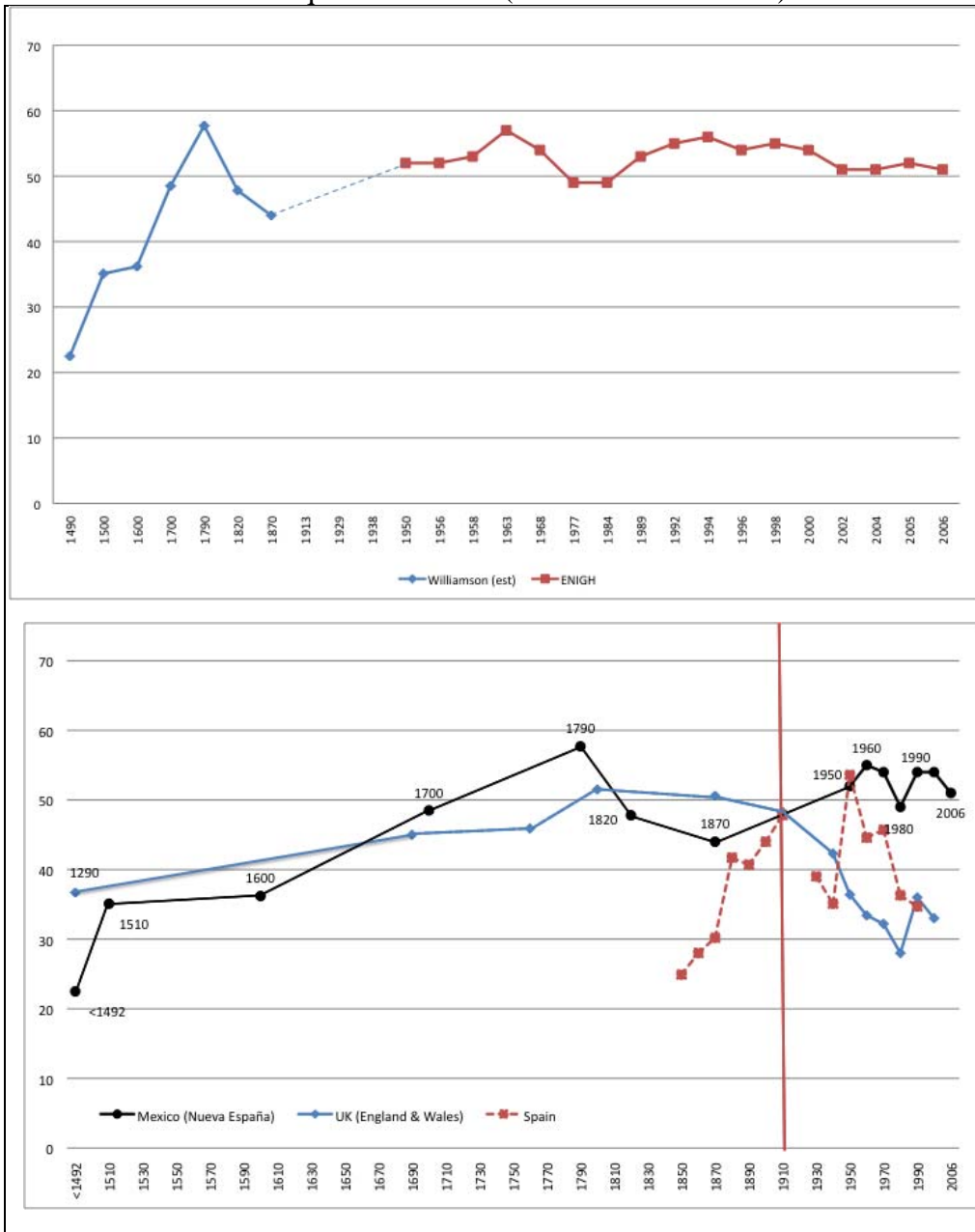
⁵ Comparability is even more challenging in the case of poverty measurements, as there are significant gaps in the measurement of the absolute level of aggregate income/expenditure in ENIGH in comparison to the closest equivalent concepts in the National Accounts, and these vary between surveys. Despite a well-established tradition of adjusting survey income data with the NA in poverty measurements in Mexico (as in other countries), these adjustments inevitably impute income on the poor originating partly in underreporting at the top of the income distribution. The official measures, reported here, therefore do not apply such adjustments (Leyva-Parra 2005).

In the case of education, graph 7 reports data from Coatsworth and Tortella (2003) comparing the dates and per capita income levels at which narrow (30%) and wide (70%) literacy coverage rates were achieved in different countries. The five countries reported achieved the narrow coverage at a similar income level, though with a full century separating the most (USA and UK) and least advanced cases (Russia/USSR and Mexico). However, Mexico only achieved the wider rate late into the 20th century and with twice the income level of the US, in sharp contrast to the case of the other early Revolution of the 20th century. As Coatsworth and Tortella note, the Mexican Revolution failed to accelerate the modest rate of progress in educational coverage inherited from the 19th century (...).

By the end of the 20th century, Mexico has one of the largest schooling gaps between rich and poor within the LA region (graph 8). Average schooling of the poorest 10% of the adult population in 2000 was similar to the national average in 1950 (2 years). It is only at the very end of the past century that relative educational inequalities (adult schooling concentration coefficients) started to decline (graph 9), though the absolute schooling gap between the poorest and richest income decile is still increasing (reflecting the rapid increase in average schooling achieved over the two decades, from 4.9 to 8.3 years), and presently is close to 10 years.

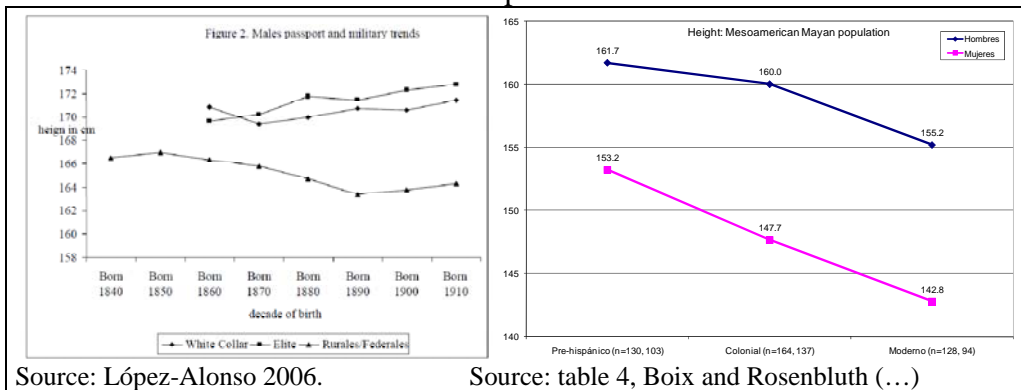
In terms of health, Mexico's infant mortality rate (IMR) at the end of the century was around 20 per thousand live birth, but municipal IMRs vary widely, from 3-8 to 30-80 for the richest and poorest municipalities (graph 10), a distance comparable to the gaps observed between the richest and poorest countries in the world today. The IMR in the poorest municipalities in 2005 is comparable to the IMR achieved nationally in the 1950s.

Graph 1
 Evolution of inequality in Mexico and other countries:
 Pre-conquest to Present (Gini coefficient x100)

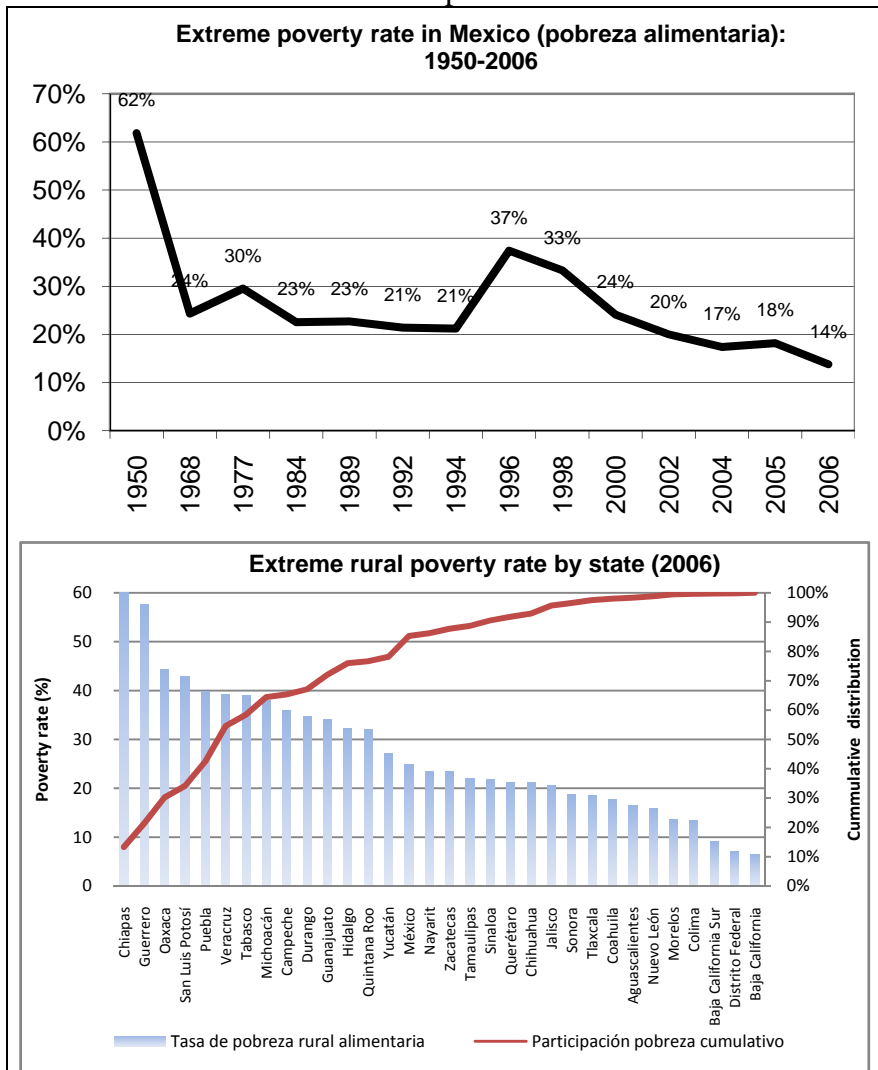


Source of data: UK: Lindert (2000); Mexico/NE: Williamson (2009): 1492-1870; Székely (2006), Esquivel (2008): 1950-2006

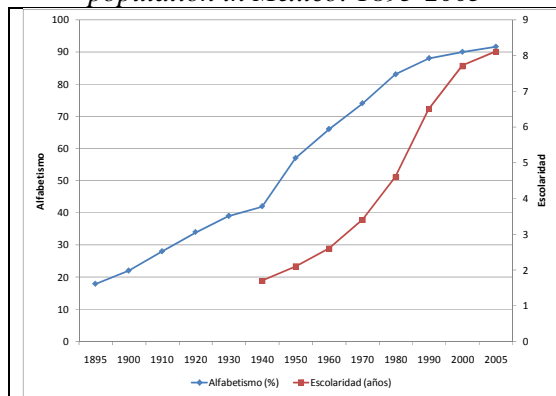
Graph 3
Evolution of inequality in
Mexico: Anthropometric evidence



Graph 4

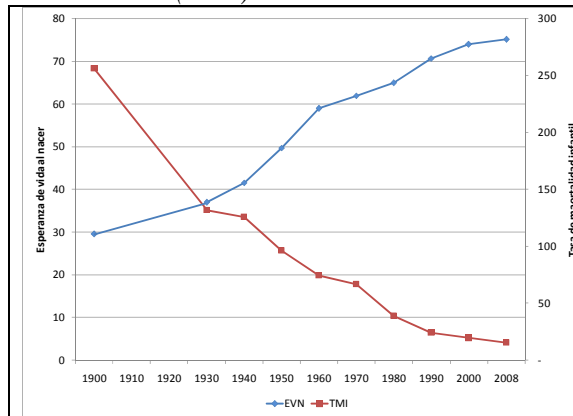


*Graph 5
Literacy and schooling in the adult population in Mexico: 1895-2005*



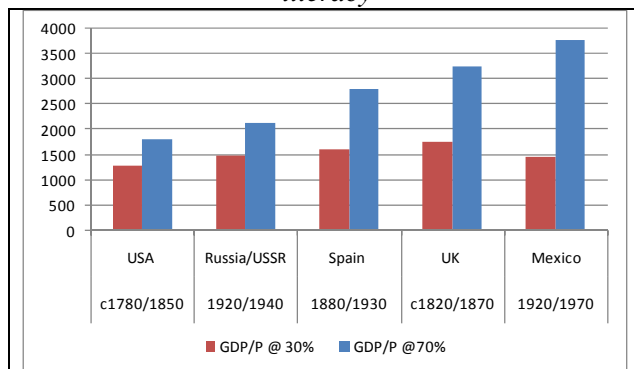
INEGI, *Estadísticas Históricas de México*; Informes de Gobierno, diversos años.

*Graph 6
Infant mortality rate (TMI) and life expectancy at birth (EVN) in Mexico: 1900-2008*



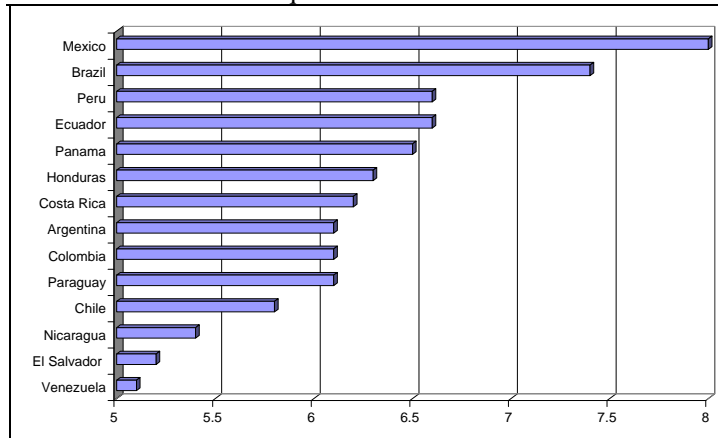
INEGI, *Estadísticas Históricas de México*; Informes de Gobierno, diversos años.

*Graph 7
Date and income level (per capita, PPP 1990) at which countries have achieved 30% and 70% literacy*



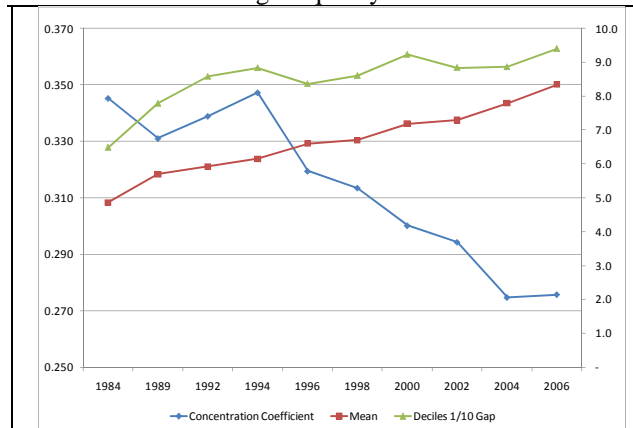
Source: Coatsworth and Tortella Casares (2003)

Graph 8
 Schooling gap between the poorest and richest population
 quintile: 1990's



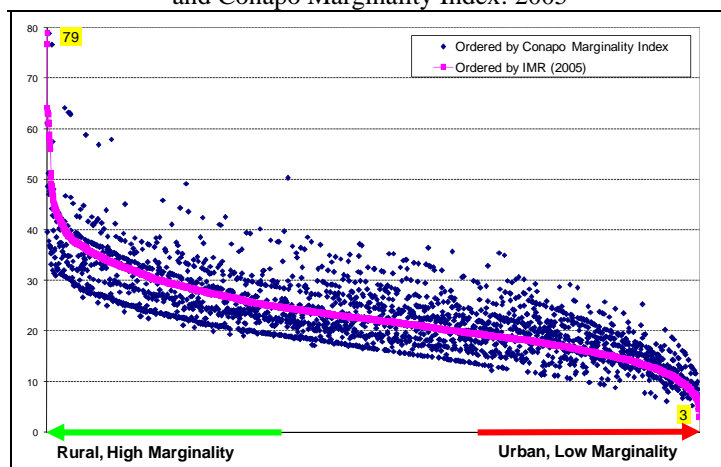
Source: World Bank, 2003.

Graph 9
 Evolution of schooling inequality in Mexico: 1984-2006



Source: Authors calculations using ENIGH 1984, 1994, 2006, INEGI.

Graph 10
 Infant Mortality Rates (IMR) by Municipalities ordered by IMR
 and Conapo Marginality Index: 2005



Source: CONAPO.

3. Post-Revolutionary Redistributive Instruments

The post-revolutionary history of redistribution in Mexico may be divided into three parts. The first was the agrarian reform following the Mexican Revolution but prolonged until the early 1990's, and complemented through substantial agricultural support policies and subsidies from Cardenas to the present. The second was the construction and massive expansion of the public education, social security and health systems over the second half of the 20th century, with a significant growth in public social spending. Finally, it is possible to identify a third stage in the last two decades, coinciding with the democratic transition process, characterized by a series of efforts to reform the traditional redistributive instruments established in the first two stages, including the formal ending of the agrarian reform, the reform of the *Ejido* land property-rights system (Art. 27), the 1997 IMSS reform of social security (extended recently to the public sector system), the creation of innovative anti-poverty programs (Pronasol, Progres-a-Oportunidades), and a general reallocation of basic social services and food subsidies to the rural poor, reversing a long tradition of urban bias in such spending.

3.1. Agrarian Reform and Subsidies

Over the long history of Mexico's Agrarian Reform, more than 100 million hectares – half of the country's present agricultural land – were distributed to 3.8 million producers, in the unique “social” *Ejido* property system. The effect on the distribution of agricultural land was indeed revolutionary (graph 11), and represents perhaps the most tangible evidence available of the redistributive impact of the Mexican Revolution. In 1905, when some 70% of the working population was engaged in agriculture, 0.2% of them owned 87% of the land (8,431 *hacendados*), while 91% were landless (3.2 million *peones*). By the end of the century Mexico had the lowest land concentration coefficient in the LAC region (0.6), comparable to the land concentration coefficients reported for East and Southeast Asia (Deininger and Olinto 2002). Most of this redistributive gain had been achieved by 1940, but were sustained through half a century of continued land redistribution in a context of rapid rural population growth.

There are, however, three important factors qualifying the redistributive achievement of the Agrarian Reform which a full evaluation of its redistributive impact would have to weight in: a) the quality of the land, b) agricultural productivity and factor market distortions, and c) agricultural subsidies. First, the distribution of the land is far more unequal when adjusted for its quality and productive capacity. Graph 11 includes a concentration curve of quality-adjusted land, based on the potential value of its production, taking into account whether it is irrigated or rain fed, type of crop, and average productivity and prices at the State level (see Scott 2009 for further details). By this (rough) estimate of value, the current concentration of land in the top producer decile (ordered by land size) increases from around 45% to 75%.

Secondly, the atomization of the agricultural land and the (intentional) destruction of land markets through the *Ejido* system, in combination with the low quality of much of the redistributed land, implied a significant restriction on the productivity of agriculture in Mexico, which could in principle have created newly endowed

minifundistas which were worse off than the landless *peones* before the Revolution. I know of no study which has tested this hypothesis. What we do know is that by the end of the 20th century independent farming generated barely 10% of the income of rural households (Scott 2008, 2009).

Finally, the Agrarian Reform was accompanied since Cardenas by two principal forms of agricultural support: input subsidies (mostly irrigation, fertilizers, stockholding) and market price support. Up to the mid-1990s an expensive combination of market price support and general consumption subsidies aimed to support producers through a price floor on basic crops (especially corn and beans), while protecting the purchasing power of urban consumers through subsidies, especially on *tortillas*. The principal instrument for this policy was the *Compañía Nacional de Subsistencias Populares* (CONASUPO), operating between 1965 and 1999, and absorbing on average, over a quarter of a century, half a percentage point of GDP annually.

In contrast to the land redistribution, however, the latter policies were highly inequitable (as well as distorting), failing to reach in particular the millions of subsistence farmers and small-holders created by the reform. The input subsidies benefited mainly the larger, commercial farmers, while the net incidence of CONASUPO subsidies favored mostly urban consumers in the 1970's and 80's. The big losers were the poorest of the poor, subsistence farmers and landless rural workers: as net buyers of corn they were taxed by the pricing policies, while consumption subsidies mostly failed to reach rural areas.

It is only towards the end of the 20th century, ninety years after the Mexican Revolution, that post-revolutionary governments actually succeeded in reaching their putative target population with direct income support. This was achieved in the context of a broad, market-orientated reform effort to modernize the agricultural sector in the early and middle nineties, which has justly been described as Mexico's "Second Agrarian Reform" (Gordillo et al. 1999). This included, along with the formal end of the Agrarian Reform, the constitutional reform of the *Ejido* land tenure system (1992) designed to liberate agricultural land markets, and the opening up of agricultural commodity markets under the *North American Free Trade Agreement* (NAFTA) introduced in 1994, with a long transitional period in the case of agricultural products, culminating with the full liberation of maize, beans, sugar and milk powder in 2008. These market reforms were accompanied by a number of innovative program reforms, introducing more efficient as well as equitable instruments. Farmers were compensated for the reduction of market price support through three principal programs: a) the *Programa de Apoyos a la Comercialización*, an output-based subsidy program introduced in 1991, functioning as a deficiency payment program, *Ingreso Objetivo*, since 2003, b) the *Programa de Apoyos Directos al Campo* (*PROCAMPO*), a per hectare direct transfer program decoupled from production and commercialization, introduced in 1994, and c) *Alianza para el Campo*, an investment support program (or family of programs) offering matching grants and support services, introduced in 1996.

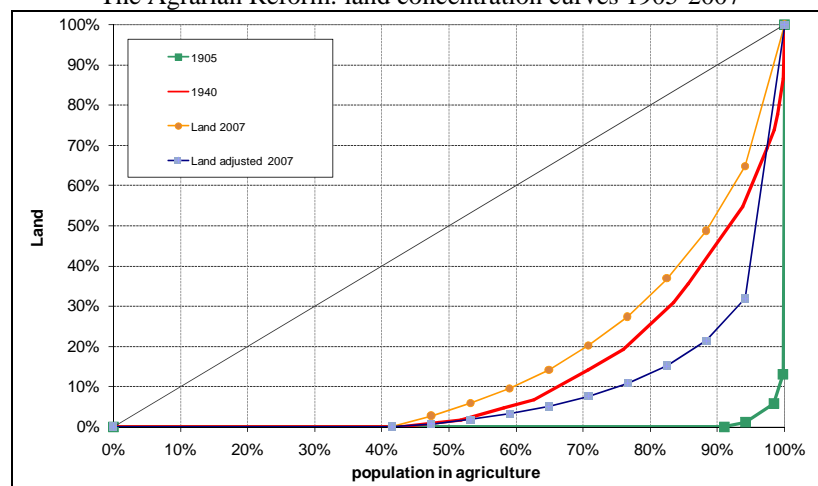
The expectation was that these programs would not only play a compensatory role in the face of growing external competition but, in the case of *Procampo* and *Alianza*, would also provide the necessary support for farmers to modernize production and

switch to higher value crops in the newly liberalized land and product markets. In the context of Mexico's earlier (and current) agricultural support policies, the decoupled design of *Procampo* made this program highly innovative in terms of efficiency as well as equity. By delinking transfers from production/commercialization, the program was not only expected to minimize distortions in productive decisions, but also to transfer income to subsistence farmers.

Despite this belated achievement, however, with the exception of *Procampo*, agricultural subsidies are still among the most regressive redistributive instruments implemented in Mexico. The concentration curve for quality-adjusted land can reasonably be interpreted as an *upper bound* for the concentration curves of *non-targeted, input- or output-linked support programs*. A large part of the rural population (at least the poorest 50%) is excluded from such programs simply because they are landless or have plots which are too small to be reached by such programs (except for a decoupled program like *Procampo*), and in the upper half of the land distribution there are probably strong economies of scale in the capacity to attract agricultural support resources (unless some explicit targeting is applied, as in the case of *Alianza's Programa de Desarrollo Rural*). Combined with the evidence we have from administrative data on beneficiaries, we can conclude that the richest decile of producers (ordered by quality-adjusted land) receive approximately (graph 12):

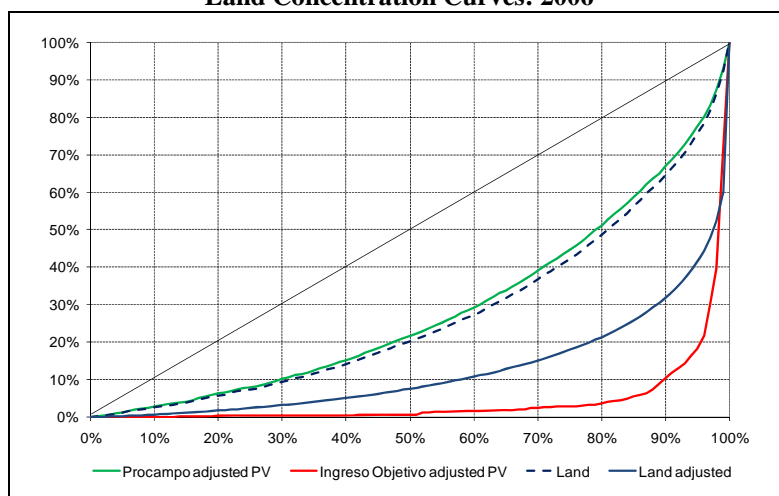
- a) 33% of *Procampo*,
- b) 90% of *Ingreso Objetivo*,
- c) 75% of most other agricultural subsidies.

Graph 11
The Agrarian Reform: land concentration curves 1905-2007



Sources: author's calculations based on tabular results from the 1905, 1940, and 1991 Agricultural Censuses and PROCAMPO's Beneficiary Register (the latter as reported in Székely 2003, table 5).

Graph 12
Procampo, Ingreso Objetivo, Alianza (Desarrollo Rural), and
Land Concentration Curves: 2006



Source: Scott (2008a), using the ASERCA beneficiary database, FAO (2005) and World Bank (2006).

3.2. Social Spending

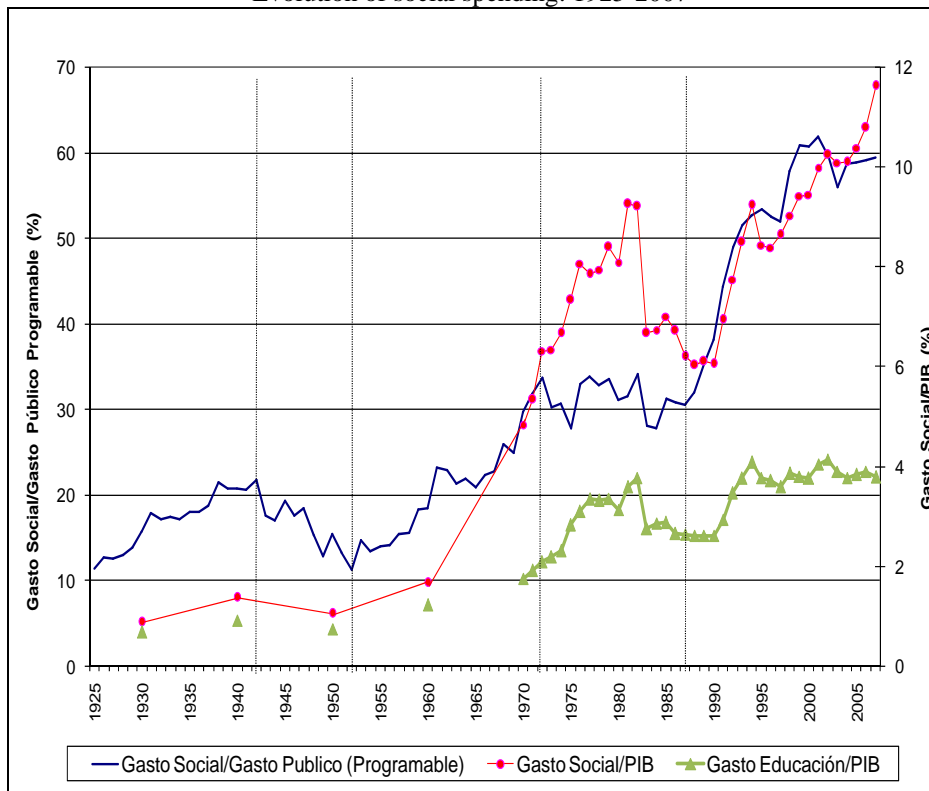
In the first half of the 20th century social spending barely surpassed 1% of GDP, mostly allocated to education. Between the 1940's and 1982 social spending grew from 2% to 9% of GDP, reflecting the creation and expansion of the public health and social security systems in the 40s and 50s,⁶ and the massive expansion of public education in the 60s and 70s (graph 13). In the aftermath of the 1983 debt crisis and ensuing fiscal adjustment process, social spending contracted by 30%, regaining pre-crisis spending levels only by the turn of the century. This recuperation was not achieved through an increase in Mexico's fiscal capacity, as a relevant tax reform has remained elusive up to the present, but through a shift in the allocation of fiscal resources to social programs, which doubled their share in public spending from 30% to 60% in the course of the 1990s.⁷

Considered in comparative perspective (graph 14), and using the OECD definition of "social spending" (excluding education), despite its rapid expansion at the end of the century social spending in Mexico still represents a small fraction of the resources mobilized by the OECD welfare states. Even within LA, in 2005 social spending in Mexico (widely defined: 10.2% GDP) was well below the region's average (15.9%) and barely half of spending in Brazil (22%) or Argentina (19.4%) (Cepal 2008).

⁶ The two principal institutions of social security, the *Instituto Mexicano del Seguro Social* (IMSS) and the *Instituto de Seguridad y Servicios Sociales de los Trabajadores del Estado* (ISSSTE) were created in 1944 and 1959, respectively.

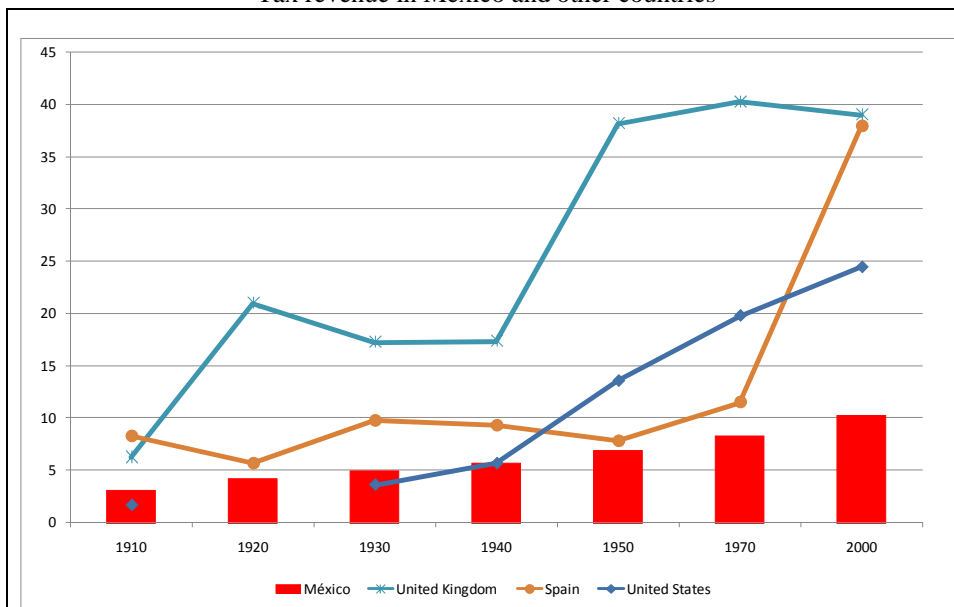
⁷ Here, as elsewhere in this article, "public spending" is used to refer to the concept of *gasto programable*, which is public spending *net of debt payments and mandatory tax shares to the states*, and represents the most relevant measure to compare federal budgetary commitments between programs.

Graph 13
Evolution of social spending: 1925-2007



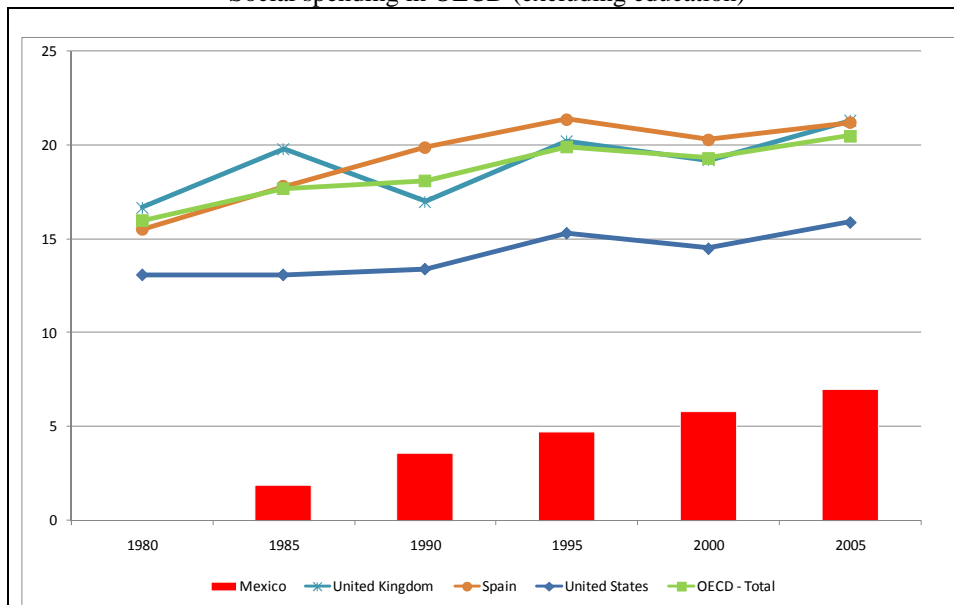
Estadísticas Históricas de INEGI, Informes de Gobierno (varios años).

Graph 14a
Tax revenue in Mexico and other countries



Source: Hernandez (2009)

Graph 14b
Social spending in OECD (excluding education)



OECD. "Large Welfare States" is an average of Sweden, France, Denmark, Austria, Germany, Belgium and Finland.

Table 1
Social Spending: 1970-2000 (%)

Sexenios	Administrartion	Social Spending/ GDP	Social S./ Publ. S.	Education S./ Social S.*	Health and Social Security S./ Social S.*
1971-1976	Echeverría	6.7	31.2	36 (57)	52 (24)
1977-1982	López-Portillo	8.5	32.9	40 (58)	43 (19)
1983-1988	De la Madrid	6.6	30.1	42 (62)	44 (16)
1989-1994	Salinas	7.7	45.2	42 (62)	45 (20)
1995-2000	Zedillo	8.8	55.8	43 (57)	44 (25)
2006	Fox	10.79	59.1	36 (46)	45 (31)

Salinas (1994), Zedillo (1999), SHCP (2000). *In brackets: public subsidies only, excluding social security spending financed through employer/employee contributions.

3.2.1. Education

The late achievement of wide-spread literacy in Mexico is not surprising when we consider that it was only half a century after the Mexican Revolution that education spending expanded significantly as a share of GDP. Compensating for its slow start, the education system expanded rapidly in the second half of the century, increasing its coverage from 3 to 18.5 million students in basic education, and from less than 70 thousand to 3.6 million in higher and tertiary education (table 2, graph 15). Comparing the schooling level of the population cohort born in with the schooling accumulated by later cohorts (1931-1970) (graph 16), Mexico is the country with the most rapid education growth in LAC, comparable to Korea y Taiwan. Given the low level of the initial cohort, average schooling lags both of these countries, as well as other countries in the regions like Chile, Argentina and Peru.

The equity of public education spending depends on both, the coverage at each education level, and the allocation of resources between these levels. Both of these have changed significantly over the last three decades. The allocation of public spending in the 1970's and 1980's was heavily biased towards higher education (graph 17). Following the 1968 student revolt in Mexico City, over the 1970's the share of educational spending allocated to upper-secondary and tertiary education grew from 20% to 42% while the share of spending on basic education contracted by an equivalent amount, despite an expansion in enrollment in public basic education from 9.7 to 16.5 million students. The impact on spending per student in basic education was aggravated in the 1983-1988 adjustment period, as the latter educational level absorbed a disproportionate share of budgetary cuts. This bias was reversed with the change in administration after 1988, with an increasing reallocation of educational spending towards basic education. Between 1992 and 2002 spending per student expanded in real terms by only 7.5% in the case of tertiary education, but by 63% in the case of primary education. The relative ratio of spending per student in tertiary vs. primary education thus declined from a historical maximum factor of 12 times in 1983-1988, to less than 6 in 1994-2000 (for a reference, the OECD average is close to 2).

In addition to the budgetary allocation between educational levels, progressivity in educational spending was constrained by the limited use of post-primary public education services by the poor, even when these are fully subsidized. This is explained by supply (limited availability of secondary schools in rural areas) as well as demand constraints (high opportunity cost of even basic education aged children in poor rural households). Both of these factors were addressed in the 1990's through the expansion of basic education facilities and, most notably, PROGRESA's direct monetary transfers to poor rural households conditional on participation in basic education and health services.

The effect of these reforms may be observed in graphs 18 and 19, which presents the participation by income-ordered population deciles in the use of public education services at each level, as well as the implied distribution in total education spending, comparing in each case the distributions for 1992 and 2006. Combining the budgetary and participation effects, the distribution of total public spending on education has changed qualitatively over the decade, from (mildly) regressive to progressive in absolute terms, with the poorest decile obtaining a share of educational spending twice as large as the richest one. All levels have become more progressive (less regressive), but the most important change is observed in the case of lower secondary education. This is explained by at least three factors: a) most importantly, the dynamics of educational expansion: as full coverage of primary education of the relevant age group was achieved by the early 1990s, even among the poor, these cohorts were at least formally qualified to access the next level; b) the conditional scholarships of Progres/Oportunidades, with increasing payments to lower secondary students and upper secondary education (since 2001); and, less encouragingly, c) public education at the basic level (and higher secondary education from the 7th decile) are progressive in part because higher-income groups opt of private services, because they are perceived to be of better quality (as is confirmed by standardized evaluation surveys). In other words, public spending on basic education is progressive in part because it is self-targeted through low quality. An immediate corollary is that efforts to improve the quality of public education would, if successful, would

necessarily be so at the cost of equity, unless accompanied by explicit geographic or administrative targeting.

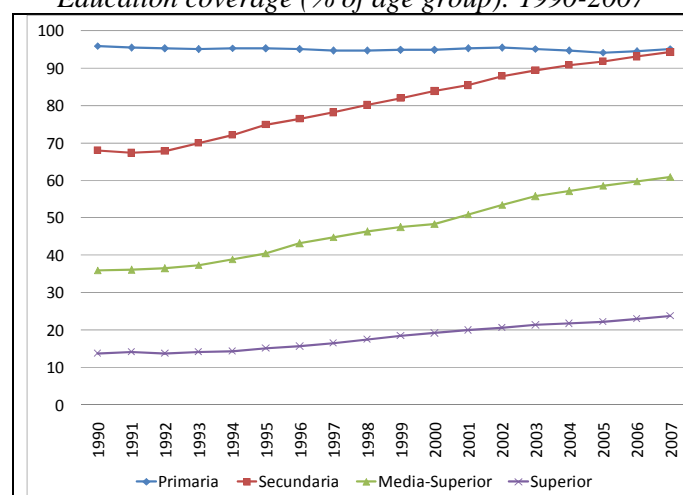
Access to tertiary education, on the other hand, is still highly regressive, only slightly improving since 1992. The participation of the poorest quintile is insignificant. As in the case of secondary education, this is slowly improving and should be expected to increase in the future simply as a consequence of advancing coverage in the earlier cycles. But there are two further constraints explaining the failure to reach the poor which will require decisive policy reforms to make this potential demand effective. First, the high opportunity cost of tertiary education will require a reform in university financing, targeting public subsidies to the poor through scholarships or educational credits, rather than simply offering free tuition to middle- and upper-income groups. Secondly, however, the poor are also barred from public university through the low quality of their pre-university education, as they have to compete for scarce university places with students from private schools. Increasing the quality in addition to the quantity of upper secondary education opportunities for the poor is therefore also required to improve equity at the tertiary level.

Table 2
Enrollment in Public Education

Year	Enrollment (students x1000)				Coverage (% of age group)	
	Primary	Lower- Secondary	Upper- Secondary	Tertiary	Basic (5-14)	Post-basic (15-24)
1950	2,997	70	37	30	45%	1%
1960	5,730	272	129	83	62%	3%
1970	8,802	890	288	215	69%	6%
1980	13,952	2,510	867	896	85%	13%
1990	13,516	3,852	1,592	1,013	83%	15%
2000	13,668	4,864	2,253	1,364	83%	19%

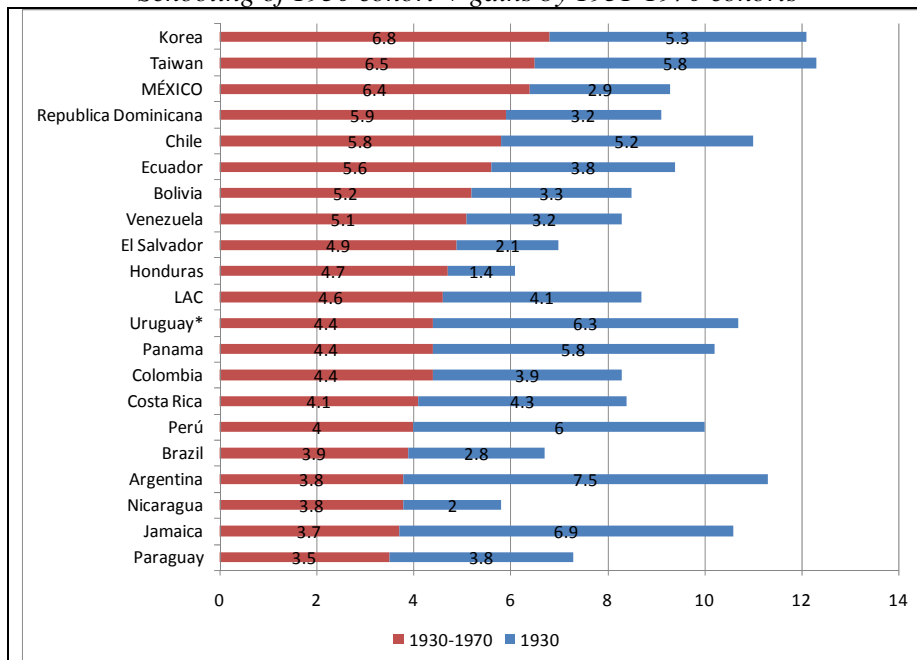
INEGI (2004), Zedillo (2000),

Graph 15
Education coverage (% of age group): 1990-2007



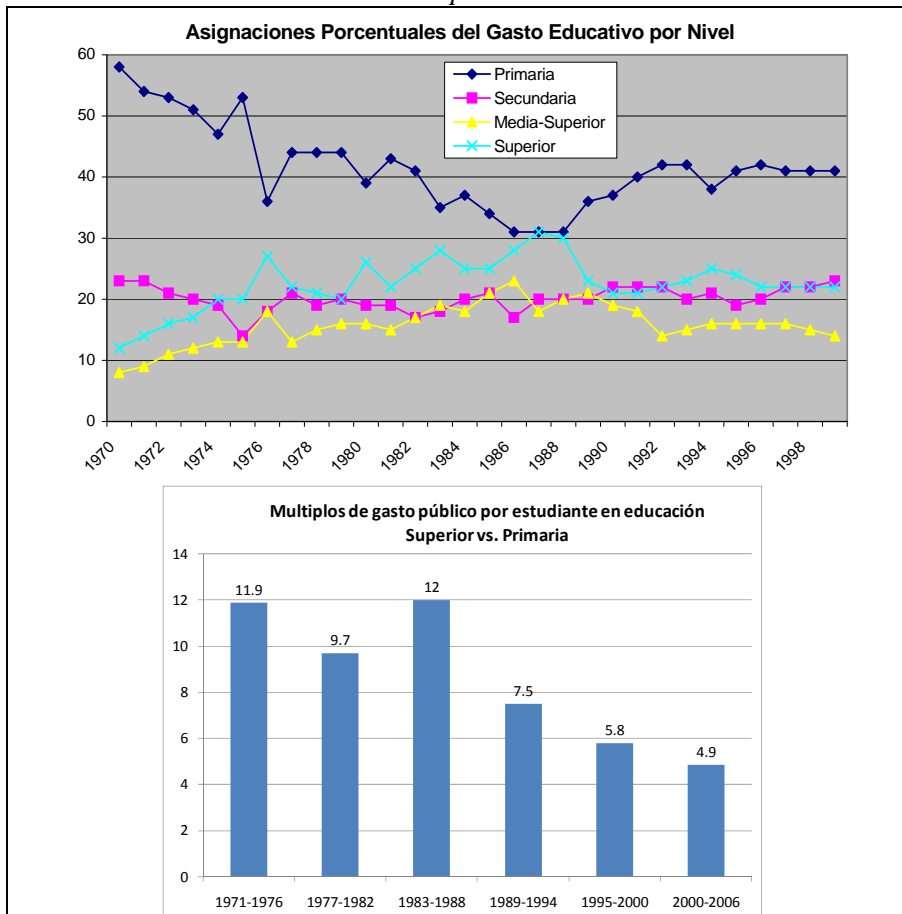
Source: SEP.

Graph 16
Average schooling of 1930-1970 cohorts:
Schooling of 1930 cohort + gains by 1931-1970 cohorts



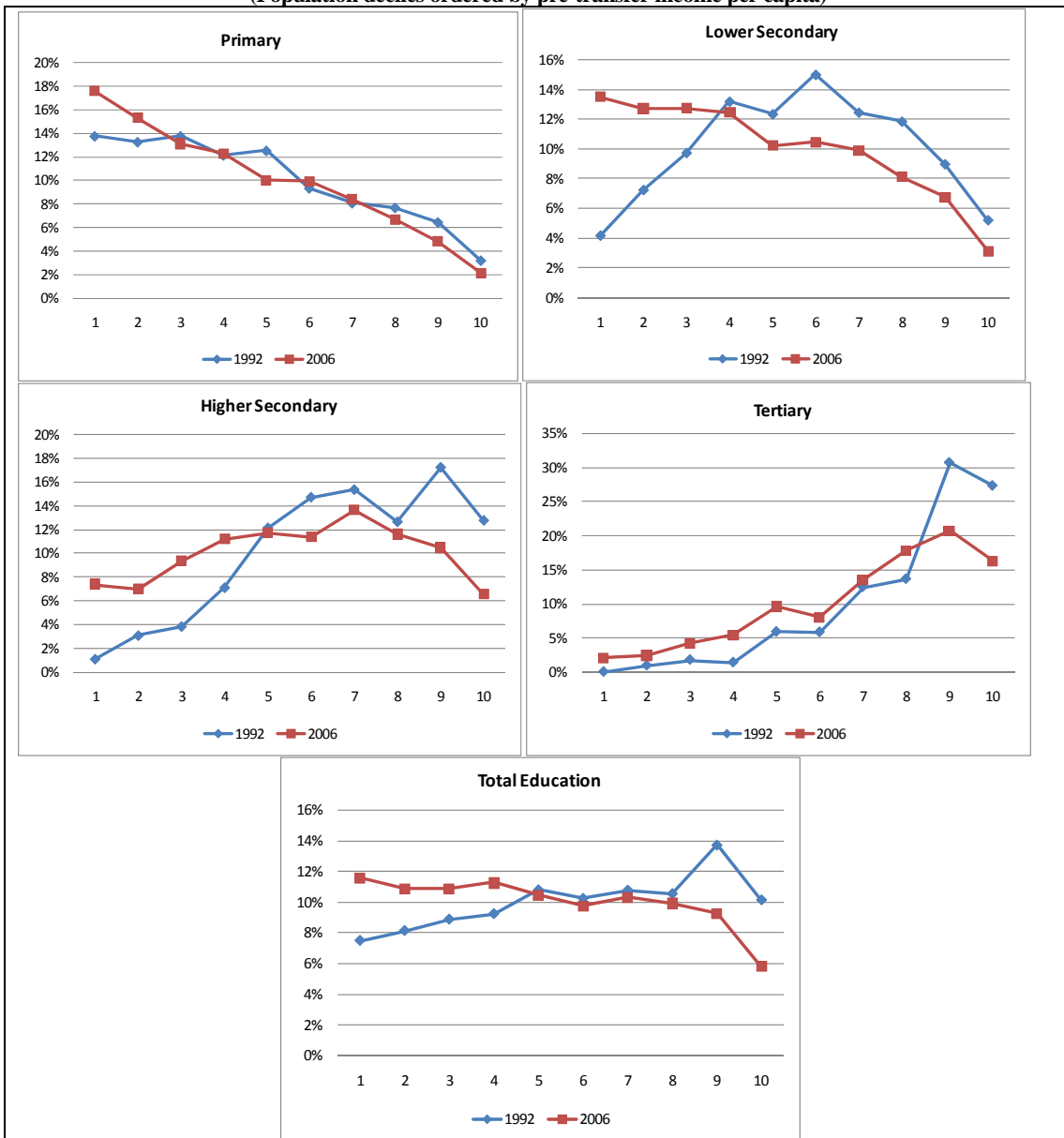
Source: 1990 Geary-Khamis Dollars

Graph 17



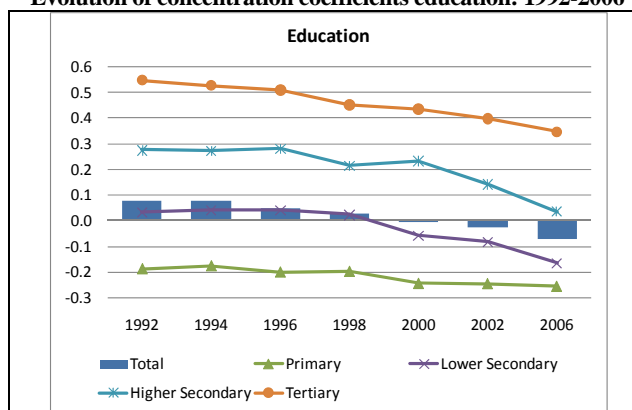
Fuente: Informes de Gobierno, varios años.

Graph 18
Distribution of Benefits from Public Education
(Population deciles ordered by pre-transfer income per capita)



Source: author's calculations using ENIGH 1992, 2006.

Graph 19
Evolution of concentration coefficients education: 1992-2006



Source: author's calculations using ENIGH 1992-2006.

3.2.2. Health and Social Security

Since its formal origins in 1943 the public health system in Mexico has been highly segmented, with contributive social security serving formal sector workers and non-contributive services provided by the state and federal Health Ministries (SSA) serving the uninsured. Social security is in turn fragmented into three groups of institutions, with sharply differentiated benefits: a) the *Instituto Mexicano del Seguro Social* (IMSS) serving formal sector workers, b) the *Instituto de Seguridad y Servicios Sociales de los Trabajadores del Estado* (ISSSTE), serving public sector workers, and c) a number of specialized systems covering public sector workers in state companies (including PEMEX, the electricity companies, and IMSS) the armed forces, the judiciary, etc.

The principal sources of inequality in public spending on health and social security arise from three historical characteristics of these systems: a) the truncated and regressive coverage of the formal (contributive) social security institutions, b) the gap in total public spending per beneficiary and in tax-financed subsidies, between the formally insured and the uninsured, as well as between the different social security institutions, and c) demand and supply restrictions on the use of public health services for the uninsured.

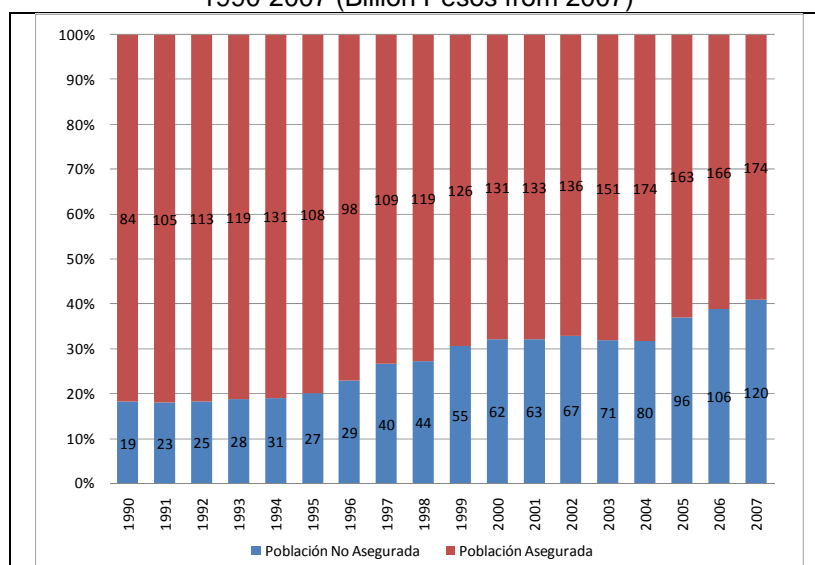
Considering public health and non-health components of social security together, during 1970-2000 total spending by the principal social security institutions (IMSS, ISSSTE) represented on average 87% of total public health and non-health social security spending, and 56% of tax-financed spending. On average, public spending per beneficiary on the insured in 1970-1990 was 11 times higher than on the uninsured, and tax-financed spending allocated per insured was *twice* as high.

Considering health services only, the gap in financing between insured and uninsured narrowed significantly over the last decade (graph 20). Between 1996 and 2006 public health spending by the social security institutions increased by 66% in real terms, but public health spending on the uninsured (federal and state) increased by 257% (SSA, Cuentas Nacionales y Estatales de Salud, 2008). The share of total public health spending allocated to the uninsured, which represent roughly half of the population, has thus doubled over the decade from 20% to 40%. At the same time, the progressivity of health spending on the uninsured has increased significantly, as the poor have dramatically increased their use of these services (graph 21). Both of these changes are explained by an ambitious and ongoing effort to expand health coverage for the formally uninsured, through a) an expansion of health facilities in rural areas (*Programa de Ampliación de Cobertura*, PAC, launched in the mid 1990's), b) the health component of the *Progresar/Oportunidades* program (which, as in the case of education, is conditional on the use of health facilities), and finally c) the creation and rapid growth since 2003 of the *Seguro Popular*, a new and ambitious health insurance scheme programmed to achieve universal basic health coverage for the uninsured by 2010.⁸

⁸ The *Seguro Popular* was launched as a pilot in 2002, but formally established (as the *Sistema de Protección Social en Salud*, SPSS) through the 2003 reform of the *Ley General de Salud* (LGS). The LGS specifies a 14.3% annual coverage growth rate, from 2004 to 2010. As such, the SP represents the most ambitious effort to expand the coverage of basic health protection since the creation of the National Health System in 1943. In 2007 the SPSS spent 34.6 billion MP, 26 from federal resources,

That the latter developments have nevertheless failed to make total public health spending progressive is explained by the fact that public health spending on the insured is still 50% higher than spending on the uninsured, and social security has failed dismally to penetrate to the poor (graph 21).

Graph 20
Total federal and state public health spending in Mexico:
1990-2007 (Billion Pesos from 2007)



Source: Cuentas Nacionales y Estatales de Salud, Secretaría de Salud.

Table 3
Gasto públicos en salud y seguridad social (pesos de 2000)

	Sexenios					2000	2005
	1971-1976	1977-1982	1983-1988	1989-1994	1995-2000		
% PIB	3.45	3.62	2.86	3.45	3.85		
Per cápita	1,293	1,683	1,207	1,520	1,908		
Cobertura (% de población total)						Census data:	
IMSS	23.9	32.9	39.8	42.5	41.8	32.3	31.1
ISSSTE	4.5	7.3	8.4	9.7	10.1	5.9	5.6
Asignaciones porcentuales del gasto financiado por el gobierno federal							
SSA	44.4	44.6	52.1	43.4	36.4		
IMSS & ISSSTE	55.6	55.4	47.9	56.6	63.6		
Gasto público total por beneficiario							
SSA	238	381	300	359	516		
IMSS	3,340	3,050	1,992	2,308	2,562		
ISSSTE	7,011	6,136	3,141	2,870	3,128		
Tasa de gasto por beneficiado PA/PNA							
Gasto public total	17.6	9.6	7.4	6.9	5.5		
Subsidio (neto de contribuciones O-P)	3.3	1.9	1.0	1.3	1.8		

Salinas (1994), Zedillo (2000), SHCP (2000). Census 2000, 2005

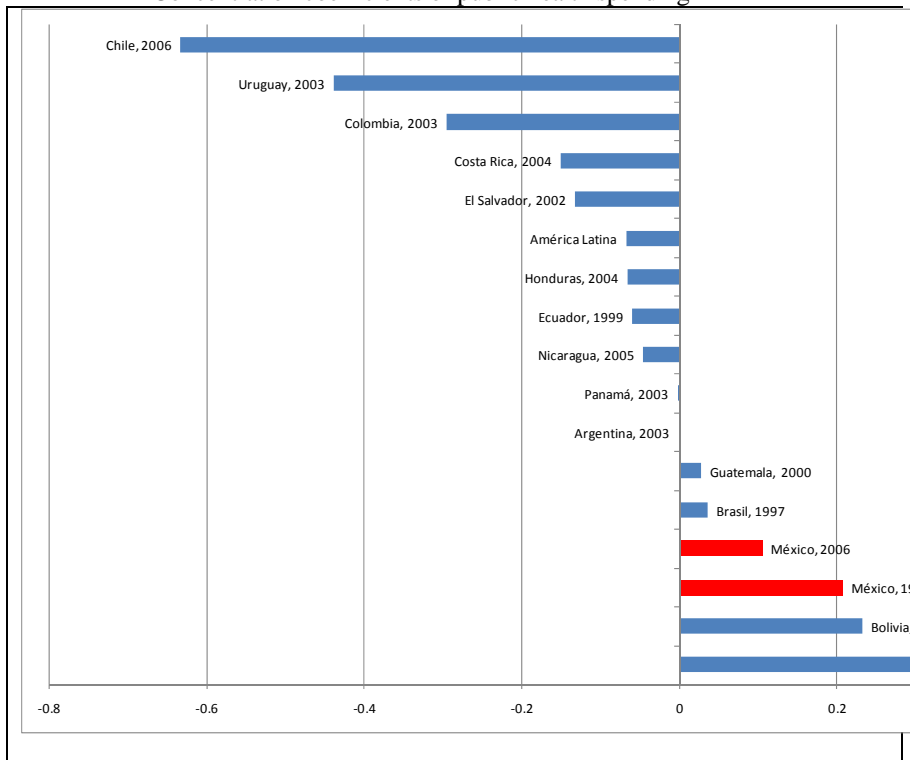
from state spending, and 0.2 from family contributions. At the end of that year, it had incorporated 7.29 million families (21.9 million persons), more than half of its final coverage target, currently estimated at 12.9 million families (CNPSS 2008). This coverage includes the *Seguro Médico de Nueva Generación*, an initiative introduced by the present administration offering SP access to all families with children born since December 2006.

Graph 21
Distribution of Benefits from Public Health Spending (based on use of services)
(Population deciles ordered by pre-transfer income per capita)



Source: author's calculations using ENIGH 1992, 1996, 2006

Graph 22
Concentration coefficients of public health spending in LA



Source: CEPAL 2007; México: author's estimates using ENIGH 1996, 2006.

3.2.3. Pensions

The degree of segmentation and inequality is most extreme in the case of pensions. In contrast to what is observed in the mature welfare states, where public pensions tend to be among the most redistributive transfers, pensions in Mexico contribute to increase income inequality: the ratio between the total average per capita income of the richest and poorest decile is 28:1, but if we consider only pension income it is 287:1.⁹ The truncated coverage of social security is aggravated in this case by two factors.

First, in contrast to health, where services for the uninsured coexisted with social security for most of the past century, and as just documented are now converging to the latter financial terms, Mexico has until very recently lacked non-contributive old-age pension programs in any form. This has changed only in the last three years, with the introduction of a basic universal old-age (70+) pension in Mexico City in 2005 and the subsequent introduction of federal non-contributive pension programs in rural communities, in 2006 as a modest (US\$ 25 per month) targeted program linked to *Oportunidades*, and since 2007 through a more generous (US\$ 50 per month) and universal rural pension program (*Atención a los Adultos Mayores en Zonas Rurales*). Despite this rapid expansion from zero, public spending on non-contributive programs still lags well below the average spending levels on such programs observed in the region.

Secondly, the segmentation of the different pension systems within the insured entails a high degree of vertical and horizontal inequality in the allocation of subsidies to these systems. Total public subsidies to the pension systems in Mexico are in the order of 1.5% of GDP (Scott 2005). A tenth of these resources correspond to government contributions to workers' individual accounts arising from the 1997 reform of the IMSS pension system (from the old PAYG system to a defined contributions system with individualized accounts). The other 90% is divided almost equally between current obligations under the old IMSS regime (which have been completely absorbed by the federal government), and the deficits of the principal public-sector pension systems, ISSSTE and State enterprises (IMSS, PEMEX, electricity utilities, etc.). The first of these components is bounded and represents a transitional cost of the reform, though obligations will keep growing in the medium run. A reform for ISSSTE has recently been approved similar to the IMSS reform, except for more generous terms to ISSSTE right-holders (and thus a higher public subsidy per beneficiary). In the absence of similar reforms, subsidies to the State enterprise pension systems are in increasing and unbounded growth trajectories, fiscally unsustainable even in the medium run.

To appreciate the degree of horizontal inequality in the allocation of public subsidies to the different pension systems,¹⁰ table 4 compares the average monthly subsidies per

⁹ Scott (2005). The decomposition analysis in Esquivel (2008) shows that pensions are the most unequal component after (but almost equal to) property income, with a Gini of 0.98 in 2006.

¹⁰ "Public subsidies" here means the costs of the pension obligations *net of contributions* by workers and employers, financed through general tax revenues, and/or in the case of the State companies like IMSS and the electricity utilities, by diverting own resources (from the sale of electricity and private

pensioner. Compared with IMSS, even considering the full transitory financing of the pension obligations under the old regime, the subsidies per pensioner are 1.6 times higher in ISSSTE, and between 4 and 8 times higher in the state enterprises. The three state enterprises considered here represent 8% of all pensioners, but absorb almost a third of the total pension subsidies (World Bank 2004). As in the old IMSS regime, these deficits may be due in part to demographic forecasting errors, design errors, or administrative failures. The differences also reflect, in part, higher salaries of public sector workers. But the size of the differences between private and public sector pensioners is largely due to privileged contractual conditions negotiated (captured) opaquely within the old corporative regime. For example, private sector workers in IMSS retire at 65 with average expected replacement rates in the order of 40-50% (in the 1997 regime), while public sector workers can retire, in general, ten years earlier, with replacement rates close to a 90-100%, and even higher in the State enterprises. In the specific case of the workers *hired* by IMSS, these retire on average at 53 (there is no minimum) with an average replacement rate of 130%—generating a financial burden which puts the viability of the health services provided by the institute at risk (IMSS 2007).

To appreciate the full spectrum of public pension subsidies, table 4 also reports the recent non-contributive pension programs, revealing a *hundred-fold* difference between the lowest and highest pension subsidies per beneficiary.

Historical evolution of social security benefits		
Date	Benefits	Coverage
1821-1924	Pensions	Selected civil servants
	Occupational hazards regulated by state laws; responsibility of employers under 1917 Constitution	Industrial workers
1925-1942	Pensions and other benefits	Federal civil servants, military, teachers
	Pensions, health and other benefits	petroleum, electricity, and railroad workers
1943	IMSS established: pensions, health and other	Private sector; urban
	Additional benefits	IMSS employees
1953	IMSS	4 % total population
1964	IMSS	17%
1970	IMSS	25% (22% of municipalities)
2000	IMSS (+ public sector syst.)	32% (+ pub. sector workers: 39%)
2005	IMSS (+ public sector syst.)	31% (+ pub. sector workers: 37%) <10% workforce in Chiapas, Guerrero, Oaxaca
Sources: Mesa-Lago (1978); Census 2000, 2005; IMSS		

sector worker/employer contributions) from the provision of public services/utilities to the financing of pension deficits (see IMSS 2007).

Table 4 Average monthly public per beneficiary (pensioner) (net of active worker contributions)		
	Pesos	% IMSS
Luz y Fuerza (2003)	17,556	834%
IMSS-Patrón (Rég. de Jubilaciones y Pensiones, 2004)	12,552	596%
PEMEX (2003)	8,250	393%
ISSSTE (2003)	3,281	156%
IMSS (pensions due under pre-1997 system)	2,105	100%
Atención a los Adultos Mayores en Zonas Rurales (2007, 2008)	500	24%
Apoyos para Adultos Mayores en <i>Oportunidades</i> (2006)	250	12%
Atención a los Adultos Mayores en Zonas Rurales (2005)	175	8%

Source: World Bank (2004b), IMSS (2005), Tercer Informe del Gobierno (2003), Rules of Programs.

3.2.4. Food subsidies and anti-poverty programs

As reviewed above (section 3.1), the price support policies on basic crops operated in Mexico between the 1940's and the 1990's (through CONASUPO) were complemented on the demand side with generalized subsidies designed to protect the purchasing power of urban consumers. These became unviable in the early 1990s, when the internal price of corn was 70% above international prices, and the *tortilla* subsidy—which had been cut back after the 1983 crisis—was insufficient to compensate urban consumers for this differential. The generalized (urban) consumer subsidy was gradually replaced by targeted tortilla (Tortibonos) and milk (Liconsá) subsidies, but these were costly to operate, still urban, and not effectively targeted even within the urban sector. The generalized *tortilla* subsidy (and CONASUPO) was finally eliminated in 1998, and most food subsidies were reallocated to rural areas through the *PROGRESA/Oportunidades* program, whose food component became the principal food aid program in Mexico.

To appreciate the effect of this reallocation, graph 22 compares the regional distribution of all food aid spending with the distribution of undernourished children (low height/age) before and after the reallocation. In 1988, 70% of food subsidies were concentrated in Mexico City, where only 7% of undernourished children were located, while only 7% of these resources reached the Southern states, which accounted for 50% of undernourished children. By 1999, the distribution of food subsidies was in line with the regional distribution of undernourished children in the country, with remarkable regional targeting accuracy. The effect of these reforms was an increase in the rural share of food subsidies from 31% to 76% by official estimates (1994-2000),¹¹ or from 40% to 55% using ENIGH (2002).¹²

Graph 23 presents the same comparison considering the distribution at the household level. In just half a decade, the reallocation of food subsidies through *Progresá* transformed a broadly neutral distribution into a highly progressive one, with the share benefiting the poorest decile increasing from 8% to 33%.

¹¹ SHCP (2000).

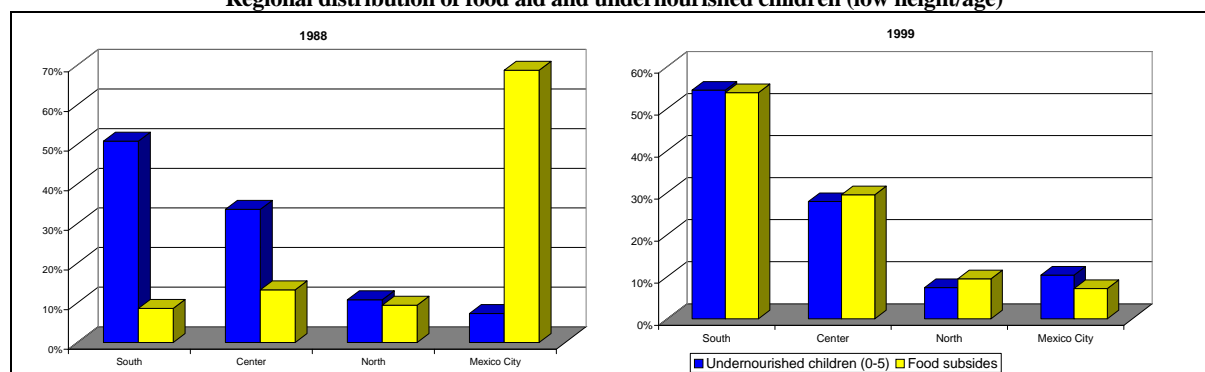
¹² Scott (2004).

In addition to Progresa's direct impact on the allocation of food subsidies and its indirect but no less significant impact on the allocation of education and health services, the introduction of this CCT program represented a mayor innovation in anti-poverty transfers. Together with the self-targeted *Programa de Empleo Temporal* (PET), Progresa was the first effectively targeted anti-poverty program implemented in Mexico. The concept of targeting itself, as an explicit category reported separately from "universal" spending, was introduced in official budgetary statements only in the mid 1990's.

	Objective Population (OP)	Progresa/Oportunidades	Milk subsidy		Tortilla subsidy		Programa Empleo Temporal (PET)	Average for targeted programs in LAC ^a
			Targeted (Liconsa)	General	Targeted (Tortibono)	General		
% of transfer received by OP	20%	64.9%	12.2%	4.3%	20.0%	12.3%	65.8%	
	40%	89.0%	35.4%	15.7%	62.4%	33.6%	86.0%	72.0%
Administrative costs		8.2% ^b	28.5% ^a	5%	12% ^a	5%	4% ^c	9.0%
Participation costs		2% ^b	2%	0%	2%	0%	50% ^c	2.0%
Share of spending benefiting OP	20%	58.3%	8.5%	4.1%	17.3%	11.7%	31.6%	
	40%	80.1%	24.8%	14.9%	53.8%	31.9%	41.3%	64.2%
Cost per transferred peso (\$)	20%	1.7\$	11.7\$	24.5\$	5.8\$	8.6\$	3.2\$	
	40%	1.2\$	4.0\$	6.7\$	1.9\$	3.1\$	2.4\$	1.6\$

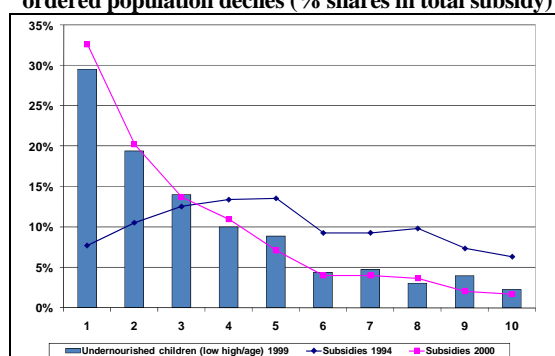
Sources: own calculations based on Módulo Social ENIGH 2002, and data from ^aGrosh (1994), ^bCoady (2000), and ^cScott (2004). Numbers in *italics* are assumed.

Graph 22
Regional distribution of food aid and undernourished children (low height/age)



Source: Scott (2002a), using the 1988 and 1999 Encuesta Nacional de Nutrición.

Graph 23:
Distribution of food subsidies and undernourished children (low height/age) by per capita income-ordered population deciles (% shares in total subsidy)



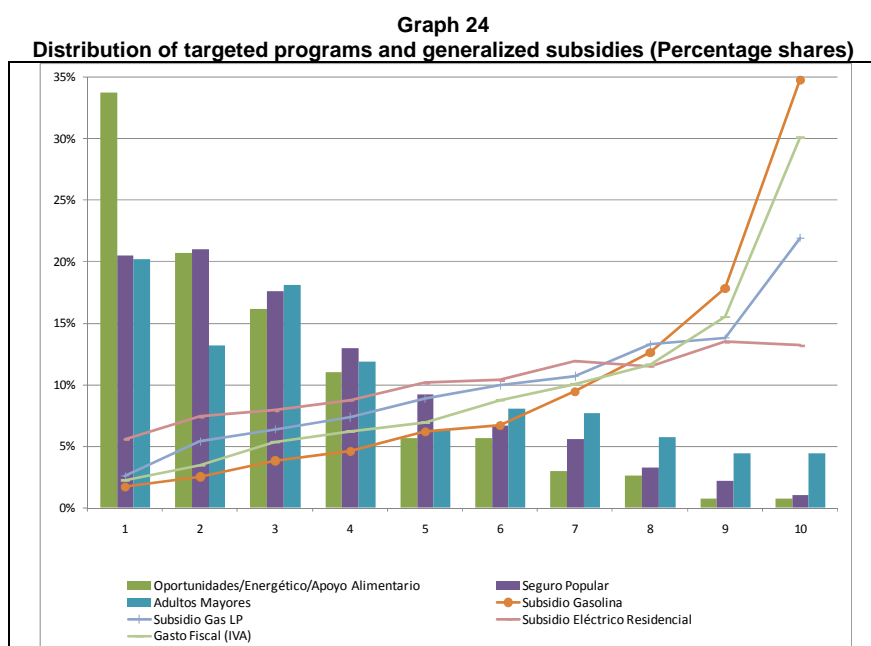
Source: Scott (2004), using the 1988 and 1999 Encuesta Nacional de Nutrición.

3.2.5. Generalized consumption subsidies

Generalized consumption subsidies did not disappear with the elimination of the tortilla subsidy. There are four principal subsidies of this kind implemented in Mexico at present: a) the residential electricity subsidy, b) a subsidy on LP gas, c) a subsidy on petrol and diesel, and d) an implicit subsidy, or “fiscal expenditure”, associated with VAT exemptions on specific goods and services (principally foods and medicines). In 2006 these subsidies amounted to 270 billion MP, representing more than total public health spending, and more than six times the spending on all targeted programs, and in 2008 they reached 518 billion MP, following the decision by the government to freeze electricity prices and to adjust domestic petrol prices below the trend of international costs. To put this budgetary commitment in perspective, note that it represents more than six times the total spending allocated to Oportunidades, Seguro Popular and Adultos Mayores, together.

While this recent surge in gasoline subsidies is temporary, and is currently being eliminated as international energy prices have declined with the recent financial crisis, it should be noted that the residential energy subsidy originated in the 1970’s as a failure to adjust prices to inflation, an adjustment which became increasingly costly politically as the gap between cost and consumer prices expanded.

In the context of Mexico’s income (and consumption) distribution these subsidies are inevitably regressive, even in the case of electricity which is progressively priced, especially when contrasted to the targeted instruments (graph 24). Given the relative magnitudes of the resources committed to these two sets of instruments, their combined effect is highly regressive in absolute terms: households in the poorest 20% obtain an average yearly combined benefit of some MP \$3,500 (approx. US \$350) *per person*, while households in the top decile obtain almost five times more, \$16,000 MP (\$1,600 US) *per person*.



Fuente: calculos del autor a partir del “Modulo de Programas Sociales”, ENIGH (2004).

3.3. Comparative and Global Redistributive Effects

The overall impact of the Redistributive State emerging out of this history is summarized in the following data. Comparing the concentration coefficients for all programs (graph 25) reveals a wide range of concentration coefficients, from the highly progressive (pro-poor) *Oportunidades* (-0.53) to the extremely regressive (pro-rich) *Ingreso Objetivo* (0.81). On the progressive side, we find most of the targeted programs, the recently introduced health insurance program, *Seguro Popular* (SP, which is in principle universally accessible to all the uninsured, but has been targeted to poor rural areas in its initial phase), health services for the formally uninsured, and basic education. On the regressive side, we find agricultural subsidies, energy and other generalized consumption subsidies (gasoline, LP gas, residential electricity, VAT exemptions), social security benefits, and tertiary education.

Considering the share of benefits received by the poorest quintile, only 11 programs manage to transfer to this group at least a share proportional to their population weight, while another 11 allocate to this group a share which is even lower than their share in pre-transfer income. These transfers are effectively out of reach from the poor. Of the 9 targeted programs analyzed, only four are effectively targeted to the poor, and only two (*Oportunidades* and PET) allocate more than 50% of their transfers to the first population quintile. The rest are either neutral (*Microregiones*), or favor middle-income groups over the poor (*Liconsa*, *Vivienda*, *Crédito a la Palabra*, *Habitat*).

Given the share of fiscal resources allocated to regressive programs, the latter effectively cancel out the pro-poor impact of the progressive ones, producing a slightly regressive distribution of redistributive public spending overall. Transfers in kind are broadly neutral (graph 26), while (quasi) monetary transfers are regressive, despite the fact that they include *Oportunidades* and the other targeted programs considered here, because their main components are the generalized consumer subsidies and social security transfers. The distribution of monetary transfers is compared with the rest of the OECD in graph 27, where Mexico appears as the most regressive case considering only pensions, which represents the bulk of what is reported in this data base, and only slightly less so if we add consumer subsidies and targeted transfers.

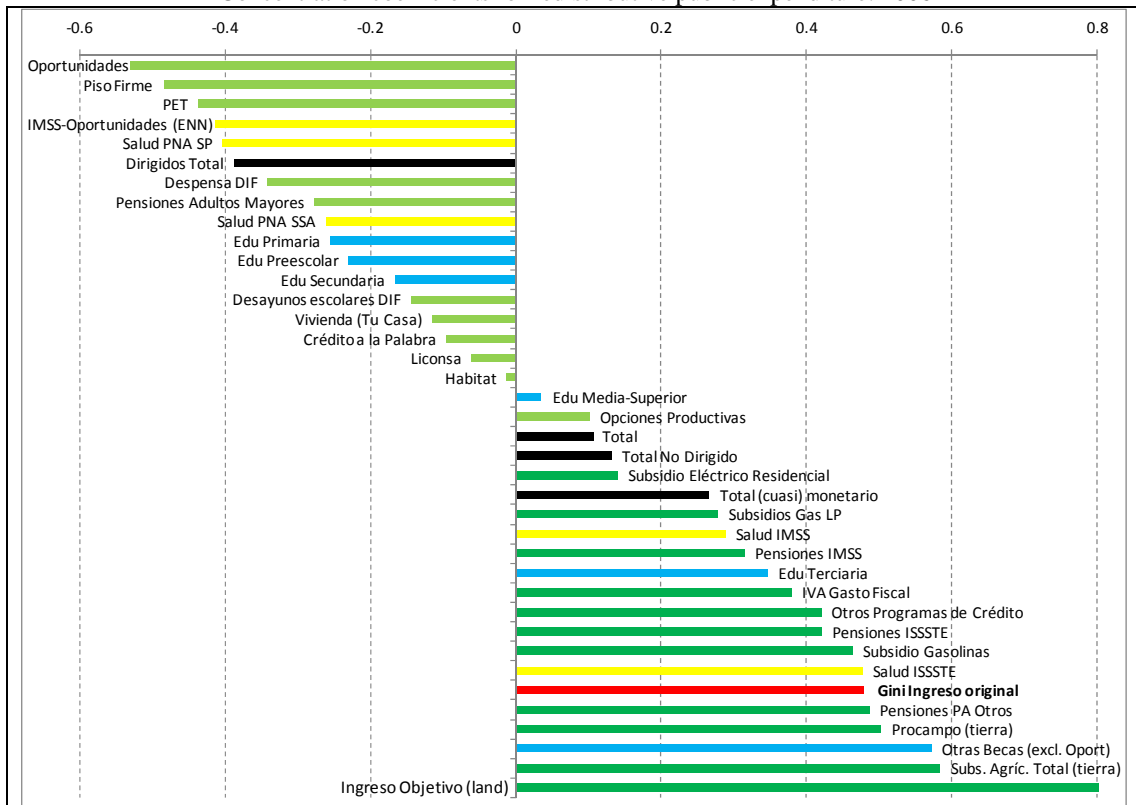
Despite the large difference in progressivity between targeted and untargeted programs, due to the marginal resources allocated to the former, their capacity to affect the overall regressivity of spending is minimal (though not of course in terms of poverty alleviation).

Finally, table 7 presents the global distribution and incidence of taxes and transfers in 2006. The top decile's share of total transfers is almost twice that of the poorest decile, and taxes are only mildly progressive in their incidence: the average tax rate in the richest decile is only 7% higher than in the poorest one. The effect of (quasi) monetary transfers is modest, reducing the pre-fisc Gini by just 1.7%, as is the effect of taxes, which reduces it by 2.8%. Adding transfers in kind increases this effect to 9.3% (only transfers), and 12.7% (transfers & taxes). Unlike monetary and quasi-monetary transfers, however, this estimate would have to be adjusted downwards to

the extent that the value to the beneficiaries of the goods and services received is less than the cost of their provision to the tax-payers.

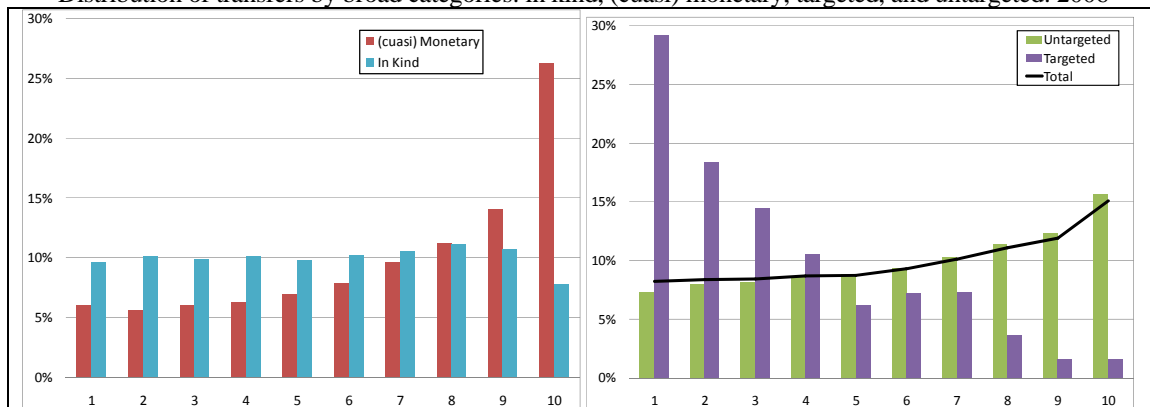
Despite their absolute regressivity, the incidence of transfers on household incomes is highly progressive, reflecting the high level of inequality of pre-fisc income. Transfers represent 75% of income for the poorest decile, but only 5% for the richest. Only the richest 20% are net contributors to the fiscal system, but these account for 57% of pre-fisc income.

Graph 25
Concentration coefficients for redistributive public expenditure: 2006



Source: author's calculations using ENIGH 2006; "Modulo de Programas Sociales", ENIGH (2004); Scott (2008b); Table 6, above.

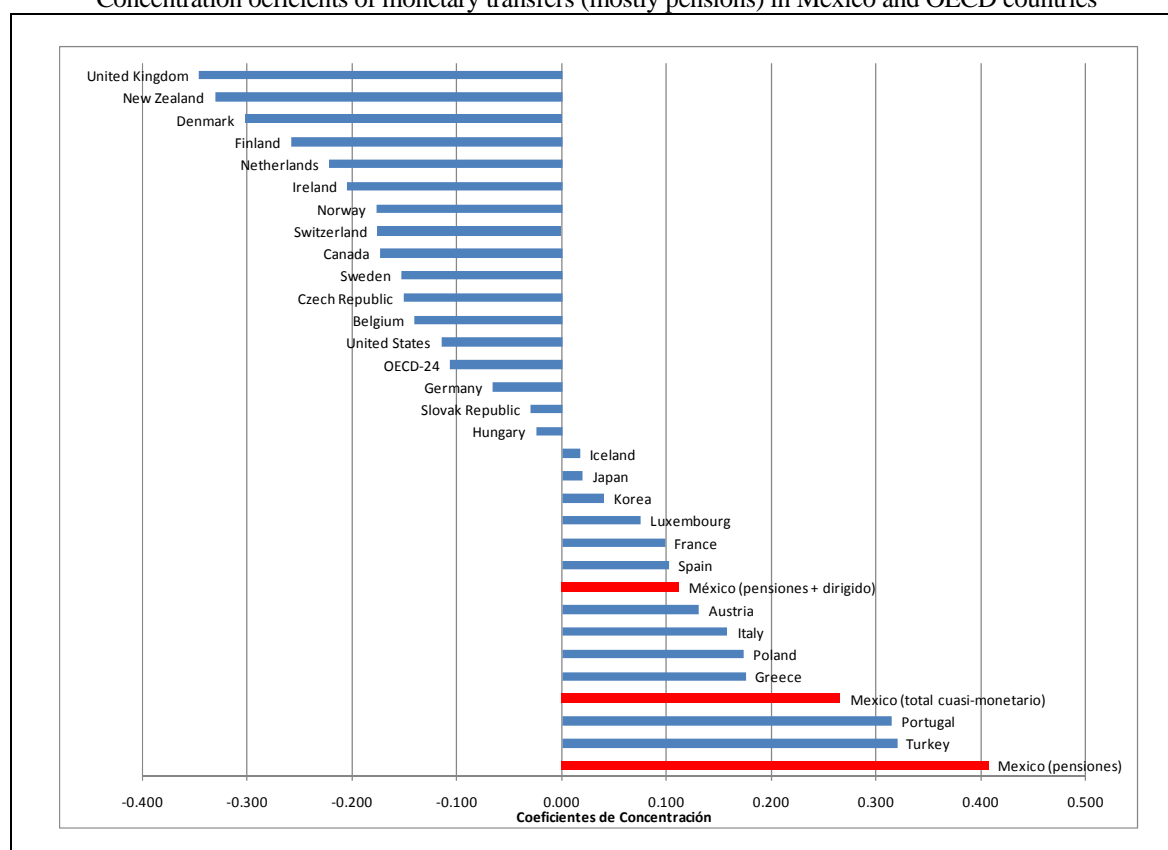
Graph 26
Distribution of transfers by broad categories: in kind, (cuasi) monetary, targeted, and untargeted: 2006



Source: author's calculations using ENIGH 2006 and table 6, above.

Graph 27

Concentration coefficients of monetary transfers (mostly pensions) in México and OECD countries



Fuente: OECD 2008; México (total cuasi-monetarias), México (pensiones + dirigido) calculos del autor.

Deciles	Distribution (% participation by decile)								Incidence (tax/transfer as % of original income)		
	Transfers	Taxes	Income						Transfers	Tax	Net
			Pre-transfer & tax	Post-transfer (quasi-monetary)	Post-transfer	Post-tax	Post transfer (quasi-monetary) & taxes	Post transfer & taxes			
1	8.2%	0.9%	1.5%	1.6%	2.3%	1.5%	1.7%	2.4%	74.7%	-6.7%	68.0%
2	8.4%	1.3%	2.5%	2.7%	3.2%	2.7%	2.8%	3.4%	43.7%	-5.9%	37.8%
3	8.4%	2.1%	3.4%	3.5%	4.0%	3.6%	3.7%	4.2%	32.5%	-6.9%	25.6%
4	8.7%	3.0%	4.3%	4.4%	4.9%	4.5%	4.6%	5.1%	26.6%	-7.6%	19.0%
5	8.7%	3.5%	5.3%	5.4%	5.7%	5.5%	5.6%	5.9%	21.9%	-7.5%	14.4%
6	9.3%	5.2%	6.7%	6.7%	7.0%	6.8%	6.9%	7.2%	18.5%	-8.7%	9.8%
7	10.1%	6.2%	8.2%	8.2%	8.4%	8.4%	8.5%	8.7%	16.4%	-8.5%	7.9%
8	11.1%	9.9%	10.8%	10.8%	10.8%	10.9%	10.9%	11.0%	13.6%	-10.2%	3.4%
9	11.9%	16.4%	15.8%	15.8%	15.4%	15.8%	15.7%	15.3%	10.0%	-11.5%	-1.6%
10	15.1%	51.6%	41.4%	40.8%	38.3%	40.1%	39.5%	36.9%	4.8%	-13.9%	-9.0%
Total									13.3%	-11.1%	
CC/G	0.1047	0.6132	0.5024	0.4937	0.4558	0.4885	0.4794	0.4387			
Change in G	16.6%	2.2%		-1.7%	-9.3%	-2.8%	-4.6%	-12.6%			

Source: author's calculations using ENIGH 2006; SHCP (2008); and table 6, above.

4. Failed Redistributive State: Capture and Exclusion

Finally, we come back to the question posed at the start of this paper: Why has inequality in Mexico persisted at historically and comparatively unprecedented levels over the 20th century, despite the construction and consolidation of a strong redistributive post-revolutionary State?

While this State was highly successful in many ways, notably in presiding over the political and social stability which made the noted economic, social and institutional transformations possible, the evidence documented in the previous section suggests that it must also be recognized as a *failed redistributive State*. This concept is introduced here as a natural analogy of the traditional concept of “failed States”, limited to the redistributive responsibilities of the State rather than the more basic “Minimal State” functions. The analogy is the failure to achieve universal coverage in these responsibilities, with partially captured, truncated or “enclave” Welfare State.

This failure can be summarized in four principal limitations in the redistributive instruments documented in the previous section:

1. **Small State.** Limited fiscal capacity over the century, restricting the level of sustainable financing available for social spending. Over the 20th century the Mexican State only achieved an expansion in its fiscal capacity of 7% of GDP, from 3% in 1910 to 10% for the last quarter of the century, with a history of recurrent but failed tax reform initiatives (Hernandez 2008).
2. **Small, truncated and regressive Welfare State.** Despite a growing allocation of the limited fiscal resources available to social spending over the second half of the century (except in the 1970s and 1980s when public spending expanded over the board), the gains in coverage of the principal redistributive instruments financed by these resources has been slow and unequal. The gradual shift towards broad coverage and pro-poor allocations of the national education and health systems has only been achieved by the end of the century. Close to half the current redistributive programs and spending resources are still regressively allocated.
 - a. **Agrarian reform** was only completed in 1992. The principal agricultural support instruments generally failed to reach small-holders and subsistence farmers until 1994 (Procampo). Agricultural subsidies overall are not redistributive but remain among the most regressive subsidy programs implemented in Mexico today, representing a significant contributing factor to rural income inequality.
 - b. **Education.** A broad coverage of literacy (70%) was only achieved by 1970. Up to the end of century access to public education overall was regressive in absolute terms, and tertiary education was regressive even relative to private income. Even basic public education spending was certainly regressive for most of the century, given that only 45% coverage of the relevant age group had been achieved by 1950, and 69% by 1970.

- c. **Contributive social security** has a protracted and unequal history, starting with benefits for small enclaves of public sector civil servants and workers in strategic sectors since the 19th century. The conception of “universal” social security covering the whole (formal sector) workforce appeared early on in the 20th century (1917) but was passed into law only in 1943 (IMSS). Its coverage progressed slowly: 4% by 1953, 25% in 1970, 32% by the end of the century (39% including the public sector). Coverage in rural areas and poorer states is still marginal (<10%), and practically non-existent for the poorest third of the population nationally. Public sector social security is today as regressive as the distribution of private income, as was probably the case for IMSS before 1970.
 - d. **Non-contributive social protection.** Health services for the uninsured were introduced soon after IMSS, but only achieved significant coverage among the poor with the rural expansion of these services in the 1990s (PAC, Progresa). A non-contributive health insurance scheme was introduced in 2004 (Seguro Popular), and the first non-contributive pension programs in Mexico was introduced in 2005.
 - e. **Effectively targeted anti-poverty** programs were introduced only at the end of the century: PET (1995), Progresa (1997). The concept of targeting (as opposed to universal spending) to reach the poor was only recognized in official budgetary documents by the mid 1990s.
3. **Limited transparency, accountability and quality of services.** The largest share and most progressively allocated transfers in Mexico are *transfers in kind*, mostly education and health services. The construction of an institutional framework to ensure the transparency and evaluation of social services has only begun in the present decade (see Scott 2008 for a brief the history of evaluation). The further challenge of linking transparency with accountability in these services has yet to be confronted, and represents the principal reform challenge, especially in the case of basic education, given the organized opposition by the powerful public sector worker unions in these services. This applies especially to the more progressive universal services—basic education and health for the uninsured—where progressivity at the upper end of the distribution reflects low quality, driving higher income groups to opt for private services. In these services, there is a direct conflict between equity and quality: as their quality is improved, it is likely that progressivity will decline.
4. **Provider rents vs. consumer benefits.** Adding to the limited quality the economic inefficiencies in the provision of these of services associated with the rents captured by public sector workers implies that a significant part of public spending on these services represent benefits to the providers rather than to their users, in the form of privileged pension benefits, high salaries, employment stability, and other, more opaque benefits (see below). This entails that the degree of progressivity of public spending presented in the previous section is doubly overestimated: a) by over-estimating the value of the benefits imputed to the users, and b) by the failure to impute the rents as benefits to the providers, which we know from the distribution of public sector

workers (see ISSSTE right-holders in graph 21) to be highly regressive: 72.4% of these rents accrue to the richest 30% of the population, only 7.0% to the poorest 30%.

These failures of Mexico's redistributive State may be classified in terms of two general constraints to effective and equitable redistribution under conditions of high inequality: a) the *capture* of redistributive instruments by organized interests, in the case of Mexico mainly public sector worker unions and bureaucracies, private sector producer groups and monopolies, and b) the *exclusion* of significant parts of the population due to structural (rather than political) limits on the reach of traditional "universal" redistributive instruments under conditions of high inequality. There is a large theoretical and empirical literature on the political economy of redistribution, even if most of this has focused on industrialized countries and their institutions (see Robinson 2008 for a review of the literature and its relevance to recent LAC history). Coverage failures and exclusion errors associated with high inequality conditions are also well known for specific types of instruments, but less recognized as a general challenge for the feasibility of redistribution with traditional instruments, under such conditions.

A. Capture

Political capture accounts for the two most regressive "redistributive" instruments analyzed above, benefiting specific worker or producer groups: public sector pensions and agricultural subsidies. Secondly, the capture related to public sector workers constraints the quality and cost of the "universal" services, by blocking reform efforts and reducing the share of benefits reaching the users of the services. We have documented the privileged pension benefits above (see table 4), and the high level of salaries (and job permanence) of public workers in education and energy relative to similarly qualified workers in the private sector have been documented in Lopez-Acevedo... and Guerrero et al. (2008). Beyond high pensions and salaries, in many cases these workers have also captured the right to inherit or sell job positions for new entrants. This can be illustrated by recent virulent opposition by the organized teacher unions to a new government program to increase educational quality (Alianza para la Calidad Educativa), in which the teachers openly opposed the effort to increase accountability and defended their right to inherit or sell teacher posts as personal assets. These are not simply established corrupt practices: the right to inherit their own posts to their children or other family members is included, for example, in the collective contract of Pemex workers.¹³

The capture of agricultural subsidies by private producer groups is evident from the level of concentration of these resources (section 3), and has recently been documented by Merino (2009). The capture of regulation and competition policy by the principal private and public monopolies has been candidly recognized by the principal responsible for competition policy in Mexico, Eduardo Pérez Motta (Director General, Comisión Federal de Competencia): "*Las grandes empresas monopólicas del país en el sector de telecomunicaciones, medios de comunicación,*

¹³ "Al jubilarse un trabajador, si...la empresa solicitara cubrir la última plaza, será propuesto el hijo, la hija, hijo adoptivo, hermano o hermana..." Art. 55, Acta Constitutiva y Estatutos Generales, sindicato petrolero (citado en Reforma, 18 de Octubre 2008).

energía y paraestatales mantienen cautivas a las autoridades...los reguladores sectoriales y secretarías de estado e incluso el propio Congreso...han sido capturados por estos grupos".¹⁴

The political economy of generalized consumer subsidies may be illustrated by considering the case of VAT exemptions on food and medicines and energy subsidies (table 8, above). At the risk of simplification, the evolution of these subsidies may be summarized in the following stages:

- a) introduced to protect consumption of basic necessities, especially of the poor,
- b) gradual expansion of the amount and coverage of the subsidy, becoming increasingly regressive,
- c) reform efforts to eliminate or reduce it become increasingly costly politically.

When VAT was increased to 15% in 1995, basic food and medicines were exempted. These represented some 15% of goods and services at the time, but had expanded to almost 50% of goods by 1998 (CIDE-ITAM 2004). This expansion was the result of successful judicial demands of equal treatment on the part of producers of goods not originally covered (processed food, candies, etc.), with the result of undermining the tax efficiency as well as equity of the instrument. A reform effort to eliminate all exemptions in 2001 failed because it was perceived to be regressive and blocked by party opposition from the left, despite the fact that the exemptions in fact fall into the more regressive group of instruments evaluated in section 3.

Residential electricity subsidies have a similar history. They were introduced in the early 1970s as the authorities failed to fully adjust the price of electricity to inflation, and were only formally introduced as a policy instrument in 1974 (World Bank 2008). The average subsidy has grown significantly with the introduction and gradual expansion of additional “summer” subsidies demanded by states with warmer climates. A reform effort to increase tariffs in 2002 faced intensive political opposition, and failed to do so significantly as localities reclassified into lower tariff areas and a sixth summer tariff was introduced (1F).¹⁵

A final and more fundamental form of State capture, constraining the very size of the redistributive State, is revealed in the failure to expand fiscal capacity over the 20th century in the face of effective opposition from the economic elite (...).

B. Exclusion: truncated Welfare State

The truncated coverage of social security and “universal” education and health services, and concentration of generalized subsidies among the rich, follow largely from the application of traditional redistributive instruments in high inequality settings. Though this effect accounts for the more moderately regressive instruments, relative to the capture cases, these instruments represent the bulk of redistributive spending.

¹⁴ *Reforma*, 8 de Febrero 2007

¹⁵ The story has threatened to repeat itself once more with the recent decision by the government to freeze petrol prices, apparently responding to political pressure in the media, thus introducing a large subsidy, though this will contract with the current (October 2008) decline in oil prices.

A contributive social security system which might at least be neutral under conditions of low (ex ante) income inequality, necessarily entails a truncated, and thus regressive, coverage under conditions of high inequality. Mexico's social security design was adapted from the models of the first industrialized Welfare States (Dion...), but these were designed for less unequal societies, and in the case of Mexico was applied to a small, organized and relatively privileged fraction of the labor force within the corporatist structure of the old regime. It was thus designed from its origin to offer relatively generous replacement rates at relatively high contributive costs, thus necessarily excluding the bulk of the workforce. Contributive cost of social security for low wage workers have been estimated on average as 35% of salary (Levy 2008), with a small chance of receiving a minimum pension. Forced savings and insurance premiums of this magnitude are obviously prohibitive for the poor in Mexico. The level of regressivity was further aggravated in relation to the European Welfare States by the choice of particularly unequalizing parameters, including regressive (rather than flat) benefit schedules, fragmentation into "privileged" systems, and the lack of a *non-contributive* minimum to protect the poor. While inequality represents a basic constraint on the redistributive performance of social security, the inequitable bias in the design of this system may be explained in the political arena.

The truncated coverage of "universal" education services can be similarly explained by the combination of inequality constraints, design failures and political capture. The principal constraints on the access of the poor to post-basic public education today (and basic education in the past) is the prohibitive opportunity cost of education, geographic access to the required facilities, and the quality of basic public educational services available to the poor. The first condition is a direct consequence of high income inequality, the second follows from the geographic dispersion of the poor, and the third may be accounted largely in political terms (capture by the providers of these services). As in the case of social security, bad design is aggravated here by its implementation in unfavorable distributive conditions. Comparing Mexico and the LAC region with high-income countries, the allocation of public education resources is biased towards the supply side (teacher salaries) and higher education services. These differences, which would imply a more regressive allocation under any distributive conditions, represent the opposite of the design bias which would be required under conditions of high income inequality: demand finance through scholarships to compensate the poor for their high opportunity costs, and high quality basic education services for the poor. These design biases may again be largely accounted for in political terms.

Generalized consumption subsidies, the second most important (in budgetary terms) redistributive category in Mexico, after "universal" services and social security, provides a further illustration of redistributive constraints under conditions of high income—and consumption—inequality. Under these conditions, as shown above (sections 3), generalized subsidies are regressive even when targeted to basic necessities, like food, household energy, or public transportation, and even when combined with progressive tariff schemes (increasing tariffs with increasing consumption), as in the case of water and electricity pricing. Again, the introduction and persistence of these instruments, despite their redistributive inefficiency (high inclusion errors), may be explained in political terms.

References

- Acemoglu, D., S. Johnson, and J. Robinson (2001), "The colonial origins of comparative development," *American Economic Review*, 91, 5: 1369-1401.
- Acemoglu, D., S. Johnson, and J. Robinson (2002), "Reversal of Fortune: Geography and Development in the Making of the Modern World Income Distribution," *Quarterly Journal of Economics* (4: 2002): 1231-94.
- Alvarez, J; V. Garcia Moreno and H. Patrinos, 2007, "Institutional Effects as Determinants of Learning Outcomes: Exploring State Variations in Mexico", World Bank Policy Research Working Paper No. 4286.
- Aspe, P. and Beristáin, J. (1984), "Distribution of educative and health services", in Aspe and Sigmund, eds. 1984, *The Political Economy of Income Distribution in Mexico* (Homes and Meier).
- Atkinson, A. and T. Piketty (2008), *Top Incomes Over the Twentieth Century: A Contrast Between Continental European and English-Speaking Countries* (Oxford: Oxford University Press).
- Boix and Rosenbluth 2004, "Bones of Contention: The Political Economy of Hight Inequality"
- CIDE-ITAM, 2004, Análisis de las Finanzas Públicas en México, CONACYT-CIDE-ITAM-Foro Consultivo Científico y Tecnológico.
- Coady, D. 2000, "The application of social cost-benefit analysis to the evaluation of PROGRESA", WP, International Food Policy Research Institute.
- Coatsworth, J. H. (2008), "Inequality, Institutions and Economic Growth in Latin America," *Journal of Latin American Studies* 40 (August): 545-69.
- Coatsworth John H. and Gabriel Tortella Casares, 2003, "Institutions and Long-Run Economic Performance in Mexico and Spain, 1800-2000", The David Rockefeller Center for Latin American Studies Working Papers on Latin America
- Drèze and Sen 1989
- Engerman, S. and K. Sokoloff (1997), "Factor Endowments, Institutions, and Differential Paths of Growth Among New World Economies," in *How Latin America Fell Behind*, ed. by S. Haber, Palo Alto, Cal.: Stanford: 260-304.
- Engerman, S., S. Haber and K. Sokoloff (2000), "Institutions, Factor Endowments, and Paths of Development in the New World," *Journal of Economic Perspectives* 14, 3: 217-32.
- Esquivel (2008), "The Dynamics of Income Inequality in Mexico since NAFTA", this volumen.

FAO, 2005, *Evaluación Alianza para el Campo 2004*.

Gill, I. S., T. Packard and J. Yermo 2004, *Keeping the Promise of Old Age Income Security in Latin America : A Regional Study of Social Security Reforms*. – Washington, D.C. : The World Bank.

Grosh, M. (1994). *Administering Targeted Social Programs in Latin América: From Platitudes to Practice*, World Bank, Washington D.C;

Guerrero, I., L. F. López-Calva, M. Walton, 2007, “The Inequality Trap and its Links to Low Growth in Mexico”, Paper presented at World Bank-Harvard Rockefeller Center conference on equity and growth in Mexico, Mexico City November 27-28th, 2006

IMSS 2005, *Informe al Ejecutivo Federal sobre la Situación Financiera del IMSS*, IMSS.

Levy, S., 2008. *Good Intentions, Bad Outcomes: Social Policy, Informality, and Economic Growth in Mexico*. Washington DC: Brookings Institution Press.

Leyva-Parra, G. 2005, “El Ajuste del Ingreso de la ENIGH con la Contabilidad Nacional y la Medición de la Pobreza en México”, in Székely (ed.), Lindert, P. H. (2004), *Growing Public: Social Spending and Economic Growth Since the Eighteenth Century*, Volume 1 (Cambridge: Cambridge University Press).

López-Alonso 2006 "A History of Poverty and Inequality in Mexico, 1840-1940: An Anthropometric Approach." Presented at Session 76 of the International Economic History Association Meeting Helsinki Finland August 2006

Mancera, C. 2008, “Resultados preliminares de los estudios de calidad de los servicios educativos que atienden a la población beneficiaria de Oportunidades en áreas rurales”, Cuarta Sesión de Comité Académico de Expertos en Política Social, Sedesol, September 17, 2008.

Milanovic, B., P. H. Lindert and J. G. Williamson (2008), “Measuring Ancient Inequality,” *NBER Working Paper 13550*, National Bureau of Economic Research, Cambridge, Mass. (October).

PNUD, 2008, *Índice de Desarrollo Humano Municipal en México 2000-2005*, PNUD, México.

Prados de la Escosura, L. (2007), “Inequality and Poverty in Latin America: A Long-Run Exploration,” in T. J. Hatton, K. H. O’Rourke, and A. M. Taylor (eds.), *The New Comparative Economic History* (Cambridge, Mass.: MIT Press), pp. 291-315.

Presidencia de la República, 2003, *Tercer Informe del Gobierno*.

Presidencia de la República, 2008, *Segundo Informe de Gobierno*.

Robinson, J., 2008, “The Political Economy of Redistributive Policies”.

Scott, J. 2002a, “Distribución de la ayuda alimentaria en México: La revolución de los noventa”, Documento de Trabajo 240, División de Economía, CIDE.

____2002b, “High Inequality, Low Revenue: Redistributive Efficiency of Latin American Fiscal Policy In Comparative Perspective”, Paper prepared for a Conference on *Fiscal Aspects of Social Programs, Studies On Poverty and Social Protection, Regional Policy Dialogue, Poverty Reduction and Social Protection Network, Inter American Development Bank (IADB)*. .

<http://idbdocs.iadb.org/wsdocs/getdocument.aspx?docnum=616098>

____ 2004, “Eficiencia redistributiva de los programas contra la pobreza en México”, Documento de Trabajo 330, División de Economía, CIDE (Trabajo de Investigación comisionado por SEDESOL).

____2005, “Social Security and Inequality in Mexico: From Polarization to Universality”, *Well-being and Social Policy*, 1: 59-82.

____2006, “Health and Health Care Inequality in Mexico”, Working Paper 4, Innovations In Health Financing, Funsalud-INSP; Technical Background paper for the Report of the Mexican Commission on Macroeconomics and Health.

____2007, “Agricultural policies and rural poverty”, CIDE Working Paper and Background Paper for the OECD Report on *Agricultural and Fisheries Policies in Mexico: Recent Achievements , Continuing the Reform Agenda*, OECD, November 2006.

____2008a, “Diagnóstico y Propuesta de Reforma para PROCAMPO: Política de Apoyos para un Crecimiento con Equidad en el Campo Mexicano”, Working Paper for ASERCA-BID project on Procampo Reform, March 4, 2008.

____2008b, “Mexico Agriculture Public Expenditure Review: Assessment of ARD Public Expenditures”, Background Paper for the *Mexico Agriculture Public Expenditure Review*, The World Bank.

Sen, Amartya. 1995. "The Political Economy of Targeting" in D. van de Walle and K. Nead (eds) *Public Spending and the Poor: Theory and Evidence*, Baltimore: Johns Hopkins University Press.

SHCP, 2008. *Distribución del pago de impuestos y recepción del gasto público por deciles de hogares y personas. Resultados para el año de 2006*, SHCP.

Steckel, Richard, and Mark Rose, eds. 2002. *The Backbone of History: Health and Nutrition in the Western Hemisphere*. Cambridge.

Székely, M. 2003, “Es posible un México con menor pobreza y desigualdad”, Documentos de Investigación 3, Secretaría de Desarrollo Social, México.

Thomas, V., Y. Wang, and X. Fan 2000, “Measuring Education Inequality: Gini Coefficients of Education”, The World Bank.

van Doorslaer, E. and O. O'Donnell, 2008, "Measurement and Explanation of Inequality in Health and Health Care in Low-Income Settings," Discussion Paper No. 2008/04, UNO-WIDER.

Wilkie, James W., 1967. *The Mexican Revolution: Federal Expenditure and Social Change since 1910*. Berkeley: University of California Press.

World Bank, 2004, "Reforma del financiamiento para pensiones y actividades de asistencia social: evaluación del pasivo fiscal global de los sistemas públicos de pensiones en México", mimeo.

World Bank, 2006, *Decentralization, Poverty, and Development in Mexico*.

World Bank, 2007, *Informality: exit and exclusion*, WORLD BANK LATIN AMERICAN AND CARIBBEAN STUDIES

World Bank, 2008, *Electricity Residential Electricity Subsidies in Mexico: Exploring options for reform and for enhancing the impact on the poor*.

Annex

The distribution of each instrument is grouped in population deciles ordered by total current income per capita before taxes and transfers (pre-fiscal), and the degree of absolute progressivity is measured with concentration coefficients (CC). The principal data source for the analysis is the 2006 ENIGH household income and expenditure survey. In addition to being the most detailed source for household income available in Mexico at present (September 2008), this survey reports the principal monetary public transfers, the use of public education and health services, right holders to social security, and spending on electricity. With the exception of *Oportunidades*, the targeted programs included in the analysis are obtained from a special module on social programs commissioned by the Social Development Ministry as part of the 2004 ENIGH. The distribution of agricultural public expenditures, and in particular *Procampo* and *Ingreso Objetivo*, are obtained from the administrative beneficiary data base, and reported as producer deciles ordered by the extension of land holdings.¹⁶

Public spending data is obtained from the *Public Accounts of the Federation* for the relevant years, and in the case of health the *National and State Health Accounts* published by the Health Ministry (education state spending is estimated from federal per student spending rates and the coverage of state financed schools reported by the Education Ministry). As is common in household income surveys, total household income in ENIGH tends to be underreported by a large margin (a factor of 1.87 in 2006) when compared to the closest equivalent concept in the *National Accounts*. To estimate the incidence and redistributive effect of public

¹⁶ The inclusion of the latter results with the ENIGH-based estimates is justified on the assumption that the size of land-holdings is positively correlated with income. The only agricultural subsidy reported in ENIGH is *Procampo*, but the survey is not designed to report the distribution of this program accurately: a large fraction of *Procampo*'s benefits are concentrated on a small group of producers at the top end of the land and income distribution. The ENIGH survey is particularly poor at capturing income at the top end of the distribution, for well-known reasons of small samples and problems of underreporting (see footnote 4, above) and therefore significantly underestimates the concentration of *Procampo* transfers.

transfers it is necessary to ensure comparability between public transfers obtained from the Public Accounts and private income reported in ENIGH, so the latter data is adjusted to ensure consistency with the National Accounts, and both adjusted and unadjusted incidence estimates are reported.