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Household Wealth in Latin America

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Abstract

This paper provides a descriptive analysis of wealth ownership and wealth inequality in Latin American countries, using diverse published sources and primary data analysis for 16 nations. We produce estimates of the distribution of home ownership, land, and financial assets, and find very high wealth concentration in all these types of assets, with the partial exception home ownership. The relevance of informal assets and the historical patterns of wealth accumulation and concentration since colonial times are discussed. Mechanisms of intergenerational wealth transmission are analyzed for the Chilean case.

Keywords: wealth distribution, income distribution, Latin America, home ownership, informal sector, intergenerational transfers
JEL classification: D3, O54

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1 Introduction: the importance of household wealth and asset holdings

This paper reviews the empirical and historical literature on wealth ownership and inequality in Latin America. Although much has been written about the distribution of education and income in the region, to date there is little systematic study of wealth inequality. This paper uses various available sources and primary data analysis to draw inferences about the distribution of different types of assets—housing, land, and capital wealth—in Latin America, and highlights the areas in which new empirical information is needed.

With few exceptions—Uruguay, Costa Rica, Venezuela—the countries of Latin America have the highest levels of income inequality in the world. In the late 1990s, for example, the income share received by the highest income decile was 47.2 per cent in Brazil, 47.0 per cent in Chile, and 43.1 per cent in Mexico, in contrast to 30.5 per cent in the United States (de Ferranti et al. 2004: 2). Inequality appears to derive more from the historical legacy of the Latin American countries as colonized lands than from their level of economic development, since comparable estimates from Asian countries that are at roughly analogous developmental levels show far less income concentration—e.g., 28.5 per cent in Indonesia, 32.4 per cent in Thailand, 22.5 per cent in South Korea (CIA 2005).

While estimates of household net worth that would permit a calculation of wealth inequality are not available for Latin America, there are reasons to expect more extreme concentration in this continent than in Asia or the industrialized countries. First, in all countries for which wealth data are available, the Gini index for household wealth exceeds the Gini for household income. Second, the initial conditions of European settlement in Latin America involved conquest and the appropriation of much of the arable land and natural resources of the region, followed by a persistent dominance by European settlers in the political sphere and economic exploitation of the indigenous population. This sort of historical legacy also argues for a high concentration of wealth in a small segment of the population.

1.1 Household wealth in developed countries

In contrast with research into the dynamics of household income flows, the empirical study of household wealth is a relatively new undertaking. In the United States, the first large-scale survey that inquired into asset holdings was the 1962 Survey of Financial Characteristics of Consumers (Projector and Weiss 1966). While the findings were much cited, the wealth module was small and no follow-up study was conducted until 1983, when the Survey of Consumer Finances (SCF) and the Survey of Income and Programme Participation (SIPP) fielded detailed modules on household assets. Thus, in the United States, it is barely 20 years since the initiation of systematic data collection on household wealth.

Despite the recency in availability of wealth data, the study of household wealth has swiftly developed. Public use datasets containing modules on household wealth are now available for some 20 countries, and repeated surveys have been carried out in several nations, most of them industrialized, enabling the time path in wealth accumulation by families to be explored. As a result, a literature on household wealth has emerged, not by intention or forethought but through the accumulation of research on a few focused themes. Thus, there are descriptive studies of wealth holdings and of the shape of wealth inequality in different countries, investigations into the determinants of household accumulation, a voluminous literature on parental 'motives' in making transfers, and a growing body of work on the *effects* of household wealth on various outcome measures. The last requires comment since it serves as a bridge between studies of household wealth in developed countries and the comparable literature in Latin America. It is useful to formulate wealth effects in three categories: (a) contributions to living standards and labour force behaviour; (b) precautionary savings; and (c) effects of parental wealth on the life chances and attainments of offspring.

The first topic has not been the focus of sustained research, though there have been studies of wealth effects on entrepreneurship (e.g., Blanchflower and Oswald 1991; Lindh and Ohlsonn 1998) and on entrance into homeownership (e.g., Mulder and Wagner 1998; Chiuri and Jappelli 2003). However, in the measurement of household wealth in these studies, inheritances and parental transfers are often entangled with life cycle accumulations, so we defer our remarks on this material to the discussion of parental wealth effects.

The second theme, precautionary savings, has received somewhat more attention—possibly because the recent contraction in public support programmes in the USA and Europe has shifted the much of the risk of job loss and illness to families, compelling them to rely more on private savings (e.g., Carroll and Samwick 1998; Wolff 2001: table 2.13; Haveman and Wolff 2004). While these studies have focused on the vulnerabilities of families in the developed world, the same concerns are evident in examinations of population welfare in Latin America, especially in light of the weak social safety net programmes in most countries of this continent (e.g., Filgueira 1998; Fay and Ruggeri Laderchi 2005; Ruggeri Laderchi 2003).

The third category addresses the impact of parental resources and parental transfers on various outcome measures in the lives of offspring. Essentially, these studies delve into the effects of *initial conditions;* the extent to which the attainments and living standards of children are conditioned by parental wealth and other resources. Parental wealth can affect educational attainment both directly, such as through payments for private school tuition, and indirectly, as in the purchase of a home in a neighbourhood with a quality public school (e.g., Boehm and Scholttman 1999; Green and White 1997). Parental wealth can reduce the waiting time from marriage to homeownership or permit the purchase of a more expensive home (Guiso and Jappelli 1999; Englehard and Mayer

1998; Spilerman 2004). More generally, parents can allocate their transfers strategically to assist children at critical points along the life course, either to facilitate career development or to assist at times of economic distress. Such considerations are especially important in countries where access to the credit market by young adults is problematic.

In the main, the studies noted here have been carried out with data from the USA and Europe, though household wealth serves many of the same functions in Latin America and in less developed countries elsewhere. Nonetheless, the literature on household wealth in Latin America approaches the topic in certain ways that are distinct from the formulations common in developed countries.

1.2 Formulations of household wealth in Latin America: the asset approach

The first point to note is that there is no survey of household wealth for any Latin American country. It therefore is not possible to estimate wealth inequality from calculations of net worth. Indeed, a common situation for researchers is one of having binary data on various household assets (ownership/non-ownership) but no information on the value of the items, or on income received from different types of assets. In part, this state of affairs has motivated an interest in examining *asset holdings* in studies of household wealth in Latin American countries.

A second important difference is that the notion of assets in the Latin American literature references a broader portfolio of items than is considered in the developed world. While in industrialized countries the term *asset* is restricted to material items that have market value, students of Latin America tend to associate assets with 'productive resources' and count among them educational attainment and social capital (e.g. Moser 1998; Szekely 2001; Fay and Ruggeri Laderchi 2005). This quite different formulation of asset holdings in Latin America reflects more than semantics or the lack of data on household net worth. At the theoretical level, it is based on the framework of Amartya Sen (1992) who associates productive assets with 'capabilities'; as such, inequality of asset holdings relates to the distribution of opportunity. Indeed, the focus on assets in Latin American is very much driven by the sensitivities of researchers for whom the alleviation of entrenched poverty and indigence, widespread on this continent, is an overriding concern. Influenced by this objective, household assets have come to encompass whatever 'income producing resources' can be enlisted in support of poverty reduction (Attanasio and Szekely 2001). Thus, a home is important because it can serve as a storefront or as the locus of household-based production. An automobile can serve as a taxi or be used in a carting business, and tool ownership opens other income generation possibilities. Education, then, is viewed as another productive asset, though one of immense consequence (de Ferranti et al. 2004: 151-57; Birdsall et al. 1996).

The educational attainments of children can be linked to the ownership of material assets by their parents through the consumption storage value of the assets. Most Latin

American countries maintain a limited social safety net to protect families during economic distress; moreover, poor families do not have easy access to the credit market. As a consequence, in times of job loss or illness, a common adaptation is to withdraw teenage children from school and steer them to the labour force. This acute vulnerability to economic crisis is blamed for the fall-off in school enrolment by poor children in their early teen years, an age at which children begin to have labour market value (de Ferranti et al. 2004: table A47; Moser 1998; Spilerman and Torche 2004). Attempts have been made to redress this problem by means of cash payments to poor households, conditional on the children's school attendance—e.g. the *Oportunidades*, formerly *Progresa*, programme in Mexico (Schultz 2004); and *Bolsa Escola*, now subsumed into *Bolsa Familia*, in Brazil (Bourguignon et al. 2003). However, what is deeply implicated is the lack of material assets or savings that could be drawn upon to smooth consumption (Szekely 1998: chapter 8; Fay and Ruggeri Laderchi 2005).

This focus on income-generating assets, or lack thereof, has given rise to a literature on the 'asset vulnerability' of poor families. Moser (1998: 3) has examined the sensitivity of families to risks, hazards, and shocks, and their resilience to stressful events, in terms of asset portfolios, though in conformity with this literature her asset specification includes human and social capital, as well as material resources. Similarly, Escobal et al. (2001: 227-29), assessing urban poverty in Peru, find, not surprisingly, that savings, durable goods, and home ownership are buffers to falling below the poverty line. Trejos and Montiel (2001), analyzing data from Costa Rica, also conclude that material asset ownership reduces a family's prospects of falling below the poverty line.

1.3 The measurement of wealth and inequality with asset data

Two strategies can be used to construct a proxy for household wealth in countries where such data is unavailable. The first is based on investment income, inflating the values from different sources by the appropriate rates of return (Davies and Shorrocks 2000: 642). The second alternative is to use survey information on household asset holdings. Here, an obvious starting point is to proxy wealth by a count of the asset items. Filmer and Pritchett (1999, 2001) have suggested a more refined approach based on principal component analysis. Essentially, this involves constructing a sequence of linear combinations of binary terms for the presence of an asset item. The first component is the linear combination with assigned weights that permits it to account for the largest amount of variance in the correlations among the items. Additional components can be extracted, each orthogonal to the prior ones, and each explaining the maximum amount of remaining variation in the asset items.

Filmer and Pritchett (1999, 2001) constructed an asset index using the first principal component solution with a set of household items. Their objective was not to estimate wealth inequality, but rather to explore the effects of household wealth on various outcome variables, especially the educational attainments of children. Using this wealth proxy in regressions, they concluded that the asset index is superior to consumption

measures of wealth because 'the major problem with current expenditures as a proxy for long-run wealth is the presence of short term fluctuations' (Filmer and Pritchett 2001: 116). While theirs is an attractive approach for utilizing asset information, the formulation is problematic with respect to producing a wealth proxy. In particular, Filmer and Pritchett do not distinguish between living standard measures and wealth indicators in their choice of assets. Living standard indicators are items that reflect a family's wellbeing but have little resale value, such as a radio or a telephone, and which can be purchased from household income by all but the very poorest households. Filmer and Pritchett also include in the factor analysis indicators of residence amenities—presence of electricity, a flush toilet, piped water—though their population samples appear not to be restricted to homeowners. For residents who do not own, however, these amenities are questionable as indicators of their wealth.

If many of the Filmer and Pritchett items tap household income as much as wealth, one approach might be to add an instrument for income to the regressions on outcome variables so that the effect of the wealth proxy could be examined net of income. Such partial regression effects could more reasonably be interpreted as wealth effects. Perhaps a better approach would be to not restrict the principal component analysis to a single component. A common strategy in factor analysis is to rotate the several extracted components to approximate some specification of 'simple structure' (Bennett and Bowers 1976). This approach can be informative about the intercorrelations among asset items and might well reveal both a living standard factor and a household wealth factor; each could then be used in the study of wealth and income effects.

In a variant of this approach, Torche and Spilerman (2006) used confirmatory factor analysis to model separate latent variables for living standard and household wealth in an empirical analysis of Chile. The living standard construct was measured by four consumption indicators; the household wealth construct by four investment assets—ownership of financial assets, rental property, other real estate, and business property—items that clearly tap wealth and not living standard. This formulation was used to assess the paths by which various parental resources in Chile (father's education, parental income and wealth) have influenced a range of outcomes in the lives of adult children.

The measurement of wealth *inequality* from asset items poses additional challenges. As McKenzie (2005) has noted, the asset items must span a sufficient cost range to allow for differentiation across the wealth distribution. If few items are used, there will be a tendency for households to clump together in small groups. If, for instance, the distribution of assets is skewed toward the low end (by the omission of assets associated with great wealth), then wealthy households will not be differentiated from middle class ones. The consequence will be a downward bias in the estimate of wealth inequality. A similar problem arose in an attempt by Fay et al. (2002) to calculate inequality in home values from housing quality items. Because the items did not tap the extremes of

housing quality, the estimates of home value fell in a more narrow range than the reported values. In sum, the value of this method crucially depends on the ability of the asset items to capture the scope of wealth holdings in a particular national context.

1.4 Study outline

This study provides a survey of wealth holdings and distribution in Latin America, using published data and our own analysis of household surveys in 14 countries in the region. Sections 2, 3, and 4 present estimates of land holdings, home ownership, and capital assets, respectively. Land has historically been the main form of wealth in Latin America. Consequently, analysts tend to use land concentration as a proxy for overall asset inequality (Alesina and Rodrik 1994; Deininger and Squire 1998; Deininger and Olinto 2001; Birdsall and Londono 1997). This assumption is questionable in contemporary Latin America. With three-quarters of its inhabitants living and working in urban areas, other forms of wealth have become relevant in the study of household portfolios in the region. Paramount among them is owner-occupied housing. Interestingly, access to homeownership is much more evenly distributed in Latin America than in developed countries such as the US or the UK, in spite of the deeper poverty in the region. As we will discuss, this pattern is explained by the prevalence of squatting settlements in urban areas, and by governmental housing policies in some countries.

Another component of the household wealth portfolio is capital assets, including rental and commercial real estate, and financial resources. While land and residences have high functional value for owners, providing shelter in the case of housing and agricultural income in the case of land, capital assets provide liquidity and fungibility, and therefore serve a consumption storage function. Our analysis suggests that the ownership of capital assets is highly concentrated in Latin America, and that the large majority of the population, up to 90 per cent in some countries, does not have access to this type of wealth.

While the legal ownership of assets is taken for granted in the developed world, this is not the case in Latin America. Current estimates indicate that about one-third of owners lack formal title for their home or plot. According to De Soto (2000) untitled property is ‘dead capital’ that cannot be used as collateral for investment purposes. Section 5 reviews the literature on informal wealth and the relevance of formal title in the context of Latin America and other developing countries. Section 6 discusses the historical origins and development of the unequal wealth distribution in Latin America since colonial times. It focuses on the institutional mechanisms through with wealth concentration has been maintained over time. Section 7 analyses the effects of intergenerational transfers of wealth in Chile, using two multi-generational datasets. Section 8 summarizes and concludes.

2 Home ownership

Homeownership has not been a major theme in the asset literature of Latin America (though see World Bank 2002a, 2002b; Fay and Wellenstein 2005), despite the inclusion of residences in the category of productive assets. Nonetheless, housing is the most widespread asset in Latin America; indeed, for the vast majority of the population owner-occupied housing is the only asset in their portfolio (de Ferranti et al. 2004: 194). Furthermore, housing is a tractable instrument if the intent is to alter wealth distribution, because it is not a finite asset and it does not require redistribution, as does land (Fay et al. 2002).

Table 1 reports the home tenure status for 14 Latin American countries, based on household surveys around 2000 (survey descriptions can be found in the Appendix). The last column in the table presents the tenure status in the US, as a baseline for comparison. As in the US, a very large proportion of Latin American households own their homes. Homeownership rates range from 55 per cent in Colombia to more than 75 per cent in Nicaragua, Panama and Paraguay with a population-unweighted Latin American average of 69 per cent. In contrast to the US, renting is not a prevalent option in Latin America, only 15 per cent of Latin American households rent against 31 per cent in the US. This 15 percentage points difference is accounted for by two customary tenure arrangements in Latin America: dwellings provided by a family member or friend (most frequently as a 'long term loan'); and dwellings provided by an employer, an arrangement frequent among rural workers and manual employees in remotely located manufacturing or extractive plants.[1] The most striking finding from Table 1 is that homeownership rates are as high as in the US, in spite of much deeper poverty in the region. In addition to high rates of ownership, Latin America is characterized by remarkably even access to homeownership across socioeconomic strata. Table 2 reports homeownership rates by income decile.[2]

[1] With the exception of Argentina, Guatemala, and Nicaragua, the residual 'other' category is small and captures different, nationally-specific arrangements.

[2] Throughout this paper we produce asset distribution data by decile whenever possible because of evidence that what appears to be unique about inequality in Latin America is the extraordinary concentration of income, and most likely other resources, in the wealthiest decile, together with relatively less inequality across the bottom nine deciles (IADB 1999; Portes and Hoffman 2003; Torche 2005). Rates by income quintile for a larger number of countries can be found in de Ferranti et al. (2004: table A40).

Table 1: Home tenure status, Latin American countries and the USA, circa 2000

Tenure arrangement	Argentina	Bolivia	Brazil	Chile	Colombia	Costa Rica	Ecuador	Guatemala	Mexico	Nicaragua	Panama	Paraguay	Peru	Uruguay	US
Own, fully paid	71.6[1]	62.3	65.9	51.9	55.3[1]	62.7	57.3	67.9	67.4	76.9	63.1	75.3	73.6	58	66.3[1]
Own, paying		2.2	5.7	20.1		11.7	9.4	2.6	5.2	0.7	14.1	1.4	0.7	9.2	
Rent	13	15	15.3	15.6	35.9	15.3	18.1	9.7	13.7	3.1	11.3	9.9	6.8	17.5	30.7
Provided by employer		4.7	3.3	2.3	8[2]		2.8	14.4[2]	0.7	3.4	8.6[2]	12.6	1.2	14.4[2]	
Provided by family member		11	8.3	9.2			11.4		12.5	8.5			13.8		
Squatting	1.4			0.3	0.6						2.9	0.7	3.9		
Other	14	4.8	1.5	0.6	0.2	10.3	1.0	5.4	0.5	7.4			0.1	0.9	3.0
Total	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100

Note: [1]Includes own, paid and own, paying. [2]Includes housing provided by employer and by family member. Source: Latin American countries = author's calculations based on household surveys. See the Appendix for survey descriptions. USA = 1998 Survey of Consumer Finances. All samples weighted to represent national populations (urban in the case of Argentina and Uruguay).

Table 2: Home tenure by income decile: Latin American countries and the USA, circa 2000

Income	Argentina			Bolivia			Brazil			Chile			Colombia			Costa Rica		
decile	own	rent	other	own	rent	other	own	rent	other	own	rent	other	own	rent	other	own	rent	other
D1	69	9	22	92	3	5	60	21	20	71	9	20	59	26	15	75	6	18
D2	72	10	18	77	10	13	66	14	20	70	11	19	54	34	12	74	9	17
D3	70	11	19	61	16	23	65	16	19	69	15	16	53	34	13	66	13	21
D4	69	13	18	59	16	25	69	14	17	71	14	15	48	39	13	71	15	14
D5	66	17	17	50	24	26	69	15	15	72	15	12	49	42	9	71	16	12
D6	68	15	17	56	20	24	71	16	13	73	15	12	47	41	12	72	18	10
D7	72	16	12	60	15	25	74	15	11	70	19	11	51	40	8	74	16	10
D8	75	15	10	60	16	24	73	15	12	70	20	10	54	41	6	77	17	7
D9	76	14	9	62	16	22	75	17	8	69	22	9	55	40	4	80	16	4
D10	81	13	7	66	15	19	81	14	5	64	30	6	70	27	3	84	14	2
Total	72	13	15	64	15	21	72	15	13	70	17	13	54	37	9	74	14	12

Income	Guatemala			Mexico			Panama			Paraguay			Peru			Uruguay			US[1]
decile	own	rent	other	own	rent	other	own	rent	other	own	rent	other	own	rent	other	own	rent	other	own
D1	63	2	35	78	9	14	85	5	11	82	6	12	85	2	13	58	10	32	41
D2	62	2	35	67	13	20	75	9	16	80	7	12	85	2	14	59	15	26	
D3	51	5	44	67	15	18	78	9	13	81	8	11	82	5	14	61	17	22	57
D4	57	5	38	70	16	14	79	10	10	82	6	13	77	5	18	63	20	16	
D5	53	11	36	65	17	18	79	14	7	79	9	12	78	5	17	67	19	14	66
D6	52	9	40	69	14	17	76	12	12	79	8	13	76	8	16	68	22	11	
D7	53	13	33	74	14	12	79	14	7	74	13	13	76	9	15	71	19	9	82
D8	56	15	30	76	14	10	81	14	5	76	12	13	76	10	14	74	19	7	
D9	59	19	22	77	13	10	81	15	4	73	15	13	75	9	16	76	19	5	91
D10	66	17	17	82	12	5	89	10	2	69	16	15	75	13	13	81	15	4	94
Total	57	10	33	73	14	14	80	11	9	77	10	13	78	7	15	67	18	15	68

Source: Latin American countries = author's calculations based on household surveys. See the Appendix for survey descriptions. US = 2001 SCF, reported in Aizcorbe et al. (2003). [1]US figures are homeownership rates for first four income quintiles, and the two wealthiest deciles.

Table 2 reveals low inequality of homeownership in Latin America, in sharp contrast with the high income concentration in the region. While in the US (last column) homeownership rates increase monotonically from 41 per cent in the poorest quintile to 94 per cent in the wealthiest decile, in Latin America homeownership increases only slightly across the income distribution, and even declines in some countries. There is a small positive gradient of the homeownership rate with income in Argentina, Brazil, Colombia, Costa Rica, Mexico, Panama, and Uruguay. However, the poor are *more likely* to be homeowners than the middle class and the wealthy in Bolivia, Chile, Guatemala, Paraguay, and Peru. We suggest that two factors account for this widespread access to homeownership in Latin America: the prevalence of squatter settlements in the region, and the role of housing policy in some of the countries.

In regard to squatter settlements, Latin America experienced a massive migration from the countryside to urban places during the second half of the twentieth century, leading to an increase from 42 per cent in 1950 to 74 per cent in 2000 in the proportion of the population that is urban (UN 1990; Population Reference Bureau 2000). Governments were not able to meet the housing demands of these rural migrants, and the newcomers opted to seize unoccupied land and build precarious dwellings, creating enormous neighbourhoods that today contain much of the population in some Latin American cities. These neighbourhoods go by various names: *tugorio* in Colombia, *poblacion callampa* in Chile, *favela* in Brazil. As a consequence, a large proportion of the poor do not hold formal title. Fay and Wellenstein (2005: 92) estimate that one-third of homeowners in Latin America lack legal title and the proportion reaches 40-50 per cent in some of the larger cities (Grimes 1976). Indeed, many self-declared homeowners in household surveys might actually be squatters, a fact that is consistent with the low per cent of self-declared homeowners who report having an outstanding mortgage.[3]

However, very few households report living in squatter status, even when this option is provided in survey questions (Table 1). We speculate that this pattern of response is due to two factors. First, families have been living in these *de facto* arrangements for a long period, sometimes more than a generation, and consider themselves legitimate owners even in the absence of legal title. Second, respondents are reluctant to acknowledge that they lack legal title. Evidence from ancillary survey questions suggests that the former reason has more explanatory power. For instance, in Nicaragua, when the response options are formulated as 'dwelling owned, with formal title' and 'owned, no formal title' as many as 30 per cent of homeowners select the latter option. Similarly, in Ecuador, only 67 per cent of respondents who report having paid in full for their dwelling have legal title. In Guatemala 18.1 per cent of owners indicate that they do not have a legal title to the house, while another 26.8 per cent indicate that they have 'unregistered title'. These responses suggest that the lack of legal title is severely

[3] The proportion of homeowners that have an outstanding mortgage ranges from 1-2 per cent in Nicaragua, Paraguay, and Peru, to 28 per cent in Chile.

underreported in household surveys, with clear implications for a household's ability to collateralize its home equity (see Section 5).

Governmental housing policy is the second factor explaining the high overall rate of homeownership in Latin America. In several countries homeownership by the poor has been fostered through generous government subsidies (see Arellano 2000: 161; Torche and Spilerman 2006, on Chile; Fay and Wellenstein 2005: 110, on Costa Rica). Given budget constraints, government-sponsored housing projects tend to be located in the urban periphery, where land is cheap but infrastructure is deficient and employment is distant. As a consequence, housing policy may have exacerbated class segregation in Latin American cities (see Ducci 2000 for the case of Chile).

2.1 Housing wealth

Given that access to homeownership is easily available, and that many low-income homeowners lack legal title, the market value of 'owned' housing may be low for a large proportion of Latin American homeowners. Since direct measures of home value are not available in the household surveys, we proxy it by rental value, as estimated by the homeowners. This approach is supported by studies that find home value estimates based on rental income to be quite accurate; within four percentage points of the appraisal value by real estate specialists (Kain and Quigley 1972). Admittedly, this approach may suffer from estimation bias if some households systematically over- or under-estimate the rental value of their dwellings, and it assumes that the relation between market value and rental income in a country is constant across regions and neighbourhoods.

Table 3A presents estimates of the share of housing wealth by income decile, for homeowners for the 10 countries with available survey data. The concentration of household wealth in the highest decile is evident, ranging to some 25 per cent in Chile and Uruguay to more than 40 per cent in Bolivia and Mexico. In contrast with the previous findings for access to housing, these results show a significant association of housing wealth with income. Table 3B examines the concentration of housing wealth using the Gini index (non-homeowners are coded as having zero wealth), and the distribution of home values by housing wealth quintiles (non-owners are excluded). The Gini scores indicate extremely high concentrations of housing wealth, higher than the concentrations of incomes. Chile is an exception, with inequality of housing wealth similar to income inequality, which is likely a result of its widespread programme of housing assistance. The share of housing wealth held by different housing wealth percentiles indicates high inequality among homeowners, with the top quintile receiving more than 50 per cent of the total housing wealth in all countries, with the sole exception of Chile and Uruguay.

Table 3A: Share of total housing wealth by income decile (non-homeowners coded as having zero housing wealth), selected Latin American countries circa 2000[1]

Income decile	Bolivia	Brazil[2]	Chile	Colombia	Guatemala	Mexico	Panama	Paraguay	Peru	Uruguay
D1	1.3		5.0	6.7	5.2	2.1	2.1	4.0	2.0	4.6
D2	2.1	8	5.6	5.9	4.0	2.9	2.8	4.7	3.3	5.6
D3	3.2		6.5	6.1	4.5	3.4	4.1	6.0	3.4	6.1
D4	3.2	9	6.9	5.4	5.0	4.6	5.2	6.9	6.0	6.4
D5	3.8		7.9	8.0	5.5	5.2	6.0	7.7	7.8	7.5
D6	5.0	13	9.1	6.7	7.2	6.9	7.6	8.1	9.3	8.6
D7	7.1		9.7	8.4	8.9	8.9	8.7	9.0	9.2	9.6
D8	12.6	20	11.0	10.8	10.1	10.8	11.5	11.5	12.8	11.2
D9	17.3		14.2	12.4	14.3	15.1	15.9	13.9	15.2	14.1
D10	44.5	50	24.2	29.7	35.3	40.2	36.1	28.1	31.1	26.2
Total	100	100	100	100	100	100	100	100	100	100

[1] Estimates of housing wealth obtained from survey question asked of homeowners 'If you were to rent this property, which monthly rent would you be able to charge?'. [2]Brazil figures are housing wealth by income quintile. Obtained from Reis et al. (2001), figures are for 1999.

Source: Author's calculations based on household surveys (except for Brazil). See the Appendix for survey descriptions.

Table 3B: Distribution of housing wealth, selected Latin American countries circa 2000[1]

	Bolivia	Chile	Colombia	Guatemala	Mexico	Panama	Paraguay	Peru	Uruguay
Housing wealth	0.85	0.60	0.71	0.84	0.70	0.64	0.63	0.74	0.56
Household income Gini[3]	0.58	0.57	0.58	0.58	0.55	0.56	0.57	0.49	0.45
Share of housing value by housing wealth percentile[4]									
Quintile 1	0.9	6.6	5.3	2.7	3.0	3.6	3.2	1.6	8.5
Quintile 2	2.6	10.3	13.1	6.8	5.6	7.8	8.0	3.0	13.3
Quintile 3	3.9	14.6	11.1	8.5	13.4	15.0	14.0	8.0	14.3
Quintile 4	11.4	20.1	18.7	16.1	15.9	15.4	22.2	17.2	21.1
Quintile 5	81.3	49.5	51.8	65.9	62.1	58.3	52.6	70.1	42.8
Decile 10	65.2	34.3	36.5	51.6	43.0	40.4	37.2	51.9	25.6
Total (across quintiles)	100	100	100	100	100	100	100	100	100

1 Estimates of housing wealth obtained from survey question asked of homeowners 'If you were to rent this property, which monthly rent would you be able to charge?'. Quintiles are not exact in some countries because of clustering in cutpoints. In all cases clusters in cutpoints were put in the lower category. 2 Housing wealth Gini based on the full sample, non-homeowners coded as having zero housing wealth. 3 Obtained from de Ferranti et al. (2004) table A3. 4 Calculation excludes non-homeowners.

Source: Author's calculations based on household surveys. See the Appendix for survey descriptions.

3 Land distribution

Land is a prominent resource in contemporary Latin America, even after the large-scale urbanization of the second half of the twentieth century. Although 74 per cent of Latin Americans live in urban areas, there is significant variation across countries in the rate of urbanization. Some (Argentina, Brazil, Chile, Uruguay, Venezuela) feature urbanization rates higher than 80 per cent, while in others, such as Bolivia, Costa Rica, and Nicaragua, a sizeable portion of the population is still rural (UN-Habitat 1999). In the latter group of countries, land remains a major economic resource and a component of the asset portfolio of many families. The best sources of information on land inequality across countries are the datasets assembled by Deininger and Squire (1998), Deininger and Olinto (2001), and UNDP (1993). These datasets were constructed from the decennial FAO World Censuses of Agriculture, complemented with other sources. The FAO data are based on official national agricultural surveys conducted at the beginning of each decade, and refer to rural areas. The unit of analysis is an operational holding, 'an economic unit of agricultural production under single management, comprising all livestock kept and all land used wholly or partly for agricultural production purposes, without regard to title, legal form, or size' (FAO 2001).

The level of standardization across countries is considerable in the FAO data. However, measures of inequality based on these data have limitations. First, they refer to land operation rather than ownership. According to Deininger and Squire (1998), measures of concentration based on the former are a lower bound for ownership concentration because the rental market seems to contribute to a more equal distribution. Also, the measures of land distribution do not adjust for soil quality or land improvement (e.g. irrigation), and they rarely account for land held under communal tenure arrangements, such as the *ejido* in Mexico.

Table 4A displays land inequality measured by the Gini coefficient for world regions from the 1950s to the 1990s (Deininger and Squire 1998). Latin America consistently shows the highest inequality in the world. In the 1990s, the Gini was 0.77 for Latin America, versus 0.42 for East Asia, 0.49 in sub-Saharan Africa, and 0.59 in the OECD countries, and was only surpassed by Eastern Europe after the post-socialist transformation. When countries are ranked based on land inequality, the top 20 include 16 Latin American nations (Frankema 2005: 10).

Table 4B presents measures of land inequality for individual Latin American nations, South Korea, and the US from the 1970s to 2000s. Among the countries of Latin America, the land Gini in the 1970s-2000s ranges from a low of 0.61 in Mexico, to a high of 0.90 in Venezuela and Paraguay. The lowest concentration figures are comparable to the US, which features a Gini of 0.72, and are much more elevated than South Korea, with a Gini of 0.35. The discrepancy between income and land inequality is substantial in some countries. Argentina and Uruguay display relatively high land concentration, in spite of having some of the lowest income inequality scores in the

continent, a fact that is driven by the historical patterns of extensive cattle production (de Ferranti et al. 2004: 191).

Table 4A: Land concentration (Gini coefficient) across regions of the world 1950s-1990s

	1950s	1960s	1970s	1980s	1990s
Sub-Saharan Africa		48.6	56.9	47.7	49.0
East Asia and Pacific	44.8	47.3	48.9	46.9	42.1
OECD and high income	58.4	59.4	52.3	54.6	59.0
South Asia	67.8	59.6	62.0	61.4	58.4
Middle East and North Africa	78.3	64.6	71.9	67.5	--
Latin America	82.0	81.2	81.3	80.5	77.4
Eastern Europe	62.0	52.4	75.1	98.0	92.0

Source: Deininger and Squire (1998: table 2).

Table 4B. Land concentration (Gini coefficient), Latin American countries, South Korea, and the USA 1970s-2000s

	1970s	1980s	1990s	2000s	Average 1970-2000[a]
Mexico	0.61[b]				0.61
Honduras	0.77[b]		0.66		0.72
Nicaragua				0.72	0.72
Bolivia	0.77[b]	0.77[c]			0.77
Uruguay	0.81[b]	0.80[c]		0.80	0.80
Costa Rica	0.81[c]				0.81
Colombia	0.83		0.89	0.80	0.84
Chile				0.84[d]	0.84
Ecuador	0.84[b]				0.84
Argentina	0.86[b]		0.83		0.85
Brazil	0.84	0.85	0.85	0.85	0.85
Panama	0.89		0.82[d]		0.86
Peru	0.91		0.86		0.89
Venezuela	0.92[b]			0.88	0.90
Paraguay	0.86[b]	0.93	0.93		0.91
US	0.72		0.71[d]		0.72
Korea	0.37	0.35	0.34		0.35

Note: [a] Average includes all available figures between 1970 and 2000.

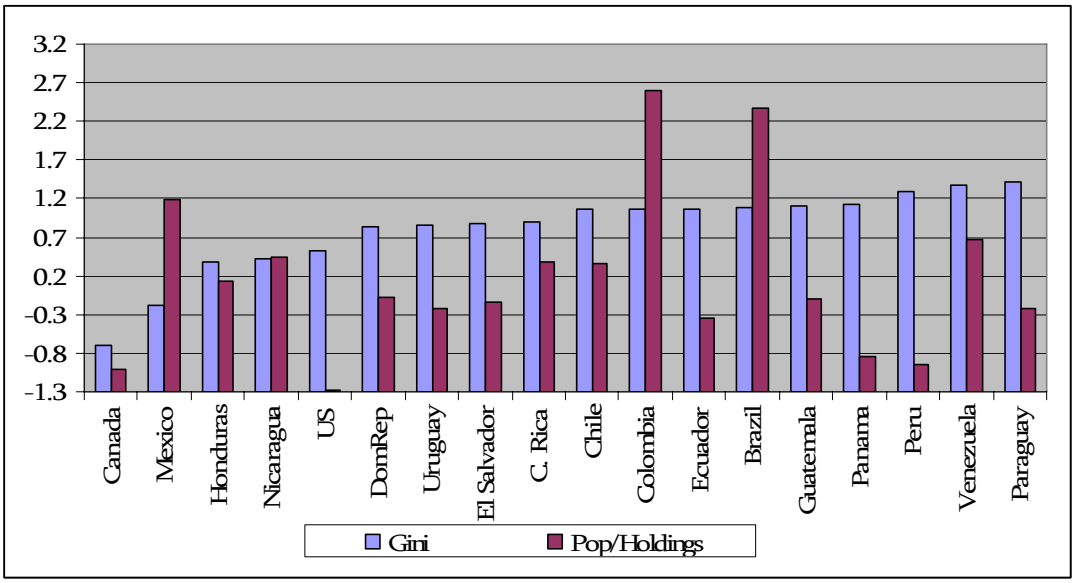
Source: 1970-2000 FAO World Censuses of Agriculture, except for [b, c,] and [d]. [b] Deininger and Olinto (2001), based on FAO World Censuses of Agriculture. [c] De Ferranti et al. (2004: table A.39), based on Deininger and Olinto (2001) and UNDP (1993). [d] Frankema (2005: appendix table 4), based on FAO World Censuses of Agriculture.

Land inequality also highlights the relevance of agrarian reform in Latin America. Some of the countries displaying the lowest levels of land concentration, particularly Bolivia, Mexico, and Nicaragua, experienced the most extensive agrarian reform during the twentieth century (Cardoso and Helwege 1992: 261). The first Latin American country to implement agrarian reform was Mexico in the wake of the 1917 revolution. The Mexican experiment was followed by Bolivia and Cuba in the context of socialist revolutions in the mid twentieth century, each benefiting some 70 per cent of the rural population. In the 1960s agrarian reform was promoted by the Alliance for Progress in an attempt to quell revolutionary fervour following the Cuban revolution; the deepest of these reforms was the Chilean one. An additional round of land reforms was instituted in Central America in the 1980s (Thiesenhusen 1995). The most extensive of these was in Nicaragua: land reform after the overthrow of the Somoza dictatorship in 1979 benefited some 30 per cent of rural households. In general, however, the effect of agrarian reform in Latin America has been quite limited when compared with that in other regions (Deininger 2003: xi).

A weakness of measures of land concentration using FAO data is that they are based on landowners only. A substantial number of rural Latin Americans, however, do not have access to land (Deininger 2003). In order to include the landless rural dwellers, Erickson and Vollrath (2004) devised a measure of inequality across the entire agricultural population. The 'agricultural population per holding' is calculated as the ratio of total rural population to number of holdings, based on the FAO Agricultural Censuses. A higher value means restricted access to land and indicates greater inequality. Figure 1 presents the standardized values of both measures of land inequality for Latin American countries: the Gini coefficients of land concentration among landholders and the agricultural population per holding for the entire rural population. These two dimensions of land inequality are only weakly correlated (correlation coefficient = 0.06), and both should therefore be included in an assessment of land inequality.

Specifically, two patterns of land inequality emerge. The most common is characterized by high concentration among landholders, but relatively widespread access to land. This pattern applies to Chile, Costa Rica, the Dominican Republic, Ecuador, El Salvador, Guatemala, Panama, Paraguay, Peru, Uruguay, and Venezuela, and also to the US and Canada. The second pattern—characteristic of the largest Latin American countries, namely Brazil, Mexico, and Colombia—displays restricted access to land, and a significant landless rural population, but relatively low inequality among landholders. These findings highlight the relevance of distinguishing the two dimensions of land inequality in Latin America to understand different forms of rural inequality.

Figure 1: Standardized value of agricultural population per holding and land concentration (Gini coefficient), Latin American countries, US and Canada 1960s-1990s



Note: Land concentration Gini and agricultural population per holding reported is the average of available figures from 1960s-2000s. Both values are standardized using the total world sample (54 countries) mean and standard deviation.

Source: Authors' calculations based on Erickson and Vollrath (2004), FAO World Censuses of Agriculture, selected years, and Deininger and Olinto (2001).

4 Capital asset ownership

In developed countries the value of assets held for investment purposes—business assets, rental property, stocks and bonds—is considerably more concentrated than that of home equity (e.g., Wolff 2001: table 2.5; Headey et al. 2005) and we have no reason to believe that the story is any different in Latin America. One way to estimate the value of capital assets when data are lacking is to extrapolate it from investment income, inflating this flow by a multiplier that reflects the rate of return to the asset. Reviews and applications of this method in different national contexts can be found in Atkinson and Harrison (1974) for Britain; Dilnot (1990) and Baekgaard (1998) for Australia. We use questions about asset income in Latin American surveys to estimate the distribution of asset values in the region. Since our focus is not on total wealth but on the distribution of different asset types across socioeconomic strata, we do not adjust investment income by a multiplier, circumventing the complication of selecting an appropriate rate of return for the different asset categories.

The construction of comparable categories across countries is beset by several problems. First, the various Latin American surveys ask about somewhat different assets and at different levels of aggregation. However, all the national surveys include the following categories of investment income: income from rental property, dividends from stocks, and interest from deposits and savings. Therefore our analysis considers these three sources of income. Perhaps the main problem with this approach is the

downward bias in the estimation caused by non-reporting and underreporting of investment income. If these errors were randomly distributed, it would not alter the estimation of the asset distributions. However, wealthy families are particularly difficult to interview (Szekely and Hilgert 1999). While this is a problem in all countries, it is especially severe in Latin America because, as an adaptation to urban violence and crime, the wealthy tend to live in guarded residences or in gated communities, making access difficult for interviewers. To some extent this can be remedied by oversampling the upper strata, but it is not evident that this approach fully compensates for the lack of access. Limited survey representation of the upper class is particularly consequential in Latin America, given the extreme concentration of income (and, presumably, wealth) in the very highest percentiles of the population (IADB 1999; Portes and Hoffman 2003; Torche 2005). In addition, it is likely that wealthy families underestimate the returns to their assets (Szekely and Hilgert 1999).[4] Thus, we agree with De Ferranti et al. (2004: 64) that 'capital income, land rents and profits are seriously underestimated in household surveys', and that calculations of asset concentration provide, at best, a lower bound. With these caveats, we present two measures of investment asset inequality in Table 5. The first is the share of total household income that is attributable to capital, profits and rents, usefully compiled by de Ferranti et al. (2004: table A21) for 16 Latin American countries. With few exceptions, this income stream does not exceed 3 per cent of total income. Chile and Colombia are exceptions with shares of 11.5 per cent and 5.4 per cent, respectively.

The second is the proportion of households receiving income from rental property, stocks, and interest from deposits and savings, calculated for the eight Latin American countries for which data are available. As can be seen in Table 5, a minority of households report income from these assets. This is the case even in countries that have well-developed financial systems such as Uruguay and Chile. The most widespread asset is rental property, and the proportion of households receiving income from this source ranges from 3.3 per cent in Paraguay to 9.8 per cent in Colombia. Asset scarcity is even more pronounced in the case of financial resources such as stocks, with the proportion of households receiving income from this type of wealth ranging from 0.1 per cent in Brazil and Mexico to 0.7 per cent in Bolivia (the figure for Colombia includes interest from loans and therefore is not strictly comparable).

Given the pattern of high concentration of income in the upper income decile in Latin America, it is expected that capital assets will also be highly clustered in the top percentiles. Table 6 presents the distribution of capital income sources by household income percentiles. The table covers 'capital, rents and profits' for 16 Latin American

4 This problem is well acknowledged in the estimation of household income in Latin America and routinely corrected using national account information. Correction is not possible in the case of wealth given that estimation of total wealth holdings is dispersed in a number of sources (tax records, land registries, registrar and recorder offices, etc.) and comprehensive balance sheets are not available to researchers.

countries, produced by de Ferranti et al. (2004: table A37), as well as our estimates of the distribution of the three main sources of investment income (rental property; stocks, deposits and savings), by quintile and for the top decile, for the eight Latin American countries with comparable survey data.

Table 5: Percentage of households receiving income from selected investments, Latin American countries circa 2000

	Share of household income derived from capital and profits (%)[1]	Proportion of households receiving income from selected assets (%)[2]		
		Rental property (includes land)	Stock dividends	Interests from deposits and savings
Argentina	3.0			
Bolivia	2.0	5.1	0.7	2.4[3]
Brazil	2.8	5.2	0.1	
Chile	11.5	6.1	0.4	1.5
Colombia	5.4	9.8	2.8[3]	
Dominican Republic	1.8			
Ecuador	3.3			
El Salvador	3.3			
Guatemala	2.7	4.1	0.5	
Mexico	1.6	3.8	0.1[4]	0.4
Nicaragua	2.5			
Panama	1.6			
Paraguay	2.4	3.3		
Peru	2.0			
Uruguay	3.4	4.4	0.4[4]	0.5[3]
Venezuela	1.8			

Notes and sources: [1] De Ferranti et al. (2004: table A21). Survey dates: Argentina (2001), Bolivia (1999), Brazil (2001), Chile (2000), Colombia (1999), Dominican Republic (1997), Ecuador (1998), El Salvador (2000), Guatemala (2000), Mexico (2000), Nicaragua (1998), Panama (2000), Paraguay (1999), Peru (2000), Uruguay (2000), Venezuela (1998). [2] Source: author's calculations based on household surveys. See the Appendix for survey descriptions. [3] Includes interests from loans. [4] Includes bonds and mutual funds.

Table 6: Distribution of investment income by household income percentiles, for types of investment income

	Panel 1: Capital, rents, and profits[1]					Panel 2: Rental property[2]						Panel 3: Stock dividends[2]						Panel 4: Interest from savings and deposits[2]					
Household income percentiles	Q1	Q2	Q3	Q4	Q5	Q1	Q2	Q3	Q4	Q5	D10	Q1	Q2	Q3	Q4	Q5	D10	Q1	Q2	Q3	Q4	Q5	D10
Argentina	1.5	4.6	7.4	16.3	70.3																		
Bolivia	0.5	2.0	5.9	15.7	75.8	1.6	5.7	6.5	12.5	73.7	57.1	0.0	0.0	0.1	0.9	98.9	97.1		3.2	6.7	9.4	80.3	67.9
Brazil	3.2	3.4	4.5	10.5	78.4	0.7	1.6	5.3	13.3	79.1	58.8	0.0	0.0	0.8	11.0	88.2	76.8						
Chile	0.0	0.0	1.1	9.7	89.1	1.4	3.8	6.1	15.9	72.7	56.4	1.2	1.3	2.2	4.4	90.8	76.3		3.7	3.5	7.1	82.7	76.1
Colombia	2.0	3.2	5.5	13.5	75.7	5.7	8.4	13.3	22.7	50.0	35.5	1.8	3.2	2.7	16.2	76.1	63.9						
Dom. Rep.	4.4	6.4	8.8	16.4	63.9																		
Ecuador	1.2	3.1	4.5	8.7	82.5																		
El Salvador	2.1	3.2	4.0	9.9	80.8																		
Guatemala	0.1	0.2	1.4	2.3	95.9	0.0	0.1	0.1	0.8	98.9	96.6	0.0	0.0	0.0	0.1	99.9	99.0						
Mexico	1.6	1.8	6.0	7.1	83.4	2.5	1.9	4.5	7.4	83.7	79.9	0.0	0.0	0.2	0.2	99.6	99.1		1.7	0.2	1.8	94.7	87.2
Nicaragua	0.2	0.8	1.3	4.1	93.6																		
Panama	0.7	2.4	8.4	9.1	79.3																		
Paraguay	1.1	1.8	3.9	11.4	81.7	0.8	2.5	4.9	12.9	79.0	66.0												
Peru	0.8	2.9	5.6	12.3	78.5																		
Uruguay	0.6	2.2	5.2	10.8	81.2	1.3	2.1	3.8	7.0	85.8	79.9	0.0	0.0	0.0	0.1	99.9	99.5		0.1	0.6	2.5	96.6	94.0
Venezuela	3.6	7.4	8.9	12.1	68.1																		

Notes and sources: sum across income quintiles adds up to 100 per cent for each income type. [1] Source: De Ferranti et al. (2004: table A37). Survey dates are the following: Argentina (2001), Bolivia (1999), Brazil (2001), Chile (2000), Colombia (1999), Dominican Republic (1997), Ecuador (1998), El Salvador (2000), Guatemala (2000), Mexico (2000), Nicaragua (1998), Panama (2000), Paraguay (1999), Peru (2000), Uruguay (2000), Venezuela (1998). [2] Source: authors' calculations based on household surveys. See the Appendix for survey descriptions. In Colombia stock dividends (panel 3) includes interests from loans. In Bolivia and Uruguay interest from savings and deposits include interest form loans. In Mexico and Uruguay dividends from stocks include bonds and mutual funds.

As expected, income from 'capital, rents and profits' is concentrated in the top income quintile in all countries (panel 1). Keeping in mind that the figure for the highest quintile is reduced because of underreporting, this category accounts for more than 80 per cent of asset income in the majority of Latin American countries, ranging from 68 per cent in Venezuela to 96 per cent in Guatemala. The comparable figure for investment asset concentration in the USA is 70.1 per cent.[5]

When type of asset holding is considered, the level of concentration varies with the asset category. Inequality is particularly high in the case of stocks; with the exception of Colombia the top decile's share exceeds 75 per cent in the seven countries for which information is available. In Bolivia, Brazil, Mexico, and Uruguay, the four bottom quintiles have virtually no income from stocks (the figure for Colombia includes income from loans so the measure is not strictly comparable). The asset that is most equally distributed is rental property, with the share of the top decile averaging 66 per cent across countries, ranging from a low of 36 per cent in Colombia to 97 per cent in Guatemala. In the case of Colombia, low inequality in real estate income is driven by an active residential rental market; in other nations it is driven by widespread land rentals. This is particularly the case in Bolivia and Mexico, two countries that experienced extensive agrarian reform; in each, the share of rental income flowing to the top decile is approximately 40 per cent.

In summary, much more than housing wealth, financial and real estate assets are highly concentrated in Latin America. As in developed countries, this is particularly the case for financial resources—stock, savings and deposits—the most liquid form of equity. The counterpart of this high concentration is exclusion: the majority of households in the region appear not to have access to these forms of wealth. It is important to emphasize, however, that the survey information on investment income used in this section is quite deficient. A useful future development would be to add a series of dichotomous questions on financial, business, and real estate ownership to the household surveys in the region, if not questions on monetary values.

5 Informal capital and property rights

An important characteristic of asset ownership in Latin America is that a large proportion of the population lacks legal title to land and home. In urban areas, 30 to 35 per cent of the population (up to 40-50 per cent in some of the largest cities) live in squatter settlements where households do not hold title to their plots (Grimes 1976). The situation is not any better in rural areas, where a large proportion of farmers also lack legal title. The proportion of farmers without a secure title is 39 per cent in Chile, 17 per

[5] The US estimate is for 'financial net worth' as defined in Wolff (2001: 36-7). This category is similar to capital or investment assets, as specified in the text, except for the inclusion of individual retirement accounts in the US figure. We thank Ed Wolff for calculating the US value.

cent in El Salvador, 37 per cent in Colombia, 44 per cent in Honduras, and 50 per cent in Paraguay (Lopez and Valdes 2000: table 1.1).

Prompted by the work of De Soto (1989, 2000) a vibrant debate has emerged about the relevance of formal title for household wellbeing and economic development. De Soto (2000: 35) argues that in the developing world the poor own significant amounts of property (9.3 trillion dollars according to his calculations.[6] The assets are, however, 'dead capital' because the owners lack clear, enforceable property rights. This limits financial transactions and hampers the use of property as a consumption reserve or as collateral in credit markets, thus hampering economic development. Besides De Soto's calculations, there are no reliable estimates of how much wealth has been accumulated in the form of informal property across Latin America. Our discussion, therefore, will focus on the evidence about the relevance of legal title for wealth creation, cast in the larger context of the importance of property rights (North and Thomas 1973; North 1981; De Long and Shleifer 1993; Johnson et al. 2002; Acemoglu and Johnson 2005). According to De Soto, widespread access to and enforcement of legal title is critical to reducing poverty in the developing world. Two ways are noted by which formal property rights might raise the welfare of households: increasing security from eviction or boundary disputes; and giving new owners legal claims in the property transaction. Just as transfer uncertainty limits a household's ability to sell its property, a financial institution's ability to repossess property is similarly hindered, lessening the asset value as a collateral instrument. Partly under the influence of De Soto's claims, land titling programmes have been launched in several Latin American countries. In Peru, property titles were given to 1.2 million urban households during the 1990s (World Bank 1998), and land titling programmes are currently being implemented in Colombia, Mexico, Honduras, Paraguay. In Brazil, President Lula Da Silva has announced a massive plan to title homesteads in the favelas of the major cities (Galiani and Schargrodsky 2006).

Empirical research on the impact of titling is, to date, limited. The effect of land titling on subsequent investment in the property and on land values has been investigated mainly in rural settings in Africa and Latin America. A recent set of studies, however, assesses the effects of property rights on investment, real estate values, access to credit, household income, and children's education in urban areas. The impact of land titles in rural areas has produced mixed results. Studies in Brazil (Alston et al. 1996), Ghana (Besley 1995), and Thailand (Feder et al. 1998) found that plot titling raised land values, facilitated investment in the plot, and improved access to credit. Somewhat more equivocal results were reported by Do and Iyer (2002) who concluded that the conferral of land rights in Vietnam led to an investment increase in plots in urban areas, but did not have an impact on agricultural productivity. A study in rural Paraguay (Carter and Olinto 2003) introduces a note of caution, finding that titling increased agricultural

6 However, see Woodruff (2001) for a critique.

investment, but the effect varied across socioeconomic groups; benefits accrued mainly to wealthy households rather than liquidity-constrained ones.

Other research in rural areas, especially in sub-Saharan Africa, has detected little impact of titling on investment, land productivity and access to credit (Pinckney and Kimuyu 1994; Place and Migot-Adholla 1998; Place and Otsuka 2002; Brasselle et al. 2002). These authors argue that the weak effects of titling show that informal land tenure arrangements can provide considerable investment security, especially in stable communities. A study by Lanjouw and Levy (2002) is important because it tests whether efficiency of informal property rights is an African particularity or also applies to Latin America. Based on data from Guayaquil, Ecuador, they found that land titling raised property values by 24 per cent. Nonetheless, informal property rights can effectively substitute for formal tenure. The importance of formal title appears to diminish when communities are more settled and have established informal governance structures. More vulnerable households (those with low education and income, little savings and few years of residence) tend to benefit more from formal titles because they appear to command less authority in an informal system. In part, the mixed results have been attributed to the difficulty of addressing the issue of endogeneity of tenure status. The evaluation of the causal effects of land titling is problematic because the allocation of property rights is not random, but possibly related to a household's wealth and family influence. Simply comparing outcomes in titled and untitled households, therefore, is not an adequate strategy for discerning the effect of titling.

Two case studies in Latin America are relevant in so far as they deal carefully with potential endogeneity of property rights, taking advantage of natural experiments in which titles were allocated randomly. Field (2005) analysed the effect of a nationwide titling programme launched in Peru in the late 1990s, which provided titles to about 1.2 million urban households. She found that obtaining a title led to an increase in the rate of housing renovation of more than two-thirds the baseline level. However, the effect of titling on access to credit was small and mostly driven by government credit (Field and Torero 2004). Similar small effects of title on the formation of a healthy housing market and on access to credit have been reported in Colombia by Gilbert (2002). Finally, Galiani and Schargrodsky (2006) used a natural experiment to explore the effects of titles given to poor squatters in Buenos Aires. They found that titling resulted in increased housing investment, reduced household size, and improved children's education. The effects on credit access, however, were modest.

These studies in Latin America and in other developing countries suggest that: (1) land titling appears to have positive effects on investment and access to credit; (2) the impact of land titling on living standards (measured by income or welfare indices) appears to be quite small; and (3) the effect of formal titling depends substantially on the strength of informal arrangements and seems to be more effective for households or in communities unable to enforce their informal rights.

6 Historical sources of the wealth distribution in Latin America

To explore the roots of the wealth distribution in Latin America we use a comparative historical perspective based on the work of the economic historians Engerman and Sokoloff (Engerman and Sokoloff 1997, 2002; Sokoloff and Engerman 2000; Engerman et al. 1999; Engerman et al. 2000: 108-34; also see de Ferranti et al. 2004 for a summary). This perspective explores the influence of initial factor endowments in colonial times on the unequal distribution of assets, especially the control of land and labour. The initial concentration of assets in the hands of a small *criollo* elite gave rise to institutions through which this Latin American elite has successfully maintained its privilege. This perspective suggests the continuous influence of colonial conditions via two avenues. First, elite ownership of land and natural resources was successfully 'converted' into urban-based assets in the nineteenth and twentieth centuries. Second, institutions supported by the initial concentration of wealth have persisted over time, successfully preventing access to capital, non-land property, education, and political power by the majority of the population.

The basic tenet in this approach is that variation in factor endowments—broadly defined to include size and quality of land, climate, and available native population—gave rise to sharply different productive and social regimes, characterized by varying levels of inequality. To this, the features of the colonizing powers should be added: Mercantilist Spain focused on resource extraction in areas where large native populations could provide free labour, while liberal Britain promoted profit making through market exchange (Lange et al. 2006). Three productive regimes can be distinguished in the Americas on the basis of factor endowments and characteristics of the colonizing powers. The first, prevalent in the Caribbean, parts of South America (especially Brazil), had climate and soil well suited to the production of staple crops and was characterized by large economies of scale, as in sugar, tobacco and coffee production. These conditions encouraged the use of African slaves. The established social structure thus consisted of a small elite and a large number of slaves with minimal human capital, this resulted in a massive concentration of resources. When slavery was abolished in the mid nineteenth century, the concentration of land, education, and other assets in the white elite was not reduced and remained pervasive (Skidmore 1999: 70).

The second regime can be associated with Spanish colonies such as Mexico and Peru. In these areas, a large native population survived contact with the Europeans, and the Spanish crown allocated European settlers large plots of lands, mineral resources, and the rights to enslaved native labour and tribute (institutionalized as the *encomienda* or *mita* systems). As in the first regime, this type of productive organization gave rise to the concentration of resources in the hands of a small European elite, and a sharp dichotomy along racial (European/indigenous) lines. In contrast, a very different productive regime developed in northern USA and Canada. There, the geographic and soil characteristics and the scarcity of native populations did not provide comparative advantages for large-scale crops, but was conducive to small-scale grain production.

Given the abundant land and low capital requirements for such production, most households were able to operate as independent producers. Additionally, the population in these colonies was mostly of European descent and had roughly similar levels of human capital, in comparison with sharp disparities among peoples in the other two regimes. This agrarian system provided the basis for a social structure of small, relatively equal landholders (Engerman and Sokoloff 2002: 60).[7]

In the two Latin American regimes, high asset concentration allowed elites to establish an institutional framework that favoured the maintenance of privilege. In the northern US and Canada, in contrast, the relative equality of resources generated a dispersal of power and promoted the formation of equalitarian institutions. Two early institutional arrangements were particularly relevant for solidifying inequality in Latin America: land policy and immigration policy. Governments in the Spanish and Portuguese colonies distributed land through grants of large plots, fostering concentration, whereas in the northern US and Canada, sales of small plots were prevalent. Subsequent land policies continued these initial paths. In the US the Homestead Act of 1862 made household farm-sized plots free to all who settled and worked the land; in Canada, the Dominion Lands Act of 1872 did the same. Nothing like these policies were implemented in Latin America, with the partial exception of Argentina.

The second institutional arrangement that was critical to solidifying early inequality was immigration policy. The British, responding to labour scarcity in the colonies, actively encouraged immigration from England and other European countries to their colonies, generating a diversified white population. In contrast, the Spanish crown tightly controlled immigration, under the influence of the local *criollo* elites who resisted competition. This restrictive stance towards immigration was possible because there was a substantial supply of native labour to be exploited by the European elite. Only in the nineteenth century did the Hispanic colonies promote immigration, but at that point most migrants chose to go to North America, lured by the greater economic opportunity.

In terms of political institutions, the Latin American elites successfully blocked the expansion of voting rights. As late as the early twentieth century none of the Latin American countries had a secret ballot and only a minuscule proportion of the population voted, ranging from 4 per cent in Bolivia to 18 per cent in Costa Rica (Engerman and Sokoloff 2002: 74). In contrast, in the US and Canada, initial equality among settlers provided the basis for the early expansion of democracy. The US and Canada were pioneers in eliminating property and literacy restrictions to the voting, and in implementing secret ballots. By the early twentieth century about 40 per cent of the Canadian and US populations typically voted in national elections.

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[7] Conditions were different in the American south (see Engerman and Sokoloff 2002: 60-1).

Canada and the USA also became pioneers in the expansion of primary education. By the mid nineteenth century, every locality in the northern US had free schools, open to all white children and supported by general taxes. By 1900 the literacy rate was 90 per cent in the US for whites. In contrast, the Latin American elites fiercely resisted taxation for educational purposes and opposed educational expansion. As a result, even in the most highly educated Latin American countries the literacy rate only reached some 50 per cent in 1900 (for example, 52 per cent in Argentina, 43 per cent in Chile, 54 per cent in Uruguay). And in the Latin American countries with the lowest educational attainment, only a small minority was literate in that year; 17 per cent in Bolivia, and 15 per cent Guatemala (Engerman et al. 2000).

In terms of capital formation, financial institutions developed very early in North America, facilitating the ability of the population to use land as collateral. The government prevented monopoly concentration, leading to significant competition among numerous small banks. In contrast, in Latin America, where the elite retained vast political power, the chartering of banks was tightly controlled by the central government, leading to monopolistic financial systems. This institutional set-up greatly reduced access to credit, savings, and investment capital.

In summary, we suggest that the initial conditions of colonization led to the formation of institutions that served to maintain high levels of wealth concentration in Latin America. However, during the nineteenth century, at the time of achieving independence from Spain, liberal elites rose to power and tried to implement progressive policies across the region, giving rise to a 'liberal reform' period (Mahoney 2001). Concerned with a pattern of land accumulation they regarded as incompatible with societal needs, and inspired by the examples of North America and Europe, these liberal elites sought to reduce land concentration, but their attempts failed dramatically. Paradigmatic examples of the failure can be found in Mexico, Brazil, and Bolivia. In Mexico the so-called *Lerdo Law* (1856) prohibited ecclesiastical and civil institutions from owning property not used in day-to-day operations (Meyer and Sherman 1987). As a consequence, a vast amount of land controlled by the Catholic Church was put up for auction. Intended by liberals to weaken the Church and by conservatives to increase government revenue, the law produced neither. The land was not purchased by peasants, but by large proprietors and foreign investors, resulting in increased inequality.

A similar failed reform took place in Brazil, where a law intended to reduce inequality instead favoured land concentration (Dean 1971). In Bolivia, an 1874 law turned all communal Indian land into individual holdings; the land was then largely appropriated by the elite (Klein 1993; Thiesenhusen 1995). A similar process of indigenous land appropriation and concentration occurred in Chile (Ruiz-Esquide 2000). By the early twentieth century, the institutionally ingrained patterns of social exclusion in Latin America prevented the region from joining the trend toward greater equality

experienced in Europe and the USA (Morrison 2000; Piketty and Saez 2003) and led to the persistence of high asset concentration in this region.

7 Effects of parental wealth: results from Chile

The role of family background in shaping the opportunities and attainments of offspring is well recognized in research on Latin America. Parental resource effects are evident from an examination of the school dropout rates of children from different income quintiles (de Ferranti et al. 2004: table A47). However, due to the unavailability of appropriate data, there has been little investigation of the pathways of intergenerational transmissions or of the role played by different parental resources in advancing life chances. Nonetheless, a better understanding of the constraints imposed by initial conditions in parental resources is vital for the development of programmes to increase intergenerational social mobility. The bulk of research on these issues in Latin America has considered the impact of parental characteristics on the educational attainments of offspring. Thus, Castaneda and Aldaz-Carroll (1999), in a comprehensive analysis of high school completion rates in 16 Latin American countries, find strong effects for mother's education, household income, and urban residence. Also, Hausmann and Szekely (1999) explored the effects of parental education on the incomes of children, concluding that the effects are considerable. In short, in Latin America, as elsewhere, parental resources, even modest resources, appear to make a substantial difference for the attainments and economic wellbeing of offspring.

But how important are parental *material* assets in this calculation, and by which paths do they affect economic wellbeing? When addressing the effects of wealth holdings, the possible routes of transmission include direct transfers to children, as well as investments in their human capital. While data on parental wealth and financial transfers are largely unavailable for Latin America, we summarize some findings from two recent surveys in Chile on these very issues that were conducted by the authors. The 2001 *Chilean Social Mobility Survey* is a nationally representative, multi-stage, stratified sample of 3,544 households; the 2003 *Survey of Intergenerational Financial Linkages in Chile* employed a similar design, with face-to-face interviews in 4,408 households. In each survey the respondents were asked about their own background and work experience, that of spouse/partner, their current financial resources, and the financial situation of each set of parents when the respondent (spouse) was age 14.

Spilerman and Torche (2004) examined the pathways by which various parental resources—father's education, occupational status, and parental wealth—influence the household income and asset holdings of offspring. It is first necessary to emphasize the difficulty of estimating parental wealth from a retrospective survey, especially when this information is requested for a time many years in the past, when the respondent and spouse were each in their formative years. The problems include lack of factual knowledge as well as difficulties of recall, exacerbated by a history in Chile of

occasionally very high inflation and currency devaluations. For these reasons, monetary estimates would be unreliable. Instead, respondents were asked about parental wealth in two ways; via a listing of major parental asset holdings—business equity, real estate, residential property, and financial instruments (stocks, bonds, mutual funds)—and by means of a subjective question to score the parental household relative to the average in Chile at the time.[8] Admittedly, these approaches provide only a crude approximation of parental wealth, and the second—the subjective formulation—is especially problematic. Nonetheless, the utility of this measure was examined in Spilerman and Torche (2004), with the conclusion that its partial effects, net of parental education and occupational status (a measure of permanent income), are suggestive of what might be expected from a wealth measure. To summarize their main findings: with regard to the educational attainments of respondents, the parental wealth proxy, father's education and occupational status, each show strong effects that are similar in magnitude, as measured by the response to a standard deviation change in a parental resource.[9] In short, all parental resources contribute to the educational attainments of offspring.

An analogous result was obtained for respondent's household income. But when controls were added for the intervening variable of respondent's education, the parental resource effects were reduced substantially, with the parental wealth term lessened by some 70 per cent. Consequently, the major part of the parental wealth contribution to respondent's household income appears to come through parental investments in children's education, such as paying for private schooling, which is significantly more effective in Chile than public education. An examination of the parental resource effects on respondent's *household wealth* yielded a quite different outcome. First, a regression on the three resource terms showed a much larger effect for parental wealth than for the other parental resources. Equally informative, when controls were added for respondent's education and occupational status, the parental measures, aside from wealth, were much reduced whereas the parental wealth term was lessened only marginally. The upshot of the analysis is that the parental wealth effect on respondent's household wealth appears to operate largely outside of the educational system and the labour market. Parental wealth does impact the human capital and income of adult children; however, this path does not account for the bulk of respondent's household wealth. Rather, the evidence suggests that, in Chile, current wealth holdings are best explained by a process of direct financial transfers across generations.

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[8] The subjective measure is based on the following question: 'Compare your household when you were age 14 with all Chilean households at that time. On a scale of 1 to 10, where 1 is the poorest and 10 the wealthiest, where would you place your household?'.

[9] While the subjective measure of parental wealth was collected as an ordinal variable, it was converted to a ratio scale. Five Chileans were asked to assign Peso values to each cutting point of the scale; their assignments were averaged and the results taken to establish monetary values for the categories. The logged values were then used as the wealth proxy in the regressions.

Torche and Spilerman (2006) further elucidate the paths by which the different parental resources impact the wellbeing of offspring, formulated as consumption level (living standard) and household wealth. However, in this analysis, in place of the subjective measure, the reported financial and material asset holdings of parents when the respondent and spouse were each 14 years old were used to model parental wealth.[10] The household wealth of the respondent was also measured in terms of asset holdings, and an analogous formulation based on consumption items was used to assess the respondent's living standard.[11] Because these results are central to this paper, we summarize them in some detail.

Descriptive statistics relating the respondent's economic circumstance to parental wealth are reported in Table 7. The first four items are consumption or living standard indicators; the next five are asset items, indicators of wealth holdings. Vehicle ownership could reasonably be put in either category but because of its considerable use value we have included it with the consumption indicators. With the exception of homeownership each item displays a steep gradient with the parental wealth measure. Homeownership is an anomaly for the reasons discussed in Section 2, namely the informal nature of much home construction in Latin America. As discussed, home ownership correlates only weakly with household income and, at least in Chile, it does not correlate with parental wealth. The last three rows convey the association between aspects of the respondent's human capital and parental wealth; the gradients here are also pronounced.

The unit of analysis in this study was the married or cohabitating couple. The regression models included measures of three kinds of parental resources: father's years of schooling, father's occupational status, and parental wealth. Parental occupational status, a proxy for permanent income, was coded in terms of the International Socioeconomic Index (ISEI) scores (Ganzeboom et al. 1992). Parental wealth was measured as the sum of the standardized values of the four asset items, excluding home ownership. The parental resource terms were computed separately for each set of parents to assess whether a differential contribution comes from the husband's or wife's family side. Finally, all the parental resource terms refer to the period when respondent and partner were each in their teen years.

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[10] Parental wealth was measured as the sum of standardized variables from counts of ownership of business equity, real estate, residential property, and financial assets (stocks, bonds, mutual funds). The estimation of respondent's wealth used the same items, but was carried out via confirmatory factor analysis.

[11] Consumption level is based on vehicle ownership, regular use of domestic service, number of household durables, and a subjective standard of living measure.

Table 7: Descriptive statistics relating respondent's living standard to parental wealth, Chile 2003[1]

Measures of respondent's economic wellbeing	Parental wealth[2] 1= Low	2	3	4	5= High	N
Consumption items						
1. Vehicle ownership[3]	0.30	0.40	0.40	0.50	0.61	3667
2. Domestic service[4]	0.04	0.08	0.11	0.14	0.31	3667
3. Number of household items[5]	-0.43	0.17	0.27	0.87	2.02	3648
4. Subjective standard of living[6]	-0.35	-0.03	0.17	0.27	0.85	3516
Asset Items						
5. Financial assets[7]	0.01	0.02	0.06	0.05	0.13	3656
6. Business ownership[8]	0.12	0.21	0.21	0.25	0.29	3667
7. Real estate ownership[9]	0.04	0.09	0.09	0.11	0.18	3660
8. Residential property[10]	0.08	0.12	0.12	0.18	0.23	3663
9. Home ownership[11]	0.66	0.65	0.65	0.66	0.63	3671
Human capital/household income						
10. Education of husband[12]	9.04	9.89	10.28	10.83	12.87	3671
11. Occup. status of husband[13]	34.11	36.82	37.91	40.35	43.27	3586
12. Labour market income[14]	322.87	419.45	436.41	572.09	930.30	3596

Note and sources: Survey of Intergenerational Financial Linkages in Chile, 2003. 1. Entries are for married and cohabitating respondents where male head is ages 25-69. All values are for year 2003. 2. Parental wealth is measured as the sum of Z-score from counts of ownership of business equity, real estate, residential property (excluding primary residence) and financial assets (stock, bonds, mutual funds). The measure combines wealth holdings of both sets of parents. Because a large proportion of parents had zero or near zero asset holdings the low wealth category contains 60 per cent of the sample; the remaining categories approximate wealth deciles: (2) 11.7%; (3) 8.5%; (4) 11.2%; (5) 9.4%. 3. Proportion of respondents who own one or more vehicles. 4. Proportion of respondents who use domestic service. 5. Sum of Z-scores from count of ownership of five common household items. 6. Subjective SOL by respondent is a 5-point ordinal scale: 1=much below average, ..., 5=much above average. 7. Proportion of respondents who own financial assets (stock, bonds, mutual funds). 8. Proportion of respondents who own a business (full or part ownership). 9. Proportion of respondents who own real estate. 10. Proportion of respondents who own residential property. 11. Proportion of respondents who are home owners. 12. Number of years of schooling completed. 13. Occupational status coded by International Socioeconomic Status Index scores (Ganzeboom et al. 1992). 14. Monthly labour market income of household in Chilean pesos (thousands).

Other variables in the analysis are measures of the human capital of the couple (years of schooling of husband and wife) and monthly labour market income. Labour market income, as distinct from total household income, was emphasized because the latter includes income that derives from parental asset transfers, whereas the intent of the study was to distinguish between parental effects via investments in children's human capital and effects tied to direct financial transfers. Controls were also introduced for husband's age at marriage/cohabitation, duration of the current union, and for whether either partner had a prior union. The first two tap aspects of savings accumulation,

whereas the last refers to the possible depletion of resources as a result of a marital rupture, and should have a negative effect on living standards and asset ownership. Torche and Spilerman (2006) examined the determination of each consumption and asset item separately; we summarize here only the models in which the two constructs are formulated as unobserved, latent variables, with the consumption and asset items serving as indicators. The value of this approach is that the possible confounding of life style (a preference for particular consumption items) with consumption *level* (a hierarchical measure of wellbeing) is avoided, in that it is the shared variance in a household's consumption choices that is modelled. Similarly, in the case of asset holdings, the formulation taps the breadth of the wealth portfolio, rather than a particular choice of investment assets.

For the examination of *consumption level*, a MIMIC model (multiple indicators, multiple causes) was used, in which a couple's parental resources, labour market income, and the controls were viewed as jointly influencing the living standard construct. The equations for the MIMIC model are (Joreskog and Sorbom 1989: 173)

$$\mathbf{Y} = \boldsymbol{\lambda}\eta + \boldsymbol{\varepsilon} \quad (1)$$

$$\eta = \boldsymbol{\gamma}'\mathbf{X} + \zeta \quad (2)$$

where $\mathbf{Y}$ is a vector of indicators of the latent variable η (consumption level), $\boldsymbol{\lambda}$ is a vector of factor loadings relating the indicators to the latent variable, $\mathbf{X}$ is a vector of the exogenous 'causes' of η, and $\boldsymbol{\gamma}$ is a coefficient vector. The error terms ε and ζ are assumed to be mutually uncorrelated. The results are presented in Table 8. The living standard construct was measured by the four consumption indicators; the factor loadings show strong associations of these terms with the latent variable. Since the dependent variable is unobserved and lacks a concrete metric, standardized coefficients are also reported; these appear in the third column of each model, alongside the unstandardized parameters.

In the summary regression of total parental effects (model 1) each parental term appears to have a significant impact on the respondent's consumption level, though judging from the standardized variables the parental wealth terms have somewhat smaller effects than either father's education or occupational status. Model 2 is revealing about the transmission process as it incorporates variables for the human capital and labour market income of the respondent as well as proxies for savings duration (husband's age at marriage and years of marriage). Net of these terms, husband's father's education and wife's father's occupation have effects that are much reduced in magnitude. More to the point, the two parental wealth terms are insignificant; thus, there is no evidence of direct financial transfers. To summarize, while there are strong parental effects, including parental wealth effects, on the consumption level of offspring, these transmissions operate almost entirely through parental investments in human capital and earnings capacity.

Table 8: Structural equation model of living standards[1]

	Model 1				Model 2			
FACTOR LOADINGS:								
Subjective SOL[2]	1.000		–	0.747	1.000		–	0.756
Household items[3]	3.086	***	(0.111)	0.765	2.508	***	(0.095)	0.750
Domestic service[4]	1.198	***	(0.048)	0.859	1.067	***	(0.065)	0.884
Auto ownership[4]	1.045	***	(0.033)	0.774	1.083	***	(0.046)	0.790
REGRESSORS:								
Husband's father:								
Education	0.033	***	(0.004)	0.183	0.011	**	(0.004)	0.054
occupational status[5]	0.010	***	(0.002)	0.165	0.001		(0.002)	0.008
household wealth[6]	0.029	***	(0.006)	0.086	0.006		(0.005)	0.015
Wife's father:								
Education	0.018	***	(0.004)	0.099	-0.005		(0.004)	-0.022
occupational status[5]	0.013	***	(0.001)	0.201	0.004	**	(0.001)	0.046
household wealth[6]	0.032	***	(0.006)	0.095	0.001		(0.006)	0.004
Husband's age at marriage					0.007	***	(0.002)	0.048
Years of marriage					0.020	***	(0.001)	0.224
Husband or wife previously married[7]					-0.026		(0.037)	-0.010
Husband's education					0.044	***	(0.005)	0.182
Wife's education					0.031	***	(0.005)	0.126
Labour market income(ln)[8]					0.680	***	(0.025)	0.614
*p<0.05, **p<0.01, ***p<0.001								
R^2	0.345				0.754			
N	3811				3811			
Fit indices:								
CFI	0.993				0.940			
RMSEA	0.017				0.034			

Note: 1. Results based on multiple imputation with five datasets. For each model the column 1 entries are unstandardized coefficients, column 2 contains standard errors and column 3 reports the standardized estimates. 2. Five category subjective scale. 3. Sum of z-scores for ownership of five common household durables. 4. Binary term for ownership of the item. 5. Occupational status coded by ISEI status scores. 6. Estimate of parent's wealth holdings; see text for details. 7. Dummy term, coded 1 if either partner had a prior marriage/cohabitation. 8. ln(current household income from labour market activity, in pesos).

Source: see text.

The comparable analysis of asset ownership is more complex. For one matter, it cannot be assumed that respondents' *current* income is a determinant of ownership of expensive assets, which may have been financed from savings over several years. Ideally, to assess the extent to which asset holdings were purchased from labour market income, we would like a measure of cumulative income in the years prior to the acquisition of an asset. Lacking such a measure, savings from labour market activity was proxied by the product of current labour market income and duration of

marriage/cohabitation. A second problem relates to business ownership, one of the four asset indicators, as this asset can be a source of labour market income. For this reason, cumulative labour market income was treated as endogenous, with husband's occupational status serving as an instrument. We thereby presume that any effect of occupation on asset holdings comes through its impact on the cumulative income term. This more general model is specified as

$$\mathbf{Y} = \boldsymbol{\lambda}\eta + \boldsymbol{\varepsilon} \quad (3)$$

$$\eta = \beta_1 Z + \boldsymbol{\gamma}_1' \mathbf{X}_1 + \zeta_1 \quad (4)$$

$$Z = \beta_2 \eta + \boldsymbol{\gamma}_2' \mathbf{X}_2 + \zeta_2 \quad (5)$$

where equation (3) is the measurement model for the latent variable (asset holdings), (4) is the structural equation for the determination of η, and (5) is the equation for the determination of Z, the endogenous variable for cumulative labour market income. In these equations, $\mathbf{Y}$ is a vector of indicators of the latent variable η; $\mathbf{X}_1$ and $\mathbf{X}_2$ are vectors of exogenous variables. The ε and ζ are assumed to be mutually uncorrelated. The estimation results for asset holdings are reported in Table 9. Model 1 conveys the total effects of the parental resources; the parameter estimates indicate that both occupational status (a proxy for permanent income) and household wealth contribute to the respondent's level of asset holdings, with the parental wealth terms having the greater effects, as suggested by the standardized estimates. Model 2a is the equation used to instrument cumulative labour market income; model 2b shows the *inter vivos* results for respondent's asset holdings, with variables added for respondent's and spouse's human capital and cumulative labour market income. By far, the largest effect on asset holdings comes from the cumulative income term. Net of this variable and the other controls, only the parental wealth measures remain significant from among the parental terms. These effects are large; moreover, they underestimate the full contribution of parental wealth because the regressor for inheritances also reflects a transfer of parental resources.

To summarize, although the wealth measure is formulated very differently in the two studies (Spilerman and Torche 2004; Torche and Spilerman 2006), the results are quite consistent. Parental resources have strong effects on both the living standard and household wealth of adult children. Parental education and occupational status are the more critical determinants of living standard (consumption); parental wealth, in contrast, has the larger impact on the children's wealth holdings (asset items). Moreover, the pathway of transmission differs according to the outcome under consideration. In the case of living standard, the parental effects are largely mediated by children's education and earnings; thus the conveyance is via parental investments in education. With respect to the asset holdings of offspring, much of the transmission is direct and, presumably, takes the form of *inter vivos* transfers and inheritances. This finding carries implications for the possibility of reducing wealth inequality in Latin America solely through investments in education and schooling.

Table 9: Structural equation model of asset holdings[1]

	Model 1				Model 2a Cumulative Labour Income				Model 2b Asset Holdings (IV)			
FACTOR LOADINGS[2]												
Financial assets	1.000		–	0.566					1.000		–	0.507
Residential property	1.259	***	(0.149)	0.699					1.315	***	(0.170)	0.646
Real estate	1.395	***	(0.165)	0.766					1.386	***	(0.183)	0.676
Business ownership	0.701	***	(0.098)	0.404					0.983	***	(0.131)	0.498
REGRESSORS:												
Cumulative labour income[3]									0.319	***	(0.051)	0.634
Asset holdings[4]					-0.025		(0.098)	-0.013				
Husband's father:												
Education	0.010		(0.005)	0.077	0.003		(0.004)	0.012	0.001		(0.005)	0.003
occupational status	0.005	**	(0.002)	0.113	0.004	**	(0.001)	0.047	-0.001		(0.002)	-0.019
household wealth	0.039	***	(0.007)	0.166	0.023	***	(0.006)	0.054	0.025	***	(0.006)	0.118
Wife's father:												
Education	0.005		(0.005)	0.043	-0.001		(0.004)	-0.001	-0.003		(0.005)	-0.028
occupational status	0.005	**	(0.002)	0.107	0.005	***	(0.001)	0.063	-0.001		(0.001)	-0.014
household wealth	0.042	***	(0.007)	0.174	0.023	***	(0.005)	0.055	0.022	***	(0.006)	0.103
Husband's age at marriage					0.008	***	(0.002)	0.048	0.006		(0.003)	0.071
Years of marriage					0.059	***	(0.002)	0.636	-0.006	*	(0.003)	-0.127
Husband or wife previously married					-0.080	**	(0.030)	-0.029	0.041		(0.044)	0.029

table continues…

Husband's education		0.042	***	(0.004)	0.165		- 0.001	(0.006)	-0.007
Wife's education		0.055	***	(0.005)	0.208		- 0.001	(0.006)	-0.003
Husband's occupational status		0.021	***	(0.001)	0.285				
Inheritances[5]							0.284	***	(0.051)	0.169
*p<0.05, **p<0.01, ***p<0.001									
R^2	(asset holdings)	0.207					0.464		
	(cumulative income)		0.632						
N		3811				3811			
Fit indices:									
CFI		0.932				0.978			
RMSEA		0.022				0.025			

Source and notes: 1. Results based on multiple imputation with five datasets. For each model the column 1 entries are unstandardized coefficients, column 2 contains standard errors and column 3 reports the standardized estimates. 2. Binary term for ownership of each asset item. 3. Estimate of household's cumulative labour market income since marriage (ln). 4. Latent variable. 5. Number of inheritances by both members of couple.

8 Summary and conclusions

While inequalities in education, earnings and income have been extensively studied in Latin America, almost nothing is known about the distribution of wealth in this region. This chapter provides an introductory survey on the topic. Given the lack of data on household net worth, we use published data and our own analysis of household surveys in 16 Latin American countries to produce estimates of the distribution of land, housing wealth, and financial assets. We also discuss the historical roots of wealth concentration in the region, and the prevalence and consequences of lacking legal title for owned property. Finally, using a specialized survey in Chile, we study the impact of parental wealth on adult children's living standards. Our analysis supports our initial assumption of high wealth concentration in the region, with some important qualifications. We find that access to homeownership is widespread in Latin America, with very little variation across income levels. This sharply contrasts with patterns in developed countries such as the USA and the UK, where homeownership is highly stratified by income. The explanation of the Latin American pattern is to be found in the prevalence of squatting settlements and untitled tenure, and in effective public housing programmes in some countries such as Costa Rica and Chile. However, when the value of the dwellings is analysed, we find high concentration and a significant correlation with household income. Still, concentration of housing wealth among the top income percentiles is less than the concentration of income itself.

The examination of land ownership in Latin America indicates the importance of distinguishing two dimensions of the distribution of land: access to land and concentration among landowners. These two dimensions correlate very weakly, suggesting that country-specific historical and institutional factors determine the type of inequality in different nations. The largest Latin American countries—Brazil, Mexico, Colombia—feature very restricted access to land and therefore a large landless population, but relatively less inequality among landowners. When concentration among landowners is analysed in an international comparative perspective, Latin American countries consistently rank among the most unequal in the world over the second half of the twentieth century. Financial assets are the most unequally distributed type of wealth in Latin America. Indeed, we find a pattern of sharp concentration in the top percentiles and exclusion of the vast majority of the population—up to 90 per cent concentration at the top in some Latin American countries.

The substantial concentration of wealth found in Latin America has historical roots in the colonial structure of natural resources accumulation by a small European elite. This distributional pattern was maintained over time through exclusionary economic, political, and educational institutions that guaranteed the maintenance of elite privilege. The study of the impacts of parental resources in contemporary Chile provides additional evidence about the mechanisms of intergenerational transmission of wealth.

While parental education and income appear to have a significant effect on children's consumption capacity, which is mediated by parental investment in offsprings' human capital, children's wealth holdings are almost entirely and directly determined by parental wealth. This finding suggests a pattern of unmediated transmission of advantage, most probably through inheritances and *inter vivos* transfers.

Our empirical analyses rely on survey information, and use actual or estimated income from different asset types to estimate their value. This is undoubtedly an imperfect approach, subject to random and, likely, systematic error. More precise analyses would require specialized surveys, such as those conducted in India or China, and other sources of data, such as balance sheets and income taxes (see Davies and Shorrocks 2000, 2005 for a review).

Important advances can be attained, however, with minor modifications of survey data routinely collected in Latin America. For instance, asking homeowners the follow-up question 'do you have a legal title for this property?' would permit ascertaining the extent of formal property ownership. Also, adding questions for homeowners about estimated rent and estimated market value of dwelling to all national surveys would permit international comparisons, and it would provide the basis to conduct sensitivity analysis of proxies of monetary value of properties. Finally, a simple set of dichotomous questions about ownership/non-ownership of different types of assets, such as land, commercial real estate, vacation homes, bank deposits, stocks, bonds, etc. could be added to standard household surveys. These simple dichotomous questions are less affected by problems of recall, refusal, reliability and stability endemic in inquiries about monetary value of household assets. And as the Chilean analysis shows, the aggregation of asset types could go a long way in terms of producing estimates of household wealth.

In addition to better data, the application of innovative methods can yield important progress in the study of wealth distribution in Latin America. Strategies such as the investment income multiplier (see for instance Pinto 2006 for the Brazilian city of Campinas), and factor or latent class analysis of a set of household assets (such as those presented here in Section 7), can provide useful estimates of household wealth when direct measures of net worth are unavailable. Naturally, no data source or method is perfect, and all have important limitations. However, their combination will certainly help refine wealth estimates in Latin America and will produce increasingly accurate bounds on the quantities of interest. We hope that this introductory survey will motivate research on the thus far largely neglected topic of wealth distributions in Latin America, and on its effects on the living standards and opportunities of people in the region.

Appendix

Household surveys in Latin America: coverage and characteristics

Country	Year	Name	Coverage	Sample size (households)
Argentina	2003	Permanent Household Survey	urban	16,924
Bolivia	2002	Living Standards Survey	national	5,746
Brazil	2002-03	Survey of Family Budgets	national	48,470
Chile	2002-03	National Socioeconomic Characterization Survey	national	68,153
Colombia	1997	Survey of Quality of Life	national[1]	9,121
Costa Rica	2004	Household Survey of Multiple Purposes	national	43,779
Ecuador	1998	Living Standards Measurement Survey	national	5,760
Guatemala	2000	Living Standards Measurement Survey	national	8,046
Mexico	2004	National Survey of Household Income and Expenditure	national	22,595
Nicaragua	2001	Living Standards Measurement Survey	national	4,191
Panama	2003	Living Standards Measurement Survey	national	8,000
Paraguay	2004	Integrated Household Survey	national	7,823
Peru	2004	National Household Survey	national	5,093
Uruguay	2004	Continuous Household Survey	Uruguay	6,363

Note: [1]Except for the housing module, which includes only 'cabeceras municipales'.

Source: See text.

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