

National Transfer Accounts for Finland in 2004

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ABSTRACT This chapter presents the National Transfer Accounts (NTA) divided into public and private transfers and asset reallocations by age for Finland in 2004. The public sector has a substantial role in the intergenerational distribution. About two-thirds of public expenditures can be regarded as age-related spending, which is roughly 30 percent of the GDP. Unlike the case in most countries, in Finland the public sector has positive net financial wealth because of partially funded statutory employment pension insurance.

Cohorts stop running lifecycle deficits at the age of 26 and accrue a surplus until the age of 59. The average ages of consumption and labor income are 42.2 and 43.0 years, respectively. There are considerable differences in the patterns of private and public reallocations. Public savings exceed asset income and have an overall negative effect on financing the lifecycle deficit, whereas private reallocation is in surplus for almost every age group. Public-sector transfers turn from deficit to surplus at age 24. While private reallocation finances 40 percent of the lifecycle deficit of younger cohorts, public transfers finance almost all of it for retired cohorts.

Our focus is on the National Transfer Accounts (NTA) for Finland in 2004. We divide them into public and private transfers and asset reallocations by age, following the approach described by Mason et al. (2006). With reference to the highlights and aggregates of the Finnish economy, it is evident that all the reallocation channels play an important role in the Finnish accounts. The public sector has a substantial role in the intergenerational distribution. About two-thirds of public expenditures can be regarded as age-related spending, making up about 30 percent of the GDP. Contrary to the situation in most countries, in Finland the

public sector has positive net financial wealth because of partially funded statutory employment pension insurance.

Another distinguishing feature of Finnish society is that the baby boom generations are exceptionally large in relation to those of other countries. The largest generation is entering the old-age stage of lifecycle deficits during the years 2008–13. Large public asset reallocations and the exceptionally large baby boom generations are features that make the structure of Finnish NTAs somewhat unusual.

In Vaittinen and Vanne (2006) we worked out public revenue and expenditure by age in 2004, and therefore we have made 2004 the base year for the present study as well. As no household survey was conducted in 2004, we used the age profiles from the 2006 survey for private consumption. For age profiles of labor income, we used available administrative data for the whole population.

We begin by presenting stylized facts for the Finnish population and economy. Next, we present the aggregate lifecycle deficit, describe Finland's private and public reallocation systems, and describe the main data sources that were used in our research. In the following section we present the per capita lifecycle deficit and its components by age, labor income, and private and public consumption. Then, after presenting aggregate public transfers and taxes, the corresponding per capita age profiles, and the data sources, we discuss our results for private and public reallocation by age. Before concluding we give attention to two special issues of age reallocation in Finland. Our concluding remarks summarize our main findings. An Appendix presents the key historical statistics for the Finnish economy up to 2006.

The Finnish Economy

Finland had a population of 5.3 million at the end of 2007. The total fertility rate has been rather stable, remaining in the range 1.70–1.85 births per woman during last 25 years. Net

migration has been increasing in recent years. During 2005–07 it was at the level of 2 per thousand annually.

Annual GDP per capita was 33,970 euros in 2007. The average annual real growth rate of the GDP was 3.6 percent from 1997 to 2007. Due to the deep recession in the early 1990s, unemployment was at its all-time high, 16.6 percent of the work force in 1994; but the rate has declined monotonically since then and was 6.9 percent in 2007.

Finland has been a country of high growth performance, high variability of the growth rate, high unemployment, and relatively low inflation since 1993. Since 1995 the current account has been permanently in surplus, although a deficit was common earlier.

Finland has also run a public surplus for decades, almost without exception. In 2007 the surplus was 5.2 percent of GDP, of which 3.0 percent was net property income. Because of the history of surpluses, the general government holds net financial wealth. The public sector is large also in other respects, though not as large as in other Nordic countries. The tax rate has been more than 40 percent of GDP since 1986. Despite declining since 1999, it was 43.0 percent of GDP in 2007, which is the sixth highest rate among the OECD countries.

Pensions, health and social services, and education services are the largest items on the expenditure side of the public budget. Pension expenditure is approximately 11 percent of GDP, and health and social services expenditure 8 percent. Education services plus student allowances are approximately 6 percent of GDP.

Taxes on labor income are the main source of public revenues, amounting to 22 percent of GDP in 2006, if we include payroll taxes paid by employers. Value-added tax is the second most important source of revenues, at 9 percent of GDP. Profit and capital income taxes are the third most important source, with a GDP share of approximately 4 percent in 2006.

Aggregate Lifecycle Deficit, the Institutional Setting, and Data Sources

The public sector has a substantial role in the intergenerational distribution. In 2004 age-related public consumption totaled almost 22 billion euros, which was about 14 percent of GDP. Education and health care are provided predominantly by the public sector. Responsibility for the provision of most of these services rests with municipalities. They have the authority to collect taxes to fund the services, but also receive state subsidies to enable them to arrange the services they are required to provide.

In the Finnish educational system there are no tuition fees for full-time students. The municipalities finance both primary and secondary education. All the Finnish universities, on the other hand, are owned by the state. Extensive public health care services are offered to all residents. Responsibility for the provision of primary health services rests with the municipalities. Private-sector services complement those provided publicly. Expenditures for the private health services are reimbursed by the compulsory and universal National Health Insurance, which is run by the Social Insurance Institution. The Finnish national accounts classify these reimbursements as public consumption.

All residents are covered by social security schemes that govern basic pensions (national pensions), sickness, parenthood, and unemployment benefits. In addition, all employed persons are entitled to benefits based on employment, such as earnings-related pensions and benefits for employment-related injuries. The National Health Insurance compensates for income lost due to temporary incapacity for work, in proportion to applicants' earnings.

We have estimated National Transfer Flow Accounts using various data sources. Our data for calculating aggregate controls are from the National Accounts statistics, which are based on the European System of Accounts (ESA95). The ESA95 complies with the

recommendations of the worldwide System of National Accounts (SNA93) for calculating national accounts.

Data on public consumption aggregate controls are available in the main categories of individual and collective public consumption and their subcategories. Health, social, education, and cultural services are the categories of individual public consumption. Insurance refunds for public health care, as well as general government purchases of individual services from the private producers, are included in public consumption, in accordance with the national accounting standards. If a household pays part of a public service, the value of the service is divided into public and private consumption.

Table 1 displays the composition of the aggregate lifecycle deficit that is derived from the National Accounts data. Consumption consists of public and private consumption net of taxes. Public services are an important part of total consumption, with a share of 35 percent. Wage income is composed of wages, salaries, and employers' social contributions, together with a 67 percent share of the household sector's mixed income. In asset-based reallocation, public savings and incomes are straightforwardly extracted from the National Accounts.

Table 1. Aggregate lifecycle deficit: Finland, 2000

Item	Million euros
Lifecycle deficit	14,801
Consumption	96,167
Private	62,853
Public	33,314
Less labor income	81,366
Age reallocations	14,801
Asset-based reallocations	16,295
Public asset-based reallocations	-1,578
Public income on assets	2,736
Less public saving	4,314
Private asset-based reallocations	17,873
Private income on assets	33,494
Less private saving	15,621
Transfers	-1,494
Private	-114
Public	-1,380

Finland's public sector holds positive net financial wealth. This is mainly because statutory employment pension insurance, compulsory for all employers, is part of the general government and classified as a subsector under social security funds. The pension insurance providers hold funds that are about 1.7 times the wage sum of the Finnish economy. Public asset-based reallocations of -1,578 million euros include both a primary balance surplus and the part of financial investment income that is included in the National Accounts. We discuss the details of this issue later.

In calculating private income on assets, we take into account indirect taxes on capital formation as well as production subsidies, which are related mostly to agriculture. Net

transfers are mainly public-sector payments abroad that consist predominantly of the EU membership fee and payments to international organizations.

Table 2 displays the composition of public consumption by the main categories of individual and collective public consumption and by the subcategories of individual services. Individual collective services form two-thirds of total public consumption. Since public consumption altogether comprises 35 per cent of the total consumption, individual public consumption is 23 percent and collective public consumption 12 per cent of total consumption.

Table 2. Public consumption by type: Finland, 2004

Item	Million euros	Share (%)
Age-related consumption	21,755	65.3
Education	7,078	21.2
Cultural and recreational services	983	3.0
Health services	6,349	19.1
Health insurance and rehabilitation	1,831	5.5
Social services	4,624	13.9
Other age-related services	890	2.7
Collective public services	11,559	34.7
Total public consumption	33,314	100.0

Consumption and Labor Income by Age

We used two sources of data to allocate private consumption to different cohorts. Statistics Finland's Household Budget Survey for 2004 provides data on private consumption expenditure. We used the Household Wealth Survey of 2004 to estimate the stock of durables, and we interpreted depreciation of that stock as consumption, allocating it to

individuals according to the NTA methodology. The Wealth Survey was used to describe the age distribution of bequests received by households.

The data on public consumption by age are from statistics on the total population, which we used to estimate per capita use of public services. Use of public education services by age is based on enrolment data for different education levels by age and the respective unit production costs. The data are provided by the education authorities. The Ministry of Health and Social Affairs supplied the corresponding data on health and social services. We assumed the relative age profile for users of cultural and recreational services to be equal to the respective age profile for private consumption. The Social Insurance Institution publishes statistics on health insurance and rehabilitation costs by age. We assumed collective public consumption to be constant per capita across ages. In Vaitinen and Vanne (2006) we include more information on the data sources and transformations of the data.

Dividing total consumption into private and public consumption by age (Figure 1), we show that private consumption grows rather steadily after birth until peaking at age 31, peaks again at age 59, and declines gradually after the second peak, but never declines substantially below average consumption. Total consumption is rather flat across the broad 50-year age bracket from 20 to 70. Public consumption rises sharply around age 80; and at ages 90 and above, total consumption is almost twice as high as at ages 20–70.

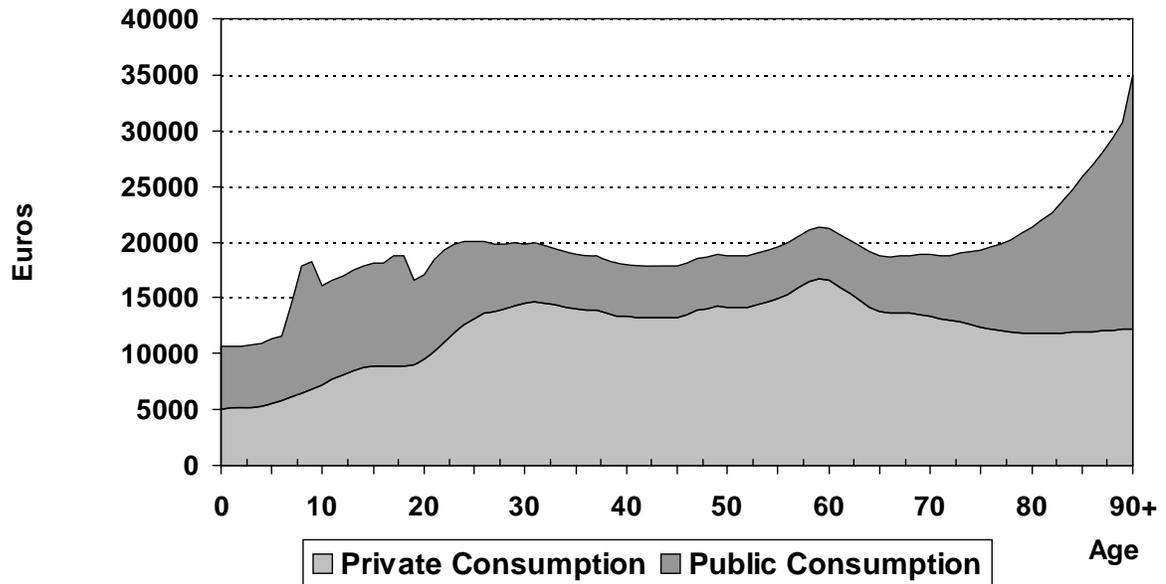


Figure 1. Total per capita consumption: Finland, 2004

The decline in private consumption after age 31 is due partly to the fact that people then are in their childrearing stage. In this case, however, there is a specific cohort effect. Finland experienced a severe recession at the beginning of the 1990s. Riihelä (2006) has studied the consumption and income development of individual cohorts with five-year frequencies using a sequence of household surveys conducted from 1985 to 2001. She found that for the cohorts that were ages 25 and 30 in 1985, both their income and their consumption growth from 1985 to 2001 were significantly slower than were those of the cohorts that were 20, 35, or 40 years old at the time of the same survey. These two cohorts were 30 and 35 years old—typically at a strong career-forming phase in the labor market—during the time of the prolonged recession. In fact, the lowest per capita consumption of middle-aged cohorts in our study was that of respondents who were 41 years old at the time of the 2004 survey.

Health care and education have only a minor role in private consumption. The share of expenditures on private education is less than 0.5 percent on average, and it varies only modestly across age groups. Expenditures on health care are of more significance. Their average share of consumer expenditures is about 4 percent, and they increase progressively by age: for people over 80 the share of expenditures on health care is almost 10 percent (Figure 2).

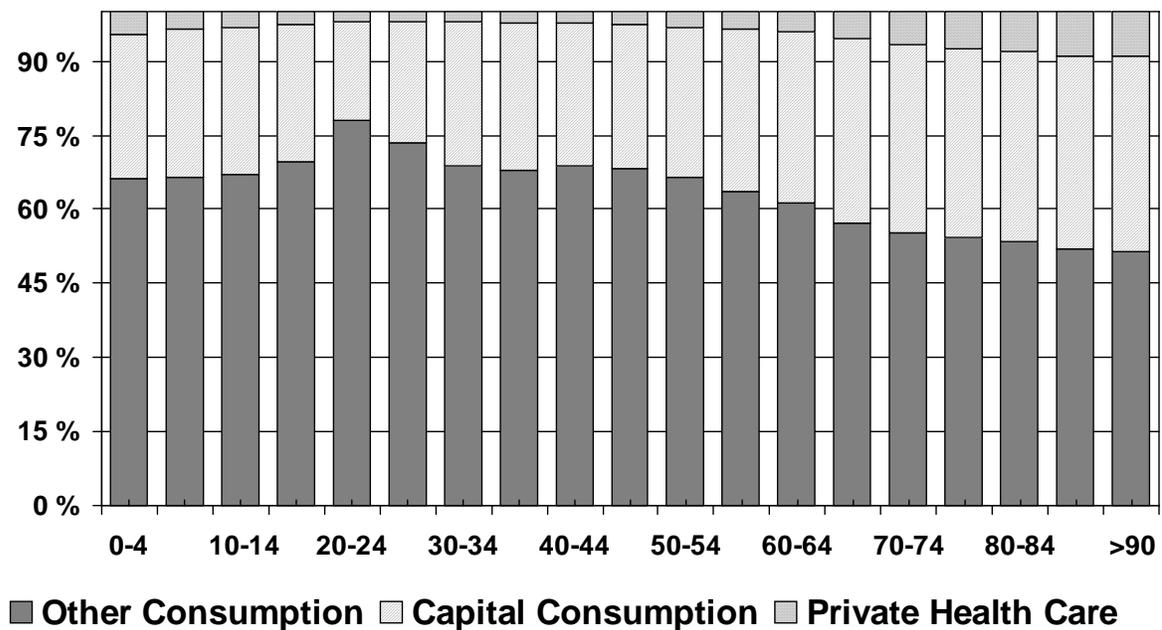


Figure 2. Distribution of private per capita consumption: Finland, 2004

Capital consumption is defined as the sum of durables consumption and imputed rents from owner-occupied housing. Durables account for about 8 percent of average consumption. Owner-occupied housing accounts for almost a quarter of all consumer expenditures on average. A clear reduction of capital consumption occurs at ages 20–29, mainly because housing standards decline when young people become independent and leave their families of

origin. The relative share of capital consumption starts to increase gradually from the early 30s. At older ages this is due to the growing share of housing in consumption.

The distribution of labor income by age is taken from statistics on income and property provided annually by Statistics Finland. The statistics on income and property describe the income subject to taxation, property taxes, and taxation of private persons. The basic data for the statistics are drawn from the Tax Administration's data base and are based on total population data.

Age profiles of total consumption and labor income by age are presented in Figure 3. The maximum of labor income is reached at the age of 43. The crossover ages for life cycle deficits, when labor income exceeds consumption, are 26 and 59. The decline in private consumption at the later crossover year reflects the fact that people are curtailing their expenditures to fit their pensions. The average age at retirement is about 58.

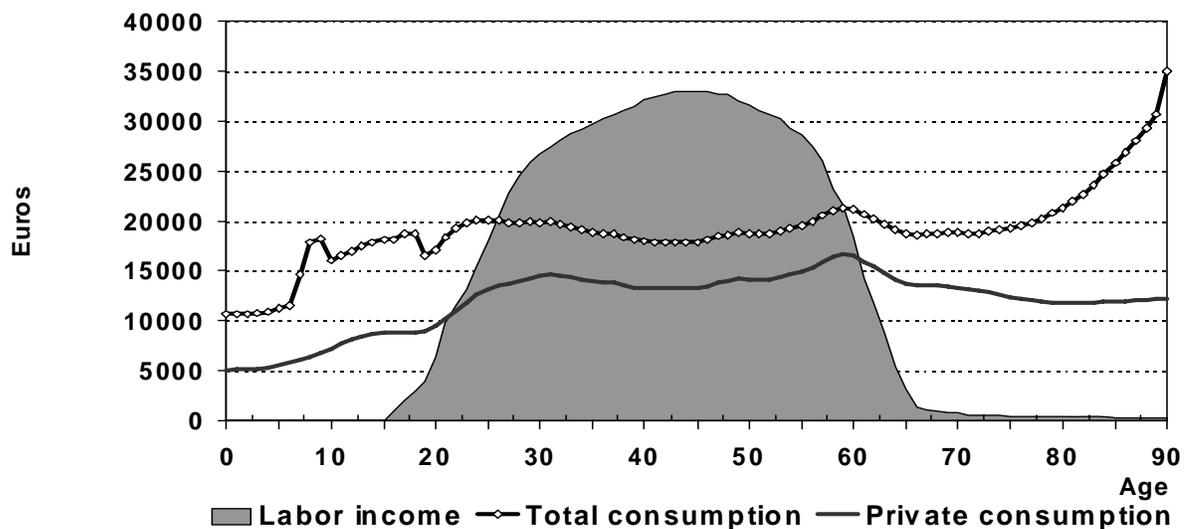


Figure 3. Consumption and labor income per capita by age: Finland, 2004

Public Reallocation and Data Sources

Public reallocation consists of public transfers plus public services less taxes and investment income on public financial assets. Here, we discuss public cash transfers and taxes for Finland.

Public cash transfers

In 2004 the total volume of public cash transfers was 30,395 million euros, or 20 percent of GDP. Table 3 presents the sizes of various public transfer systems. We are able to assign 24 billion euros, or nearly 80 percent of the transfers, to specific ages. The distribution by age of the rest (called non-age-related transfers in Table 3) is not known, and we assumed that these transfers were constant per capita.

Table 3. Public cash transfers by type: Finland, 2004

Item	Million euros	Share (%)
Age-related transfers	24,011	79.0
Pensions	16,919	55.7
Unemployment benefits	2,884	9.5
Health insurance daily allowances	670	2.2
Family policy (transfers related to children)	2,355	7.7
Other age-related transfers	1,183	3.9
Non-age-related transfers	6,384	21.0
Total public cash transfers	30,395	100.0

The public pension expenditure represented more than half of the total volume of public transfers. The Finnish statutory pensions are made up of earnings-related pensions and national pensions; voluntary pensions play a minor role in the total pension provision. The

pension acts strive to secure a reasonable income for the insured and their families in relation to their earnings while the insured are working and cover old age, disability, and death. The earnings-related pensions are partly funded but have defined benefits, so that pension expenditure, together with returns on assets, determines the contribution level. A pension recipient is entitled to a national pension if the earnings-related pension is small.

The benefit rules of the earnings-related pension plan include some features of defined-contribution systems. Benefits are not based on a worker's final salary, but before 2005 they were based on the last 10-year average salary of every period of employment. Since 2005, the benefits have been based on a worker's wages over his or her whole career. When calculating the initial amount of the pension, the pension institutions adjust earnings for different years in line with the wage coefficient, giving a weight of 80 percent to the change in the earnings level and a weight of 20 percent to the change in consumer prices. Pensions are then adjusted in line with an index according to which the weighting of the change in the earnings level is 20 percent and the weighting of the change in prices is 80 percent.

After 2009 the initial amount of old-age pensions is to be adjusted to account for the change in longevity for 62-year-olds through the life expectancy coefficient. This life expectancy coefficient is determined so that the net present value of the old-age pension remains unchanged even if the life expectancy for persons at retirement age has changed from that calculated from the statistics for 2003–07, which are used as a reference value.

The earnings-related pension plans of the private sector are run by authorized pension insurance companies (which are not allowed to supply other products), industry-wide pension funds, or company pension funds. The employer chooses the insurance provider. There are approximately 50 pension insurance providers of statutory plans for private-sector employees and self-employed persons. In the public sector there are five pension institutions.

Each of them has responsibility for pensions of a particular subsector of the general government. Statistics on the age profiles of all statutory pension benefits are published annually in a yearbook by the Finnish Centre for Pensions and the Social Insurance Institution.

There are three types of unemployment benefits in Finland. Persons who have paid a voluntary contribution to an unemployment insurance fund when working receive an earnings-related unemployment daily allowance from the fund in question. Others receive a basic daily allowance from the Social Insurance Institution. The maximum period of these benefits is 500 working days. After that the unemployed person is entitled to a means-tested daily allowance from the Social Insurance Institution. Statistics on the age profiles of all unemployment benefits are published annually in a yearbook by the Insurance Supervisory Authority and the Social Insurance Institution.

Health insurance daily allowances as well as parenthood allowances (the latter included in the family policy item in Table 3) are earnings-related and paid by the Social Insurance Institution. Other family policy benefits are child allowances paid until a child is 17 years old, a child day-care subsidy, and some minor benefits. The Social Insurance Institution pays these transfers as well.

Other age-related transfers include, among others, a student allowance, a housing allowance, and social assistance for poor households. The Social Insurance Institution provides the first two benefits, and local governments pay social assistance benefits. The Social Insurance Institution publishes annual statistics on age profiles of recipients of the benefits it pays.

Taxation

Table 4 presents aggregate taxes collected by the state and other institutions. The state receives over half of the total tax revenues. Local governments (municipalities) and statutory

pension insurance providers each collect one fifth of the tax revenues. The Social Insurance Institution and unemployment insurance funds are minor tax collectors. It should be noted, however, that the central government gives financial support to all other tax-collecting sectors.

Table 4. Aggregate taxes by type: Finland, 2004

Tax	Million euros	Share (%)
State tax revenue	34,539	52.2
Taxes on income and capital	13,058	19.7
Taxes on the basis of turnover	13,487	20.4
Excise taxes	4,571	6.9
Other taxes	2,492	3.8
Other tax-like revenues	862	1.3
Tax revenue outside the state budget	69	0.1
Local government taxes	13,756	20.8
Social security contributions to the Social Insurance Institution	3,320	5.0
Pension insurance contribution	13,330	20.1
Unemployment insurance contributions	1,116	1.7
Taxes and fees paid to the EU	130	0.2
Total tax revenue	66,191	100.0

Labor income is the main source of taxes. It is the main source of state income and local government taxes, as well as social insurance contributions; and it is the only source of pension and unemployment insurance contributions.

Almost all public social transfers of cash are taxable income. In the state income taxation the sum of earned income and social transfers is taxed by means of a progressive tax schedule. The local tax schedule is proportional, but the earned income tax credit and other

deductions make local taxes also slightly progressive with respect to gross income. The average local tax rate is approximately 18.5 percent of taxable income.

Profits are taxed at a flat rate of 26 percent. Investors' capital income, including capital gains, is taxed at the rate of 28 percent of taxable income. In the case of dividends, the taxable income is calculated in a rather complicated way. In the end, the effective tax rate is below 28 percent and depends on, among other things, whether the dividend is based on private equity or on shares of a listed company. In 2004, taxation of dividends was still based on the so-called *avoir* fiscal principle, and dividend taxes were collected at the firm level.

The contribution rates of the statutory pension schemes vary slightly, depending on the scheme; but in the main scheme (for private-sector employees) the total rate is approximately 21 percent of the wages, of which employees pay 5 percent and employers 16 percent.

The age profiles of the income-based taxes described above, as well as the age profiles of the contribution rates of earnings-related unemployment insurance and health insurance, are available for the whole population in the data collected by tax authorities and published by Statistics Finland.

The main consumption tax is the value-added tax (VAT). The general VAT rate is 22 percent. Food products are taxed at the rate of 17 percent, and some cultural products and services at the rate of 8 percent. There are also excise taxes levied on some products, e.g. alcoholic beverages, tobacco, energy products, and cars.

Two points have to be considered when compiling data on indirect taxes. In the case of excise taxes, final consumers do not always pay these taxes. Excise taxes may be a burden on producers when they purchase intermediate inputs, which is the case, for example, with energy. With VAT, exemption rules create a similar complication. The other aspect of the problem is age-specific consumption patterns that have implications for the tax burden over

different generations. Younger and middle-aged people tend to consume more alcohol, tobacco, and goods related to transportation than do older people. These items are heavily taxed by excise duties. In addition, the relative amount of consumption of goods that are taxed at lower than average value-added rates, such as food and health care, increases with age. This is true as well for the consumption of owner-occupied housing, which is subject to only moderate real estate taxes. The change in consumption pattern is reflected in the development of average tax rates over different ages, as shown in Figure 4.

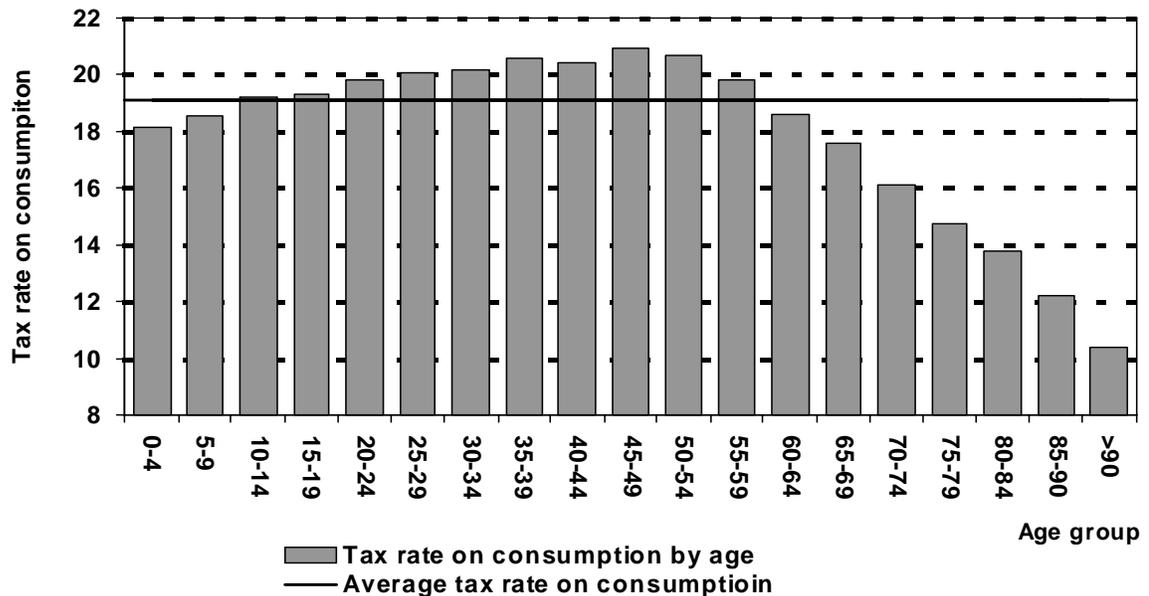


Figure 4. Indirect tax rates by age: Finland, 2004

Reallocation age profiles

We consider the intergenerational distribution of consumption and income by comparing the difference between consumption and labor income by age. Lifecycle deficits have to be covered by a reallocation of resources from generations that produce surpluses. The Finnish public sector has a predominant role in age-related expenditures. Age-related

transfers are also sizable. We pay particular attention to the public sector's role in mediating intergenerational transfers.

The main constituents of lifecycle deficits are plotted in Figure 5. Younger people consume more than they earn up to the age of 25 years. They produce surpluses at ages between 26 and 59. Currently the aggregate deficit is larger at the younger end of the distribution, but this pattern is expected to reverse in the coming years as the population ages. Those aged 48 earn most in absolute terms. Those aged 43 contribute most to the surplus. This generation has highest per capita earnings and nearly the lowest per capita consumption among the middle-aged cohorts. The reason why infants have negative familial transfers is that all public family policy transfers are allocated to children. The population-weighted average age of earning labor income is 43.0, and for consumption it is 42.2. The average ages for private and public consumption are 43.9 and 38.9, respectively.

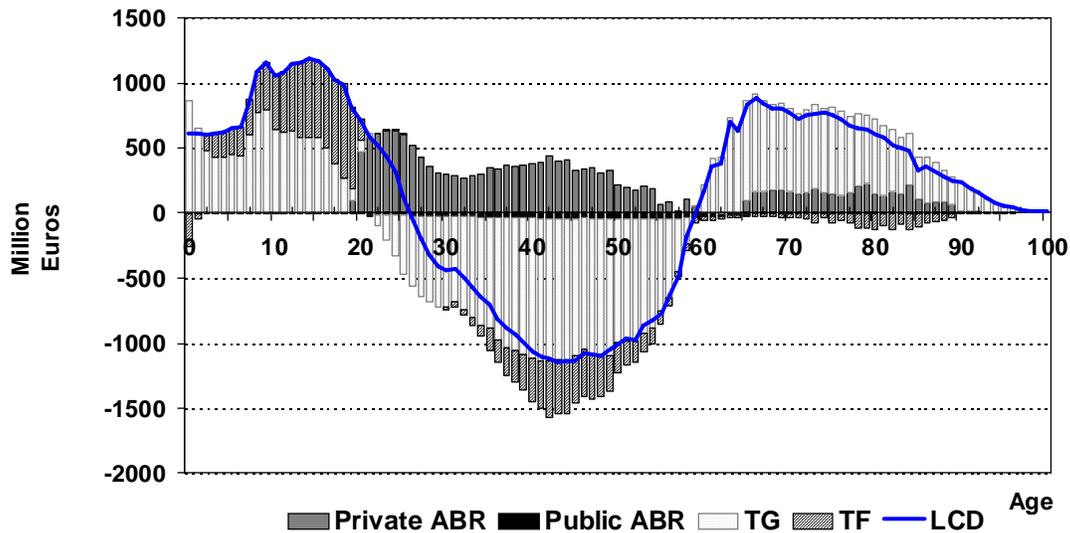


Figure 5. Aggregate LCD finance and its components: Finland, 2004

Figure 5 also shows the division of lifecycle reallocation into private and public components. There are considerable differences in the patterns of private and public reallocations. Public savings exceed public asset income at every age and therefore make a negative contribution to financing the lifecycle deficit. In strong contrast, private asset-based reallocations are in surplus at almost every age. We see that asset-based reallocations are positive and large at the younger ages when, as we shall see later, net wealth is close to zero. The explanation appears to be that the young borrow and dissave, and that leads to positive asset-based reallocations.

Public-sector transfers turn from deficit to surplus at the age of 24. About 40 percent of the lifecycle deficit for younger cohorts is financed by private reallocation, whereas it is almost completely financed by public transfers for retired cohorts.

Table 5 summarizes the aggregate lifecycle deficit by age for five broad age groups. Two dependent groups receive intergenerational transfers: the population under age 20 and that above age 65. Labor income is practically zero among the dependant groups, and lifecycle deficits, which have to be covered by intergenerational transfers, are large. The middle-aged groups generating lifecycle surplus and providing intergenerational transfers are divided into age groups with 15-year intervals.

Table 5. Population and lifecycle deficit by broad age group: Finland, 2004

Item	Age group					
	Total	0–19	20–34	35–49	50–64	65+
Population (1000s)	5,237	1,233	971	1,120	1,083	831
Lifecycle deficit (million €)	14,801	18,152	-666	-14,928	-4,238	16,482
Consumption	96,167	18,773	18,741	20,281	21,269	17,103
Private	62,853	8,682	12,507	15,037	16,202	10,426
Public	33,314	10,092	6,234	5,245	5,067	6,677
Less labor income	81,366	621	19,407	35,210	25,507	621
Lifecycle reallocations	14,801	18,021	-605	-12 264	-4 756	14,404
Asset reallocation	16,295	45	5,032	6,447	1,028	3,743
Private	17,873	94	5,211	7,167	1,526	3,874
Public	-1,578	-49	-179	-720	-498	-131
Income on assets	36,230	180	1,598	13,777	15,015	5,660
Private	33,494	95	1,288	12,528	14,151	5,432
Public	2,736	86	310	1,249	864	227
Less saving	19,935	136	-3,434	7,330	13,987	1,916
Private	15,621	1	-3,923	5,361	12,625	1,558
Public	4,314	135	488	1,969	1,362	359
All Transfers (net)	-1,494	17,977	-5,637	-18,711	-5,784	10,661
Inflows	72,929	21,122	10,332	10,535	13,478	17,461
Outflows	74,423	3,145	15,969	29,246	19,262	6,800
Private (net)	-114	7,464	-72	-4,749	-1,232	-1,526
Public (net)	-1,380	10,512	-5,565	-13,962	-4,552	12,187

Sources: Household Budget Survey, 2006; Statistics of Income and Property in 2004; Survey of Wealth in 2004; own calculations.

Public and private components have almost equal weights in young dependants' consumption. Public transfers cover more than half of their consumption, but the young also receive significant familial transfers to finance their consumption. Interestingly, young dependants have the largest share of all intergenerational transfers. They receive as net transfers about 18 billion euros compared with roughly 11 billion going to retirees.

Retired people have a significantly lower share of total consumption than any other age group in our classification. Overall, this finding reflects the currently moderate size of this age category. Private consumption declines significantly when people retire; but overall consumption remains at the average level because of the increasing role of publicly provided

goods, which constitute more than 40 percent of total consumer expenditures for retired people. Despite their declining private consumption, retired people still save roughly the same amount that they give up in downward transfers.

The largest contributors to the lifecycle surplus are people in the 35–49 age span. They generate by far the largest share of labor income and make the biggest contributions to both private and public transfers. They consume considerably less than their share of labor income, mainly because they contribute to public transfers. They are also the largest net contributors of private transfers and consume relatively few publicly provided goods. Saving is positive in this group; but income on assets is higher, and consequently private asset-based reallocations are positive.

Although still positive, the lifecycle surplus diminishes significantly for those aged 50–64 years. These people have the highest proportion of consumption, with a relatively small share coming from public services. The oldest group that is still active generates significantly less labor income than the previous age category, but earns more private asset income per capita. This finding accords well with our observations about the wealth distribution by age reported in the next section. This age group saves a significant part of its income, but its intergenerational transfers are not even close to the magnitudes of the previous age group. Private asset reallocation is positive also in this age group, but much lower than in the previous group.

The 20–34 age group is remarkably smaller than the one aged 35–49. During the 15 years between 2004 and 2019 the bigger cohort will be replaced by the smaller as the “prime age” group, and, *ceteris paribus*, the capacity of the Finnish economy to generate lifecycle surplus will be diminished.

Special Issues

We briefly review two issues relating to the private and public wealth accumulation. Using the 2004 Survey of Wealth we describe the age patterns of household wealth and bequests given and received. Positive net financial wealth is a specific feature of the Finnish public sector. We give attention to the role of financial market volatility that underlies the variation in changes of the net wealth and discuss about its implications to annual life-cycle deficits.

Bequests

The data on bequests come from the 2004 Survey of Wealth, which reported received bequests over the previous five years. In 2004 the average gross wealth per household was 147,000 euros. The average wealth net of debt was 128,000 euros, totaling 308 billion euros for all households, which was about twice the GDP. Owner-occupied housing accounted for 57 percent of total wealth.

Figure 6 presents the distribution of wealth by five-year age group. The households whose reference persons are age 60–64 are the wealthiest group. At the household level the wealth exceeds the population average in the age groups from 40 to 79 years. Household wealth reaches its maximum at the age of 62, after which it starts to slowly decline. At the older tail of the age distribution only households with heads older than 80 have net wealth that is slightly below the average household net wealth. Households with heads under age 40 own 15 percent of the net wealth, whereas households with heads over age 55 own half of the net wealth.

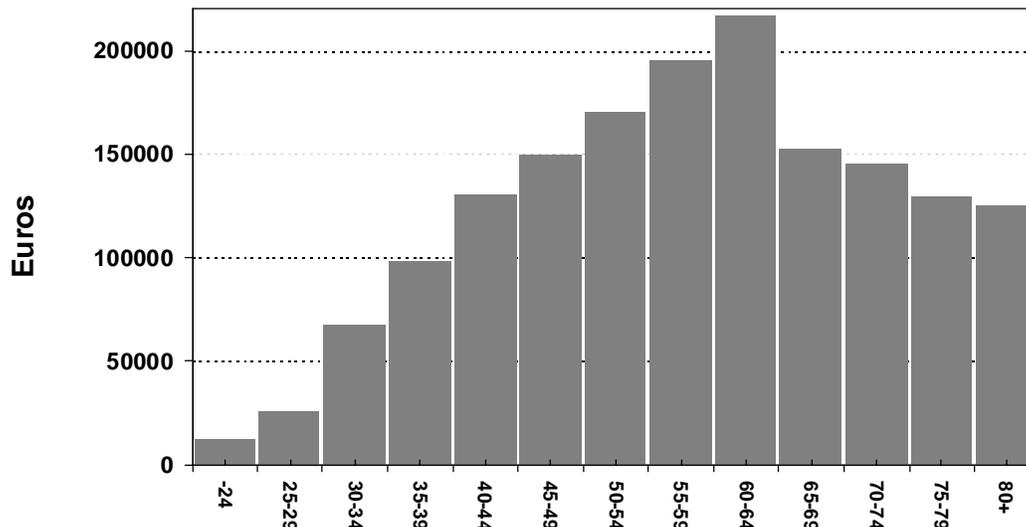


Figure 6. Distribution of household net wealth by age of household head: Finland, 2004

In the survey 16 percent of households had received a bequest during the previous five years. The total amount of the bequests was 12 billion euros over the five-year period. The average bequest was about 32 thousand euros. One quarter of the bequests were received by households whose head was under age 41, about half of the bequests went to households whose head was over 50, and the last quarter went to households whose head was over 62.

Figure 7 displays bequests received and given in 2004. The annual bequests follow the smoothed distribution of bequests received per capita, and we have estimated the bequests given from the smoothed wealth distribution by multiplying that distribution by death probabilities for each cohort. The difference between the aggregate of survey-based received bequests and the aggregate of the estimated given bequests is approximately 10 percent. Households with heads under 40 years of age receive 30 percent of the bequests, whereas the share of households with heads between ages 40 and 60 is 40 percent, which means that a

considerable proportion of bequests remains to be collected at old ages. A significant share of the variation in bequest volumes is due to variation of cohort sizes. For example, people in their late 50s belong to the large postwar cohorts that are both dying and receiving bequests.

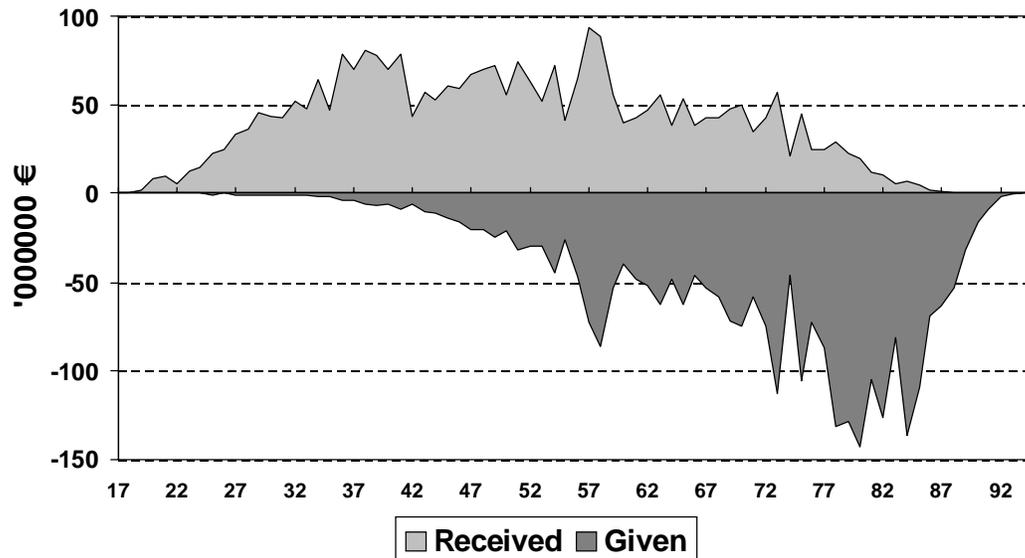


Figure 7. Bequests by age: Finland, 2004

Public Saving

The market value of net financial assets held by the Finnish general government was approximately 46 percent of annual GDP in the end of 2004. The public gross debt was 44 percent of GDP; but the market value of listed and unlisted stocks held by the central government, as well as its cash reserves and outstanding loans, was 38 percent of GDP. At the same time the total market value of the financial assets held by the statutory pension insurance providers was approximately 58 percent of annual GDP.

Given the financial position just described, net public capital income was positive in 2004, as we showed earlier. According to national accounting standards, changes in the market values of the assets—that is, capital gains or losses—are not included in the net income. Only interest inflows and outflows, as well as dividends, are included. We followed

the standard when showing the asset reallocation figures and public asset income. In Table 6 we present the total market value and allocation of public net financial assets over the period from 1994 through 2006 and the annual change in net wealth, as well as public surpluses and deficits according to the national accounts for 1995–2006. The two last columns are presented according to the standard applied in Finland before the year 2008. In 2008 the interpretation of the standard was changed retrospectively so that retained earnings of foreign corporations or mutual funds were also included as asset income. The change makes the difference between annual change of net wealth and public surplus smaller, at least during periods of rising asset values.

Table 6. Public net financial assets, saving, asset income, and net surplus: Finland, 1994–2006
(million euros)

Year	Fixed income assets, net	Nonfixed income assets	Total net financial wealth	Annual change of net wealth	Public saving (primary balance)	Net asset income in national accounts	Public surplus (net lending)
1994	–284	14,668	14,385	—	–5,674	–266	–5,940
1995	–13,166	25,061	11,895	–2,490	–5,856	–61	–5,917
1996	–17,657	24,040	6,383	–5,512	–3,014	–494	–3,508
1997	–20,437	28,469	8,032	1,649	–324	–994	–1,318
1998	–22,645	39,651	17,006	8,974	2,520	–572	1,948
1999	–14,002	75,472	61,470	44,464	2 550	–548	2,002
2000	–9,243	50,341	41,099	–20,371	8,421	741	9,162
2001	–6,226	50,269	44,043	2,944	5,667	1,284	6,953
2002	–3,086	48,293	45,207	1,164	4,212	1,684	5,896
2003	–1,021	58,758	57,737	12,530	1,562	1,867	3,429
2004	2,572	66,877	69,449	11,712	751	2,415	3,166
2005	5,968	84,445	90,413	20,964	1,441	2,553	3,994
2006*	8,840	106,191	115,031	24,618	3,156	3,163	6,319

Naturally, the net surplus shown in the last column of Table 6 is part of the total change in net wealth indicated in the fifth column. The data show that the change in net financial wealth may be a multiple of the standard surplus or deficit, and even the signs may differ. The period under consideration includes both stock market booms and busts, and they underlie the high variation of net wealth changes.

The standard way of measuring asset performance includes changes in market values as well as capital gains and losses. Changes in the market value of assets may have an effect on consumption. A recent example is the effect of US housing prices on private consumption. In such cases, a strong rally of asset prices would cause a higher lifecycle deficit, and a stock market crash would lower the lifecycle deficit.

In the Finnish case the rise of public asset values seems to be having an impact on public consumption and transfers. Rising stock prices provide an argument for selling, and when the increase of equity values is realized as capital gains, then political decision makers seem to think that there is more room for expansive fiscal policy than when the assets are just held.

The aggregate saving figure for the public sector does not change as a result of including asset price effects, and necessarily the age reallocation does not change either. The age reallocation effect depends on how we assess over time the allocation of the public net wealth and its returns for cohorts. In the Finnish case there are prevailing rules with respect to the effect of the wealth of the pension funds, according to which the effect on the cohorts comes via the pension contribution rates.

Concluding Remarks

Our conclusions are drawn from the analysis of just a single set of cross-sectional accounts. It is possible that accounts for years slightly earlier or later would look somewhat different, and there are also dangers in attempting to draw inferences about true longitudinal lifecycles from

cross-sectional observations. With these caveats in mind, we can still draw some plausible inferences.

Finnish generations run lifecycle surpluses in the middle of their lives for the 34 years between ages 26 and 59. The notable feature in the pattern of reallocation is in the relative roles that public and private allocations have in smoothing consumption over time at younger and older ages. There are substantial private lifecycle deficits for the younger cohorts but no private dissaving among the older cohorts.

Cohorts reach the average per capita level of net wealth at the age of 40, although they have been net savers for just a few years. This is due to the intergenerational transfers of wealth. Households whose heads are under the age of 40 receive about one third of the bequests given, but their relative share of net wealth is only half of that figure.

The public sector has a substantial role in intergenerational redistribution in Finland. It predominates in the provision of education and health care. It also provides for conspicuously high consumption at very old ages. Lifecycle reallocations at old ages are almost completely due to public reallocations.

The public sector is typically in surplus according to national accounting standards. In addition, there are remarkable changes in positive public financial wealth due to market price changes in assets held and capital gains and losses. On average these changes are positive. The question could be raised: Should we allocate the wealth accumulation by age?

Over the next 10 to 15 years, the large cohorts in the prime age for generating lifecycle surplus will be replaced by smaller ones, putting pressure on the reallocation systems. It would be worth further research to estimate the lifecycle deficits in the future, given, for example, present public and private wealth.

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