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1 Introduction

Andrew Mason and Georges Tapinos

The papers in this volume add to a growing literature on intergenerational transfers. The issues addressed are important ones. Roughly half of any population, children and elderly, depend on intergenerational transfers to fulfil their material needs. The transfers from the working population to these two dependent populations surely dominate all other transfers in any economy, modern or traditional. Thus the circumstances that govern the extent, timing, and magnitude of transfers have an enormous impact on the distribution of income, economic efficiency, and economic growth.

The welfare of future generations depends on the nature and extent of intergenerational transfers. Investment in physical plant, human capital, and research and development all involve, to some degree, transfers between the generations. The accumulation of human capital is determined largely by expenditures of parents on behalf of their children. The accumulation of physical capital is influenced by the extent of altruism that parents feel towards their children and by the extent to which parents upon reaching old age can rely on their children. More generally, the pace of economic development and the welfare of future generations depend on the sacrifices that current generations are prepared to make on their behalf.

Intergenerational transfers are a pervasive feature of all countries studied in this collection, but the function of transfers, their impact, and the means by which they are achieved vary greatly, depending on social, economic, demographic, and political circumstances. The demographic transition and accompanying changes in age structure have had a profound effect on the form of intergenerational transfers. High-fertility, rapidly growing populations are dominated by the young. Half or more of some populations are under the age of 15, and typically only 2 to 3 per cent are 65 or older. In such circumstances the dominant intergenerational resource flow is inevitably from workers to the young. As population growth slows and population ageing begins, the demographic balance changes inexorably. In Western Europe the percentage of the population under age 15 has dropped to 18 per cent or less and the percentage 65 or older has reached 15 per cent. Given current fertility and mortality patterns, it is only a matter of time before the proportion of elderly exceeds the proportion under age 15. What are the implications of these demographic changes for the direction and magnitude of transfers? For the

institutional arrangements that affect transfers? And for economic growth and the broader macroeconomy?

Economic conditions vary as widely as demographic circumstances. Differences in living standards, in economic stability, and in rates of economic growth all have implications for intergenerational transfers. For example, differences in rates of economic growth produce intergenerational differences in income. Simple calculations illustrate this point. Between 1950 and 1990, real output per worker grew at 5.4 per cent per annum in Japan, 1.5 per cent in the United States, and 0.9 per cent in Kenya (Summers and Heston 1991). Given such rates of growth, reckoning 25 years as a generation length, and abstracting from details, we calculate that each successive generation in Japan can expect to earn 3.9 times the amount of the preceding generation. US growth rates yield an income for members of one generation equal to 1.44 times the income of the previous generation. In Kenya the ratio is 1.26. To what extent do these differences in income and economic growth reflect differences in behaviour, institutions, and policies towards intergenerational transfers? And how, in turn, will differences in intergenerational income affect transfers in the future?

Intergenerational transfers are achieved by three types of institutions: the family, the financial market, and the state. The effectiveness with which these institutions function varies enormously. An overly simple generalization is that in traditional settings, financial markets, and political institutions are poorly developed. A safer generalization is that informal credit markets give way to formal, centralized markets as development proceeds, and that local, village-level political institutions may erode and centralized, national political systems develop as communications and transportation systems improve and mobility increases. With changes in the institutional setting come changes in the ways and possibly the effectiveness with which intergenerational transfers achieve the objectives that motivate such transfers.

The chapters in Part I of this volume describe the intergenerational features of the macroeconomy and analyse how the 'intergenerational economy' interacts with other features of the economy or population. Analysis of the macroeconomy requires a standard set of tools for measuring economic activity. The development of national income and product accounts has allowed us to track the features of economies over time and to compare one economy with another. Likewise, the analysis of populations is greatly facilitated by agreed-upon tools for describing populations. By comparison, the development of standard tools for describing the intergenerational features of an economy is in its infancy. What features of the intergenerational economy are important? What are the respective roles of the household sector, the business sector, and the government? What are the accounting relationships? How can 'intergenerational accounts' be constructed and how sensitive are they to the alternative assumptions that inevitably must be made? The potential pay-off to understanding the workings of the intergenerational economy is clearly evident in the variety of issues addressed in these chapters. Those issues include fertility decline, the distribution of income, and saving rates.

Part II addresses the prominent role the public sector has attempted to play as a guarantor of economic security for the elderly. In no area is the interaction between population and intergenerational economic issues more apparent than in the development and maintenance of programmes for the elderly. The programmes currently in place were developed during an era when the elderly represented a small fraction of the population. Pay-as-you-go (PAYGO) systems, in which current retirees were supported by current workers, were irresistible to many governments. As the demographic balance has shifted, the same systems have become increasingly burdensome for workers and calls for reform increasingly vocal. How the current systems evolved, how they should be reformed, and how efforts to reform them will interact with political realities are issues that will engage researchers for a long time to come.

The 'intergenerational behaviour' of the family and its interaction with the public and private sectors are the common themes of the chapters presented in the final section of this volume. Understanding the behaviour of the family is the key issue addressed here, as in many studies published elsewhere, because decisions by the family have an important bearing on efficiency, equity, and economic security. Understanding the behaviour of the family, and how it varies from setting to setting, is central to understanding human capital formation, economic growth, and the distribution of income. The role of the family is far from static, however. In traditional societies, the young and the elderly depend almost exclusively on other family members to fulfil their material needs. The development of financial and political institutions supplements and, to some extent, supplants the family. What factors determine the ways in which these alternative institutional arrangements evolve and interact with one another? What are the implications of the alternative arrangements for economic security, equity, and growth?

Chapters contained throughout this volume are noteworthy for their efforts to deal with difficult theoretical and empirical issues. Intergenerational transfers and the conditions believed to govern them are notoriously difficult to measure. Intergenerational transfers often occur within households and, thus, are not captured by surveys which take the household as the decision-making unit. Monetary transfers are a small portion of the goods and services exchanged between generations in traditional and industrial societies alike. Transfers in kind are difficult to value. When time is exchanged even the direction of the resource flow is in question. Only rarely are data collected with the study of intergenerational transfers in mind. Altonji *et al.*'s analysis of the PIDS demonstrates the rich returns possible when such data are collected. However, analysis of intergenerational transfers outside the USA, especially, in traditional settings, will continue to rely heavily on the ability of the researcher to tease out results through the use of sound theory and appropriate statistical method. Despite the obstacles, the papers presented in this volume and research reported elsewhere is providing a better understanding of the extent of intergenerational transfers, the motivations behind them, and their economic impact.

Part I: Intergenerational Accounting

The existence and significance of intergenerational or inter-age transfers for the macroeconomy have been recognized for some time. Such transfers have played a prominent role in life-cycle saving models (Modigliani and Brumberg 1954; Modigliani 1966, 1988*b*). Samuelson's classic (1958) article on intergenerational transfers and the biological rate of interest has spurred a mini-industry of overlapping generation models. Barro (1974) has demonstrated the importance of these transfers for understanding the central workings of the macroeconomy.

The contribution to this volume by Ronald Lee in Chapter 2 is part of his path-breaking and continuing effort to provide a comprehensive framework for understanding and analysing inter-age transfers. Four elements of Lee's work are present to varying degrees in this contribution. First, he develops measures and tools for describing the reallocation system. Second, he presents a set of principles that govern the reallocation system. Third, he applies those methods to a variety of contexts describing how reallocation systems vary across time and place. And, fourth, he uses the methods and empirical work to examine some of the important macro-level implications of real allocation systems.

Lee and his colleagues have examined the US reallocation system in some detail in previous studies. In the current study he marshals evidence needed to describe reallocation systems in developing economies and pre-agricultural societies. In each setting the reallocation system has been dominated by transfers from older to younger generations. By contrast, the US reallocation system and, according to Ermisch (1989), the reallocation systems of Japan and England transfer resources from the young to the old. Thus available cross-sectional evidence indicates that the direction of intergenerational resource flows is reversed during the demographic transition and development process.

This finding is contrary to the Caldwell's (1976) hypothesis that fertility decline is a consequence of the reversal of intergenerational resource flows from children to parents. Lee finds that family transfers are from parents to children in both the traditional and the modern societies he has analysed. Lee finds that the direction of total, as opposed to family, transfers reverse direction as part of the development process, but in the opposite direction hypothesized by Caldwell.

That resources flow downward in pre-industrial societies reflects the resource requirements of children and the fact that over the life cycle consumption on average precedes earning. Equivalently, societies, taken as a whole, hold negative total (life-cycle) wealth. Of the mechanisms available for reallocating resources across age groups (investment, credit transactions, and transfers), only transfers will support a reallocation system characterized by negative life-cycle wealth. Historically in pre-industrial societies and today in developing countries, transfers are effected primarily by families, with the public sector playing a secondary role. Even in the United States, family transfers are overwhelmingly in a downward direction, from parents to children. In industrial

societies studied to date the reversal in the flow of resources does not reflect a change in family behaviour but rather the increased importance of investment and public-sector programmes that transfer resources upward and dominate family-based transfers.

An analysis by Andrew Mason and Tim Miller in Chapter 3 shares Lee's focus on macro-level aspects of intergenerational transfers, but the analysis is directed exclusively at family transfers. Intergenerational accounting methods are described that provide estimates of the income of the extended families of members of each age cohort. The authors apply the methods to Taiwan and examine the capacity of the extended family to smooth consumption over the life cycle by redistributing income among its members. The full sharing of resources by family members would purge most of the life-cycle variation in income. However, systematic variation in the age structure of extended families produces a Chayanov-type cycle of income that cannot be modulated by within-family transfers (Chayanov 1966). As a consequence, either consumption must be characterized by a similar cycle or the other reallocation mechanisms identified by Lee must be employed to smooth life-cycle income further.

Analysis of household income data available annually from Taiwan for 1976 to 1991 shows that until 1988 income was fully shared across generations through co-residence within extended families. Per capita household income was independent of age save for variation imparted by the Chayanov cycle. Since 1988, however, the per capita household income of the elderly has declined in relation to the per capita income of the extended families to which they belong. Declining co-residence of the elderly within extended families is responsible for the relative decline in their income. Although interhousehold family transfers have increased during the same period, they have only partially offset the effect of the increase in independent living.

In Chapter 4 Jagadeesh Gokhale reviews generational accounts developed by him and his colleagues (Auerbach, Gokhale, and Kotlikoff 1991, 1994; Kotlikoff 1992) and uses wealth measures that incorporate generational accounts to describe the possible impact on US national saving of demographic change between 1960 and 2030. He uses generational accounts to assess the current intergenerational stance of fiscal policy by estimating the present value of taxes net of transfers for members of any age group, including the combined group of all those not yet born. Gokhale's analysis of current US policy implies that current generations have increased their own wealth by imposing obligations on future generations. In 1993 the largest net lifetime tax obligation was borne by a 25-year-old male, who owed nearly $200,000. The largest surplus was enjoyed by those aged 70, $108,000 for men and $140,000 for women, who received large health-care and retirement benefits. Net tax payments, or the generational account, are 150 per cent higher for future generations than for current generations.

In Ronald Lee's terminology, the government has created, through Social Security, Medicare, and Medicaid, positive transfer wealth. The effect of those

programmes on saving is an issue of considerable importance to continued US economic growth. Current generations can maintain their life-cycle wealth in the face of a rise in transfer wealth generated by public programmes by reducing their family transfer wealth (that is, by increasing bequests or gifts to younger generations). If they do so, neither saving nor real wealth will be affected (Barro 1974). If, however, current generations maintain their life-cycle wealth by reducing their real wealth, i.e. saving less, economic growth will be adversely affected (Feldstein 1974).

Gokhale considers another aspect of saving. Using a definition of wealth that includes generational account wealth, he constructs new estimates of age profiles of the average propensity to consume out of wealth. He then employs those estimates to assess the effect of the US baby boom and subsequent population ageing on aggregate saving, assuming no change in the average propensity to consume. His analysis suggests that changes in age structure may be primarily responsible for the decline in US net national saving rates during the last two decades.

Part II: Government-funded Pension Programmes

Pension reform is increasingly a global issue. In some parts of the world, notably Asia and Africa, public pension programmes are relatively new or underdeveloped. This situation is in direct contrast to Europe and the Americas, where large public pension programmes were established at least four decades ago. In most instances the programmes are PAYGO systems that, at the time they were established, exploited the favourable rates of return implicit in the high ratio of workers to retirees in rapidly growing populations. As growth rates have slowed and populations have aged, the flaws in seemingly attractive retirement systems have become much more apparent. The authors of this section of the volume address several important issues associated with the evaluation and reform of public pension programmes. Should we abandon PAYGO programmes in favour of fully funded retirement systems? What are the appropriate roles of the public and private sectors? How do we assess programmes with regard to their equity, both in a cross-section and intergenerationally? How do we frame appropriate policies in the face of uncertainty and the long time horizons that characterize pension programmes?

In Chapter 5 Jorge Bravo extends the analytical tools available for application to PAYGO pension systems by deriving the relationship between the rate of return and the features of defined-benefit pension systems. In general, the rate of return depends on features that affect the contribution by workers, the benefit to retirees, and the number of years by which benefits lag contributions. In Bravo's analytic approach, contributions are determined by ages at workforce entry and retirement and the tax rate imposed on participants. Benefits are defined by a base-year salary—that is, the average salary received over the x years immedi-

ately preceding retirement—the fraction of that salary replaced, the extent to which benefits are indexed to productivity increases, and the ages of retirement and death. Bravo applies the analytic model to three Latin American countries to demonstrate how pension reforms have influenced rates of return. He also considers the effect of imposing fiscal balance on pension systems, showing that his analytic model is consistent with Samuelson's consumption-loan model in that PAYGO pension systems cannot sustain a rate of return different from the rate of population growth plus the rate of growth of labour productivity.

Next, Rafael Rofman (Chapter 6) addresses an important issue in Latin America: the costs of transition from PAYGO to fully funded public pension programmes. In the early 1980s, public pension programmes in Latin America faced a crisis caused in part by overly generous payments and excessively young ages at retirement. As pension systems matured and Latin American populations began to age, deficits rose. Efforts to increase revenues through higher tax rates were frustrated by widespread evasion. During the 1970s and 1980s it became increasingly apparent that workers were burdened by unsustainable pension payments.

Reform has relied on multi-pillar systems that seek to fulfil commitments both to current retirees and to workers who have contributed to PAYGO systems while moving new workers to defined-contribution programmes that are financially viable. Rofman details the enormous costs of abandoning a PAYGO system. Revenues decline much more rapidly than expenditures as younger workers shift from the system and prior commitments are fulfilled to retirees who have contributed to the system. Rofman observes that 'Argentina's reform reduced the national system's revenues by almost 20 per cent, without having in place an explicit financing mechanism'. Whether increased public debt or general tax revenues are used to fund such deficits, the costs of transition, or what are essentially the costs of previous excesses, are borne primarily by future retirees.

Salvador Valdes-Prieto provides a fascinating, in-depth look at the emergence of PAYGO pension programmes in Chile and the political forces that governed their development and eventually led to their demise (Chapter 7). Mandatory programmes, established in the 1920s, generated huge cash surpluses while they were maturing. Eventually, however, 'the Chilean social security system became, in reality, an aggregation of diverse pension systems negotiated between those in political power and various groups with electoral influence. . . . [who] managed to obtain heavily subsidized credit, premature retirement without actuarial adjustment, and pensions with privileged inflation adjustments'. By 1975, contribution rates ranged from 51 to 59 per cent of earnings. Evasion had become such a problem that tax-rate increases were causing a decline in total revenues.

In 1973 the Chilean system underwent a complete reform. The PAYGO system was replaced by a defined-contribution programme with individual accounts owned by workers. Today pension funds are managed by private firms selected by individual workers, who have the option of changing funds every four months. The role of the government has been reduced to two

principal functions: setting the minimum contribution and monitoring and regulating the companies that manage the pension funds.

Several features of the reformed system directly address the problems of a state-run PAYGO system. First, individual ownership confers to workers property rights, which traditionally enjoy greater protection than pension rights. Second, tighter linkages between contributions and benefits substantially reduce incentives to evade. Third, relying on a defined-contribution plan rather than on a defined-benefit plan frames the policy debate in a manner that is more likely to lead to an efficient and equitable outcome. Fourth, privatizing the administration of the programme and allowing workers to choose from several competing funds has created a political constituency (fund-management firms, or AFPs) whose interests largely converge with those of the beneficiaries rather with those of employers or political parties.

Every system is vulnerable to rent-seeking and to the political process, of course. The government can intervene in many ways to promote its own interests rather than those of participants in the system. It can do so, for example, by regulating fees, restricting investments, or taxing retirement accounts or the AFPs. There is always a danger that the regulators and the AFPs can collude.

In Chapter 8 Didier Blanchet and Jean-Alain Monfort examine pension reform issues in France—a very different setting, politically, economically, and demographically, from Latin America. Nonetheless, many of the issues confronting the French are similar to those in Latin America. The current French retirement programme was established in 1946 and, like other PAYGO systems in ageing countries, is now struggling to maintain benefits for current and future retirees without unduly burdening working populations. Among the changes adopted in the 1993 pension reform, Blanchet and Monfort examine two: a modification of the rules used to index pension benefits on productivity increases, and a redefinition of the reference wage as the average of the best twenty-five, rather than the best ten, years.

Their evaluation of the reforms shares some similarity to generational accounts, discussed by Gokhale in Chapter 4, in that the focus of their analysis is the lifetime experience of successive cohorts. In addition, Blanchet and Monfort propose innovative ways of assessing each cohort's experience, emphasizing net wages relative to those of other members of the population at each time point.

In the absence of reforms, the PAYGO system receives relatively good marks on intergenerational equity grounds. Those who entered the system while it was maturing, particularly those born during the early 1920s, were somewhat favoured. However, particular cohorts of future retirees are neither widely rewarded nor punished. Maintaining the pre-reform system, however, would have resulted in a contribution rate nearly double the current rate of 15 per cent of wages.

Reforms will reduce the contribution rate by up to 10 percentage points, with disindexation having the greatest impact. In a steady state, net wages of those working would increase by about 10 per cent. Higher wages are achieved at the

expense of both current and future pensioners. Those who are currently retired are less affected by the reforms and particularly by disindexation.

In Chapter 9 Shripad Tuljapurkar and Ronald Lee address a problem that permeates all assessments of social security programmes and reforms: uncertainty. They describe and apply a stochastic method for forecasting the US population and age structure, and, when supplemented with appropriate economic assumptions, the financial viability of Old Age and Survivors Disability Insurance (OASDI), the principal US public pension programme. Conventional population projections rely on alternative low, medium, and high scenarios based on alternative a priori assumptions about fertility and mortality. Stochastic forecasts provide an expected path for the population and age distribution and, importantly, confidence intervals around the expected path.

Tuljapurkar and Lee compare their own (TL) forecast with two official US population projections, the Census Bureau (CB) projection and the Social Security Administration (SSA) projection. The range between the CB's high and low population projections is similar to that of the TL forecast, but the range for the dependency ratio is much narrower for the CB projection. By contrast, the range for the SSA population projection is much narrower than that of the TL forecast, but the dependency ratio is very similar to that of the TL projection.

The reason for this disparity between the two official projections is that the Census Bureau has chosen to provide alternative assumptions about population size, and so its projections combine high fertility with low mortality; whereas the Social Security Administration is interested in the possible ranges in age structure and therefore combines high fertility with high mortality. This is one respect in which the TL forecasts are a considerable improvement over conventional approaches to population projections.

Using economic assumptions employed by OASDI, Tuljapurkar and Lee employ their population forecasts to assess the effect of population ageing in the United States on the combined OASDI Trust Fund. Their point estimate forecast is for the fund to increase to about 1 trillion (1994) US dollars in 2015 but to drop to zero dollars around 2025. They also provide a 95 per cent confidence interval for the date of 'bankruptcy'—2020 to 2030.

Part III: The Family and Intergenerational Transfers

The six chapters presented in Part III are concerned with transfers and the extended family. Among recurrent themes, both in these chapters and in the literature as a whole, are the diverse functions of family transfers and the effects on transfers of the evolution of modern institutions. Perhaps the most prominent theme is the search for a parsimonious model that explains family transfer behaviour and its evolution during the development process. That this is an elusive goal is apparent in the varied conclusions the authors reach with regard

to which model—one-way or mutual altruism, exchange, a corporate model, some combination of these, or 'none of the above'—is most consistent with observed behaviour. The chapters are drawn from diverse settings, including some of the world's poorest and wealthiest societies, and some of the most stagnant and most dynamic economies. As a consequence, the rich complexity that characterizes the family and its diverse roles is well represented.

Addressing the question of whether banks crowd out private (informal or family) insurance arrangements in low-income rural areas, Andrew Foster and Mark Rosenzweig in Chapter 10 present a theoretical model in which alternative mechanisms are available to a household for protecting itself from fluctuations in its income. The household can accumulate a financial asset, relying on a bank for that purpose, or it can enter into a risk-sharing agreement with another household. Two types of contracts are also considered. Those 'without commitment' are enforceable only to the extent that a household that breaks the contract is excluded from entering into any future risk-sharing agreements. Contracts 'with commitment' are fully enforced.

Foster and Rosenzweig's simulations show that relying on a combination of financial assets and enforceable risk-sharing contracts is nearly equivalent to full insurance. Financial assets and enforceable contracts provide similar levels of insurance. Contracts without full commitment are somewhat inferior to enforceable contracts, particularly when used in concert with the accumulation of financial assets. The implication of the theoretical model for the question originally posed is that the development of financial institutions does not fully undermine informal, usually family-based, support networks. However, financial institutions do yield insurance value well beyond what can be provided by risk sharing between two parties.

In an empirical analysis, Foster and Rosenzweig examine transfer and saving behaviour in India and Pakistan and how proximity to a bank affects that behaviour. They find in both India and Pakistan that only in villages near banks is saving used to smooth consumption; that is, positive income shocks generate saving, and saving is inversely related to assets. Likewise, in both countries net transfers smooth consumption in villages far from banks; positive income shocks generate net transfers, and net transfers are inversely related to transfer assets (previous transfers). As the authors anticipate in their theoretical model, in India net transfers play an even more important role in villages near banks. (The estimates from Pakistan are too imprecise to shed any light on the issue.) Thus the analysis provides partial support for the hypothesis that the development of modern financial institutions is partly responsible for the erosion of traditional ones.

In Chapter 11 Alessandro Cigno considers a world in which old-age security is provided by three means: the extended family, participation in government-sponsored PAYGO pension systems, and the accumulation of wealth during the working years. Couples engage in one of two strategies. Either they act alone, bearing no children and relying on saving to supplement their PAYGO pension,

or they bear children, rely on them for old-age support, and accumulate no wealth during their working years.

Cigno's theoretical model exhibits several important features. First, unlike models with descending or ascending altruism, in his model intergenerational transfers flow in both upward and downward directions among those who rely on extended families as a means of providing for their old-age support. Second, his model demonstrates how a self-enforcing family constitution can 'guarantee' to working generations that their children will provide a level of transfers that is economically efficient.

Cigno uses his model to show how saving and fertility are affected by feasible government policies—that is, policies that are consistent with the government's budget constraint. The policies he considers are an increase in child benefits funded by a tax increase; increases in public pension payments funded either by a PAYGO or a fully funded approach; and a reduction in current taxes funded by an increase in future taxes. The implications of Cigno's model for saving are quite distinctive. He finds that under some circumstances an increase in public pensions may lead to higher saving. In contrast, life-cycle models imply that saving will be crowded out and altruism models imply that saving will be unaffected. A more conventional implication of his model is that an increase in public pensions has an anti-natalist effect, but surprisingly an increase in childrearing subsidies has an ambiguous effect on childbearing.

The subject of Sumon Kumar Bhaumik and Jeffrey Nugent's study (Chapter 12) is Peru in the mid-1980s, where, as in many traditional societies, co-resident adult children are a major source of support for elderly parents. Their analysis of co-residence is, in general, consistent with exchange and altruism motives for intergenerational transfers. Parents with higher income or who own a business are more likely than others to have adult children living with them, as are those who are married or who have more living children. The latter finding is, of course, important in light of the substantial decline in fertility during the last two decades.

Support by non-co-resident children is heavily influenced by whether or not their parents are living independently. In households with no co-resident children present, social security partially 'crowds out' transfers; in households with co-resident children, social security has no significant effect. In general, urbanized households, female-headed households, and households with married heads receive more transfers from adult children than do other households. Bhaumik and Nugent find little evidence to support the altruism model of transfers. Household heads with especially great need are unable to attract more support from their children than are better-off heads.

Yean-Ju Lee (Chapter 13) investigates intergenerational transfers in the extraordinarily dynamic context of South Korea. She uses a unique set of survey data to examine transfers from migrant adult children to elderly parents residing in rural Korea. The children in question were key participants in Korea's transformation from a rural, agricultural society to an urban, industrial one.

That transformation was accomplished in large part because parents invested in their children. Lee notes two important forms of investment that characterize the adult children in her sample: education and support for their migration.

She addresses several questions in this chapter. First, to what extent do adult children transfer resources to their elderly parents in reciprocity for the support they received while growing up? In particular, have economic development, industrialization, and Western cultural influences undermined the close interdependence that characterized traditional Korean society? Second, what factors influence whether adult children choose to provide economic support to their parents? Which of the behavioural models used to describe intergenerational transfers is most consistent with the Korean experience—altruism, exchange, or some alternative?

Despite the country's rapid changes, transfers from children to elderly parents are still an important feature of Korean society. Lee shows that about 60 per cent of adult children provided some financial support to their parents during the twelve months preceding the survey. More than 80 per cent of elderly parents received financial assistance from at least one adult migrant child.

Lee's analysis emphasizes the effects of income, education, and migration decision-making on transfers from children to their parents. Children's own income had a positive effect on their giving, and so did the average educational level of all the children in a family, but their own education did not. Parents' income had an inverse effect on transfers from children. However, better-educated parents and those less disabled were more likely than others to receive transfers from their children. Parents who were involved in the decision of their children to migrate were also more likely to receive transfers.

Lee believes that the survey evidence supports her view that migration is governed by a corporate group model, much like the model presented by Cigno in Chapter 11. Exchange is undertaken so as to maximize family welfare and to distribute resources equitably across generations. To accomplish these goals requires intergenerational transfers that flow in both directions.

Joseph Altonji, Fumio Hayashi, and Laurence Kotlikoff (Chapter 14) use a rich set of US survey data, the Panel Survey of Income Dynamics (PSID), to analyse the effects of income and, to a lesser extent, wealth on transfers between parents and children. In this path-breaking and innovative study, the authors match households of parents and children and exploit the longitudinal nature of the data to construct reliable estimates of permanent income and the incomes of all parties directly relevant to the intergenerational transaction. They are also able to assess how transfers are affected by the incomes of siblings, by the incomes of wives' versus husbands' parents, and by the incomes of ex-husbands and ex-wives.

In contrast with the studies of Yean-Ju Lee and, to some extent, Bhaumik and Nugent, Altonji and his co-authors find the effects of income on transfers to be generally consistent with two-sided altruism models but less so with exchange models of transfers. However, the size of transfers elicited by changes in income

and wealth are far smaller than predicted by the altruism models governing current research.

Money transfers, especially from adult children to parents, are small in the United States. About one-quarter of surveyed parents gave money to their adult children. Of those who gave, the median transfer per year was about $500 and the mean nearly $2,000. In contrast, fewer than 5 per cent of parents received any transfer from their children. Transfers made were of similar magnitude to those flowing in the opposite direction. Money transfers generally flowed from rich to poor households within the extended family. The transfers were insufficiently responsive to income to mitigate changes in permanent or transitory income. The largest effect of a change in permanent income was the effect of a change in parents' income on transfers to their children. A child received only one additional dollar for every 100 dollars in additional income earned by his or her parents.

Time transfers are common and flow in both directions. Twenty-seven per cent of surveyed children reported providing substantial help to their parents. Among those who gave, the mean and median amounts of time per year were 242 and 100 hours, respectively. Thirty per cent of children reported receiving time transfers from their parents. The mean and median hours per year for those who received some time were 281 and 100 hours, respectively. Economic circumstances appear to have little systematic effect on time transfers from parents to their children. Lower-income children were more likely than higher-income children to provide time to their parents, and lower-income parents were more likely than higher-income parents to receive time from their children—a finding that is more consistent with altruism than with exchange motives.

Among the empirical studies of transfers in this volume, Anne Laferrère's (Chapter 15) is alone in its focus on inheritance rather than *inter vivos* transfers. At least among the industrialized countries, available evidence indicates that bequests dominate interhousehold transfers. In the United States, for example, bequests are nearly five times as important as other interhousehold transfers (according to Ronald Lee, in Chapter 2). Housing, the focus of Laferrère's study, is typically a major component of bequests in France, accounting for more than 40 per cent of the total value, on average.

Laferrère's study draws on a 1991–2 survey of housing inheritance conducted by the Institut National de la Statistique et des Etudes Economiques (INSEE). Respondents were from households in which the reference person was at least 30 years old and had at least one parent or parent-in-law who was deceased. Laferrère examines the experience of a sub-sample consisting of those whose parent or parents had owned a home at the time of their death. She addresses two questions: What factors influenced the likelihood that the reference household would inherit the parents' home? And to what use was an inherited home put by the children who inherited it?

Laferrère finds that a number of demographic factors had an important bearing on whether a child inherited a home. Inheritance was more likely if

the child had a few siblings, if he or she had ever married, and if both parents were deceased. Interestingly, income had no significant effect on the probability of inheriting, suggesting that the intergenerational transmission of housing wealth does not serve to equalize wealth among children as suggested by altruism models. Laferrère also finds that inherited housing was typically held as housing wealth by the recipient, in contrast with Great Britain, where the wealth was more frequently converted into financial wealth. The implications of her findings for capital accumulation are potentially quite interesting.

Conclusions

The growing interest in intergenerational transfers reflects an increased appreciation for their importance in both modern and traditional economies. Intergenerational transfers arise, in part, as an essential response to one key feature of the human species: our extended childhood. The human race's continued existence requires that productive, adult members of the population transfer a large share of their output to society's next generation. The size of the transfer to children, the impact of development on the size and direction of the flow of resources between parents and children, and the implications for childbearing and human capital is one of the important issues addressed here and, in a vast literature, elsewhere.

The exchange between parents and their 'dependent' children is neither unidirectional nor driven only by childrearing costs. Families enter into a variety of intergenerational arrangements that involve transfers, especially in traditional settings. They establish productive enterprises. They enter into risk-sharing arrangements. They engage in joint consumption. They exchange goods and services, some of which are uniquely available only within the family.

In industrial societies, transfers from productive adults to the elderly loom large. The rise in life expectancies, the decline in retirement ages, and changes in age structure all have served to increase the number of dependent elderly and the portion of current output they consume.

Despite the diverse nature of intergenerational transfers, the research presented below examines a coherent set of issues. How do intergenerational transfers influence economic efficiency, equity, and growth? What principles govern decisions by economic agents to engage in intergenerational exchange? What is the role of public policy with respect to intergenerational transfers?

In addressing these questions, the following chapters tackle many difficult conceptual and empirical problems. They provide new insights about intergenerational behaviour and its consequences. They examine the complexity of and demonstrate the importance of public policy. We hope, as well, that they will inspire new research into this fascinating and important area.

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