The Household Response to the Mexican Peso Crisis.

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Abstract

Household expenditure surveys are used to examine the effects of the Mexican peso crisis on household consumption and labour supply. The crisis is seen to have caused income and consumption to decline for all groups of society, although the relative impact differed by the education, industry and residence of the household head. The main smoothing mechanism was a change in the composition of consumption. Households are shown to have increased their expenditure share on food even more than Engel's law would predict, reducing their expenditure on luxury goods in order to do so. Labour supply is not found to have responded strongly to the crisis.

1 Introduction

Following the forced devaluation of the peso on December 20, 1994, Mexico faced its worst economic crisis since the Great Depression. Real GNP per capita fell 9.2 percent in 1995 and mean manufacturing wages fell by 21 percent over the 1994-96 period.[1] This was but the largest in a series of recurring crises which have plagued the Mexican economy over the last twenty-five years. This paper examines the response of household consumption behaviour, labour supply, and savings to the large falls in income caused by the peso crisis, allowing for this response to differ across different cohorts and groups of society.

The Encuesta Nacional de Ingreso-Gasto de los Hogares (ENIGH) household surveys are used to investigate consumption at the household level. The peso crisis is shown to have had an extremely widespread impact, lowering income and consumption for all age groups and education levels. However, we find that less-educated, rural and agricultural workers experienced the smallest falls in income. In contrast, households living in metropolitan areas, highly educated household heads, and workers in financial services and construction suffered the greatest declines. Household saving fell, but not enough to prevent large falls in the level of consumption. The composition of consumption changed in response to the crisis, with households reducing expenditure on non-essential items such as meals out, leisure, and alcoholic beverages, and postponing durable and semi-durable consumption.

We develop a method for disentangling income, price, demographic, and crisis-adjustment effects on the composition of consumption. Using this method, we find that in addition to the direct Engel's law effect of a fall in income, and the effects of any price changes, there was an additional crisis adjustment effect. Necessities such as food, particularly cereals and grains, eggs, and oils and fats, became even more of a necessity during the crisis, whereas some other commodities became even more of a luxury. Households attempted to mitigate the short-term effects of the crisis by increasing food expenditure shares at the expense of other budgetary items, including primary health care. Labour supply is shown to have not responded to the crisis, with households showing very little change in

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[1] source: Real wage changes reported in Lustig (1998, p. 193).

hours worked, number of household members working, and female and child labour participation.

In related literature, Cunningham and Maloney (2000) use quantile analysis and a rotating employment panel to identify vulnerability during the peso crisis. They find that most families were unable to prevent large income shocks from being realized, but that less-educated households experienced more rapid income recovery after the crisis. Lopez-Acevedo and Salinas (2000) show that income inequality in Mexico actually improved during the financial crisis. They attribute this improvement to the crisis having a greater impact on the labour earnings of workers in non-tradeable sectors such as financial services, and on individuals in the top income decile. Neither study considers the impact of the crisis on consumption, which is the main focus of this paper.

The remainder of the paper is organized as follows. Section 2 provides further detail on Mexico's macroeconomic performance over the period 1984-98. Section 3 describes the ENIGH survey data, and examines changes in household composition. Graphical analysis of consumption and income at the household level is contained in Section 4. Section 5 considers the differential impact of the crisis across groups, and examines how the composition of consumption, labour supply, savings, and migration responded to the crisis. Section 6 concludes the paper and discusses its policy implications. An Appendix discusses the possible effects of Mexico-US migration on cohort-level comparisons.

2   Mexico's Macroeconomic Performance 1984-96

Figure 1 plots the level of real GNP per capita, and annual growth rates in real GNP per capita and real private consumption per capita in Mexico over the period 1976-98.[2] The overall stagnation of the economy is seen by the fact that the level of real GNP per capita only first rose above the 1981 level in 1998. Private consumption growth tracks GNP per capita growth closely over time, and there is not much evidence of consumption smoothing over the income shocks. In particular, in 1995 real private consumption per capita fell by 11%, which was more than the 9.2% fall in real GNP per capita.

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[2]source: *World Development Indicators 2000*, The World Bank, Washington, D.C.

Figure 1: Mexican Macroeconomic Performance 1976-98
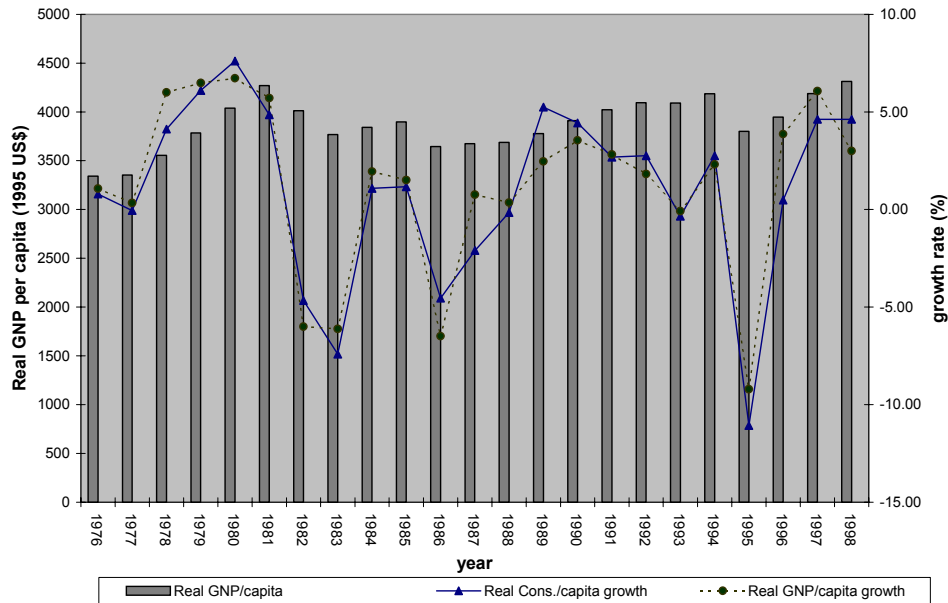
Mexico's economic performance has been volatile over this period, with the country subject to recurring economic crises in 1976, 1982, 1986 and 1995. Lustig and Székely (1997) remark that although domestic policy undoubtedly played a role, the vulnerability of Mexico to the behaviour of external variables was a significant factor leading to these crises. In December 1994, following a drain on its foreign exchange reserves, the peso was devalued by 40%, leading to capital flight, a stock market crash, the loss of 2 million jobs, and plummeting real incomes. Between the outbreak of the peso crisis in January 1995 and July 1997, average remuneration in manufacturing fell almost 40 percent (Lustig, 1998, p. 211).

The past four years (1996-2000) have seen GDP grow at an average of 5.1% per year, and inflation fall below ten percent. However, income inequality has increased, and there is significant regional disparity between the northern and southern states. Moreover, the outlook for Mexico's economy in the current year is less rosy. Mexico faces the slowdown of the United States economy, its main export market; a probable fall in the price of oil, its single biggest export; and an increase in debt payments, which were rescheduled during the election year. The exchange rate is by some measures

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more overvalued in mid-2001 than it was in the months preceding the 1994 devaluation (González, 2001). Analysis of the responsiveness of consumption to macroeconomic shocks in the past may help predict the possible consequences of these events.

3   The ENIGH Survey data

Household surveys of income and expenditure in Mexico have been carried out at irregular intervals since 1950, however only the surveys from 1984 onwards are comparable.[3] Six rounds of the Encuesta Nacional de Ingreso-Gasto de los Hogares (ENIGH) are available. The surveys are representative at the national level, and were carried out using stratified sampling during the third quarter of each survey year. The size of the survey varies from year to year, being 4,735 households in 1984, 11,535 in 1989, 10,530 in 1992, 12,815 in 1994, 14,042 in 1996 and 10,952 in 1998. The surveys contain extremely detailed information about the expenditure of each household, together with information on income after taxes and social security contributions, capital expenditure, and demographic variables. Information is also available on non-monetary expenditure, such as auto-consumption. A household is defined as a group of people who habitually reside in the same dwelling and who are sustained by common expenditure on food. Individuals who live together but who do not share expenditure on food with one another are defined as distinct households (INEGI, 1998).

We compute non-durable consumption by subtracting the following expenditures from total consumption: expenditures on furniture and household appliances, leisure and entertainment equipment including audiovisual and photographic equipment, vehicles and orthopedic and therapeutic items. This definition closely follows that used by Attanasio and Székely (1998) and Villagómez and Soberón (1999). Income is net income from all sources excluding income from capital transactions, such as the sale of a house, vehicle, animal or jewellery, and money received in the form of loans, or from closing a bank account.[4] Income is net of taxes and contributions to social security. Attanasio and

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[3] Earlier surveys were taken at different times of the year, by different government bodies, and used different sampling techniques. See Székely (1998) for further discussion of the earlier surveys.

[4] The category "other income - other" lumps together income from lottery winnings, dowries, inheritances and sale of authors rights with money received from loans from other people. In order to avoid counting loans received as income we exclude this category from income received.

Székely (1998) note that the surveys do not provide information on "forced" saving through private pensions and social security contributions so that households whose members have a formal sector job (that requires such payments by law) are probably saving more than is apparent in the data. We add the imputed rental value of houses owned or loaned to the household.

Inflation: Following Villagómez and Soberón (1999), we deflate the data using the CPI from the month of September in each survey year. We use the monthly consumer price index provided by the Banco de Mexico to convert the data to 1994 pesos. Inflation has been high over the sample period, with annualized rates above 20 percent for all but the 1992-94 period. Table 1 calculates annual inflation rates using alternative price indices, and for specific expenditure items. During the peso crisis period of 1994-96, prices rose more for the consumption basket of a low-income households than it did for higher-income households. This is seen in more rapid price increases for a basket of basic needs, for food, and for non-durable goods than the overall CPI inflation rate. As a consequence, deflating by the overall CPI tends to understate the falls in consumption and income experienced by lower income households. Our analysis of the differential impact of the crisis on incomes across groups examines the sensitivity to the choice of price index. Relative price changes across consumption categories also need to be considered when we examine how the composition of consumption changed in response to the crisis.

3.1 Headship and Household Composition

The household head in the ENIGH surveys is defined as the person recognized as the head by the household members (INEGI, 1998). We exclude households where the head has not resided in the household for three or months prior to the interview, and where the head is not reported. Table A1 details the relationship of individuals in 5-year age groups to the head of their household in various survey years. We see that only 30 percent of individuals aged 20-24 years, and two-thirds of individuals aged 25-29, are household heads or spouses of household heads. The median marriage age in 1995 was 22 for men and 19 for women (INEGI, 1997). At least one-third of all individuals

aged 75 or above are the parent or another relative of the household head. In contrast, the large majority of individuals aged 30-70 are household heads or their spouses. The percentages seem fairly stable over the 1984-96 period, and in particular we do not see sizeable changes in household composition following the 1995 peso crisis.

Table 2b focuses on the individuals in each age range who are household heads, and examines the composition of their households. Household heads are predominately male. A female is extremely unlikely to be defined as the household head unless her spouse is no longer part of the household, due to reasons such as death and divorce. Only 0.9 percent of female household heads in 1984 had their spouse living with them, and only 1.4 percent in 1996. Very few household heads also have a parent living in the house, while even the oldest age group of heads report having children live in the household. Thus it appears that if an elderly individual moves in with her children, he or she would then be reported as the household head. In 1995 nuclear households comprised 73.8 percent of all households, while extended households (involving other relatives) comprised 25.2 percent (INEGI, 1997).

Table 2b also reports on the number of members of the household. The distribution is positively skewed, reflecting a number of large households. The mean household size is thus greater than the median, particularly for older households. We define an adult as an individual aged 18 years and above, children as individuals 17 or younger, and the number of adult equivalents as the number of adults plus one-half of the number of children.[5] We standardize household consumption and income by the number of adults, the number of adult equivalents, or family size, in order to control for the large variability in household size.

4   Consumption and Income at the Household Level

Figure 2 plots total consumption, total income, total non-durable consumption and monetary non-durable consumption per household, and per adult equivalent, by 5-year birth cohort. Total consumption includes non-monetary expenditures such as auto-consumption and the estimated rental

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[5]The lack of formal equivalence scales for Mexico force us to adopt this definition.

value of own homes in addition to monetary expenditures. In each case mean consumption or income is plotted for 5-year birth cohorts against the age of the household head. Household consumption and income show the standard inverse-U shape, rising until the head reaches age 50, and declining thereafter. Per adult equivalent consumption is much flatter, reflecting the effect of accounting for family size changes over the lifecycle. The effects of the peso crisis are clearly seen, with consumption and income falling for all cohorts over the 1994-96 period. There are noticeable differences between monetary and total consumption, demonstrating the importance of accounting for non-monetary expenses. Non-monetary expenditure comprises roughly 30 percent of total expenditure, for all income deciles (INEGI, 1998). The cohort profiles for income and consumption show similar patterns, with consumption appearing to track income. As with the aggregate data, consumption does not seem to have been greatly smoothed when income falls.

Figure 2: Lifecycle Income and Consumption by Cohort
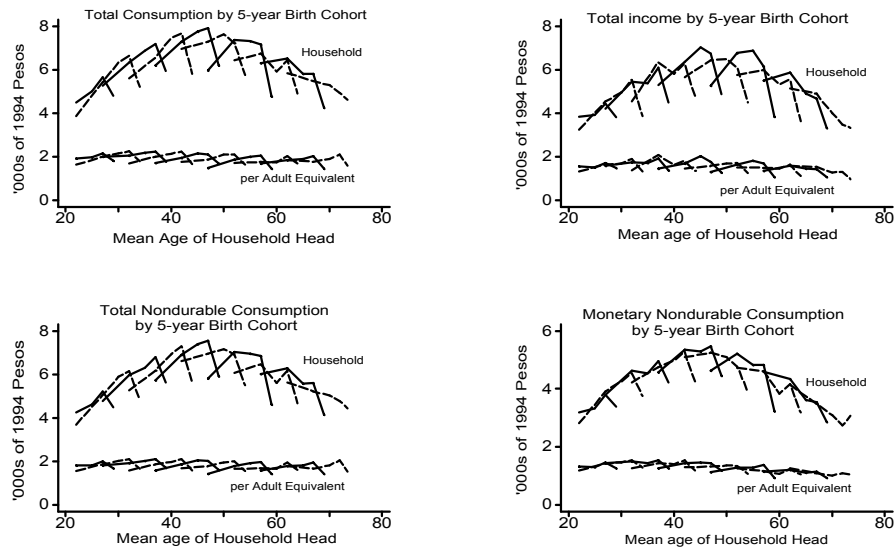
Consumption varies widely between different individuals within each age cohort, with the distribution being right-skewed. The mean consumption is thus greater than the median. Figure 3 graphs yearly box-and-whiskers plots for several cohorts. It shows that not only did the mean fall after 1992, but the median and upper- and lower-quartiles did as well. In order that the majority

of the distribution could be clearly seen, we have not shown observations above the 95th percentile, so that the actual distribution exhibits greater skewness than that plotted.

Figure 3: Distribution of Non-durable Consumption per Adult Equivalent
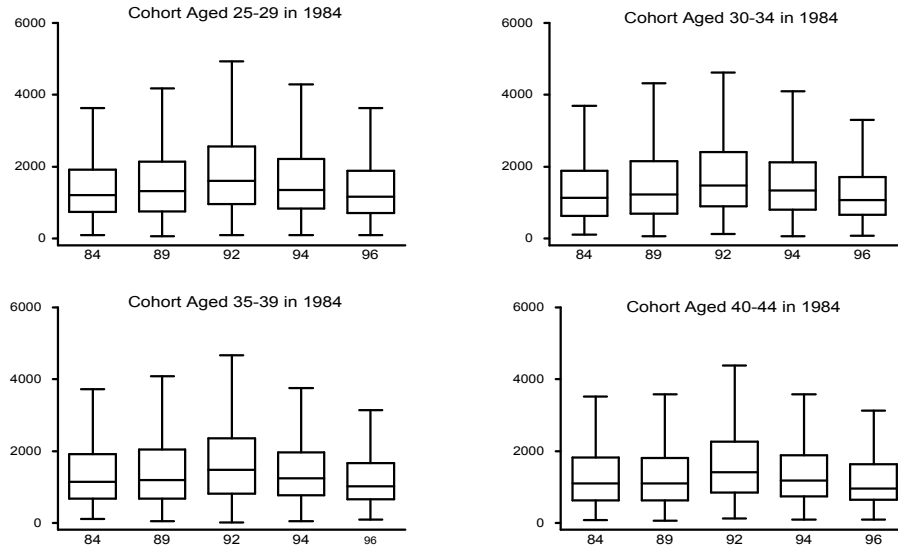
4.1 Birth Year-Education Cohorts

The data can be more finely partitioned through grouping individuals by both the birth year and the educational level of the household head, assuming that educational attainment remains fixed over time. Six levels of educational attainment are considered: no schooling; incomplete primary schooling (1-5 years of primary education); completed primary education; junior high (1-3 years of post-primary education); high school; and college and above. There are clear differences across birth cohorts, with higher levels of educational attainment reached by the younger cohorts. For example, 32 percent of the 60-64 year olds in 1996 had no schooling, a further 41 percent had incomplete primary schooling, whereas only 6 percent had high school or college education. In contrast, of the 30-34 year olds in 1996, only 4 percent were unschooled and 21 percent had incomplete primary schooling, while 26 percent had high school or college educations.

Figure 4 plots nondurable consumption by five year birth-education cohort. For all age cohorts,

average consumption is higher when education is higher. The profiles are more variable than in Figure 2, reflecting the much smaller sample sizes for some cohorts. Nevertheless, the effects of the peso crisis are still clearly seen, with consumption falling between 1994-96 for all cohorts. One can observe that declines in consumption are smaller for cohorts with no schooling.
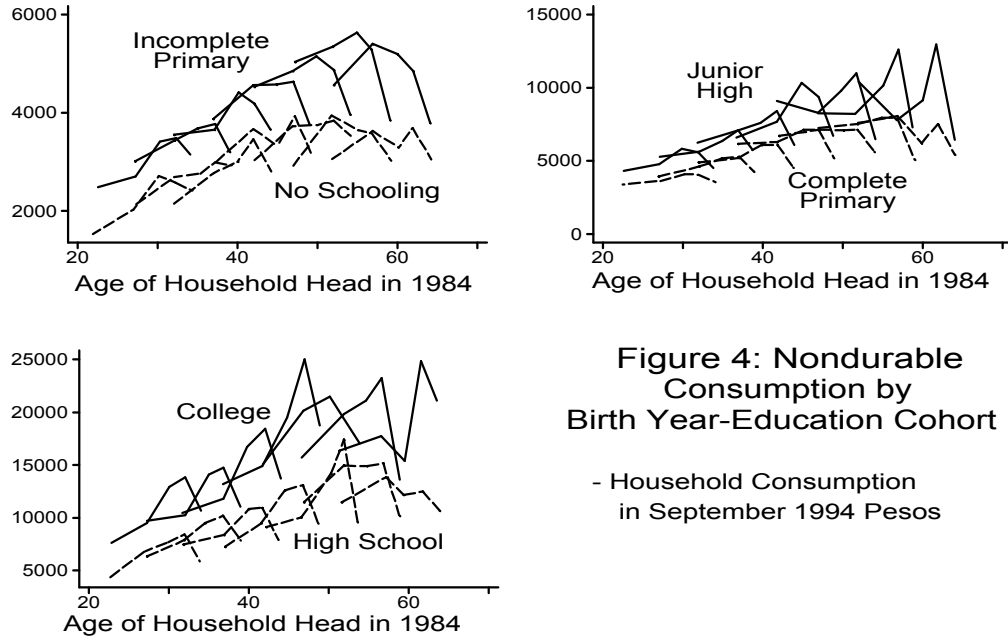
Figure 4: Nondurable Consumption by Birth Year-Education Cohort

- Household Consumption in September 1994 Pesos

5 Response to the Peso Crisis

5.1 Differential Impacts of the Crisis

Previous research suggests that the impact of an economic crisis may differ across socio-economic and occupational groups. Lustig (1998) shows that the agricultural sector in Mexico experienced some expansion in the first few years following the 1982 debt crisis, whereas other sectors of the economy contracted. During the recent financial crisis in Thailand, Townsend[6] finds that shrimp farmers as a group experienced income growth. Analysis of the extent of consumption smoothing during the peso crisis therefore requires examination of the extent to which the crisis had differential

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[6] source: Private correspondence with Robert Townsend.

impacts across groups.

We classify households into groups according to the age, sex and education of the household head; the industry which the head works in; the position which the head occupies; the population of the city, town or village where the household is located; and the number of paid workers in the household. The ENIGH surveys are designed to allow comparison at the national level, but not at the state level, preventing a further breakdown of households by region of residence.

Table A3 examines how the level of log income per capita is related to these characteristics in 1994 and 1996. Income is seen to increase with age and education, be higher in metropolitan areas and large cities than in small towns and rural areas, and be lower for agricultural workers. Comparison of the 1994 and 1996 coefficients shows the income gap between unschooled household heads and heads with higher educational levels narrowing. Likewise the rural-urban difference appears to have narrowed, and workers in agriculture have narrowed the income differential with workers in commerce, construction, financial services, and social services. This evidence suggests that rural and agricultural workers were not hit as hard by the crisis as some other groups.

Table A3 also examines which household characteristics are associated with households receiving transfers from abroad. Such transfers may provide an additional means of support for households during the crisis, and also reflect household diversification through migration. We first note that such transfers are rare, with only 3.1 percent of households in 1994, and 4.6 percent of households sampled in 1996 receiving these transfers. The prime recipients of such transfers are seen to be workers in agriculture, living in areas of under 15,000 population, and working as rural labourers. This reflects the fact that many migrants to the U.S. are agricultural workers. Moreover, this group of households is even more likely than other groups to receive foreign transfers in 1996 than in 1994, suggesting an increase in transfers in response to the crisis.[7]

The change in mean log income and mean log consumption per capita between 1994 and 1996 is calculated by different groups of household characteristics in Table 2. Results are given using the

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[7]The small number of households receiving transfers, and the increasing flow of migrants over time prevents the use of this data to formally test whether a causal relationship exists between income shocks and transfers received from abroad.

monthly Consumer Price Index (CPI) for September; use of the basic needs (Canasta Básica) price index would result in an additional eight percent decline in the measured quantities.[8] The peso crisis is seen to have had a widespread impact on incomes and consumption, with all age groups and educational levels experiencing declines. However, more highly educated heads and those living in metropolitan areas experienced much larger declines in income than unschooled heads and rural households. Using the CPI, income per capita is estimated have fallen by 17 percent in agriculture, compared to 35 percent in construction and in commerce, and to a 48 percent decline in income for workers in financial services.[9] Income per capita of rural labourers fell by less than that of non-agricultural workers, and especially by less than that of employers. The differential impact is much less amongst age cohorts than educational cohorts and rural-urban groups, although younger workers as a group experienced a slightly greater decline in income, due to the higher average education level of the young.

Changes in overall consumption per capita are closely related to the changes in income. For all groups, total consumption falls slightly less than income. However, the declines in consumption expenditure are still large, showing that consumption was not shielded from the effects of the crisis. Non-monetary consumption fell more than monetary consumption, reflecting large declines in the estimated rental value of own housing. For the households sampled, durable consumption fell 27 percent compared to a 14 percent decline in monetary non-durable expenditure, suggesting that households reacted to the crisis by changing the composition of consumption. This is seen further in changes in other expenditure categories: food consumption and expenditure on educational materials fell much less than overall expenditure, whereas clothing expenditure fell more.

Comparisons across location, occupation or industry of the household head implicitly assume that these are fixed over the period 1994 to 1996. However, households may migrate and individuals may change jobs, particularly in response to the economic crisis. Grouping by the age of the household

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[8]As Attanasio and Székely (1998, p20) note, the expansion factors that the surveys provide are representative for the population as a whole, but not for group-level comparisons. The tables shown do not use the expansion factors, however results similar to those shown were obtained using the expansion factors to weight the data.

[9]The magnitude of these changes corresponds reasonably well with data from other sources. For example, between 1994 and 1996, real annual mean remuneration per economically active person in manufacturing and in finance fell 27.7 percent and 35.3 percent respectively. (Table 2.8, *La Economía Mexicana en Cifras 1998*, Nacional Financiera, México, D.F.)

head in 1994 and the education level of the household head is not subject to this same criticism, which is why the formal estimation in the remainder of this paper uses education-birth cohorts.

The conclusion that the least educated suffered relatively lower declines in income following the crisis may also reflect the timing of when the surveys were taken. Using the Mexican National Employment Survey (ENEU), a rotating panel, Cunningham and Maloney (2000) find that the least educated and poor in Mexico were among the quickest to recuperate their income losses in the recovery period. Hence, by time the 1996 ENIGH survey was taken, income may have started to recover for the lower educated groups. Combining cohort information from both the ENEU and ENIGH surveys may enable closer examination of this hypothesis in future research.

5.2   Changes in the Composition of Consumption

Frankenberg et al.(1999) find that households in Indonesia reduced their expenditure on non-essential goods or purchases that could be delayed during the Indonesian financial crisis. They show that the share of the budget spent on food staples, such as rice, increased substantially, while the share of the budget spent on meat and fish declined. The expenditure shares of semi-durables, clothing, health and education expenditure all declined.

As noted previously, Mexican durable consumption expenditure fell by more than nondurable consumption during the peso crisis. Table 3 examines changes in expenditure shares in greater detail, over the crisis (1994-96) and recovery (1996-98) periods. Total food expenditure accounted for an additional two percent of total expenditure in 1996 than in 1994. However, this relatively small change masks dramatic changes in the composition of food expenditure. The share of total expenditure allocated to cereals and grains (which includes tortillas, rice and bread) increased by 27 percent. The expenditure shares of other staples such as eggs, oils and fats, and milk also increased substantially. In contrast, the share allocated to alcoholic beverages declined 28 percent, and relative expenditure on meals consumed outside the home fell 23 percent. The expenditure shares of meat and fish appear to have increased slightly when one uses the unweighted shares. However, after adjusting the data to account for the fact that some observations had greater probability of being

sampled than others, one sees that the shares of both meat and fish fell.

Households also spent relatively less on leisure activities, clothing, household goods and furniture, entertainment equipment and personal care services. This shows households cutting back on non-essential expenses and postponing semi-durable and durable good purchases. Interestingly, the share of expenditure allocated to education increased, which contrasts with the Indonesian results. However, as in Indonesia, the use of primary health services declined substantially. Transfers to non-household members and donations also experienced relative declines. The surveys do not detail the recipient of these transfers, and are not suitable for exploring whether these declines in transfers represent a breakdown in inter-household risk-sharing arrangements.

Durable goods experienced the sharpest reduction in aggregate private consumer spending during the crisis, falling 45.7 percent in 1995, compared to an 8.3 percent decrease in non-durable products. However, aggregate data also shows that durable good expenditure increased by an average of 11.1 percent during 1998, compared to a 6.3 percent increase on non-durable goods (Banco de México, 1999). The 1998 ENIGH survey can be used to examine the extent to which households temporarily cut back on durable and semi-durable purchases during the crisis. During the 1996-98 recovery period, the relative expenditure shares of desserts, alcoholic beverages, leisure expenses, clothing, personal care expenses, entertainment equipment and purchases of vehicles all increased relative to their 1996 levels. This suggests that households postponed these non-essential and durable good purchases during the crisis, returning to consume them once the recovery was underway. The expenditure share of household goods and furniture fell by more in the 1996-98 period than in the earlier crisis period, suggesting a longer durable good adjustment period for this item. Transfers to non-household members and donations also increased their relative shares between 1996 and 1998, suggesting that households shared the recovery with other individuals. The food share and share of cereals and grains fell below the 1996 level, but was still above the 1994 share.

Table 4 details expenditure shares and changes in expenditure shares by education cohort. More educated households have higher average incomes, and as expected allocate a lower share of their expenditure to necessities such as food, cereals, eggs and oils and fats, and a higher share to luxuries

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such as meals consumed outside the home, education, leisure, entertainment equipment, and transfers to non-household members. The broad pattern is as for all households combined, with households in different education cohorts reacting in similar ways to the crisis and subsequent recovery. Less educated households adjusted their expenditure on alcoholic beverages, desserts and sweets, and leisure expenses relatively more than more educated households. Less educated households reduced their expenditure share on public transport during the crisis, whereas more educated households increased their share. This is likely to reflect the less wealthy walking or bicycling instead of taking a bus, whereas those with higher incomes switched from personal vehicle use to public transport. Some evidence of smoothing across education groups is seen in the fact that the less educated (and poorer) cohorts reduced their expenditure share on donations, whereas those with higher education (and more income) increased their expenditure share.

Table A4 and A5 further examine changes in expenditure shares by birth cohort and population density of residence of the household head respectively. The response to the crisis is seen to be similar across age groups. The surveys only give the current location of the household, not how long they have been living there. This means that, for example, the group of households living in metropolitan areas in 1994 is therefore not strictly comparable with the group there in 1996 or 1998. Nevertheless, we present the results in Table A5 under the assumption that migrants were a random sample of the population. Under this assumption, one again sees the same general response patterns as those in Table 3, so that rural and urban households broadly responded in the same way to the crisis. One can observe some differences in the way rural and urban households adjust their expenditure shares. The magnitudes of the changes differ somewhat, as one would expect given the relatively lower falls in income experienced by rural households. Rural households are seen to have decreased their expenditure shares on public transport during the crisis, whereas urban households increased their share. This probably reflects differences in the reason for using public transport between urban and rural areas.

These changes in the composition of consumption are not merely a result of relative price changes. As Table 1a showed, durable goods prices increased by slightly less than non-durable goods over the

period 1994-96. Likewise, food prices increased by more than any other expenditure category. The ENIGH surveys collect data on the price paid for food items, allowing closer examination of relative price changes by food item. Table 1b gives inflation rates for specific foods. The prices of food staples do not appear to have become substantially cheaper relative to other food items. Overall food price inflation averaged 40 percent over the 1994-96 period. Using the inflation rate calculated from median prices paid, the annualized price increases for tortillas, bread, milk, eggs, and beans were 35, 47, 42, 54 and 51 percent respectively. Therefore we can interpret the compositional changes in consumption as largely due to income effects, and households deciding to postpone the consumption of non-essential semi-durables and durables. We attempt to separate these two explanations in the next subsection.

5.3   Disentangling price, income and crisis mitigation effects

The above analysis shows dramatic changes in the expenditure shares of certain commodities during the crisis period. The direct effect of the fall in income caused by the crisis is an Engel's law effect, whereby households reduce their expenditure shares on luxuries and consume relatively more of necessities. We now turn our attention to investigating whether price effects and Engel's law are sufficient to explain the changes in expenditure shares, or whether it appears that households made additional adjustments in expenditure shares in an attempt to mitigate the effects of the crisis.

We begin by specifying a standard Engel curve linking household expenditures on individual goods to total expenditure and to the demographic composition of the household. The functional form used is the budget share form of the almost ideal demand system of Deaton and Muellbauer (1980, p. 313), extended by Deaton (1997, p.231) to incorporate demographics[10]:

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\begin{aligned}
\omega_{i,j,t} &= \left(\alpha_i + \sum_{h=1}^{H} \lambda_{i,h} \log p_{h,t} \right) + \beta_i \ln \left(\frac{x_{j,t}}{n_{j,t}} \right) + \eta_i \ln \left(n_{j,t} \right) + \sum_{k=1}^{K} \gamma_{i,k} \left(\frac{n_{k,j,t}}{n_{j,t}} \right) \\
&\quad + \tau_i z_{j,t} + u_{i,j,t} \ .
\end{aligned}
\tag{1}
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[10]Note that Deaton (1997) uses only cross-sectional analysis, in which case the price effects are constant.

Here $\omega_{i,j,t}$ is the budget share of good i for household j at time t, x is total household expenditure, n_l is the number of people in the household in age-sex class l, z is a dummy variable for a female head of household, $p_{h,t}$ is the price of good h at time t, and $u_{i,j,t}$ is the error term. The coefficient β_i is positive for luxury goods and negative for necessities.

One explanation for the large changes in expenditure shares seen in Table 3 is that they represent purely an Engel curve effect. The peso crisis caused incomes to fall, which has the effect of causing households to reduce the expenditure shares of luxuries and increase the shares of necessities. To determine whether expenditure shares for some items changed by more than Engel's law would suggest, we first fit (1) using the 1994 household level data. Results for selected goods are shown in Table A6, and show food, cereals and grains, and oils and fats to be necessity items, while desserts and sweets, meals consumed outside the home, education expenditure, clothing, household goods and services, and transfers to non-household members are all luxury items.

Using the fitted coefficients from the 1994 data, we then use (1) with the 1996 explanatory variables to obtain predicted 1996 expenditure shares, $\widehat{\omega}_{i,j,t+2}$, together with the accompanying prediction errors. Aggregating over households, we can then compare the actual expenditure share to the predicted one for each expenditure category, resulting in Table 5. According to this analysis, we find that the expenditure shares for food, cereals and grains, milk, eggs, oils and fats and education were significantly higher than Engel's Law would predict, whereas households consumed relatively less of fruits, alcoholic beverages, meals outside home, house cleaning and care, personal care, clothing, primary health care and entertainment equipment than Engel's law would predict.

We next divide the sample into birth year-education cohorts based on six education levels and five-year birth intervals and take means of (1) across individuals in the same cohort. The cohort-level version of (1) is then

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\begin{aligned}
\omega_{i,c(t),t} \;=\; & \left(\alpha_i + \sum_{h=1}^{H} \lambda_{i,h} \log p_{h,t} \right) + \beta_i \ln \left(\frac{x_{c(t),t}}{n_{c(t),t}} \right) + \eta_i \ln \left(n_{c(t),t} \right) + \sum_{k=1}^{K} \gamma_{i,k} \left(\frac{n_{k,c(t),t}}{n_{c(t),t}} \right) \\
& + \tau_i z_{c(t),t} + u_{i,c(t),t} \;,
\end{aligned}
\tag{2}
$$

where $\omega_{i,c(t),t} = \frac{1}{n_c} \sum_j \omega_{i,j,t}$, $\ln\left(\frac{x_{c(t),t}}{n_{c(t,t)}}\right) = \frac{1}{n_c} \sum_j \ln\left(\frac{x_{j,t}}{n_{j,t}}\right)$ and so on are the cohort means of the respective household level quantities. We can then reestimate Engel curve effects using inter-cohort, rather than inter-household, variation, with the results given in Table A7 being similar to those obtained using the household level data. In Table 6, we then report the actual and predicted mean expenditure shares over cohorts. Again we see that consumers seem to increased the relative share of certain necessity items by more than Engel's Law would predict, and have cut back relatively more on some luxuries. In Figure 5 we plot the difference between actual and predicted expenditure shares for selected commodities by cohort, enabling one to see whether the consumption response differed by cohort. A positive (negative) difference means that the average household in a given cohort is consuming more (less) of the specified good than Engel's law would predict. Pointwise 95 percent confidence bands are given to show whether these differences are significant or not. Almost all cohorts consume less meals outside their home, less clothing, less entertainment equipment and more educational expenses than predicted. Noticeable differences between cohorts occur for cereals and grains, eggs, and oils and fats, where only the less educated cohorts are consuming more than predicted.
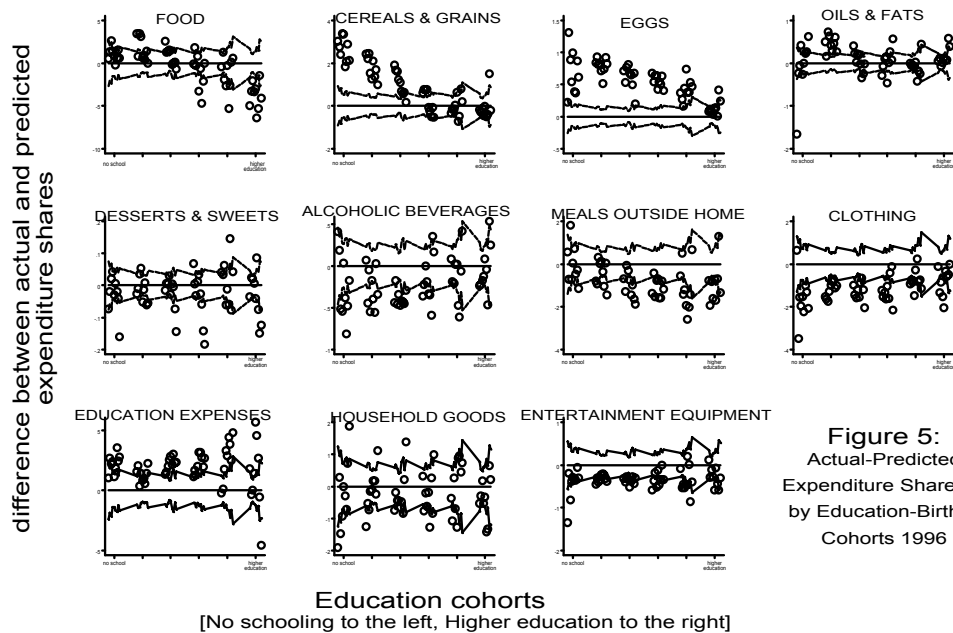
Figure 5:
Actual-Predicted
Expenditure Shares
by Education-Birth
Cohorts 1996

Education cohorts
[No schooling to the left, Higher education to the right]

This analysis suggests that some goods may become more or less of a luxury during a crisis. In other words, the total expenditure elasticity of a good may change during periods of crisis. We investigate this possibility by allowing the coefficient on per capita total expenditure in equations (1) and (2) to depend on time, $\beta_{i,t}$. As we observe a different set of individuals each period, pseudo-panel analysis is needed to investigate changes over time, and hence the cohort-level equation (2) is used. Taking two-year differences of (2) gives:

$$
\begin{aligned}
\Delta \omega_{i,c(t),t} &= \sum_{h=1}^{H} \lambda_{i,h} \Delta \log p_{h,t} + \beta_{i,t} \ln \left(\frac{x_{c(t),t}}{n_{c(t,t)}} \right) - \beta_{i,t-2} \ln \left(\frac{x_{c(t-2),t-2}}{n_{c(t-2),t-2}} \right) + \eta_i \Delta \ln \left(n_{c(t),t} \right) \\
&\quad + \sum_{k=1}^{K} \gamma_{i,k} \Delta \left(\frac{n_{k,c(t),t}}{n_{c(t),t}} \right) + \tau_i \Delta z_{c(t),t} + \Delta u_{i,c(t),t} \ .
\end{aligned} \tag{3}
$$

If we just use two years of data, the effect from changing prices is captured by a constant, and with some rearranging, one obtains

$$
\begin{aligned}
\Delta \omega_{i,c(t),t} &= \theta_i + \left(\beta_{i,t} - \beta_{i,t-2} \right) \ln \left(\frac{x_{c(t),t}}{n_{c(t,t)}} \right) + \beta_{i,t-2} \Delta \ln \left(\frac{x_{c(t),t}}{n_{c(t,t)}} \right) + \eta_i \Delta \ln \left(n_{c(t),t} \right) \\
&\quad + \sum_{k=1}^{K} \gamma_{i,k} \Delta \left(\frac{n_{k,c(t),t}}{n_{c(t),t}} \right) + \tau_i \Delta z_{c(t),t} + \Delta u_{i,c(t),t} \ .
\end{aligned} \tag{4}
$$

This equation decomposes the change in expenditure share into an overall price effect θ_i, which captures both own-price and cross-price effects; a demographic effect (terms four, five and six); an Engel's Law effect $\beta_{i,t-2} \Delta \ln \left(\frac{x_{c(t),t}}{n_{c(t,t)}} \right)$; and the effect due to the term $\left(\beta_{i,t} - \beta_{i,t-2} \right) \ln \left(\frac{x_{c(t),t}}{n_{c(t,t)}} \right)$. This last effect is only present if a good changes the extent to which it is a luxury or necessity between the two periods. It is natural in this setting to term this the crisis effect. Equation (4) can then be estimated by standard least squares regression on the differenced cohort means provided there are sufficient households in each cohort.[11] One can extend this decomposition further to allow for the demographic effects to also vary over time, however no such effects were found to be significant in our empirical analysis.

---

[11] The average number of households per cohort is 212, which Verbeek and Nijman (1992) consider large enough to ignore a measurement error correction. As our original specification does not contain cohort-specific effects, least squares also minimizes the mean-squared error in the class of adjusted errors-in-variables estimators considered by Verbeek and Nijman (1993).

Table 7 gives the results from estimating (4) using birth-education cohorts. It shows that there was a change in the total expenditure elasticities of some items between 1994 and 1996. In particular, we find that food, cereals and grains, fish, eggs, and oils and fats became more of a necessity in 1996 than they were in 1994, while public transport, educational materials, leisure expenses, clothing, primary health care, and donations each became more of a luxury. For the other expenditure items considered, we could not reject the hypothesis of no change in the total expenditure elasticity. Thus even after controlling for Engel curve and price effects, households postponed consumption on some luxuries in order to consume relatively more of basic food items. Therefore there is evidence that in addition to the direct income effect of the crisis, households also attempted to mitigate the most severe effects of the crisis by reducing other expenses in order to buy food.

5.4 Labour Supply's response to the Peso Crisis

From a welfare perspective, the fall in utility caused by the decline in consumption could potentially be lessened by a corresponding increase in leisure. If leisure is a normal good, then the income effect of a fall in wages reduces leisure, and hence increases labour supply. In contrast, as the relative price of leisure is now cheaper, the substitution effect will reduce labour supply. The overall effect is hence theoretically ambiguous, depending on the relative magnitudes of these two effects. Table 8 examines response of labour supply to the fall in wages caused by the peso crisis. The 1994 and 1996 ENIGH surveys are of different individuals, and so again comparisons must be made at the cohort level.

Panel I of Table 8 shows that there was no decline in the total weekly labour hours worked by the household head for cohorts aged 20-50 in 1994. Retirement causes labour hours to begin to fall after this age. Frankenberg, Thomas and Beegle (1999) find similarly that average hours worked per week in Indonesia changed little following the 1997 financial crisis there, even though real wages fell dramatically.

Benería (1992) suggests that a common response to the debt crisis of the 1980's was to increase the number of household members participating in the household, through increased female labour

force participation and discontinuation of teenagers' schooling. Panel II of Table 8 shows that, in contrast, there was no increase in the number of workers per family in response to the peso crisis. In addition, panel III shows no significant change in family labour hours per adult in the household, and panel IV shows no significant changes in female and male labour force participation. It therefore appears that the income and substitution effects counterbalance one another, so that households did not change their labour supply in response to the crisis.

Panel V of Table 8 examines whether households responded to the crisis by withdrawing their children from school. We see that school attendance rates of children aged 5-12 were unchanged, while school attendance rates actually increased for children aged 13-20. This may be due to a falling opportunity cost of schooling, or simply a continuation of the underlying trend towards greater educational attainment.[12] This contrasts with the results of Frankenberg et al. (1999), who find that the percentage of 13-19 year olds not currently enrolled in school rose between 1997 and 1998 in Indonesia.

We next examine whether the labour response differed across education cohorts. Panel VI of Table 8 gives the percentage change in mean weekly labour hours of the household head by birth-education cohort. Most of the changes are again small, with the older age groups showing more variation, due in part to smaller sample sizes for highly educated older workers. In panels VII and VIII we examine labour force participation by sex and education-birth cohort. Again the change in participation rates is small for most cohorts. However, young males with no schooling had relatively large falls in participation, whereas young females with no schooling increased their participation. Big increases in participation are seen for young highly educated workers as they finish school and enter the labour market. Finally in panel IX we consider the mean labour hours conditional on working. Without panel data we can not compare the same individuals in both periods, but we can conclude that average labour hours for workers in 1994 was roughly similar to those for workers in 1996. That is, there does not seem to have been a strong labour supply response to the peso crisis.

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[12] The 1984 and 1989 surveys do not ask whether individuals are currently attending school. Closer study of the child labour response would therefore require additional data sources in order to formally account for long-run trend effects.

5.5 Changes in Savings

Table 9 shows the aggregate savings rate in Mexico over the period 1984-98. The peso crisis caused external savings to drop, but private savings increased between 1994 and 1995, resulting in an increase in gross domestic savings. As Attanasio and Székely (1998) remark, this is surprising as one would expect the private sector to reduce saving in the aftermath of a large negative economic shock. The Mexican system of National Accounts does not break private saving down into its household and corporate components, and so it is not possible from this aggregate data to determine how households responded to the crisis.[13]

Calderón (1998), Székely (1998) and Attanasio and Székely (1998) have all used several years of the ENIGH surveys to study household savings in Mexico. Table 10 summarizes Attanasio and Székely's calculations of savings rates by education group. Household heads with more education average higher saving rates, however there is considerable dispersion in saving rates, even within education groups. The mean saving rates are mostly negative, reflecting the presence of households with very negative measured saving rates. The saving rate is higher than the median, which is a consequence of household saving being highly concentrated among the richest households. As Deaton (1997, p.337) remarks, "the measurement of saving in household surveys is subject to large margins of error, so that especially where household saving rates are low, it may be almost impossible to obtain any useful measure of household saving." It is possible that underreporting of income, and hence savings, differs across education groups, and hence we will not concentrate much of our analysis in inter-group differences. Our concern lies not in the level of household saving rates, but in the change in savings over the period of the peso crisis.

Assume that consumption is reported without error, and that reported income in period t, y_t^*, is determined by $y_t^* = y_t/\phi$, where y_t is the true income, and ϕ is greater than unity if income is underreported. Then if s_t^* and s_t are measured and actual savings rates[14], it can be easily shown

---

[13]Burnside, Schmidt-Hebbel and Servén (1999) study national saving in Mexico, and find that the terms of trade, real interest rate, inflation rate and the amount of public savings are the main determinants of aggregate savings.

[14]That is $s_t^* = (y_t^* - c_t)/y_t^*$, and similarly $s_t = (y_t - c_t)/y_t$.

that the change in measured savings is related to the actual change in savings by

$$s_{t+1}^* - s_t^* = \phi \left(s_{t+1} - s_t \right) \ .$$ (5)

Thus, if a constant proportion of income is underreported in each period, then the change in measured savings overreports the actual change in savings. Nevertheless, the sign of the two is the same, and so we can conclude with confidence that for all education groups, household savings fell during the peso crisis. In contrast, if the degree of underreporting of income increases between 1994 and 1996, then we could measure a decline in savings even if actual savings rates remain constant. Examination of the determinants of underreporting of income remains an important topic for future development research.[15]

Although households reduced their savings during the crisis period, allowing consumption to fall by less than income, Section 5.1 still found large declines in consumption. On average, households did not have sufficient savings available to completely cushion the impact of the crisis on consumption. McKenzie (2001) finds that one reason for lower saving rates in Mexico than in Taiwan and other East Asian countries is lower levels of relative prudence in Mexico. This may explain why households could not simply rely on their savings and were forced to adjust their consumption baskets during the crisis period.

5.6   Migrant Response to the Peso Crisis

Mexico has had major devaluations towards the end of each of the last four presidencies before the Zedillo administration: 1976, 1982, 1986-87 and 1994-95. Martin (1999) reports two competing hypotheses about the effects of devaluation on emigration patterns. One view is that devaluations reduce emigration in the short run, as the cost of being smuggled into the U.S. is fixed in dollars, so becomes a greater financial hurdle for potential migrants. The opposing view is that devaluations

---

[15]Lustig and Székely (1997) conjecture, based on comparison of the national accounts and survey data, that underreporting of consumption and income was greater in 1984 than in 1989. They find changes in income and consumption from the 1989, 92, and 94 surveys correspond more closely to the national account data. Further research along these lines would be beneficial.

increase migration by raising the wage gap between the U.S. and Mexico: following the 1982 deval-uation the ratio of U.S. to Mexican wages jumped from 2.2 to 1 in 1982 to 6 to 1 by the end of 1983. Martin (1999) states that there appears to be no immediate and consistent relationship between economic troubles in Mexico and illegal immigration to the United States, with U.S. immigration policy in a large part determining the extent to which Mexican's respond to a crisis by emigrating. Massey (1997) cites earlier research which finds that secular fluctuations in the Mexican-American wage gap are not strongly correlated with temporal shifts in the volume of international migration. Data from the Immigration and Naturalization Service (INS, 1998) shows that legal immigration to the United States from Mexico actually fell from 111,398 immigrants in 1994 to 89,932 immigrants in 1995. Detailed data on illegal immigration is not available for this period. Appendix 1 considers in more detail the possible effects of migration on our cohort-level comparisons, and concludes that such effects are unlikely to be large.

6   Conclusions

Our analysis has found that the peso crisis had differential impacts on income and consumption across groups in Mexico, with the education of the household head and the rural/urban location of household residence being the main determinants of how severely the crisis affected a given household. Households appeared to be unable (or unwilling) to shield the level of their consumption from falling during the crisis, but altered the composition of consumption by reducing expenditure on non-essentials and durable goods. Labour supply does not appear to have adjusted in response to the crisis. In addition to the direct Engel's law effect of the fall in income brought about by the crisis, we found a second crisis-adjustment effect. Households reduced their consumption of public transport, educational materials, leisure expenses, clothing, primary health care, and donations by more than Engel's law would predict, in order to allocate a relatively higher share of their budget to food, particularly cereals and grains, eggs, and oils and fats. Along with a reduction in the saving rate, this compositional shift was the main coping mechanism for households during the crisis.

Our finding that households change the composition of their consumption basket by more than

the change in income would predict has policy implications for the management of future crises. Households try and prevent large declines in food consumption, particularly basic foods such as cereals and grains, eggs, and oils and fats. To do so, they postpone consumption on semi-durable and durable goods, including primary health care. It is too soon to evaluate the long-term effects on health of such a response, but this short-term reduction in health care expenditure is likely to be a policy concern. Price subsidies for basic food groups during a crisis may be more cost-effective than income transfers in ensuring access to both food and health care, due to crisis-induced changes in total expenditure elasticities. This is particularly the case for less-educated and poorer households.

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Appendix 1: The Effects of Migration on Cohort Comparisons

An implicit assumption in repeated cross-sectional analysis is that, each period, one is sampling from populations with the same mean process. Migration causes the underlying populations sampled each period to be different. This only has an impact on our results to the extent that migrants are a non-random sample of the population. The United States-Mexico border is the longest between a first-world and a third-world nation in the world and Mexicans have been the single biggest group of immigrants to the United States in recent years. Research carried out under the auspices of the 1997 Binational Study on Migration between Mexico and the United States (USCIR, 1997) allows us to examine how large an impact migration may potentially have on our analysis. The main questions of interest are the number of migrants and their characteristics relative to the general population.

The number of migrants Measurement of the number of Mexican migrants to the United States is complicated by the fact that there is substantial temporary migration of a highly seasonal nature, with sporadic bouts of return migration. (Lindstrom and Massey, 1994). Moreover, most of the migration is "undocumented" or "unauthorized migration", with Donato (1994) reporting that legal migrants accounted for only 20 percent of all migrants over the 1982-92 period. Measures of legal immigration are additionally not suitable for our purposes as most Mexican immigrants are "illegal aliens" for at least several years before they become U.S. immigrants. (Martin, 1999). Estimates of the number of unauthorized migrants are generally inferred from data on border apprehensions, the U.S. Census, and community surveys carried out in traditional sending regions of Mexico. Table A8 reports estimates of the stock and flow of Mexican migrants to the U.S. given in the literature. We first note that the stock of Mexican migrants in the U.S. is large; equal to between 7.6 and 7.9 percent of Mexico's 1996 population of 92.7 million. (USCIR, 1997; World Bank, 2000). Escobar et al. (1998) report further that the number of Mexicans employed in the United States in a typical year is equivalent to one-eighth of Mexico's labour force. Remittance income from migrants is Mexico's third largest source of export revenue after oil and tourism, and ahead of agriculture. "Go north for opportunity" has become such a powerful idea in Mexico that national surveys in the early 1990's revealed that one-third of all Mexicans have been to the United States at some point in their lives. (Massey and Singer, 1995).

Estimates of the flow of migrants shows considerable variability over time and according to the method used to measure it. There is considerable return migration, with more than one-half of the Mexicans who migrated to the U.S. between 1988 and 1992 returning to Mexico by 1992. (USCIR, 1997). On average, net migration was greater in the 1990's than in the 1980's, with the number of legal and unauthorized Mexican-born residents living in the United States increasing by 277,000 to 340,000 per year in the first half of the 1990's. (Escobar et al, 1998). At this rate approximately 5 percent of Mexico's 1984 population of 73.9 million would have migrated to the United States over the ENIGH survey period 1984-96. The impact of this on cohort means depends on the relative characteristics of migrants compared to the cohort population as a whole.

Migrant characteristics Mexicans have been migrating to the United States for over 100 years, and over this time migration to the U.S. has become a way of life in some communities. In some areas of west-central Mexico, survey data suggest that by time they are 40, most men in these communities make at least one trip to the U.S. Well-established migration networks, maintained by return migration, sustain an emigration culture in which many rural young men expect and are expected to migrate to get the money needed to buy a house and marry. (Escobar et al., 1998). Geographic origin and age are two of the main distinguishing characteristics of migrants. The west-central core states of Guanajuato, Michoacán, Jalisco and Colima are the origin of 38 percent of all migrants, while the Northern-border states of Baja California, Sonora, Chihuahua, Coahuila, Nuevo Léon and Tamaulipa account for a further 21 percent. In contrast, six southwestern states, including Chiapas and Quintana Roo, account for only 2 percent of all migrants. (USCIR, 1997). In terms of migration relative to state population, 7.78 percent of Michoacán's population and 7.74 percent of Zazateca's population migrated to the U.S. between 1987 and 1992, compared to only 0.1 percent and 0.2 percent for Tabasco and Chiapas respectively. (Bustamante et al., 1998).

Mexican migrants tend to be a young group, with Michoacán migrants having an average age of 29 years in 1983 and 32 years in 1993. Most migrants are married. According to a 1992 survey, 47.5 percent of male migrants and 49.1 percent of female migrants were aged between 15 and 24 years, with 73.2% and 71.7% respectively aged between 15 and 34 years. (Bustamante et al., 1998). Migrants have tended to be selected from the middle-to-lower segments of Mexico's socioeconomic hierarchy. Although traditionally migrants have originated from rural areas, in recent years a progressively larger share has come from urban areas. As migration has become more prevalent, and migration networks have spread, Escobar et al. (1998) suggest that individual characteristics have lost importance over time, so that even the poor, the landless and women and children can migrate. Massey (1997) estimated a logit model for the probability that a household head will migrate to the U.S. and found that the migration probability is negatively correlated with the age of the household head and land ownership, and positively correlated with household dependency ratios and migrant experience (measured by months of previous U.S. experience, and the experience of the head's father and other family members). Other individual characteristics such as education and occupation are not found to be significant determinants of the migration decision. However, conditional on migration occurring, Paulson and Singer (2000) find that migrants with more education stay in the U.S. longer, as do migrants with more children.

The ENIGH surveys are designed to be representative at the national level, but only the 1998 survey is also representative at the state level. Furthermore, the surveys provide no information regarding a household's previous migrant experience. Explicit bounds for the effects of migration on our cohort means are therefore not able to be readily calculated. The above discussion suggests that migration is unlikely to have a significant impact on comparisons by educational group or by occupation of the household head, and is not likely to be important for cohorts aged over 35. Restriction of our study to households aged between 25 and 65 years also greatly lessens selection issues arising from non-random mortality and changes in household composition among the very young and old.

Table 1a: Inflation Rates by Consumption Category

	Annualized Inflation Rate over Period				
Inflation measure:	1984-89	1989-92	1992-94	1994-96	1996-98
1 *Overall*					
National Consumer Price Index	75.5	21.3	8.1	36.6	17.3
Basic Needs Price Index	73.6	23.3	7.7	42.0	17.8
2 *By Income Stratum:*					
Low-income group CPI	77.9	22.3	8.3	36.8	17.8
Lower-middle income group CPI	77.3	22.5	8.3	36.4	18.3
Upper-middle income group CPI	n.a.	n.a.	8.1	34.8	18.2
High income group CPI	n.a.	n.a.	8.5	33.2	18.3
3 *By Durability of Goods:*					
Non-durable goods	76.0	22.6	7.2	40.6	18.3
Durable goods	73.6	24.9	5.3	38.1	16.0
Services	80.7	19.9	10.3	27.7	18.5
4 *By Expenditure Category:*					
Food, beverages & tobacco	76.8	26.2	5.9	40.4	17.6
Clothing, footwear & accessories	73.8	18.8	7.1	31.4	19.3
Housing	78.2	31.1	10.1	29.5	17.8
Furniture & fittings	72.5	23.3	6.4	39.1	17.1
Health & personal care	77.2	16.9	10.5	37.5	18.9
Transport	75.7	19.6	8.4	36.4	20.5
Education & leisure	80.4	14.3	15.4	27.2	16.6

Notes:

All indices sourced from *Indicadores Economicos,* Banco de Mexico (various years). The National
Consumer Price Index and Basic Needs Basket Indices are monthly indices, for which inflation has
been calculated using the September month. All other indices are annual.
The low income group have incomes up to the minimum salary; lower-middle income families have incomes
between 1 and 3 times the minimum salary; upper-middle income is between 3 and 6 times minimum salary;
and high income families have incomes greater than 6 times the minimum salary.

Table1b: Annualized Food-Specific Inflation Rates 1994-96, 1996-98 for Selected Food Items

	1994-1996				1996-98			
	Inflation Rate Calculated using				Inflation Rate Calculated using			
Expenditure Item	25%	Median	75%	Mean	25%	Median	75%	Mean
Maize Tortillas (Tortilla de maíz)	22.5	34.8	35.4	31.5	41.4	26.5	26.1	29.6
Sweet Bread (Pan de dulce)	41.4	46.5	38.0	38.7	11.8	2.5	6.1	8.4
Chicken Pieces	36.1	29.1	27.9	30.8	16.8	21.1	18.1	18.3
Huachinango (A type of fish)	29.1	24.7	19.5	24.0	18.3	10.2	15.1	16.0
Pasterized Milk	41.4	41.4	44.9	41.7	17.9	20.3	19.5	18.9
Hen Eggs	58.8	54.1	55.0	55.1	0.0	2.6	4.9	2.3
Red Tomatoes	9.5	15.5	11.8	10.7	29.1	41.4	41.4	37.7
Beans	47.2	51.2	58.1	51.3	17.7	11.8	14.0	16.3
Softdrinks	28.7	27.5	31.0	31.3	20.6	17.7	20.7	20.7

Notes:

Items shown were the most frequently purchased items in their expenditure categories
source: Author's calculations from 1994, 1996, and 1998 ENIGH surveys.

Table 2: The Response of Income and Consumption to the Peso Crisis

Comparisons in Change in logs of per capita income and expenditures 1994-96 by Groups

| | Total Monetary Income | ----------Total Consumption --------- | | | ----- Non-durables ----- | | Durable Consumption | Educational Articles | Educational Services | Clothing Expenditure | Food Expenditure |
		Overall Consumption	Monetary Consumption	Non-Monetary Consumption	Overall Consumption	Monetary Consumption					
All Heads aged 25-65	-0.23	-0.19	-0.15	-0.30	-0.18	-0.14	-0.27	0.00	-0.21	-0.33	-0.09
Sex of household Head:											
Male headed households	-0.24	-0.19	-0.15	-0.29	-0.18	-0.14	-0.29	0.00	-0.22	-0.33	-0.09
Female headed households	-0.20	-0.21	-0.14	-0.36	-0.21	-0.14	-0.01	-0.02	-0.07	-0.33	-0.11
Education level of head:											
No Schooling	-0.14	-0.13	-0.11	-0.18	-0.12	-0.10	-0.31	0.06	0.13	-0.33	-0.03
Incomplete Primary	-0.25	-0.20	-0.17	-0.28	-0.19	-0.16	-0.20	0.01	-0.23	-0.33	-0.07
Complete Primary	-0.33	-0.24	-0.21	-0.30	-0.24	-0.20	-0.15	-0.04	-0.15	-0.37	-0.14
Junior High	-0.34	-0.31	-0.26	-0.45	-0.30	-0.24	-0.41	-0.07	-0.26	-0.42	-0.18
High School	-0.42	-0.35	-0.31	-0.49	-0.33	-0.28	-0.51	0.00	-0.34	-0.37	-0.20
Higher Education	-0.39	-0.35	-0.30	-0.55	-0.34	-0.28	-0.28	-0.14	-0.30	-0.34	-0.27
Location of Residence:											
Metropolitian Area	-0.44	-0.36	-0.31	-0.53	-0.35	-0.29	-0.42	-0.09	-0.32	-0.44	-0.23
locality of 100,000 + residents	-0.18	-0.15	-0.12	-0.27	-0.14	-0.10	-0.33	0.06	0.06	-0.28	-0.07
locality of 15,000-99,999	-0.29	-0.25	-0.21	-0.34	-0.25	-0.21	-0.01	-0.09	-0.25	-0.33	-0.17
locality of 2,500-14,999	-0.20	-0.13	-0.12	-0.19	-0.12	-0.11	-0.20	0.24	0.22	-0.22	-0.08
locality of 2,500 or less people	-0.18	-0.14	-0.12	-0.19	-0.13	-0.11	-0.16	0.02	-0.05	-0.24	-0.03
Industry head works in:											
Agriculture	-0.17	-0.14	-0.13	-0.17	-0.14	-0.12	-0.27	0.19	0.39	-0.25	-0.05
Mining	0.21	0.24	0.27	0.12	0.21	0.24	1.33	0.32	0.04	0.17	0.16
Manufacturing	-0.26	-0.22	-0.15	-0.40	-0.21	-0.14	-0.29	-0.10	-0.40	-0.30	-0.10
Electricity and Water	-0.18	-0.17	-0.15	-0.17	-0.15	-0.13	-0.17	0.07	1.36	-0.38	-0.17
Construction	-0.35	-0.25	-0.22	-0.32	-0.24	-0.21	-0.03	-0.01	-0.36	-0.41	-0.13
Commerce	-0.35	-0.31	-0.27	-0.38	-0.30	-0.26	-0.40	0.03	-0.25	-0.43	-0.22
Transport and Communication	-0.37	-0.26	-0.22	-0.46	-0.26	-0.21	-0.28	-0.11	-0.15	-0.43	-0.14
Financial Services	-0.48	-0.24	-0.24	-0.51	-0.24	-0.24	-0.13	-0.18	-0.21	-0.33	-0.13
Community and Social Services	-0.38	-0.31	-0.28	-0.43	-0.30	-0.26	-0.46	-0.14	-0.30	-0.36	-0.20
Job of head:											
Non-agricultural worker	-0.29	-0.21	-0.13	-0.36	-0.22	-0.14	0.34	0.08	-0.23	-0.37	-0.04
Rural Labourer	-0.18	-0.22	-0.19	-0.34	-0.21	-0.17	-0.38	-0.05	-0.23	-0.34	-0.13
Boss/Employer of 1-5 people	-0.34	-0.11	-0.08	-0.16	-0.10	-0.07	-0.35	0.16	-0.08	-0.20	0.00
Boss/Employer of 6+ people	-0.60	-0.27	-0.24	-0.39	-0.27	-0.25	-0.12	0.04	-0.36	-0.34	-0.15
Self-employed	-0.21	-0.30	-0.33	-0.29	-0.31	-0.35	0.06	-0.02	-0.36	-0.35	-0.23
Member of Cooperative	0.09	0.19	0.59	-0.11	0.18	0.58	6.87	4.62	-0.67	0.31	-0.04
Unemployed	-0.25	-0.18	-0.11	-0.51	-0.28	-0.23	2.22	-0.25	-0.85	-0.66	-0.46
Age of head in 1994:											
15-19	-0.30	-0.30	-0.17	-0.37	-0.29	-0.15	0.25	0.38	0.26	-0.35	-0.05
20-24	-0.30	-0.24	-0.22	-0.32	-0.23	-0.20	-0.35	0.93	-0.43	-0.28	-0.14
25-29	-0.25	-0.20	-0.16	-0.29	-0.19	-0.15	-0.33	0.42	-0.12	-0.29	-0.12
30-34	-0.31	-0.24	-0.21	-0.36	-0.23	-0.19	-0.26	0.11	-0.22	-0.33	-0.12
35-39	-0.18	-0.13	-0.09	-0.22	-0.13	-0.08	-0.20	0.15	-0.10	-0.32	-0.05
40-44	-0.27	-0.21	-0.19	-0.28	-0.20	-0.18	-0.42	0.00	-0.12	-0.35	-0.14
45-49	-0.20	-0.17	-0.15	-0.24	-0.16	-0.14	-0.16	-0.24	-0.21	-0.32	-0.08
50-54	-0.19	-0.14	-0.10	-0.28	-0.14	-0.09	-0.18	0.07	0.02	-0.31	-0.06
55-59	-0.25	-0.21	-0.18	-0.26	-0.20	-0.17	-0.48	-0.22	-0.63	-0.43	-0.05
60-64	-0.19	-0.13	-0.11	-0.15	-0.14	-0.11	-0.11	-0.11	-0.22	-0.35	-0.06
65-69	-0.23	-0.24	-0.20	-0.34	-0.23	-0.18	-0.50	-0.17	-0.05	-0.34	-0.11
70-74	-0.26	-0.30	-0.14	-0.47	-0.31	-0.14	0.20	1.98	2.19	-0.24	-0.11

Notes:

Apart from age group comparisons, all other groupings are done for household heads aged 25-65 years

Inflation measure used is based on the change in the September Consumer Price Index, using the Basic Needs

Inflation rate subtracts an additional 0.08 from all reported changes.

Change in log per capita monetary income 1994-96 by age-education cohort

| Age of head in 1994: | *Education level of head:* | | | | | |
	No Schooling	Incomplete Primary	Complete Primary	Junior High	High School	Higher Education
20-24	-0.20	-0.34	-0.23	-0.45	-0.15	-0.24
25-29	-0.14	-0.45	-0.30	-0.33	-0.34	-0.32
30-34	-0.05	-0.33	-0.33	-0.21	-0.46	-0.39
35-39	-0.10	-0.11	-0.30	-0.23	-0.29	-0.38
40-44	-0.08	-0.24	-0.33	-0.30	-0.40	-0.42
45-49	-0.13	-0.14	-0.22	-0.39	-0.35	-0.55
50-54	-0.13	-0.27	-0.16	-0.43	-0.51	-0.16
55-59	-0.07	-0.21	-0.38	-0.58	-0.38*	-0.24*
60-64	-0.16	-0.16	-0.31	-0.72*	-0.09*	-0.23*
65-69	-0.15	-0.14	-0.54	0.10*	-0.36*	-0.08*

Notes:

Inflation measure is the change in the September CPI

* indicates that less than 30 observations are available for this cohort.

Table 3: Changes in the Composition of Consumption in Response to the Peso Crisis

Expenditure Category	Unweighted Shares of Total Expenditure			Percentage Change		Weighted Shares of Total Expenditure			Percentage Change	
	1994	1996	1998	1994-96	1996-98	1994	1996	1998	1994-96	1996-98
Food	41.4	43.8	42.2	5.9	-3.6	40.4	42.1	41.1	4.4	-2.4
Cereals and Grains[1]	7.1	8.7	7.9	23.6	-9.5	6.4	8.1	7.5	26.6	-7.5
Meat	8.5	8.7	8.3	2.8	-5.5	9.0	8.4	8.4	-5.8	-0.9
Fish and Seafood	0.8	0.8	0.6	4.3	-21.7	0.8	0.7	0.6	-18.3	-9.0
Milk and Milk Products	3.6	3.9	4.1	9.7	4.5	3.7	4.3	4.2	13.6	-1.7
Eggs	1.6	2.3	1.8	47.3	-23.8	1.4	2.2	1.6	53.7	-25.6
Oils and Fats	1.3	1.7	1.2	25.8	-28.3	1.1	1.4	1.1	31.6	-24.0
Vegetables	6.2	6.5	6.3	5.3	-3.0	5.7	6.1	6.0	6.8	-1.2
Fruits	1.4	1.2	1.2	-14.0	5.8	1.4	1.3	1.3	-11.3	-0.5
Desserts and Sweets	0.1	0.1	0.1	-13.9	42.4	0.1	0.1	0.1	-7.7	33.5
Alcoholic Drinks	0.5	0.3	0.4	-35.1	25.0	0.5	0.3	0.4	-28.0	15.8
Meals consumed outside home	3.3	2.6	3.0	-21.5	14.8	3.8	2.9	3.0	-23.1	1.9
Public Transport	5.9	5.7	5.5	-2.9	-4.1	6.1	6.1	5.6	-0.2	-7.7
House Cleaning and Care[2]	6.2	6.1	6.2	-2.6	1.5	5.9	5.7	6.0	-2.8	5.4
Personal Care Services[3]	0.6	0.5	0.5	-21.0	5.2	0.6	0.5	0.5	-18.9	4.4
Education	5.6	6.7	5.8	19.7	-13.5	6.1	7.0	6.2	14.7	-10.6
Educational Services	2.6	2.9	2.9	11.4	-2.0	3.1	3.4	3.2	7.3	-3.6
Educational Materials	2.9	3.7	2.9	27.2	-22.6	3.0	3.6	3.0	22.4	-17.1
Leisure Expenses[4]	0.8	0.7	0.8	-5.1	19.2	0.9	0.8	0.9	-12.0	22.2
Clothing	7.5	6.1	6.6	-17.9	7.2	7.3	6.0	6.4	-18.1	6.9
Primary Health Care[5]	2.0	1.7	1.8	-15.6	6.2	2.0	1.6	1.7	-18.2	5.4
Household Goods and Furniture	2.8	2.3	1.4	-18.2	-36.9	2.5	2.2	1.4	-12.3	-37.5
Entertainment Equipment[6]	0.9	0.5	0.8	-42.4	56.1	0.8	0.5	0.8	-38.0	48.7
Vehicle Purchases	0.7	0.6	0.8	-6.0	22.4	0.6	0.7	0.8	11.0	22.3
Transfers to non-household members	1.0	0.9	1.1	-9.4	15.4	1.0	0.9	1.1	-10.8	13.8
Donations (including to church)	0.1	0.1	0.1	-23.4	27.9	0.1	0.1	0.1	-7.2	25.5

Notes:

1. Includes Tortillas, Corn, Rice, Bread, Oats and Wheat products

2. Includes Cleaning Products, Batteries, Lightbulbs, Gardening, Laundry and Drycleaning Services

3. Includes haircuts, massages, manicures, and other beautician services

4. Includes expenditure at the cinema, theatre, bars, sporting events, lotteries, club membership fees, cable service etc.

5. Medical expenses at primary health providers (does not include hospital costs nor medical costs during pregnancy)

6. Includes audiovisual equipment, photographic and video equipment, sporting goods, games, musical instruments, etc.

Weights are expansion factors, accounting for different sampling probabilities among observations

Table 4a: Expenditure shares 1994-98 by Education Cohort of Household Head

Expenditure Category	No schooling			Incomplete Primary			Complete Primary			Junior High			High School			Higher Education		
	1994	1996	1998	1994	1996	1998	1994	1996	1998	1994	1996	1998	1994	1996	1998	1994	1996	1998
Food	48.0	50.9	50.8	44.8	48.9	47.1	42.1	44.9	43.3	39.5	41.5	41.2	33.5	36.7	35.4	27.2	28.2	26.7
Cereals and Grains[1]	9.5	12.3	11.6	8.7	10.8	10.0	6.8	8.8	7.9	5.7	7.2	6.8	3.9	5.3	5.0	2.7	3.4	3.1
Meat	7.9	7.9	7.6	8.3	8.8	8.4	9.8	9.9	9.3	9.6	9.6	9.3	8.3	8.9	8.4	6.1	6.5	5.8
Fish and Seafood	0.8	0.8	0.6	0.8	0.9	0.6	0.8	0.8	0.7	0.8	0.7	0.7	0.8	0.9	0.7	0.7	0.7	0.5
Milk and Milk Products	2.9	2.9	3.1	3.3	3.5	3.8	4.0	4.3	4.5	4.4	4.7	4.8	4.0	4.5	4.6	3.1	3.9	3.7
Eggs	2.1	2.9	2.6	1.9	2.8	2.3	1.6	2.4	1.8	1.3	2.1	1.6	0.9	1.6	1.0	0.6	0.9	0.6
Oils and Fats	2.1	2.3	2.0	1.8	2.4	1.7	1.2	1.6	1.2	0.7	1.2	0.8	0.5	0.8	0.5	0.3	0.5	0.3
Vegetables	9.4	10.0	10.4	7.4	8.3	8.2	5.8	6.3	6.1	4.7	5.1	5.2	3.4	3.6	3.7	2.3	2.4	2.3
Fruits	1.1	0.9	1.0	1.3	1.0	1.1	1.4	1.3	1.3	1.6	1.4	1.5	1.6	1.4	1.6	1.4	1.3	1.2
Desserts and Sweets	0.1	0.1	0.2	0.1	0.1	0.1	0.1	0.1	0.2	0.2	0.1	0.1	0.1	0.2	0.2	0.2	0.1	0.2
Alcoholic Drinks	0.9	0.6	0.7	0.5	0.4	0.5	0.4	0.3	0.4	0.5	0.3	0.4	0.4	0.3	0.4	0.3	0.2	0.2
Meals consumed outside home	2.2	1.9	2.0	2.4	1.8	2.1	3.4	2.2	2.6	4.0	2.9	3.2	4.9	3.6	3.7	5.6	4.2	4.7
Public Transport	6.3	5.6	4.5	6.3	5.8	5.7	6.8	6.8	6.6	5.8	6.1	6.2	4.9	5.3	5.1	3.2	3.5	3.2
House Cleaning and Care[2]	7.5	7.6	7.9	6.7	6.6	6.9	5.7	5.6	5.7	5.3	5.4	5.1	5.2	5.4	4.9	6.0	5.3	6.1
Personal Care Services[3]	0.5	0.3	0.3	0.5	0.4	0.4	0.6	0.5	0.5	0.7	0.6	0.6	0.8	0.6	0.6	0.7	0.5	0.6
Education	3.7	4.6	3.3	4.9	5.5	4.1	6.0	7.3	5.8	5.9	7.5	7.0	6.2	7.9	7.8	8.7	9.4	10.1
Educational Services	1.3	1.6	1.1	1.9	2.0	1.6	2.6	3.1	2.6	2.9	3.5	3.5	3.5	3.7	4.5	6.0	5.8	6.8
Educational Materials	2.4	3.0	2.2	3.0	3.5	2.5	3.3	4.2	3.2	3.0	4.1	3.6	2.8	4.2	3.4	2.7	3.6	3.3
Leisure Expenses[4]	0.4	0.2	0.3	0.4	0.3	0.4	0.6	0.5	0.7	0.9	0.9	0.9	1.5	1.2	1.4	2.0	1.9	2.0
Clothing	7.0	5.6	6.1	7.8	6.1	6.3	7.5	6.0	6.4	7.5	6.0	6.7	7.7	6.8	6.6	7.1	6.2	6.6
Primary Health Care[5]	2.2	2.2	2.1	2.3	1.9	2.1	1.8	1.6	1.6	1.7	1.4	1.6	1.8	1.5	1.9	1.6	1.6	1.7
Household Goods and Furniture	2.0	1.8	1.0	2.5	2.1	1.1	2.7	2.2	1.4	3.3	2.5	1.3	3.9	2.7	1.6	3.4	2.8	1.7
Entertainment Equipment[6]	0.7	0.3	0.4	0.7	0.4	0.6	0.8	0.4	0.7	1.0	0.5	0.8	1.2	0.6	0.8	1.2	0.8	1.4
Vehicle Purchases	0.3	0.2	0.3	0.3	0.4	0.3	0.4	0.5	0.5	1.0	0.8	0.8	1.7	0.9	1.3	1.7	1.7	2.3
Transfers to non-household members	0.6	0.7	0.8	0.9	0.7	0.9	1.0	0.8	1.0	0.9	1.1	1.0	1.4	1.2	1.4	2.0	2.1	2.2
Donations (including to church)	0.1	0.1	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1

Notes:

Shares are for households with heads aged 25-65 in 1994.

1. Includes Tortillas, Corn, Rice, Bread, Oats and Wheat products

2. Includes Cleaning Products, Batteries, Lightbulbs, Gardening, Laundry and Drycleaning Services

3. Includes haircuts, massages, manicures, and other beautician services

4. Includes expenditure at the cinema, theatre, bars, sporting events, lotteries, club membership fees, cable service etc.

5. Medical expenses at primary health providers (does not include hospital costs nor medical costs during pregnancy)

6. Includes audiovisual equipment, photographic and video equipment, sporting goods, games, musical instruments, etc.

Table 4b: Percentage Change in Expenditure shares by Education cohort of Household Head

Expenditure Category	No Schooling		Incomplete Primary		Complete Primary		Junior High		High School		Higher Education	
	1994-96	1996-98	1994-96	1996-98	1994-96	1996-98	1994-96	1996-98	1994-96	1996-98	1994-96	1996-98
Food	6.1	-0.2	9.1	-3.5	6.7	-3.5	5.2	-0.8	9.5	-3.5	3.6	-5.1
Cereals and Grains[1]	29.6	-5.8	24.1	-7.2	29.2	-10.0	26.2	-5.6	36.9	-4.3	23.5	-7.2
Meat	0.0	-3.9	5.4	-4.6	1.0	-6.1	0.0	-2.6	7.5	-5.7	6.9	-11.4
Fish and Seafood	7.1	-21.6	12.1	-30.0	-1.1	-14.8	-2.2	-5.9	13.8	-23.8	0.2	-28.0
Milk and Milk Products	1.0	8.0	3.7	11.0	7.1	3.4	8.4	2.0	13.9	0.9	25.1	-5.7
Eggs	36.5	-10.4	47.3	-20.3	54.3	-27.7	59.6	-27.1	76.9	-32.7	64.1	-34.5
Oils and Fats	12.5	-13.8	30.3	-30.0	33.8	-21.1	68.3	-34.1	62.0	-32.1	43.1	-34.5
Vegetables	7.1	4.1	12.5	-2.0	8.6	-3.0	8.5	3.0	6.5	2.4	1.4	-0.9
Fruits	-16.9	12.4	-22.5	9.6	-10.3	5.4	-14.9	6.8	-14.4	17.2	-6.2	-11.1
Desserts and Sweets	-24.4	134.3	-24.4	38.8	-13.8	56.4	-20.8	18.6	11.6	9.1	-14.8	19.6
Alcoholic Drinks	-34.7	21.0	-28.1	37.1	-38.4	53.0	-37.9	17.8	-12.9	11.9	-29.2	0.0
Meals consumed outside home	-15.6	6.8	-21.5	14.1	-34.4	17.4	-27.0	10.0	-26.5	2.5	-24.8	11.8
Public Transport	-12.2	-19.0	-8.8	-0.6	0.4	-2.4	4.9	2.1	7.2	-4.0	9.8	-8.0
House Cleaning and Care[2]	0.4	4.6	-1.1	3.9	-2.0	2.9	1.8	-4.7	3.4	-8.3	-12.0	15.3
Personal Care Services[3]	-34.3	-2.9	-25.3	14.4	-16.6	-3.7	-17.0	2.1	-22.7	-5.9	-25.2	17.9
Education	24.5	-27.7	12.4	-25.9	22.9	-21.0	27.8	-6.9	25.7	-0.2	7.7	7.1
Educational Services	26.7	-29.8	4.5	-20.6	16.8	-15.0	19.6	-0.8	5.9	21.1	-4.6	18.5
Educational Materials	23.4	-26.6	17.4	-28.9	27.7	-25.3	35.7	-12.1	50.6	-19.1	35.2	-10.8
Leisure Expenses[4]	-37.4	36.8	-13.0	24.8	-15.5	28.3	1.5	-1.6	-17.2	17.2	-4.4	5.3
Clothing	-20.3	8.3	-21.0	2.9	-19.4	5.5	-20.3	11.5	-12.1	-2.6	-12.9	6.4
Primary Health Care[5]	-1.6	-3.4	-15.4	11.1	-14.9	0.1	-18.8	12.3	-18.1	30.0	0.6	0.6
Household Goods and Furniture	-13.6	-44.7	-17.1	-44.4	-18.9	-36.9	-25.6	-47.6	-29.2	-41.6	-19.4	-38.5
Entertainment Equipment[6]	-47.4	25.7	-47.1	58.5	-49.7	65.7	-45.6	49.0	-51.8	32.8	-31.4	63.8
Vehicle Purchases	-39.7	67.1	20.1	-25.4	19.5	15.7	-19.0	7.7	-46.0	39.2	-4.4	36.3
Transfers to non-household members	5.7	14.1	-28.6	39.1	-24.0	23.2	17.3	-7.5	-14.2	18.1	3.4	5.6
Donations (including to church)	-14.0	70.7	-22.7	23.4	-31.4	55.9	-36.3	45.5	46.0	-6.8	8.5	-4.5

Notes:

Comparisons are for households with heads aged 25-65 in 1994.

1. Includes Tortillas, Corn, Rice, Bread, Oats and Wheat products

2. Includes Cleaning Products, Batteries, Lightbulbs, Gardening, Laundry and Drycleaning Services

3. Includes haircuts, massages, manicures, and other beautician services

4. Includes expenditure at the cinema, theatre, bars, sporting events, lotteries, club membership fees, cable service etc.

5. Medical expenses at primary health providers (does not include hospital costs nor medical costs during pregnancy)

6. Includes audiovisual equipment, photographic and video equipment, sporting goods, games, musical instruments, etc.

Table 5: Household Level Analysis of Expenditure Shares

| Expenditure Category | Expenditure shares | | | prediction error | Difference Actual - | T-ratio |
	actual 1994	actual 1996	predicted 1996	1996	Predicted	
Food	41.4	43.8	42.6	0.6	1.2	2.13
Cereals and Grains[1]	7.1	8.7	7.5	0.2	1.3	5.85
Meat	8.5	8.7	8.5	0.3	0.2	0.79
Fish and Seafood	0.8	0.8	0.8	0.1	0.0	0.33
Milk and Milk Products	3.6	3.9	3.6	0.1	0.4	2.67
Eggs	1.6	2.3	1.7	0.1	0.6	8.39
Oils and Fats	1.3	1.7	1.4	0.1	0.2	2.80
Vegetables	6.2	6.5	6.6	0.2	-0.1	-0.59
Fruits	1.4	1.2	1.3	0.1	-0.2	-2.13
Desserts and Sweets	0.1	0.1	0.1	0.0	0.0	-0.55
Alcoholic Drinks	0.5	0.3	0.5	0.1	-0.2	-1.88
Meals consumed outside home	3.3	2.6	3.1	0.3	-0.5	-1.92
Public Transport	5.9	5.7	6.1	0.3	-0.4	-1.26
House Cleaning and Care[2]	6.2	6.1	6.6	0.2	-0.5	-2.74
Personal Care Services[3]	0.6	0.5	0.6	0.1	-0.1	-2.32
Education	5.6	6.7	5.1	0.3	1.5	5.17
Educational Services	2.6	2.9	2.3	0.2	0.6	3.04
Educational Materials	2.9	3.7	2.8	0.2	0.9	5.06
Leisure Expenses[4]	0.8	0.7	0.7	0.1	0.1	0.69
Clothing	7.5	6.1	7.4	0.2	-1.3	-5.57
Primary Health Care[5]	2.0	1.7	2.0	0.2	-0.3	-1.80
Household Goods and Furniture	2.8	2.3	2.5	0.2	-0.3	-1.06
Entertainment Equipment[6]	0.9	0.5	0.8	0.1	-0.3	-2.89
Vehicle Purchases	0.7	0.6	0.5	0.2	0.1	0.85
Transfers to non-household members	1.0	0.9	1.0	0.2	0.0	-0.14
Donations (including to church)	0.1	0.1	0.1	0.0	0.0	-1.33

Notes:

Shares are for households with heads aged 25-65 in 1994.

1. Includes Tortillas, Corn, Rice, Bread, Oats and Wheat products

2. Includes Cleaning Products, Batteries, Lightbulbs, Gardening, Laundry and Drycleaning Services

3. Includes haircuts, massages, manicures, and other beautician services

4. Includes expenditure at the cinema, theatre, bars, sporting events, lotteries, club membership fees, cable service etc.

5. Medical expenses at primary health providers (does not include hospital costs nor medical costs during pregnancy)

6. Includes audiovisual equipment, photographic and video equipment, sporting goods, games, musical instruments, etc.

Table 6: Cohort Level Analysis of Expenditure Shares - using Birth-Education Cohorts.

Expenditure Category	Expenditure shares			prediction error	Difference Actual -	
	actual 1994	actual 1996	predicted 1996	1996	Predicted	T-ratio
Food	39.2	41.5	41.9	0.8	-0.4	-0.53
Cereals and Grains[1]	6.2	7.9	6.9	0.3	0.9	3.27
Meat	8.2	8.4	8.5	0.6	0.0	-0.08
Fish and Seafood	0.7	0.8	0.7	0.1	0.1	0.98
Milk and Milk Products	3.6	3.9	3.7	0.3	0.3	0.92
Eggs	1.4	2.1	1.6	0.1	0.5	6.72
Oils and Fats	1.1	1.4	1.3	0.1	0.1	0.80
Vegetables	5.6	5.9	6.4	0.3	-0.5	-1.54
Fruits	1.4	1.3	1.5	0.2	-0.2	-1.26
Desserts and Sweets	0.1	0.1	0.1	0.0	0.0	-0.90
Alcoholic Drinks	0.5	0.4	0.6	0.1	-0.2	-1.49
Meals consumed outside home	4.0	2.9	3.6	0.4	-0.8	-1.83
Public Transport	5.3	5.3	5.7	0.4	-0.4	-0.87
House Cleaning and Care[2]	6.3	6.2	6.5	0.3	-0.3	-0.79
Personal Care Services[3]	0.6	0.5	0.6	0.1	-0.1	-1.34
Education	5.5	6.4	4.5	0.7	1.9	2.66
Educational Services	3.0	3.1	2.2	0.6	0.9	1.50
Educational Materials	2.5	3.3	2.3	0.2	1.0	4.48
Leisure Expenses[4]	1.0	0.9	0.9	0.1	0.1	0.50
Clothing	7.4	6.2	7.3	0.4	-1.2	-2.94
Primary Health Care[5]	1.9	1.8	2.0	0.2	-0.2	-1.47
Household Goods and Furniture	2.7	2.3	2.5	0.4	-0.2	-0.60
Entertainment Equipment[6]	1.0	0.5	0.9	0.2	-0.3	-2.07
Vehicle Purchases	0.8	0.7	0.4	0.3	0.2	0.89
Transfers to non-household members	1.3	1.2	1.2	0.3	0.0	0.06
Donations (including to church)	0.1	0.1	0.1	0.0	0.0	-0.66

Notes:

Shares are for households with heads aged 25-65 in 1994.

1. Includes Tortillas, Corn, Rice, Bread, Oats and Wheat products

2. Includes Cleaning Products, Batteries, Lightbulbs, Gardening, Laundry and Drycleaning Services

3. Includes haircuts, massages, manicures, and other beautician services

4. Includes expenditure at the cinema, theatre, bars, sporting events, lotteries, club membership fees, cable service etc.

5. Medical expenses at primary health providers (does not include hospital costs nor medical costs during pregnancy)

6. Includes audiovisual equipment, photographic and video equipment, sporting goods, games, musical instruments, etc.

Table 7: Does the total expenditure elasticity change over 1994-96?

Dependent variable: Change in Expenditure share for	Coefficient for :				
	Log per capita expenditure	Change in log per capita expenditure	Change in log household size	Constant	Adjusted R2
Food	-0.022	-0.063	-0.129	0.157	0.455
	-(4.92)	-(2.49)	-(2.33)	(5.47)	
Cereals and Grains	-0.015	-0.024	-0.029	0.110	0.589
	-(7.97)	-(2.29)	-(1.26)	(9.29)	
Meat	-0.001	-0.010	0.062	0.005	0.468
	-(0.48)	-(0.96)	(2.81)	(0.47)	
Fish and Seafood	-0.001	-0.007	-0.020	0.010	0.254
	-(2.58)	-(2.12)	-(2.74)	(2.65)	
Milk and Milk Products	0.002	-0.012	0.009	-0.012	0.371
	(1.79)	-(1.89)	(0.62)	-(1.66)	
Eggs	-0.003	-0.010	-0.015	0.023	0.450
	-(3.92)	-(2.72)	-(1.84)	(5.34)	
Oils and Fats	-0.002	-0.011	-0.020	0.012	0.282
	-(1.81)	-(2.21)	-(1.78)	(1.98)	
Vegetables	-0.003	-0.008	-0.014	0.021	0.095
	-(1.62)	-(0.75)	-(0.60)	(1.74)	
Fruits	0.000	-0.004	-0.030	-0.004	0.194
	(0.35)	-(0.83)	-(3.03)	-(0.81)	
Desserts and Sweets	0.000	0.000	0.002	0.000	0.274
	-(0.18)	-(0.04)	(1.12)	-(0.09)	
Alcoholic Drinks	0.001	0.000	-0.015	-0.006	0.195
	(1.05)	-(0.11)	-(1.50)	-(1.16)	
Meals consumed outside home	-0.004	0.048	-0.021	0.024	0.549
	-(1.60)	(3.46)	-(0.70)	(1.52)	
Public Transport	0.005	0.001	-0.015	-0.031	0.465
	(2.60)	(0.10)	-(0.68)	-(2.76)	
House Cleaning and Care	-0.002	-0.005	0.038	0.012	0.261
	-(1.30)	-(0.52)	(1.89)	(1.17)	
Personal Care Services	0.000	0.000	0.006	-0.003	0.069
	(0.63)	(0.12)	(0.94)	-(0.90)	
Education	0.003	0.023	0.066	0.000	0.439
	(0.85)	(1.37)	(1.74)	(0.01)	
Educational Services	-0.001	0.019	0.006	0.012	0.385
	-(0.21)	(1.24)	(0.18)	(0.71)	
Educational Materials	0.003	0.005	0.060	-0.012	0.265
	(1.76)	(0.47)	(2.69)	-(1.04)	
Leisure Expenses	0.001	0.011	0.005	-0.007	0.445
	(1.70)	(2.56)	(0.56)	-(1.50)	
Clothing	0.004	-0.004	0.061	-0.043	0.427
	(2.44)	-(0.46)	(2.93)	-(3.93)	
Primary Health Care	0.003	0.022	0.034	-0.019	0.430
	(2.35)	(3.04)	(2.15)	-(2.26)	
Household Goods and Furniture	-0.002	0.002	-0.045	0.008	0.227
	-(0.92)	(0.16)	-(1.68)	(0.61)	
Entertainment Equipment	0.000	0.000	-0.009	-0.003	-0.062
	-(0.21)	(0.05)	-(0.65)	-(0.48)	
Vehicle Purchases	-0.002	-0.003	-0.014	0.011	0.148
	-(1.29)	-(0.39)	-(0.72)	(1.13)	
Transfers to non-household members	0.000	-0.015	-0.061	-0.008	0.253
	(0.22)	-(1.27)	-(2.33)	-(0.59)	
Donations (including to church)	0.001	0.002	-0.001	-0.004	0.105
	(2.60)	(1.41)	-(0.30)	-(2.51)	

Notes:

T-statistics shown in parentheses

All regressions also include the mean proportions of the households in a given cohort in specified

age-sex classes, and the mean proportion of female household heads in the cohort, as per Table 6.

TABLE 8: Changes in Labour Supply in Response to the Peso Crisis

I: Total Weekly Labour Hours of Household Head

Cohort Age in 1994	Mean (Std. Dev)			25th percentile		Median		75th percentile	
	1992	1994	1996	1994	1996	1994	1996	1994	1996
20-24	50.1	51.2	51.5	45	44	48	48	60	60
	(18.2)	(17.4)	(18.0)						
25-29	50.0	51.1	51.7	44	42	48	48	60	60
	(17.5)	(17.6)	(17.5)						
30-34	51.0	51.5	50.5	42	42	48	48	60	60
	(18.3)	(18.7)	(19.0)						
35-39	50.8	50.4	50.2	40	40	48	48	60	60
	(18.7)	(19.1)	(19.4)						
40-44	49.7	48.5	47.9	40	40	48	48	60	60
	(20.1)	(21.0)	(20.4)						
45-49	48.8	47.1	44.4	40	35	48	48	60	60
	(21.0)	(22.8)	(23.6)						
50-54	45.0	44.5	40.9	30	24	48	48	60	56
	(24.1)	(25.2)	(26.0)						
55-59	40.3	40.3	36.3	20	6	45	40	58	55
	(25.4)	(26.6)	(26.0)						
60-64	36.1	34.2	29.8	0	0	40	35	54	48
	(28.0)	(28.1)	(27.1)						
65-69	29.6	30.0	26.9	0	0	30	24	50	48
	(28.1)	(27.4)	(27.0)						

II: Number of Workers per Family

Cohort Age in 1994	Mean			25th percentile		Median		75th percentile	
	1992	1994	1996	1994	1996	1994	1996	1994	1996
20-24	1.2	1.3	1.4	1	1	1	1	2	2
25-29	1.3	1.4	1.4	1	1	1	1	2	2
30-34	1.3	1.4	1.5	1	1	1	1	2	2
35-39	1.4	1.6	1.7	1	1	1	2	2	2
40-44	1.7	1.9	2.0	1	1	2	2	2	2
45-49	2.0	2.2	2.1	1	1	2	2	3	3
50-54	2.1	2.2	2.2	1	1	2	2	3	3
55-59	2.2	2.3	2.1	1	1	2	2	3	3
60-64	1.9	2.0	2.0	1	1	2	2	3	3
65-69	1.7	1.7	1.9	1	1	1	2	2	2

III: Weekly Labour Hours per Adult in the Household

Cohort Age in 1994	Mean			25th percentile		Median		75th percentile	
	1992	1994	1996	1994	1996	1994	1996	1994	1996
20-24	34.2	33.0	33.6	24	24	28	30	41	42
25-29	31.4	32.2	33.2	24	24	29	30	40	42
30-34	31.0	33.7	35.2	24	24	30	30	42	45
35-39	34.2	37.0	37.4	24	24	32	32	47	48
40-44	35.5	34.5	34.7	23	23	31	30	45	44
45-49	33.6	34.5	32.7	21	20	31	30	43	42
50-54	31.8	32.9	31.8	20	19	30	29	43	41
55-59	28.8	30.9	29.2	19	18	29	27	40	38
60-64	27.1	28.1	26.0	16	15	26	24	38	36
65-69	25.3	24.7	23.8	13	10	24	24	35	35

Notes:

* Workers and Labour Force Participants defined as all individuals having non-zero weekly labour hours

* Adults are defined as individuals aged 18 and above.

TABLE 8 (Continued)

IV: Labour Force Participation

Age group	Females			Males		
	1992	1994	1996	1992	1994	1996
10-14	0.03	0.04	0.06	0.10	0.11	0.12
15-19	0.21	0.23	0.25	0.53	0.55	0.52
20-24	0.31	0.37	0.37	0.81	0.82	0.78
25-29	0.33	0.40	0.42	0.89	0.91	0.91
30-34	0.38	0.45	0.45	0.92	0.94	0.94
35-39	0.36	0.47	0.49	0.92	0.93	0.93
40-44	0.36	0.44	0.48	0.91	0.90	0.93
45-49	0.35	0.42	0.43	0.89	0.92	0.92
50-54	0.29	0.36	0.36	0.88	0.88	0.87
55-59	0.27	0.31	0.31	0.86	0.83	0.84
60-64	0.20	0.26	0.27	0.73	0.77	0.78
65-69	0.17	0.29	0.22	0.69	0.70	0.71

Labour Force Participants are defined as all individuals having non-zero weekly labour hours

V: School attendance

Age of Child	Males			Females		
	1992	1994	1996	1992	1994	1996
5-6	0.73	0.80	0.86	0.72	0.82	0.87
7-8	0.94	0.96	0.97	0.95	0.96	0.98
9-10	0.97	0.96	0.97	0.96	0.97	0.97
11-12	0.92	0.94	0.94	0.90	0.91	0.92
13-14	0.79	0.79	0.82	0.72	0.73	0.76
15-16	0.52	0.52	0.58	0.48	0.49	0.54
17-18	0.33	0.31	0.36	0.33	0.31	0.34
19-20	0.22	0.22	0.28	0.19	0.21	0.23
21-22	0.18	0.19	0.19	0.14	0.15	0.16
23-24	0.13	0.11	0.10	0.07	0.09	0.09
25-26	0.05	0.07	0.07	0.03	0.06	0.05

Proportion of children of given age in the sample who attended any educational centre.

VI: Percentage Change in Mean Weekly Labour Hours of Household Head by Birth-Education cohorts 1994-96

Age of head in 1994:	Education level of head:					
	No Schooling	Incomplete Primary	Complete Primary	Junior High	High School	Higher Education
20-24	-12.5	-1.0	-2.5	-0.5	3.6	37.3
25-29	5.1	-6.9	-1.7	3.7	-0.3	17.4
30-34	-2.1	-0.2	-3.0	3.1	-10.6	-3.5
35-39	5.1	-4.7	-4.8	4.2	-3.2	0.6
40-44	-1.6	-3.3	-2.8	4.3	-1.4	0.5
45-49	-9.0	-12.4	-5.8	4.5	-3.3	10.0
50-54	-3.5	-12.1	-3.4	-4.6	2.0	-14.4
55-59	-15.7	-4.5	-11.1	-17.9	-22.4*	-20.6
60-64	-11.4	-16.4	-19.3	55.9*	-35.2*	6.9*
65-69	-18.4	-10.5	8.0	113.2*	69.6*	42.0*

Note:

* indicates that less than 30 observations are available for this cohort.

TABLE 8 (Continued)

VII: Percentage of all Males Employed by Birth-Education Cohort 1994 and 1996

	No Schooling			Incomplete Primary			Complete Primary			Junior High			High School			Higher Education		
Individual's age in 1994:	1994	1996	% change	1994	1996	% change	1994	1996	% change	1994	1996	% change	1994	1996	% change	1994	1996	% change
20-24	69	60	-13.0	97	93	-3.8	92	92	0.8	90	91	0.6	70	84	20.3	44	60	35.6
25-29	69	51	-26.1	97	97	0.2	95	96	0.3	94	96	2.5	93	98	5.3	84	95	12.3
30-34	72	62	-14.2	97	95	-1.6	97	97	-0.2	97	97	0.4	95	96	0.4	96	96	-0.6
35-39	67	63	-6.2	96	95	-1.0	98	97	-1.9	96	98	2.5	95	95	-0.6	96	96	-0.5
40-44	71	71	-1.1	96	96	-0.4	92	96	4.1	91	97	6.7	96	95	-0.7	97	97	-0.4
45-49	83	79	-5.1	96	93	-2.8	94	91	-2.9	92	89	-2.7	96	96	0.2	98	96	-2.3
50-54	82	82	0.3	92	88	-4.4	89	87	-2.2	89	83	-6.5	85	79	-7.6	93	84	-9.2
55-59	79	79	-1.0	88	88	0.1	78	79	2.0	80	79	-1.5	73*	73*	0*	80	68*	-15.6*
60-64	78	77	-1.5	82	75	-8.5	66	60	-9.1	55	81*	48.4*	75*	79*	4.8*	71*	63*	-11.8*

VIII: Percentage of all Females Employed by Birth-Education Cohort 1994 and 1996

	No Schooling			Incomplete Primary			Complete Primary			Junior High			High School			Higher Education		
Individual's age in 1994:	1994	1996	% change	1994	1996	% change	1994	1996	% change	1994	1996	% change	1994	1996	% change	1994	1996	% change
20-24	29	29	0.0	25	32	27.1	30	32	6.5	45	42	-5.1	49	54	10.2	33	53	60.3
25-29	23	29	27.7	36	31	-14.5	31	33	9.3	40	42	6.6	57	52	-8.5	68	75	10.2
30-34	37	41	10.9	39	37	-6.6	44	43	-1.3	41	47	13.5	59	61	3.1	70	76	8.8
35-39	42	43	2.9	41	40	-1.4	42	47	10.5	51	50	-2.7	59	67	12.6	75	77	2.7
40-44	37	39	6.3	40	42	5.8	43	42	-1.9	53	56	6.6	58	78	33.0	70	79	12.4
45-49	46	37	-19.8	35	37	4.1	38	36	-4.9	46	50	8.1	60	58	-2.9	64	56	-13.0
50-54	39	35	-10.0	35	31	-12.5	26	30	19.4	39	40	0.5	54	42	-22.4	76*	76*	0*
55-59	34	33	-4.3	26	23	-12.8	26	27	4.4	45	22	-50.9	50*	24*	-52.9*	25*	67*	166.7*
60-64	29	29	-0.9	27	25	-8.5	18	21	19.7	28	20*	-28.3*	47*	27*	-43.3*	9*	0*	-100*

IX: Mean hours worked conditional on working for birth-education cohorts 1994-96

	No Schooling			Incomplete Primary			Complete Primary			Junior High			High School			Higher Education		
Individual's age in 1994:	1994	1996	% change	1994	1996	% change	1994	1996	% change	1994	1996	% change	1994	1996	% change	1994	1996	% change
20-24	43.9	45.3	3.2	47.3	47.0	-0.7	47.0	47.9	1.8	47.6	47.7	0.3	44.0	48.1	9.3	39.5	41.6	5.4
25-29	44.6	44.5	-0.2	47.2	48.0	1.6	47.2	47.6	0.9	46.5	48.1	3.4	46.5	47.9	3.0	43.1	44.5	3.1
30-34	45.9	44.4	-3.3	48.2	49.2	2.0	47.9	48.7	1.6	47.8	47.9	0.3	46.5	45.6	-1.8	44.2	44.0	-0.4
35-39	42.5	46.4	9.1	47.7	47.1	-1.2	48.5	47.6	-1.8	48.0	49.1	2.2	46.1	44.9	-2.5	44.9	46.4	3.3
40-44	45.6	46.9	2.8	47.4	47.0	-0.9	48.2	47.4	-1.6	49.1	48.7	-0.7	42.0	43.9	4.4	46.1	46.3	0.5
45-49	44.3	44.7	0.8	49.1	47.0	-4.2	47.6	47.5	-0.3	46.0	49.3	7.2	44.5	43.2	-2.8	45.2	48.7	7.7
50-54	45.1	46.8	3.8	49.6	47.1	-5.1	46.7	46.0	-1.6	45.0	48.1	6.9	43.0	48.3	12.3	47.4	44.8	-5.5
55-59	45.8	42.9	-6.2	46.0	48.1	4.6	49.5	46.5	-5.9	47.8	45.8	-4.2	47.1*	45.3*	-3.9*	45.6	42.4*	-7.0*
60-64	44.4	41.1	-7.4	46.7	43.5	-6.8	47.5	48.7	2.4	44.9	44.7*	-0.4*	41.9*	35.6*	-15.0*	43.6*	43.9*	0.7*

Notes:

* indicates that less than 30 observations are available for this cohort.

Labour Force Participants are defined as all individuals having non-zero weekly labour hours

Table 9: Aggregate Saving Rates in Mexico

		National Saving (% of GDP)[2]					Net saving
	Gross		*External*		*Domestic*		(% of
Year	Domestic	Total		Total	Domestic	Domestic	disposable
	Saving[1]	Saving		Domestic	Public	Private	income)[3]
1984	27.7	21.8	-3.0	24.7	7.9	16.9	
1985	26.3	23.9	-0.9	24.7	6.8	18.0	
1986	22.4	21.2	1.5	19.6	3.9	15.8	
1987	25.4	21.4	-3.4	24.7	7.9	16.9	
1988	24.0	22.6	1.3	21.3	1.1	20.3	11.5
1989	22.9	22.9	2.6	20.3	2.3	18.1	11.8
1990	22.0	23.1	2.8	20.3	6.7	13.6	12.5
1991	20.4	23.3	4.7	18.7	7.9	10.8	10.9
1992	18.3	23.3	6.7	16.6	6.4	10.2	8.6
1993	17.0	21.0	5.9	15.1	4.1	11.0	6.8
1994	16.9	21.7	6.9	14.8	3.5	11.3	6.4
1995	22.5	19.8	0.5	19.3	4.3	15.0	9.2
1996	25.4	23.3	0.5	22.7	9.5	13.7	13.7
1997	26.0	26.5	1.9	24.6			15.7
1998	22.4						11.5

sources:

1. *World Development Indicators 2000*, The World Bank, Washington D.C.

2. Table A1 Attanasio and Szekely (1998, p54.)

3. *La Economia Mexicana en Cifras* (various years), Nacional Financiera, Aguascalientes

Table 10: Household Saving Rates by Education Level

| | Household Savings Rate | | | | | Change |
	1984	1989	1992	1994	1996	1994-96
Total population	8.5	11.1	12	14.1	9.5	-4.6
No Schooling	4	5.2	6.7	2.8	4.0	1.2
Incomplete Primary	5.4	8.6	6.9	9.5	4.9	-4.6
Complete Primary	9.1	10.5	11.5	10.4	6.4	-4.0
Junior High	9.4	11.2	11.8	12.6	7.6	-5.0
High School	10.2	11.9	13.2	15.6	11.1	-4.5
Higher Education	12.5	13.2	16.8	19.4	15.8	-3.6

| | Mean Savings Rates | | | | | Change |
	1984	1989	1992	1994	1996	1994-96
Total population	-3.2	-5.3	-1.1	3.4	-2.6	-5.7
No Schooling	-1.4	-3.0	-1.6	3.3	-1.8	-5.1
Incomplete Primary	-7.3	-3.1	-4.4	2.9	-3.5	-6.4
Complete Primary	1.4	-17.8	-3.8	2.9	-6.1	-9.0
Junior High	-1.2	-2.7	0.6	3.4	-4.9	-8.3
High School	-2.5	-0.3	2.2	-2.4	2.7	5.1
Higher Education	-0.3	-2.3	6.4	8.8	3.1	-5.7

| | Median Savings Rates | | | | | Change |
	1984	1989	1992	1994	1996	1994-96
Total population	6.4	7.0	4.5	7.3	2.2	-5.1
No Schooling	6.6	7.2	3.4	7.4	1.5	-5.9
Incomplete Primary	6.9	9.0	4.2	8.0	2.6	-5.4
Complete Primary	7.2	9.5	6.7	8.3	2.7	-5.6
Junior High	7.5	9.5	7.4	8.6	3.5	-5.1
High School	8.7	11.4	7.9	11.4	9.9	-1.5
Higher Education	8.9	11.6	14.3	15.6	10.3	-5.3

source: Selections from Tables 5, 5a and 5b of Attanasio and Szekely (1998, p15-17).

TABLE A1: Household Composition and Headship
Distribution of sample surveyed by relation to household head

			1984			
			Percentage of Age Group by relation to Head			
Age	Number in Sample	Head	Spouse of Head	Child of Head	Other relation[1]	
15-19	2719	1.4	3.9	82.2	11.1	
20-24	2182	13.4	20.7	52.5	11.6	
25-29	1701	31.0	35.0	25.1	7.7	
30-34	1387	41.7	39.8	12.8	5.2	
35-39	1172	45.1	42.8	8.1	3.1	
40-44	1056	50.5	41.2	5.4	2.7	
45-49	831	55.0	37.9	3.5	3.4	
50-54	721	54.0	36.9	3.1	5.4	
55-59	576	61.1	30.4	1.2	6.8	
60-64	496	61.7	26.6	0.0	11.1	
65-69	338	62.7	21.3	0.0	15.7	
70-74	302	52.0	21.2	0.0	26.5	
75+	370	52.4	7.6	0.0	38.9	
			1994			
			Percentage of Age Group by relation to Head			
Age	Number in Sample	Head	Spouse of Head	Child of Head	Other relation[1]	
15-19	6789	1.2	3.3	81.7	12.4	
20-24	5661	12.6	16.9	56.8	12.6	
25-29	4341	28.5	33.7	29.1	8.1	
30-34	3940	40.5	38.7	15.2	5.0	
35-39	3514	46.8	41.1	8.5	3.1	
40-44	2840	50.0	40.7	5.7	3.1	
45-49	2419	51.6	41.3	3.6	3.1	
50-54	2028	54.3	37.6	2.9	4.8	
55-59	1605	58.4	33.6	1.6	6.2	
60-64	1433	60.3	28.8	1.2	9.5	
65-69	996	61.2	25.5	0.1	13.0	
70-74	815	61.8	19.3	0.0	18.4	
75+	1096	51.8	11.0	0.1	36.2	
			1996			
			Percentage of Age Group by relation to Head			
Age	Number in Sample	Head	Spouse of Head	Child of Head	Parent of Head	Other relation[2]
15-19	6754	1.2	3.7	82.7	0.0	11.3
20-24	5655	11.8	17.6	56.8	0.0	12.7
25-29	4761	28.6	32.4	29.7	0.0	8.8
30-34	4216	40.7	38.7	15.4	0.0	4.8
35-39	3828	44.9	41.6	9.5	0.0	3.6
40-44	2965	50.7	40.7	5.9	0.2	2.2
45-49	2509	53.7	39.3	4.0	0.8	2.1
50-54	1955	56.9	35.3	3.4	1.4	2.8
55-59	1565	57.9	35.3	2.0	1.9	2.8
60-64	1391	60.0	29.9	1.2	5.2	3.3
65-69	1032	61.2	25.5	0.3	5.8	7.0
70-74	796	58.8	20.5	0.1	10.7	9.3
75+	1186	55.7	12.1	0.0	16.9	14.8

source: Author's calculations from Mexican ENIGH.

1. Other relations include parents, grandchildren, cousins, etc.

2. Includes all other relations (not parents)

TABLE A2: Who lives with the Household Head?

Family Composition by Age of Head, 1984

Age	sample size	mean family size	Mean number by relation to household head				Proportion of male heads	Quantiles of Family Size Distribution					maximum family size
			spouse	children	parents & relatives	others		5%	25%	50%	75%	95%	
20-24	293	3.3	0.77	1.02	0.46	0.03	0.91	1	3	3	4	5	10
25-29	528	4.2	0.88	2.02	0.24	0.03	0.95	2	3	4	5	7	13
30-34	579	5.3	0.90	2.95	0.36	0.06	0.93	2	4	5	6	9	15
35-39	529	5.8	0.87	3.63	0.26	0.02	0.90	2	4	6	7	10	15
40-44	533	6.2	0.84	4.07	0.30	0.03	0.88	2	5	6	8	11	15
45-49	457	6.1	0.79	3.85	0.40	0.05	0.85	2	4	6	8	11	16
50-54	389	5.6	0.71	3.13	0.77	0.02	0.80	1	3	5	8	11	17
55-59	352	5.4	0.70	2.82	0.84	0.05	0.80	1	3	5	8	11	17
60-64	306	4.4	0.63	1.82	0.95	0.02	0.71	1	2	4	6	10	16
65-69	212	4.2	0.58	1.45	1.14	0.01	0.68	1	2	3	5	10	16
70-74	157	3.6	0.57	1.00	1.02	0.04	0.74	1	2	3	4	9	14
75+	194	3.2	0.51	0.73	0.95	0.02	0.65	1	2	2	4	9	14

Family Composition by Age of Head, 1996

Age	sample size	mean family size	Mean number by relation to household head					Proportion of male heads	Quantiles of Family Size Distribution					maximum family size
			spouse	children	parents	relatives	others		5%	25%	50%	75%	95%	
20-24	668	3.4	0.85	1.18	0.03	0.26	0.04	0.93	2	3	3	4	5	16
25-29	1363	3.9	0.87	1.78	0.05	0.20	0.02	0.93	2	3	4	5	6	16
30-34	1717	4.6	0.87	2.49	0.05	0.18	0.02	0.91	2	4	5	6	7	15
35-39	1719	5.1	0.85	3.02	0.04	0.19	0.03	0.89	2	4	5	6	9	16
40-44	1504	5.4	0.82	3.20	0.05	0.30	0.02	0.86	2	4	5	7	10	15
45-49	1346	5.4	0.81	3.03	0.05	0.44	0.03	0.85	2	4	5	7	10	15
50-54	1113	5.2	0.74	2.69	0.04	0.66	0.03	0.79	2	3	5	6	10	20
55-59	906	4.7	0.70	2.26	0.03	0.72	0.02	0.77	1	3	4	6	9	18
60-64	835	4.3	0.66	1.69	0.03	0.94	0.02	0.76	1	2	4	6	10	23
65-69	632	3.9	0.62	1.25	0.01	0.99	0.01	0.73	1	2	3	5	9	15
70-74	468	4.0	0.63	1.18	0.01	1.17	0.03	0.77	1	2	3	5	10	15
75+	660	3.2	0.53	0.80	0.00	0.86	0.03	0.69	1	2	2	4	8	25

source: Author's calculations from Mexican ENIGH.

Note: Parents are only separated from other relatives in the 1996 Survey.

Table A3: Determinants of Household Income per Capita and of Foreign Transfers Received 1994 and 1996

		Log Income per capita		Foreign Transfers/Total Income	
		1994	**1996**	**1994**	**1996**
Age of Head		0.0303	0.0286	4.41	7.10
		(10.41)	(9.92)	(3.54)	(1.92)
Age of Head Squared		-0.0002	-0.0002	-0.05	-0.07
		(-7.44)	(-7.36)	(-3.02)	(-1.70)
Education:	Incomplete Primary	0.2843	0.2158	6.31	-17.39
		(13.83)	(10.17)	(0.51)	(-0.58)
	Complete Primary	0.4745	0.3900	-6.77	-24.72
		(20.39)	(16.95)	(-0.48)	(-0.75)
	Junior High	0.6849	0.6279	-2.33	-31.35
		(26.18)	(24.73)	(-0.16)	(-0.98)
	High School	1.0156	0.9449	0.61	-35.03
		(32.42)	(31.17)	(0.04)	(-1.00)
	Higher Education	1.5156	1.4803	8.24	12.32
		(47.33)	(49.14)	(0.50)	(0.19)
Location:	locality of 100,000 + residents	-0.0545	0.0597	6.95	2.35
		(-2.91)	(3.14)	(0.85)	(0.11)
	locality of 15,000-99,999	-0.1444	-0.0515	7.50	48.71
		(-6.30)	(-2.68)	(0.65)	(1.72)
	locality of 2,500-14,999	-0.2986	-0.1664	19.52	122.44
		(-12.12)	(-7.98)	(2.03)	(3.91)
	locality of 2,500 or less people	-0.4137	-0.3137	38.30	91.26
		(-21.32)	(-16.47)	(3.48)	(3.51)
Job:	Rural Labourer	-0.1790	-0.1520	-38.67	-163.33
		(-5.54)	(-5.04)	(-3.00)	(-4.67)
	Boss/Employer of 1-5 people	0.4119	0.3888	1.14	47.35
		(11.14)	(12.65)	(0.08)	(1.46)
	Boss/Employer of 6+ people	0.7756	0.6976	-42.97	128.26
		(7.48)	(7.34)	(-4.28)	(0.87)
	Self-employed	-0.1212	-0.1160	4.70	33.96
		(-6.25)	(-6.48)	(0.67)	(1.62)
	Unpaid worker in family business	-0.3915	0.0234	-42.74	393.01
		(-3.28)	(0.16)	(-4.21)	(1.03)
	Unpaid worker in non-family business	-0.8293	-0.0628	-37.88	1468.81
		(-4.57)	(-0.31)	(-3.51)	(1.39)
	Member of Cooperative	0.4163	0.9205	-26.90	-163.85
		(1.80)	(10.06)	(-1.28)	(-3.50)
	Unemployed	0.0116	0.0466	34.65	149.64
		(0.32)	(1.37)	(1.65)	(2.26)
Industry:	Mining	0.2662	0.5816	-51.74	-193.52
		(5.12)	(8.31)	(-4.30)	(-5.74)
	Manufacturing	0.1241	0.1508	-35.96	-132.94
		(4.02)	(5.10)	(-2.87)	(-3.65)
	Electricity and Water	0.1752	0.2619	-45.15	-151.64
		(2.11)	(3.33)	(-3.61)	(-4.18)
	Construction	0.1130	0.0624	-40.37	-120.26
		(3.58)	(1.96)	(-3.44)	(-2.86)
	Commerce	0.2247	0.1985	-24.58	-134.22
		(7.38)	(6.67)	(-1.58)	(-3.72)
	Transport and Communication	0.2105	0.2681	-16.49	-144.09
		(5.66)	(7.23)	(-0.98)	(-3.71)
	Financial Services	0.4680	0.3814	-41.59	-134.64
		(5.97)	(5.04)	(-3.02)	(-2.61)
	Community and Social Services	0.1948	0.1449	-41.92	-128.84
		(6.59)	(5.19)	(-3.41)	(-3.28)
Female Head of Household		0.0075	0.0517	20.59	55.49
		(0.35)	(2.69)	(1.58)	(1.67)
More than one paid worker in household		0.2166	0.2104	2.47	26.88
		(16.37)	(16.77)	(0.39)	(1.49)
Number of Children (age <18)		-0.1965	-0.2098	0.12	11.79
		(-49.38)	(-52.05)	(0.07)	(1.89)
Number of Elderly (age >65)		-0.1488	-0.1147	28.08	20.15
		(-7.33)	(-5.93)	(2.26)	(0.73)
Constant		5.8889	6.2573	-64.06	-49.70
		(82.20)	(88.74)	(-2.22)	(-0.61)
R-squared		0.5322	0.5153	0.0132	0.0199
Observations		12506	13666	12506	13666
Number with positive foreign transfers received:				392	627

Notes:

T-statistics shown in parentheses using Huber-White Standard Errors

Omitted Groups are No Schooling for Education; Metropolitian Areas for Location; Non-agricultural Employees for Job;

and Agriculture for Industry.

Unemployed Heads are those with zero hours of labour, and hence do not correspond with those officially unemployed.

Table A4: Percentage changes in expenditure shares by Birth Cohorts

Change between 1994 and 1996

Expenditure Category	Age of Household Head in 1994								
	20-24	25-29	30-34	35-39	40-44	45-49	50-54	55-59	60-64
Food	7.1	6.5	7.3	5.1	5.0	4.8	4.4	13.0	2.3
Cereals and Grains	33.7	24.0	30.0	18.8	23.5	24.9	22.5	39.2	11.8
Meat	7.9	4.5	4.2	3.7	-0.3	0.5	-1.8	13.4	3.8
Fish and Seafood	-7.0	18.9	-0.9	19.3	7.1	6.9	-3.4	6.2	4.0
Milk and Milk Products	17.8	14.9	4.1	10.2	9.4	8.9	7.0	9.3	2.2
Eggs	55.1	39.2	46.3	45.8	45.9	40.0	49.9	79.5	38.0
Oils and Fats	20.9	17.3	39.3	24.4	28.1	21.5	31.7	33.8	20.1
Vegetables	1.4	8.5	9.0	3.5	4.8	4.0	8.2	10.7	5.3
Fruits	-0.9	-11.8	-17.5	-13.6	-18.1	-10.5	-15.9	-19.3	-4.0
Desserts and Sweets	5.7	-9.4	-5.1	18.0	-44.2	12.4	-22.4	-39.9	-74.4
Alcoholic Drinks	-28.6	-26.9	-34.4	-50.6	-11.9	-18.6	-63.1	-33.3	-51.4
Meals consumed outside home	-27.6	-21.5	-29.0	-20.2	-25.2	-24.1	-21.2	-26.4	-28.6
Public Transport	-8.2	-10.5	1.3	9.2	4.7	-7.6	-12.7	0.3	0.1
House Cleaning and Care	0.7	0.2	-3.0	-4.6	0.6	0.4	-3.1	-8.4	-1.3
Personal Care Services	-7.9	-18.9	-24.3	-12.1	-33.1	-17.2	-9.6	-30.9	-24.3
Education	74.8	50.2	29.5	20.8	20.1	9.3	34.9	-6.7	25.0
Educational Services	29.4	18.7	23.6	16.7	13.1	6.4	33.6	-22.5	30.6
Educational Materials	169.9	80.9	33.4	24.0	27.2	12.4	36.2	12.2	19.7
Leisure Expenses	-4.4	4.2	-13.4	-6.4	-4.2	-12.7	-7.6	-32.7	35.1
Clothing	-19.2	-21.5	-17.3	-22.0	-18.3	-19.8	-17.6	-18.8	-25.8
Primary Health Care	7.0	-12.1	-24.6	-20.1	-20.1	-5.9	-12.3	-11.7	-2.7
Household Goods and Furniture	-18.8	-21.7	-29.4	-27.1	-13.1	-23.5	-16.7	-24.8	54.9
Entertainment Equipment	-37.8	-43.9	-35.8	-54.5	-44.0	-49.8	-42.0	-46.6	-69.5
Vehicle Purchases	14.1	-13.1	-24.2	62.8	-16.7	-27.0	13.1	-27.9	-6.9
Transfers to non-household members	-34.0	-5.1	-14.7	-3.6	-11.5	47.2	-38.9	-23.4	-11.0
Donations (including to church)	-42.8	-25.2	-24.4	-14.2	-10.8	-21.0	-10.1	-31.4	22.1

Change between 1996 and 1998

Expenditure Category	Age of Household Head in 1994								
	20-24	25-29	30-34	35-39	40-44	45-49	50-54	55-59	60-64
Food	-5.4	-4.1	-5.7	-2.0	-2.3	-3.3	-2.1	-4.8	3.7
Cereals and Grains	-15.3	-5.7	-10.6	-5.1	-7.7	-10.7	-6.4	-16.9	-0.6
Meat	-8.1	-6.3	-4.6	-6.8	-2.0	-5.4	0.2	-4.2	-9.7
Fish and Seafood	3.6	-32.7	-22.7	-26.2	-7.2	-16.0	-27.3	-19.2	-25.2
Milk and Milk Products	-2.1	4.9	3.7	-1.0	-3.7	11.2	0.0	19.9	19.3
Eggs	-22.5	-19.5	-29.1	-21.7	-27.4	-18.6	-24.7	-30.7	-8.6
Oils and Fats	-31.4	-24.3	-26.6	-27.1	-23.1	-28.6	-34.4	-28.1	-20.3
Vegetables	-1.8	-1.2	-4.2	2.7	-2.9	-3.9	-0.2	-6.2	8.6
Fruits	-7.5	3.0	4.3	4.4	11.5	12.5	4.4	12.4	6.8
Desserts and Sweets	20.5	54.8	22.4	31.2	33.4	14.1	52.8	59.2	318.7
Alcoholic Drinks	-5.8	3.6	31.2	41.0	15.7	-1.0	100.0	18.9	140.2
Meals consumed outside home	12.0	-6.1	0.8	28.8	24.7	5.7	4.4	31.3	31.8
Public Transport	-10.0	-2.6	-1.3	2.2	-6.2	3.7	3.5	-19.0	-31.5
House Cleaning and Care	0.2	-1.0	1.4	3.9	5.0	-3.1	1.8	2.8	14.2
Personal Care Services	5.0	7.7	9.6	-2.4	18.2	6.7	-4.8	1.6	-6.3
Education	25.2	13.1	4.1	-11.5	-22.0	-30.2	-25.9	-29.2	-39.2
Educational Services	40.6	26.8	25.7	5.6	-9.2	-22.8	-24.6	-17.3	-46.2
Educational Materials	9.8	4.3	-8.9	-23.7	-33.4	-37.5	-27.3	-38.9	-32.1
Leisure Expenses	16.3	12.1	41.5	12.9	0.4	23.3	15.0	18.3	-22.3
Clothing	7.2	7.8	9.2	12.6	4.6	7.2	-3.7	-6.4	7.8
Primary Health Care	-1.5	21.0	13.3	-3.5	3.9	13.4	-2.0	11.4	10.3
Household Goods and Furniture	-17.1	-39.2	-47.3	-41.9	-38.0	-43.1	-30.5	-33.8	-63.7
Entertainment Equipment	9.3	43.2	40.6	56.8	94.2	62.1	20.5	64.0	98.8
Vehicle Purchases	28.9	-20.1	32.3	-16.6	22.9	191.1	-11.8	49.8	66.9
Transfers to non-household members	-24.9	22.4	32.4	25.6	-0.9	-15.0	43.9	57.9	-18.7
Donations (including to church)	48.1	79.9	34.8	8.7	32.7	12.0	43.9	28.1	43.7

Table A5: Percentage change in Expenditure shares 1994-98 by Geographic Residence of Household

Expenditure Category	metro area		100,000 + pop.		15,000-99,000 pop.		2,500-14,999 pop.		2,500 or less pop.	
	1994-96	1996-98	1994-96	1996-98	1994-96	1996-98	1994-96	1996-98	1994-96	1996-98
Food	5.8	-3.7	6.8	8.6	3.8	1.3	2.6	-4.3	8.1	-2.5
Cereals and Grains	40.5	-11.5	15.3	25.2	24.5	-5.7	21.8	-11.0	21.7	-5.2
Meat	-7.9	-3.8	17.4	1.5	-1.3	-8.7	1.6	-10.6	6.2	-2.2
Fish and Seafood	-27.3	9.3	35.8	-24.7	-12.4	-50.1	9.2	-11.8	22.4	-27.8
Milk and Milk Products	18.8	0.0	-5.6	5.4	8.0	6.8	5.8	11.7	3.4	10.1
Eggs	80.6	-33.9	53.6	-18.7	56.8	-18.3	38.5	-22.3	33.8	-14.0
Oils and Fats	52.4	-25.7	34.0	-19.8	49.3	-11.0	11.6	-32.6	28.0	-24.0
Vegetables	13.3	-8.5	4.8	25.7	3.9	11.4	-4.7	3.3	10.6	-0.4
Fruits	-7.5	-5.4	-0.5	2.1	-20.4	11.0	-31.1	23.2	-20.8	9.2
Desserts and Sweets	2.8	12.3	-36.0	58.4	-20.2	30.8	-9.0	37.1	-20.7	66.4
Alcoholic Drinks	-14.6	70.4	-33.1	-10.6	-35.6	-45.9	-22.1	14.7	-40.3	32.8
Meals consumed outside home	-30.2	13.2	-17.7	-1.2	-37.8	40.5	-27.5	1.8	-13.5	1.6
Public Transport	22.0	-10.3	2.7	-15.0	-5.2	-11.1	-9.9	-2.4	-21.7	-11.5
House Cleaning and Care	-6.8	8.3	-2.1	3.1	-3.0	5.0	4.5	0.5	1.0	1.5
Personal Care Services	-24.9	7.7	-12.4	-22.2	-27.2	-6.9	-22.4	-4.2	-26.2	21.0
Education	20.4	-18.2	25.9	-20.2	17.2	-14.8	20.7	-8.2	14.8	-17.6
Educational Services	9.2	-10.9	21.3	-22.4	14.2	-11.7	12.4	6.7	0.1	-2.6
Educational Materials	35.6	-26.1	30.9	-17.9	19.7	-17.2	26.5	-17.5	21.8	-23.4
Leisure Expenses	-18.6	17.1	8.1	-0.5	0.1	-21.7	17.3	28.2	-22.5	43.8
Clothing	-23.7	9.5	-19.2	15.3	-13.7	8.5	-18.5	11.9	-14.8	0.7
Primary Health Care	-19.3	6.1	-19.3	46.8	-15.3	-12.6	-0.4	0.2	-9.3	6.4
Household Goods and Furniture	-28.5	-24.5	-34.8	-31.2	-0.2	-53.4	-21.3	-49.8	-12.7	-46.8
Entertainment Equipment	-55.7	104.8	-53.6	47.0	-47.6	27.9	-38.0	31.0	-28.0	7.8
Vehicle Purchases	-31.0	41.7	-15.7	69.7	92.4	82.5	24.7	-22.4	0.0	-17.4
Transfers to non-household members	-27.3	39.0	-5.3	-6.1	-3.9	24.5	53.2	33.0	-16.0	41.1
Donations (including to church)	-11.7	40.0	19.4	18.7	-19.1	18.1	-8.6	37.2	-35.7	47.0

Table A6: Fitted Engel Curve using 1994 Household Level Data for Selected Expenditure Categories

	Food	Cereals & Grains	Oils & Fats	Desserts & Sweets	Alcoholic Drinks	Meals Out	Personal Care	Education	Leisure Expenses	Clothing	Primary Health	Household Goods	Transfers
log(pce)	-0.0804	-0.0292	-0.0084	0.00033	-0.0004	0.0167	0.0003	0.0207	0.0061	0.0016	-0.0001	0.0146	0.0072
	(0.0019)	(0.0007)	(0.0003)	(0.0001)	(0.0003)	(0.0009)	(0.0002)	(0.0010)	(0.0003)	(0.0008)	(0.0006)	(0.0008)	(0.0006)
log(n)	-0.0247	-0.0024	-0.0019	0.00001	-0.0037	-0.0188	-0.0019	0.0315	0.0022	0.0161	0.0003	0.0058	-0.0125
	(0.0041)	(0.0015)	(0.0006)	(0.0001)	(0.0007)	(0.0020)	(0.0004)	(0.0021)	(0.0006)	(0.0017)	(0.0012)	(0.0017)	(0.0012)
Proportion of household that are:													
Males aged:													
0-4	-0.0949	0.0053	0.0098	-0.00011	0.0002	-0.0283	0.0009	-0.0325	0.0034	-0.0443	-0.0024	-0.0488	-0.0069
	(0.0375)	(0.0141)	(0.0051)	(0.0013)	(0.0067)	(0.0186)	(0.0035)	(0.0197)	(0.0053)	(0.0153)	(0.0111)	(0.0160)	(0.0114)
5-9	-0.1135	0.0159	0.0066	0.00020	0.0023	-0.0398	0.0048	0.0726	0.0016	-0.0300	-0.0061	-0.0464	-0.0114
	(0.0374)	(0.0141)	(0.0051)	(0.0013)	(0.0067)	(0.0186)	(0.0035)	(0.0196)	(0.0053)	(0.0153)	(0.0111)	(0.0159)	(0.0113)
10-14	-0.0872	0.0369	0.0108	-0.00092	0.0027	-0.0487	0.0031	0.1180	-0.0003	-0.0264	-0.0151	-0.0463	-0.0106
	(0.0373)	(0.0141)	(0.0051)	(0.0013)	(0.0067)	(0.0185)	(0.0035)	(0.0195)	(0.0053)	(0.0152)	(0.0111)	(0.0159)	(0.0113)
15-54	-0.0761	0.0065	0.0090	-0.00191	0.0092	0.0187	0.0039	-0.0042	0.0048	-0.0311	-0.0098	-0.0657	0.0151
	(0.0356)	(0.0134)	(0.0048)	(0.0013)	(0.0064)	(0.0177)	(0.0033)	(0.0187)	(0.0050)	(0.0145)	(0.0106)	(0.0152)	(0.0108)
55+	-0.0742	0.0273	0.0106	-0.00141	0.0072	-0.0078	0.0074	-0.0056	0.0035	-0.0490	0.0037	-0.0695	0.0149
	(0.0372)	(0.0140)	(0.0051)	(0.0013)	(0.0067)	(0.0185)	(0.0035)	(0.0195)	(0.0053)	(0.0152)	(0.0110)	(0.0158)	(0.0113)
Females aged:													
0-4	-0.0873	0.0117	0.0047	-0.00001	0.0034	-0.0268	-0.0027	-0.0340	-0.0034	-0.0379	-0.0008	-0.0271	-0.0115
	(0.0378)	(0.0142)	(0.0051)	(0.0013)	(0.0068)	(0.0188)	(0.0035)	(0.0198)	(0.0054)	(0.0154)	(0.0112)	(0.0161)	(0.0114)
5-9	-0.0912	0.0256	0.0056	0.00019	0.0027	-0.0379	-0.0008	0.0731	0.0018	-0.0434	-0.0056	-0.0430	-0.0109
	(0.0378)	(0.0142)	(0.0051)	(0.0013)	(0.0068)	(0.0188)	(0.0035)	(0.0198)	(0.0054)	(0.0154)	(0.0112)	(0.0161)	(0.0114)
10-14	-0.1328	0.0215	0.0060	-0.00149	-0.0029	-0.0412	-0.0019	0.1403	-0.0023	-0.0436	-0.0064	-0.0523	-0.0122
	(0.0379)	(0.0143)	(0.0051)	(0.0013)	(0.0068)	(0.0188)	(0.0035)	(0.0198)	(0.0054)	(0.0155)	(0.0112)	(0.0161)	(0.0115)
15-54	-0.1351	0.0048	0.0073	-0.00118	-0.0081	-0.0759	0.0002	0.0273	0.0021	-0.0385	0.0019	-0.0601	-0.0326
	(0.0339)	(0.0128)	(0.0046)	(0.0012)	(0.0061)	(0.0168)	(0.0031)	(0.0178)	(0.0048)	(0.0138)	(0.0101)	(0.0144)	(0.0103)
55+	-0.0736	0.0206	0.0107	-0.00088	-0.0048	-0.0884	-0.0032	-0.0027	-0.0007	-0.0656	0.0150	-0.0532	-0.0395
	(0.0356)	(0.0134)	(0.0048)	(0.0013)	(0.0064)	(0.0177)	(0.0033)	(0.0186)	(0.0050)	(0.0145)	(0.0105)	(0.0151)	(0.0108)
female head dummy	-0.0030	-0.0007	-0.0025	-0.00005	-0.0010	0.0092	0.0015	0.0021	-0.0003	0.0030	-0.0030	-0.0097	0.0030
	(0.0058)	(0.0022)	(0.0008)	(0.0002)	(0.0010)	(0.0029)	(0.0005)	(0.0030)	(0.0008)	(0.0024)	(0.0017)	(0.0025)	(0.0018)
constant	1.0858	0.2553	0.0638	0.00012	0.0126	-0.0167	0.0050	-0.1550	-0.0386	0.0782	0.0241	-0.0201	-0.0092
	(0.0359)	(0.0135)	(0.0049)	(0.0013)	(0.0064)	(0.0178)	(0.0033)	(0.0188)	(0.0051)	(0.0147)	(0.0107)	(0.0153)	(0.0109)
Adjusted R-squared	0.187	0.192	0.114	0.003	0.012	0.105	0.014	0.130	0.064	0.024	0.005	0.035	0.077
Number of Observations	10237	10237	10237	10237	10237	10237	10237	10237	10237	10237	10237	10237	10237

Note: standard errors in parentheses.

Table A7: Fitted Engel Curve using 1994 Cohort Level Data for Selected Expenditure Categories

	Food	Cereals & Grains	Oils & Fats	Desserts & Sweets	Alcoholic Drinks	Meals Out	Personal Care	Education	Leisure Expenses	Clothing	Primary Health	Household Goods	Transfers
log(pce)	-0.1299	-0.0390	-0.0124	0.00031	-0.0029	0.0179	0.0023	0.0313	0.0069	0.0034	-0.0031	0.0106	0.0025
	(0.0097)	(0.0034)	(0.0013)	(0.0003)	(0.0017)	(0.0050)	(0.0009)	(0.0087)	(0.0014)	(0.0047)	(0.0020)	(0.0045)	(0.0030)
log(n)	-0.1132	0.0014	-0.0036	-0.00072	-0.0010	-0.0452	-0.0001	0.0571	-0.0103	-0.0023	0.0044	0.0079	-0.0106
	(0.0416)	(0.0144)	(0.0057)	(0.0012)	(0.0071)	(0.0216)	(0.0037)	(0.0374)	(0.0060)	(0.0200)	(0.0085)	(0.0193)	(0.0129)
Proportion of household that are:													
Males aged:													
0-4	0.2327	0.3078	0.2225	-0.00760	0.0836	-0.2762	-0.0590	0.1850	0.0971	-0.0865	-0.0501	-0.3558	0.2530
	(0.2493)	(0.0865)	(0.0343)	(0.0070)	(0.0426)	(0.1294)	(0.0219)	(0.2239)	(0.0360)	(0.1200)	(0.0512)	(0.1155)	(0.0771)
5-9	0.2628	0.1170	0.1554	0.00155	0.0182	-0.0225	-0.0261	0.4120	0.1592	-0.1681	-0.0005	-0.2789	0.1182
	(0.2948)	(0.1022)	(0.0406)	(0.0083)	(0.0504)	(0.1530)	(0.0259)	(0.2647)	(0.0425)	(0.1419)	(0.0605)	(0.1365)	(0.0912)
10-14	-0.2431	0.0437	0.1075	-0.00577	0.0487	-0.2226	-0.0595	0.3446	0.0920	0.1051	0.0440	-0.3335	0.2690
	(0.3043)	(0.1055)	(0.0419)	(0.0086)	(0.0520)	(0.1580)	(0.0267)	(0.2733)	(0.0439)	(0.1465)	(0.0624)	(0.1409)	(0.0941)
15-54	0.0645	0.2297	0.1588	-0.01567	0.0840	-0.0637	-0.0626	0.2498	0.1223	-0.0365	0.0398	-0.4058	0.2821
	(0.2496)	(0.0865)	(0.0343)	(0.0070)	(0.0427)	(0.1295)	(0.0219)	(0.2241)	(0.0360)	(0.1201)	(0.0512)	(0.1156)	(0.0772)
55+	0.0678	0.2048	0.1571	-0.01835	0.0866	-0.0188	-0.0629	0.1904	0.1448	-0.0633	0.0289	-0.3528	0.3159
	(0.2377)	(0.0824)	(0.0327)	(0.0067)	(0.0406)	(0.1234)	(0.0209)	(0.2135)	(0.0343)	(0.1144)	(0.0488)	(0.1101)	(0.0735)
Females aged:													
0-4	-0.4090	0.1143	0.0857	-0.00786	0.0410	-0.0508	-0.0340	0.1410	0.1045	0.1281	0.0700	-0.3030	0.2061
	(0.2905)	(0.1007)	(0.0400)	(0.0082)	(0.0497)	(0.1508)	(0.0255)	(0.2608)	(0.0419)	(0.1398)	(0.0596)	(0.1345)	(0.0898)
5-9	0.4480	0.3763	0.1737	-0.02584	0.1432	-0.2910	-0.0757	0.0054	0.0625	-0.0990	0.0608	-0.4110	0.3239
	(0.3333)	(0.1156)	(0.0459)	(0.0094)	(0.0570)	(0.1730)	(0.0293)	(0.2993)	(0.0481)	(0.1605)	(0.0684)	(0.1544)	(0.1031)
10-14	0.2946	0.3629	0.1960	-0.00828	0.0395	-0.1353	-0.0363	0.4345	0.1302	-0.0842	-0.0196	-0.4240	0.2081
	(0.3121)	(0.1082)	(0.0430)	(0.0088)	(0.0534)	(0.1620)	(0.0274)	(0.2803)	(0.0450)	(0.1503)	(0.0640)	(0.1445)	(0.0965)
15-54	0.3463	0.2351	0.1668	-0.00567	0.0507	-0.2939	-0.0385	0.1758	0.0841	-0.1436	0.0116	-0.3142	0.1790
	(0.2342)	(0.0812)	(0.0322)	(0.0066)	(0.0400)	(0.1216)	(0.0206)	(0.2103)	(0.0338)	(0.1127)	(0.0481)	(0.1085)	(0.0724)
55+	0.2579	0.2776	0.1605	-0.00018	0.0254	-0.4014	-0.0337	0.1923	0.0327	-0.0914	0.0639	-0.4031	0.1339
	(0.2340)	(0.0811)	(0.0322)	(0.0066)	(0.0400)	(0.1215)	(0.0205)	(0.2101)	(0.0338)	(0.1127)	(0.0480)	(0.1084)	(0.0724)
female head dummy	-0.1131	-0.0126	0.0039	-0.00166	0.0305	0.0681	0.0041	-0.0448	0.0308	0.0208	-0.0210	-0.0188	0.0081
	(0.0738)	(0.0256)	(0.0102)	(0.0021)	(0.0126)	(0.0383)	(0.0065)	(0.0663)	(0.0106)	(0.0355)	(0.0151)	(0.0342)	(0.0228)
constant	1.2890	0.0989	-0.0610	0.01032	-0.0421	0.1528	0.0395	-0.4574	-0.1305	0.1242	0.0119	0.3074	-0.2210
	(0.2289)	(0.0794)	(0.0315)	(0.0064)	(0.0391)	(0.1188)	(0.0201)	(0.2056)	(0.0330)	(0.1102)	(0.0470)	(0.1060)	(0.0708)
Adjusted R-squared	0.959	0.960	0.919	0.439	0.360	0.820	0.522	0.794	0.905	0.303	0.487	0.429	0.653
Number of Observations	54	54	54	54	54	54	54	54	54	54	54	54	54

Note: standard errors in parentheses.

TABLE A8: Various Estimates of the Stock and Flow of Mexico-U.S. Migration

STOCK			
source	*period*	*stock*	*description/subcategorization*
1990 Census	1990	4,298,014	persons born in Mexico living in the U.S.
			3328310 Aliens
			969704 naturalized Americans
I.N.S.	Oct. 1996	2,700,000	illegal aliens from Mexico living in the U.S.
USCIR (1997).	1996	7.0-7.3 million	Mexican-born resident population in the U.S.
			4.7-4.9 million legal residents
			2.3-2.4 million unauthorized migrants

FLOW			
source	*period*	*flow*	*description/subcategorization*
I.N.S. (1998)	1981-90	1655843	legal immigrants per year from Mexico
	1991-96	1653896	
	1987	72351	
	1988	95039	
	1989	405172	
	1990	679068	
	1991	946167	
	1992	213802	
	1993	126561	
	1994	111398	
	1995	89932	
	1996	163572	
I.N.S.	1992-96	154,000	illegal immigrants per year
USCIR. (1997).	1990-95	277,000	net outmigration per year based on Mexican data
	1990-96	315,000	net growth per year in size of Mexican-born population based on U.S. data
	1990-96	1.9 million	Total net growth over period
			510,000 legal immigrants
			630,000 unauthorized immigrants
			210,000 ICRA family members
			550,000 migrants under the SAW program
Bustamante et al. (1998).	1987-92	2.34% of Mexico's population were migrants	
		1.09% had returned to Mexico	
		1.24% stayed in the U.S.	
Massey and Singer (1995).	1984	629,900	net-in-migration inferred from border data
	1985	784,900	
	1986	-340,200	
	1987	46,700	
	1988	-147,600	
	1989	653,000	