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The National Transfer Accounts for the Netherlands

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This discussion paper presents an introduction of the National Transfer Accounts for the Netherlands. As the Dutch society is aging, there is an increasing need to understand how this influences economic flows. We aim to measure and analyze the macroeconomic aspects of our aging society, by introducing the age dimension into the System of National Accounts. In order to achieve this, the National Transfer Accounts is set up as a satellite account of the System of National Accounts (SNA). The methodology used to create age profiles for all flows within the framework of the National Transfer Accounts (NTA) is presented in detail, for this it is needed to link several micro data sources to the NTA and SNA concepts. The results presented in this paper offer a preliminary picture of the size and direction of intergenerational flows. These are important to understand in an aging society, because population projections show that relative sizes of age classes will change, meaning for the Netherlands that the share of elderly in the total population will increase. This burdens many economic flows, for example the health care costs and pension benefits, that mainly, or even entirely, flow to the elderly. Other flows are directed specifically to the young, expenditures on education for example, these flows will resist the challenges of an aging society better, because their share in the total population will decline. Using the methodology of the National Transfer Accounts, these insights are now linked to the System of National Accounts, allowing for socio-economic analysis in a macro-economic framework.

1 Introduction

1.1 Background and motivation

Demographic changes are a major challenge for governments all over the world. The population is aging due to a risen life expectancy and lower birth rates. For policy makers this raises concerns on age effects on life cycle related topics, such as the sustainability of the pension system, government spending on health care, or investment in human capital. The economic lifecycle shows that only during the working years individuals produce more than they consume. Individuals are dependent on intergenerational transfers during the two other stages of their lifecycle; being young and being retired. In these two phases individuals on average have a lifecycle deficit, meaning that their income is insufficient to cover their consumption needs. When people are young they rely on their parents for consumption needs like food and shelter. Other needs, for example education, are accommodated for by the government. During old age, the government pays out unfunded pensions and covers a large part of the health care needs. Private transfers in this stage mainly consist of funded pensions, and in this stage of the lifecycle also asset income is used to cover the consumption needs. The people in the working age groups can cover their consumption needs more than fully by their labour income. Because of the excess of income in this phase, transfers are paid more than they are received. Figure 1 shows that transfers are the largest financing component in covering the consumption needs of the young and the elderly, and labour income is for the working.

Figure 1   Financing of total consumption for three age classes (2010)

Like many developed countries, the Netherlands faces a graying population. The projected demographic development figures show that the share of people aged 65 and older in the total population increases from 16 percent in 2012 to 26 percent in 2040 [15]. Retirement age is to be increased gradually from 65 years old now to 67 years in 2021, after which it is to rise along

with the life expectancy. The most recent population projections show that the grey pressure is expected to rise from 0.27 in 2012 to 0.37 in 2040. Because the elderly are so dependent of (public) transfers, there will be an increasing pressure on these transfer schemes. Apart from the already shifting retirement age, more changes in the social schemes are being debated, currently the set up of the pension scheme is reconsidered in different themes, among which the level and the intergenerational fairness of the scheme.

Figure 2 Population in the Netherlands in 2010, and the predicted population in 2060 for men (left) and women (right). Source: StatLine.
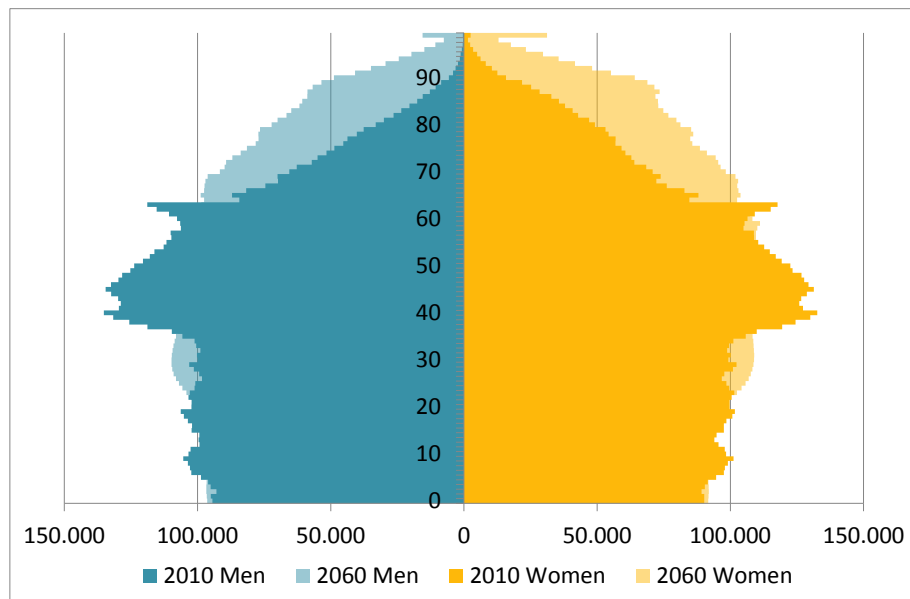
On the macro level the System of National Accounts (SNA) is the agreed upon framework that integrates all economic flows. It gives an extensive and complete overview of stocks and flows in the economy, that is comparable over time and between countries. The SNA is developed for economic analysis, policy making, and decision taking, but because the age dimension is lacking in the current state of this framework, it has clear limits in explaining the role of age in the process of income generation, consumption, saving and (intergenerational) transfers. To meet these challenges, the National Transfer Accounts (NTA), a system of accounts consistent with the National Accounting framework, has been developed [1]. The National Transfer Accounts project aims to measure and analyze the macroeconomic aspects of an aging society, adding the age dimension to the SNA. The framework of the NTA, as developed by the NTA project, is recently published by the United Nations Department of Economic and Social Affairs [13]. Also Lee and Mason [6] give an overview of the methodology used, and applications by many of the project members.

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[1] The NTA is developed by a group of researchers, who jointly form the NTA project. The lead institutions for the NTA project are the Center for the Economics and Demography of Aging, University of California at Berkeley and the East-West Center. In 2014 the authors of this paper joined the network, representing the Netherlands together with dr. Jan W. van Tongeren and Ruud Picavet. For more information on the NTA network visit `http://www.ntaccounts.org.`

1.2 Objective and outline of the paper

This discussion paper aims to introduce the concepts of the National transfer Accounts for the Netherlands. It is based upon research done for the year 2010, and covers only the flow accounts of the NTA. Research on this topic is ongoing and the methodology presented here will be expanded and improved upon when considered preferable. In some respects we deviate from the methodology proposed by the NTA [13], it will be explicitly mentioned when this occurs.

Section 2 describes the new concepts, and adjustments of some already existing concepts used in the SNA, that are introduced in the National Transfer Accounts. The construction of age profiles is described in section 3. This section focuses mainly on compilation issues, and discusses linking the National Transfer Accounts transactions to micro data sources, which comprise the information on age distribution. At this point, the work presented here has close ties with the recently developed Household breakdown in the National Accounts [1]. This project aims to better highlight the distribution of income, consumption and wealth over households groups, inspired by the influential Stiglitz-Sen-Fitoussi report [12]. It uses many of the same data sources and links micro and macro variables in the same way. Section 4 shows the results from the NTA for the Netherlands in 2010 and section 5 concludes and discusses the direction for further research.

2 The National Transfer Accounts

2.1 Theoretical groundwork

The NTA is built around two influential economic ideas. The first one is the Lifecycle Hypothesis, that states that individuals smooth consumption over their lifetime by saving and dissaving [2]. The individuals work when they are young and in those years they save to allow for consumption in later years when they do not work anymore. This is reflected in the NTA in the economic lifecycle account and the asset based reallocations account. The second idea brought into the NTA is the Overlapping Generations Model (OLG), first presented by Samuelson in 1958 [10]. This model features two generations (young and old) and two stages (active and inactive) in the economic lifecycle. Also here consumption can be smoothed over the lifecycle, but Samuelson shows that transfers (social contracts) between generations make it possible to increase the welfare of all individuals. This is reflected in the NTA in the transfer reallocations account. In the NTA, the generations are age groups and the framework aims to identify the intergenerational flows driven by the implicit or explicit social contracts.

The NTA can be considered a satellite account of the SNA, where both above mentioned influential theories are expanding the national accounting framework. Presenting the NTA as a satellite account offers the freedom to introduce new concepts or adapt existing concepts. These concepts will be introduced here, but it should be noted that not in all cases our approach is exactly similar to that proposed in the NTA manual [13]. The manual covers both conceptual issues, and compilation issues. Conceptual issues are for example the sequence of accounts in the NTA, or the introduction of new transactions and balancing items. The compilation issues are for example the methodology used to create age profiles. It is our view that these compilation issues are the responsibility of the experts, which do not necessarily have to be the

same for all countries. In the case of conceptual issues harmonization is preferable for international comparability. In case the approach in this discussion paper deviates from the proposed approach of the NTA this will be explicitly mentioned.

Most of the work done on the NTA focuses on the lifecycle deficit and the way this is financed. Vaittinnen and Vanne [14] show the results for the NTA for Finland, they find that transfers flow downward (from the elderly to the young). In an aging society this is the preferred direction, when the share of the young declines the transfers to this age group declines as well, giving opportunities to allocate those flows to different means. Patxot et al. [9] measure for Spain the degree of government intervention on intergenerational family transfers. Transfers from the young to the old within the family are less needed because government social security schemes exist. The influence of the government on backward transfers (to the elderly) is found to be larger than on the forward transfers (to the young). Also Gál et al. [4] focuses on the asymmetry in transfers to the young and the elderly. They show that this asymmetry greatly depends on the used income concept, claiming that a full picture should need not only the NTA, but also the time transfers as an extension of the SNA. Another focus of the current research is on the demographic dividend, a common term in demographics. In demographics the phenomenon that the share of working people increases is commonly called the demographic dividend. Other things being equal, this increase in the share of working people should have a positive effect on growth of per capita income and government taxes. Whether this actually leads to economic growth depends on many other things, but the demographic conditions are favourable. The second demographic dividend is the period which most developed countries currently enter (or recently have entered). In this stage the share of the elderly increases, and we speak of an aging society. It is in this stage that a country could reap the benefits of the first dividend given that the right chocies are made. Oosthuizen [8] shows the estimates of these demographic dividends for South Africa, and gives policy options for maximising the benefits of these dividends.

2.2 Basic concepts of NTA

The aim of the NTA project is to improve the understanding of the influence of age on the economy. This age dimension is not present in the core national accounts. The central framework of the SNA consists of three main parts; the supply and uses tables, the institutional sectors, and the labour accounts. The aim of the NTA project is to create the NTA as a satellite account, linked to the institutional sectors. Figure 3 below shows three possible satellite account, but there are endless possibilities, for example creating a satellite account for culture, sports, or healthcare. Satellite accounts offer more flexibility in the use of concepts, and in making alterations to the existing core system. This subsection highlights the differences made in the NTA satellite account relative to the SNA core.

National Accounts are broken down more often, for example in Social Accounting Matrices [5]. In the past years attention for the household breakdowns is renewed, inspired by, among others, [12]. For the Netherlands this has lead to experimental figures for a breakdown of the household sector accounts into five household categories [1]. All these initiatives focus on the household [2] as this is the institutional unit in the System of National Accounts. Age however is

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[2]   A household is defined as "a group of persons sharing the same living accommodation, that pool some or all of their income and wealth, and that consume certain types of goods (mainly housing and food) and services collectively" (SNA 2008, §24.12)

Figure 3   Core SNA and possible satellite accounts
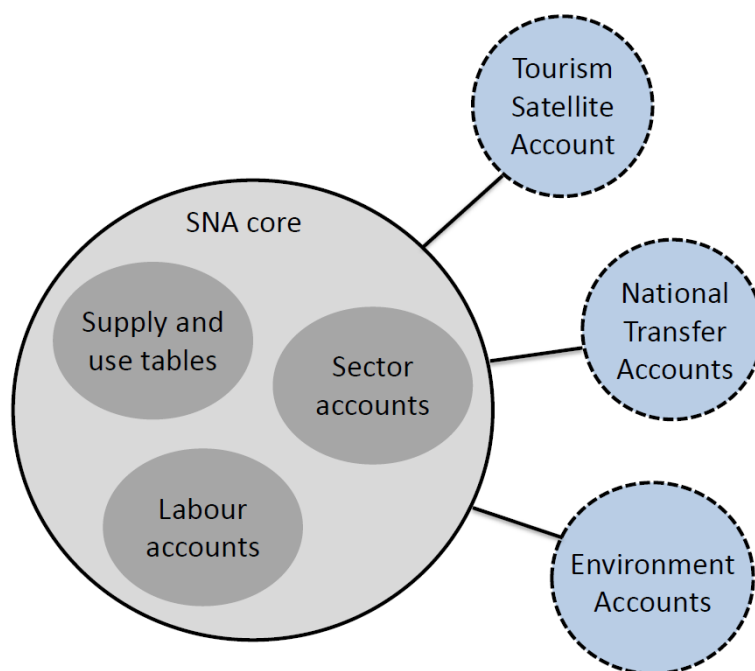
not a characteristic of a household, but of an individual. Sometimes the age of the head of the household is taken as a proxy, but for the purpose of the NTA this is insufficient. Flows between generations are flows between individuals, and many of them even occur within the household, parents paying for food and shelter of their children being one of the most important. Therefore this is a crucial conceptual difference between the SNA and the NTA. This also leads to difficult choices in the construction of the age profiles later on, because data availability is larger on the household level than on the individual level.

In the SNA the institutional units and institutional sectors match the institutional sectors that are identified; Non-financial corporations (coded $S.11$), financial corporations ($S.12$), the government ($S.13$), households ($S.14$), the nonprofit institutions serving households ($S.15$) and the rest of the world ($S.2$). These sectors can be further specified into subsectors, the households and non-profit institutions serving households are often jointly published as $S.1A$. The NTA however, identifies three sectors; the private sector ($S.11 + S.12 + S.14 + S.15$), the public sector ($S.13$), and the rest of the world ($S.2$). The aim of the NTA manual [13] is to bring age into the System of National Accounts. Their focus is on total economy, identifying public and private flows using the sectoring above. In this paper the scope of the generational economy is restricted to the households sector ($S.1A$).

The view presented in the manual means that dividends paid out by financial institutions to non-financial institutions are also considered private asset reallocations by households. This view does not satisfy our interest in the way consumption is financed by individuals in different age groups, because individuals are not able to use these flows for that purpose. Moreover it can be argued if flows other than to and from the households sector can logically be distributed over age groups, this would include imputation of many flows. We prefer to focus on the household sector only, deviating from the NTA manual. We do distinguish public and private flows, but only from the perspective of the households sector.

The sector accounts are built using a matrix in which the flows to and from each sector are recorded (see figure 4 for an example of such a matrix for the dividend flows in the economy). In he columns the paid out dividend flows are recorded, which are only of interest for the financial and non-financial corporations, as the other sectors do not pay dividends. In the rows the received dividends are recorded; households received in total $12,040$ million euros in dividends, of which 900 million euros came from abroad. In our approach the flows between the households sector and the (non) financial corporations, are considered private. The flows between the households sector and the government are labeled public. The flows from household to household are also considered as (private) *inter*household flows, however these do not occur for the example of the dividends in figure 4. The SNA does not record the flows within the household (*intra*household), but the NTA does. This is another conceptual contribution of the National Transfer Accounts. Another difference between the SNA and the

Figure 4   Matrix of dividend flows between sectors

		Uses						
		S.11	S.12	S.13	S.1A	S.1	S.2	Total means
Means	S.11	6.280	456			6.736	31.361	38.097
	S.12	15.663	3.431			19.094	119.696	138.790
	S.13	3.243	1.612			4.855		4.855
	S.1A	10.803	337			11.140	900	12.040
	S.1	35.989	5.836			41.825	151.957	193.782
	S.2	13.421	86.713			100.134		100.134
	Total uses	49.410	92.549	-	-	141.959	151.957	

NTA is the sequence of accounts, which is rearranged in order to better highlight the intergenerational flows, and also, new concepts are introduced. The SNA sequence of accounts are given in figure 5. The first account of the NTA is the economic lifecycle account, where income and consumption are combined. Here a new balancing item is introduced, the lifecycle deficit, which is the difference between these two flows. The deficit is positive for the young and the elderly, because in those two stages of life, labour income is almost non-existent.

This lifecycle deficit is covered in two other accounts, the transfer reallocation accounts and the asset based reallocation accounts. The first includes the social transfers and income transfers (including the aforementioned intrahousehold flows), the latter includes property and capital income. The scope of this paper is limited to these flow accounts, and excluding capital transfers. Also wealth is not considered in this discussion paper. Both are part of further research.

2.3   Mapping National Transfer Accounts onto SNA

The NTA is built around flow identities that hold by definition. In this section these identities are rewritten in SNA terms, to show the link between the two frameworks. The NTA rearranges the SNA transactions in a way to better highlight the generational economy. The flow identity of the NTA in equation 1 states that inflow equals outflow for all age groups. Let $x \in \{1, \cdots, 100\}$ denote the age of the persons in an age group.

$$\underbrace{Y^L(x) + Y^K(x) + Y^{P^+}(x) + \tau^+(x)}_{\text{Inflows}} = \underbrace{Y^{P^-}(x) + \tau^-(x) + C(x) + S(x)}_{\text{Outflows}} \tag{1}$$

This flow identity holds for all generations, and for the total population. The resulting aggregates equal the SNA aggregates. The inflows are divided into labour income, $Y^L(x)$,

Figure 5   Summary of main accounts (SNA 2008, p.35, Figure 2.2)

Account	Balancing item	Main aggregates
Current accounts		
Production account		
Production account	Value added	Domestic product
Distribution and use of income accounts		
Primary distribution of income accounts		
Generation of income account	Operating surplus/ mixed income	
Allocation of primary income account	Balance of primary income	National income (GNI,NNI)
Entrepreneurial income account	Entrepreneurial income	
Allocation of other primary income account	Balance of primary income	
Secondary distribution of income account	Disposable income	National disposable income
Redistribution of income in kind account	Adjusted disposable income	
Use of income accounts		
Use of disposable income account	Saving	
Use of adjusted disposable income account	Saving	National saving
Accumulation accounts		
Capital account	Net borrowing(+)/ net lending (-)	
Financial account	Net borrowing(+)/ net lending (-)	
Other changes in assets accounts		
Other changes in the volume of assets account		
Revaluation account		
Balance sheets		
Opening balance sheet	Net worth	National wealth
Changes in assets and liabilities	Changes in net worth	
Closing balance sheet	Net worth	National wealth
Contributions to change in net worth		
Capital account	*Change in net worth due to saving and capital transfers*	
Other changes in the volume of assets account	*Change in net worth due to other changes in the volume of assets*	
Revaluation account	*Changes in the value of net worth due to nominal holding gains and*	

capital income, $Y^K(x)$, property income inflow, $Y^{P^+}(x)$, and received transfers, $\tau^+(x)$. The outflows consist of property income outflow, $Y^{P^-}(x)$, paid transfers, $\tau^-(x)$, consumption, $C(x)$, and savings, $S(x)$. Rewriting this equation shows an approximate link with the SNA terminology:

$$
\underbrace{\underbrace{Y^L(x) + Y^K(x) + Y^{P^+}(x) - Y^{P^-}(x)}_{\substack{\text{Primary} \\ \text{Income}}} + \underbrace{\tau^+(x) - \tau^-(x)}_{\substack{\text{Secondary} \\ \text{Income}}}}_{\substack{\text{Adjusted} \\ \text{Disposable} \\ \text{Income}}} = \underbrace{C(x) + S(x)}_{\substack{\text{Use of} \\ \text{Income}}}
\tag{2}
$$

The sum of the labour income, capital income and property income equals the primary income (coded $B.5$) in the SNA. Including the received and paid transfers results in the adjusted disposable income ($B.7$), because also the social transfers in kind are included in the received transfers. The link is approximate because there is a deviation from the SNA in the qualification of the VAT, which is part of consumption in the SNA and a transfer in the NTA.

The starting point of the NTA is the economic lifecycle account, which juxtaposes labour income and consumption. Labour income is higher than consumption during the independent ages and lower during the dependent ages. For each generation holds the flow identity that the lifecycle

deficit (the difference between consumption and labour income) must be covered by asset reallocations or by transfers. This lifecycle deficit can be considered one of the balancing items in the NTA, a derived variable which is important in the economic analysis. This is one of the key concepts of the NTA. We get to this lifecycle deficit by rewriting equation 1 into the following:

$$\underbrace{C(x) - Y^L(x)}_{\substack{LCD(x) \\ \left(\begin{array}{c}\text{Lifecycle} \\ \text{Deficit}\end{array}\right)}} = \underbrace{Y^K(x) + \overbrace{\overbrace{Y^{P^+}(x) - Y^{P^-}(x)}^{Y^P(x)}}^{\left(\text{Net Property Income}\right)} + S(x)}_{\substack{Y^A(x) \\ \left(\begin{array}{c}\text{Net Asset Based} \\ \text{Reallocation}\end{array}\right)} + \underbrace{\tau^+(x) - \tau^-(x)}_{\substack{T(x) \\ \left(\begin{array}{c}\text{Net Total} \\ \text{Transfers}\end{array}\right)} \tag{3}$$

2.3.1 Economic Lifecycle Account

In this section we shall further breakdown the components of equation 3 and we shall focus on the lifecycle deficit, the next subsections will focus on the transfers and the asset based reallocations.

The lifecycle deficit consists of two components; labour income and consumption. The labour income equals the compensation of employees $Y_C^L(x)$ and mixed income $Y^M(x)$. Mixed income is generated by self-employed individuals and is partly a return on the capital invested by these workers and partly a return on their labour efforts. A clear division between these two returns is very difficult to make. The NTA manual [13] proposes to allocate two thirds of the mixed income to labour income and one third to capital income. This is an arbitrary division however and we deviate from this by allocating the entire mixed income to labour income.

$$Y^L(x) = Y_C^L(x) + Y^M(x) \tag{4}$$

The compensation of employees represents the sum of earnings (wages paid by the employer) $Y_E^L(x)$ and benefits (employer's social contributions), $Y_B^L(x)$

$$Y_C^L(x) = Y_E^L(x) + Y_B^L(x) \tag{5}$$

Table 1 gives an overview of the components of labour income and the match with the SNA transactions. Consumption has two components: private $C^f(x)$ and public $C^g(x)$. Let us also

Table 1   NTA variables and matching SNA transaction for labour income

Variable	Definition	SNA transaction
Y^L	Labour income	
Y_C^L	Compensation of employees	$D.1$
Y_E^L	Wages and salaries	$D.11$
Y_B^L	Employers social contributions	$D.12$
Y^M	Mixed income	$B.3$

note that one should differentiate the public consumption as being individual $C^{g,I}(x)$ or collective $C^{g,C}(x)$. The individual public consumption expenditures are further specified according to the COFOG classification. Because of the intergenerational context, the interesting functions are education $C_E^{g,I}(x)$, and healthcare $C_H^{g,I}(x)$. The remaining functions are combined in other types $C_O^{g,I}(x)$. For the private consumption expenditures this specification to education and healthcare is not (yet) made, because these expenditures are largely provided in kind by the government. It follows:

$$C(x) = C^f(x) + \underbrace{C^{g,I}(x) + C^{g,C}(x)}_{C^g(x)} \tag{6}$$

where the individual public consumption has the following components:

$$C^{g,I}(x) = C_E^{g,I}(x) + C_H^{g,I}(x) + C_O^{g,I}(x) \tag{7}$$

The private consumption is exclusive of the indirect taxes on these items. These transfer

Table 2 NTA variables and matching SNA transaction for consumption

Variable	Definition	SNA transaction
C	Total consumption	
$C^{g,I}$	Individual public consumption	$D.63 = P.31(S.13)$
$C_E^{g,I}$	Individual public consumption on education	
$C_H^{g,I}$	Individual public consumption on health	
$C_O^{g,I}$	Individual public consumption on other items	
$C^{g,C}$	Collective public consumption on health	$P.32(S.13)$
C^f	Private consumption	$P.31$ ex. VAT

outflows are taken into account in the transfer section.

2.3.2 Transfers

Transfers can be divided into public, $\tau^g(x)$, and private transfers, $\tau^f(x)$, and can be paid, $\tau^-(x)$, or received, $\tau^+(x)$. The net transfer flows satisfy the following equation:

$$\tau(x) = \tau^f(x) + \tau^g(x) = \underbrace{\tau^{+,f}(x) - \tau^{-,f}(x)}_{\text{Private Transfers}} + \underbrace{\tau^{+,g}(x) - \tau^{-,g}(x)}_{\text{Public Transfers}} \tag{8}$$

The intermediation of all public transfers is done by the government. Most transfer inflows (inflows meaning that the individual receives a transfer) are in cash, but some are provided for in kind. The in kind transfers equal the individual public consumption expenditures, and can therefore also be further specified to the meaning of the transfer (education, health, other). Following the national accounting approach we shall differentiate between the public transfers in cash, $\tau_C^{+,g}(x)$ and the public transfers in kind, $C^{g,I}(x)$. Also the collective public consumption is considered a transfer.

$$\tau^{+,g}(x) = \tau_C^f(x) + C^{g,I}(x) + C^{g,C}(x) \tag{9}$$

Public transfer outflow are taxes paid to the government, including the VAT on consumption expenditures. Also the social contributions are part of the public transfer outflows.

$$\tau^{-,g}(x) = \underbrace{\tau_Y^{-,g}(x) + \tau_W^{-,g}(x) + \tau_C^{-,g}(x)}_{\text{Taxes}} + \tau_S^{-,g}(x) \tag{10}$$

The private transfers flow either between the households sector and all other sector other than the government, or within the households sector. This includes the interhousehold transfers and intrahousehold transfers, but also the funded pension schemes. Interhousehold transfers flow from one household to the other, alimony payments are the best example. These are included in the SNA transaction other current transfers. Intrahousehold flows are not considered in the SNA. These flows can be quite influential in the intergenerational story. Intrahousehold flows are estimated as a residual of private consumption and disposable income for every individual. The shortcomings of children to pay for their consumption needs is covered by the adults of the household. The intrahousehold inflows equal the intrahousehold outflows on the household level and the macro level.

Table 3   NTA variables and matching SNA transaction for public transfers

Variable	Definition	SNA transaction
τ^g	Net public transfers	
$\tau^{+,g}$	Transfer income from the public sector	
$\tau_C^{+,g}$	Transfer income from the public sector in cash	$D.62, D.7$
$C^{g,I}$	Transfer income from the public sector in kind	$P.31(S.13) = D.63$
$C^{g,C}$	Collective public consumption	$P.32(S.13)$
$\tau^{-,g}$	Transfer payments paid to the public sector	
$\tau_Y^{-,g}$	Taxes on income	$D.51$
$\tau_W^{-,g}$	Taxes on wealth	$D.59$
$\tau_C^{-,g}$	Taxes on consumption	Part of $P.3$
$\tau_S^{-,g}$	Social contributions and other transfers	$D.61, D.7$

Table 4   NTA variables and matching SNA transaction for private transfers

Variable	Definition	SNA transaction
τ^f	Net private transfers	
$\tau^{+,f}$	Transfer income from the private sector	
$\tau_I^{+,f}$	Intrahousehold transfers received	
$\tau_S^{+,f}$	Social benefits and other transfers	$D.62, D.7$
$\tau^{-,f}$	Transfer payments paid to the private sector	
$\tau_I^{-,f}$	Intrahousehold transfers paid	
$\tau_S^{-,f}$	Social contributions and other transfers	$D.61, D.7$

2.3.3   Asset based reallocations

Equation 3 already stated that asset income, $Y^A(x)$, consists of capital income, $Y^K(x)$, property income, $Y^P(x)$, and savings, S. Property income is netted by subtracting the outflow from the inflow. Capital income equals the operating surplus. As mentioned before, the NTA also allocates part of mixed income to asset income, but we do not.

$$Y^A(x) = Y^K(x) + Y^P(x) + S(x) \tag{11}$$

Individual savings are in our studies determined as the closing component of the system. This differs from the savings concept used in the SNA, because the collective consumption is taken into account as well. The SNA also identifies collective savings, which equal the change in net equity of households in pension funds. This adjustment for net equity in pension funds is necessary because the contributions paid to pension funds add to the value of pension entitlement and can be considered as saving. The benefits received from these funds are treated as dissaving. In this paper the savings concept is limited to the individual savings. The

Table 5   NTA variables and matching SNA transaction for asset based reallocations

Variable	Definition	SNA transaction
Y^A	Asset income	
Y^K	Capital income	B.2
Y^P	Property income	net value of $D.4$
S^I	Individual savings	B.8 - P.32

NTA approach also specifies public asset reallocations, for example figure 4 shows that the government receives dividend payments. Because our approach differs in the choice of the sectors these flows are not considered here.

3 Creation of age profiles

Previous research on households in the national accounts [1] focuses on the institutional sector of the households. For the NTA the same focus is adopted, because flows to and from the household sector are the only flows that can logically be distributed over age groups. Both projects differ in the unit of observation however, household versus individuals. The NTA variables have to be linked with micro sources that contain the distributional information in order to create the age profiles. To ensure the consistency between the household perspective by the household focus and the individual focus, the same choices for linking micro variables to the macro transactions have to be made. The procedure for this is described below. For certain transactions the micro sources provide estimates on the individual level as well as the household level, which are fully consistent with each other. Problems arise however when data is only available on the household level, for example for household consumption.

3.1 Income Panel Survey

Constructing the age profiles requires the NTA aggregate controls to be linked to micro information that contain the distributional information. For the income, transfer and asset components, this distributional information is taken from the Income Panel Survey (IPS). This is an annual survey, which covers approximately $200,000$ individuals and $92,000$ households. It consists of administrative records from multiple registers (including tax data). The IPS offers the income components on both the individual and the household level

The constructions of the age profiles is done in three steps.

1. First, from the IPS, micro variables were linked to the NTA variables mentioned in the previous section. This link was made through the SNA transactions, as was presented in the previous section. From the household statistics the link between the SNA transactions and the micro variables was known and the same choices were made for this project. In case a SNA transaction was not covered by a micro variable an assumption was made. For example, due to logical reasons underground production is not measured, but an estimate is available on the macro level. No micro information is available, but it is assumed that this transaction is distributed over the age profiles (and over household groups), according to the distribution of micro disposable income.
2. Secondly, the micro values were aggregated over age (100 age groups) and gender, resulting in 'raw' age profiles. These raw profiles were adapted when necessary. By law it is not possible for individuals younger than 15 years to work, so the age profiles for these age groups were put to zero. Next, the age profiles were smoothed, because the survey results contain noise. The profiles were smoothed at the level at which the link between micro and NTA variables was made. The smoothing was done using Friedman's variable span smoother [3], which is also the preferred method described in the NTA manual [13]. Figure 6 below shows the result of this smoothing procedure for the wages and salaries[3].

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[3] This smoothing is not done in the household projects, but only applied to distributions over individuals

3. The third and last step was the calibration of the smoothed age profile to the aggregate controls (NTA totals). This was done by multiplying the average value of each age profile with the number of individuals in the age group. The sum over all age profiles was calibrated to the aggregate controls, which gave a calibration coefficient. This coefficient was applied to all age profiles, it implies that any over- or under-representation of the micro sources is distributed evenly over the age groups. If the coverage of the SNA transactions by the micro sources is poor the resulting age profiles should be considered with care.

Figure 6   Smoothed wages for men and women(2010)
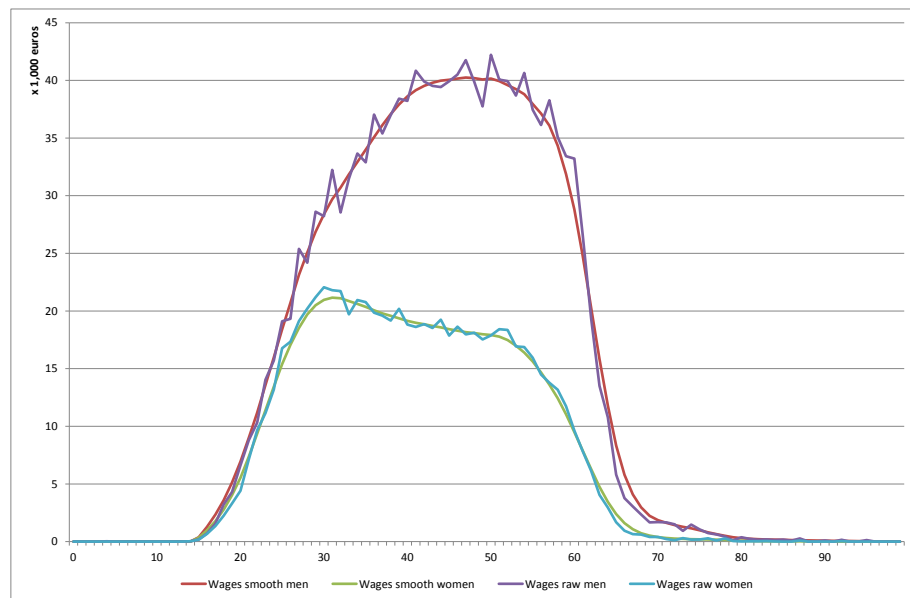
The IPS gives results for individuals and households. The results for individuals have to be considered with care. Some variables are imputed instead of measured and are allocated to one person in the household, this is the case for income from owner occupied dwellings for example. For tax data it could be that because of fiscal rules (property) income components are relocated within households. Allocating the imputed items to the head of the household, and shifting income components to the person with the highest income causes a gender bias, because the head of the household is often male. We made corrections on the survey data by allocating joint income, such as property income, evenly over the household nucleus [4]. Because of these corrections on income, also corrections had to be made for the taxes paid. This is done by recalculating the tax base on the corrected income components. Total taxes on the household level did not change, only the allocation over the (adult) household members. For members outside the household nucleus no adjustments were made.

[4]   The household nucleus is defined here as the adult couple in the household.

3.2 Household Budget Survey

The consumption concept considered in the NTA is the final consumption. This includes the individual consumption by households, nonprofit institutions serving households (NPISH) and the government, and collective consumption by the government. The individual consumption expenditures by households are covered by the Household Budget Survey (HBS). This is an annual cross-sectional survey of around $3,600$ individuals and $1,500$ households. It excludes people living in non-private dwellings such as prisons and hospitals. These people are included in the NTA totals, but their proportion is rather small, so no adjustment is made for them. The results are published only on the household level. For the NTA, age profiles are needed on the individual level. This is done by imputing the average household consumption of the HBS to a register of all households and allocating this household total over the individuals within the household.

Register data is available for individuals and households, and both can be linked by a unique household identifier. So for every person it is known to which household he or she belongs and for each household it is known who is part of it. Using this link we can allocate the imputed household consumption over individuals, using a *distribution key*. This key is based upon the equivalence scale of Statistics Netherlands. Studies on distributions often consider equivalence scales. A multi-person household has more needs than a single person household, but these needs do not grow proportionally. Larger households have economies of scale, and to account for this, each household is recalculated to a single person household using an equivalence scale. For our purpose we can use the equivalence scale in a different way.

Three scales are considered: the Oxford Modified Equivalence Scale, the equivalence scale designed by the National Transfer Accounts project, and the equivalence scale designed by Statistics Netherlands.

1. The Oxford Modified Equivalence Scale (OMS) assigns a value of 1 to the head of the household. Each other adult (14 years or older) is assigned a value 0.5 and each child (younger than 14) 0.3.
2. The equivalence scale designed by the NTA project scale, that gives the value 0.4 for children age 4 or younger, and is equal to 1 for adults age 20 and older. For the ages between 4 and 20 there is a linear increase [13].
3. The equivalence scale of Statistics Netherlands depends on the household composition, i.e. the combination of number of adults and number of children (see figure below). For the households outside this table the formula is used, where E is the value of the equivalence scale, A the number of adults, and C the number of children. We use the parameters in this formula for adults (1) and children (0.8) [7].

Table 6   Equivalence scales, 1995-2000. Source: [7]

Number of adults	Number of children				
	0	1	2	3	4
1	1.00	1.33	1.51	1.76	1.95
2	1.37	1.67	1.88	2.06	2.38
3	1.73	1.95	2.14	2.32	2.49
4	2.00	2.19	2.37	2.53	2.68

The choice for an equivalence scale can influence the results. For example the OMS gives a higher weight to the household head than to the other household members. Because the

household head is often male, the consumption profiles for men and women were far apart (see figure 8, which was considered implausible. The scale of Statistics Netherlands and the NTA do not differ a lot in the outcomes, except for the youngest age groups. The former was chosen as the scale to work with, because of the advantage that is was constructed specifically for the Netherlands.

Figure 7   Individual consumption using the Statistics Netherlands equivalence scales (2008)
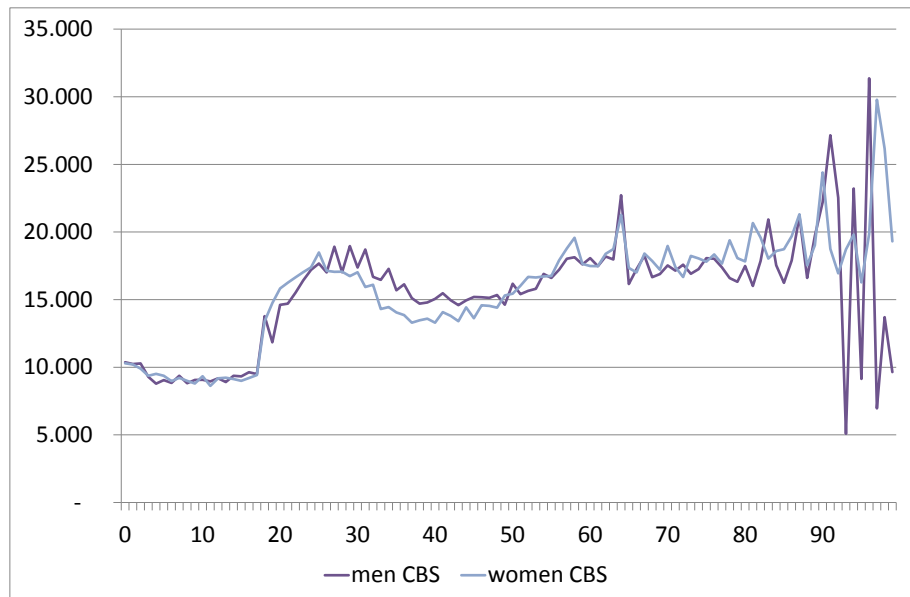
The individual private consumption is estimated by multiplying the average household expenditures with the equivalence scale as a fraction of the sum of the equivalence scales in the household. This results in raw age profiles (see figures 7, 8, and 9), which are are again smoothed en calibrated to the NTA values.

3.3   Healthcare and education statistics

Also part of the consumption concept are the individual consumption expenditures of the government and the nonprofit institutions serving households (NPISH), which together form the Social Transfers in Kind (STiK). These STiK mainly consist of education and healthcare consumption and expenditures. Very little information on distributions is available for these expenditures, in order to create age profiles we use the insurance value approach [16]. This approach imputes average values for a given stratum in the population. These average values for healthcare are taken from The National Institute for Public Health and the Environment (RIVM), which is a specialized Dutch government agency having as a goal the promotion of population health and environmental safety. A series of studies was performed for determining the demands on health care resources caused by disease, age and gender and to demonstrate the importance of the perspective on health expenditure. Their results were reported by using

Figure 8   Individual consumption using the Oxford Modified equivalence scale (2008)
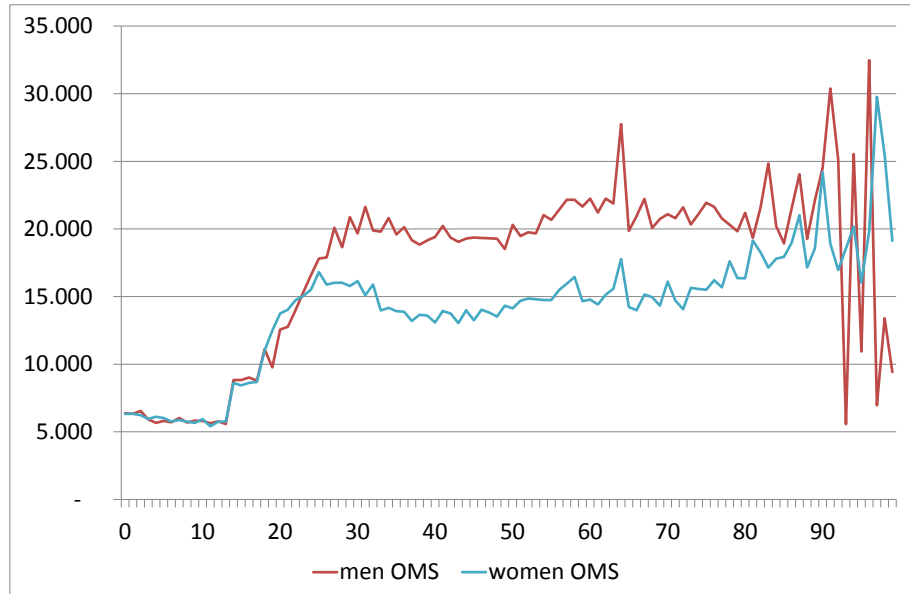

Figure 9   Individual consumption using the NTA equivalence scales (2008)


six specific dimensions: health care provider, health care function, source of finance, age, gender and disease [11].

Essential for our research on the Dutch NTA are three out of the six mentioned above: age, gender and source of finance. What concerns the latter one, the RIVM distinguishes the following sources of finance: the Healthcare Insurance Act (ZVW), the Exceptional Medical Expenses Act (AWBZ), Government (subsidies) and other sources of financing (by private enterprises for example).

The ZVW and the AWBZ together form the biggest part of healthcare transfers in kind. A difference between the RIVM data and the SNA totals for ZVW is that the SNA only covers the basic insurance, which is obliged in the Netherlands. The RIVM covers also the additional insurance through the ZVW. Information on these medical acts gives us the distributional information needed to create age profiles. The preferred breakdown in the NTA (health, education and other) is the COFOG classification. The distributional information we work with is available per Act. The part of the Healthcare Insurance Act that is allocated to healthcare is assumed to be distributed in the same way as the part that is allocated to social protection.

We are interested in a much finer age-stratification than provided by the RIVM. In order to obtained it, we apply a polynomial interpolation to the available strata-average data. The RIVM data is only available for a couple of years (2003, 2005, 2007, 2011), and only available for 21 age groups. Using this information we estimated an age pattern for other years for all ages (0-99+) resulting in figure 10. The resulting age patterns were again imputed in the registers explained before. Because we know from each person their household, we can estimate the healthcare costs per household and per household type. Also for education, the second largest part of the

Figure 10   Healthcare costs. Source: `www.kostenvanziekten.nl`, 2009 own calculations
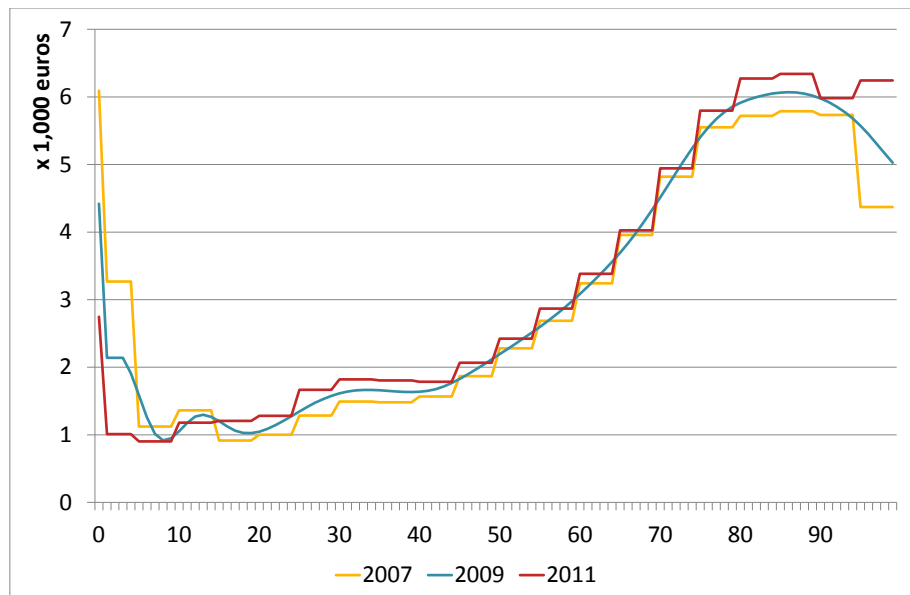
STiK, there is a lack of information on the distribution of the costs. Total spending on education is known, specified to primary, secondary and tertiary education. Education statistics give the

number of participants in these types of education. So for every type an average amount is decided. This average amount is allocated to each individual by age.

$$\overline{E}(x) = \Omega^p(x)\overline{E}^p(x) + \Omega^s(x)\overline{E}^s(x) + \Omega^t(x)\overline{E}^t(x) \tag{12}$$

where $\{\overline{E}^p, \overline{E}^s, \overline{E}^t\}$ is the average spending per child in primary, secondary and tertiary education, and $\{\Omega^p, \Omega^s, \Omega^t\}$ the probability of enrollment in each type. The average amount per type is equal for all cohorts, but the probabilities are not. Let p, s, t stand for primary, secondary and tertiary education, respectively. Then the probabilities are decided by:

$$\Omega^\iota(x) = \frac{P^\iota(x)}{N(x)}, \iota \in \{p, s, t\} \tag{13}$$

where $P^\iota(x)$ is the number of participants in the cohort x in each type of education, and $N(x)$ equals the total population in the cohort. Notice that $\Omega^p(x)$ is positive for ages $4 - 14$ and for the other ages the number of participants $P^p(x) = 0$ holds. For secondary education (x) is positive for the ages $11 - 20$ and and for tertiary education $18 - 60$.

With the Healthcare Insurance Act, the Exceptional Medical Expenses Act, and education the largest part of the social transfers in kind are covered. Other components are proxied by these results or distributed by direct components from the IPS, as is the case for rent subsidies for example.

4 Results of the Dutch NTA

In this section the NTA are presented for the Netherlands for 2010. The results shown here only cover the flow accounts of the NTA, including the economic lifecycle account, the (public and private) transfers reallocations account, and the asset based reallocations account. All accounts can be created separately for men and women.

4.1 Economic Lifecycle

The age profiles of labour income for men and women shows distinctively different patterns. Figure 11 and figure 12 show the age profiles by gender. The age profiles until 15 years are put to zero, because people below this age are not allowed to work. For men the average labour income rises until the age of 47, where the income reaches the highest level of 59 thousand euros. Women already earn the highest income at the age of 32, when the income is 29 thousand euros on average. After this age the average income drops, but stays relatively flat until around 50 years. Self-employment income has lower values on average, but a more comparable pattern for men and women. Men have their highest self-employment income when they are 49, the same age at which women receive their highest income.

The differences in labour income are partly explained by the differences in male and female participation rates. Table 7 shows the labour force characteristics by gender. It clearly shows that the gross and net participation rates are lower for women than for men. Another important difference is the number of people working full-time and part-time. Whereas only around 15 percent of the male employed labour force works part-time, 70 percent of the female employed labour force does. These difference in labour force participation is reflected in the labour income, but also in taxes, social contributions etc. which are based upon the income level.
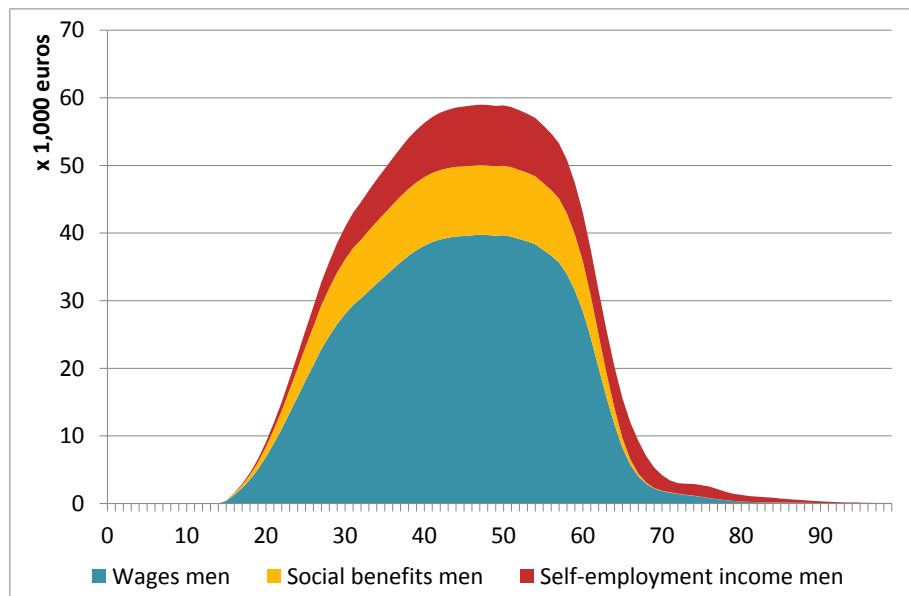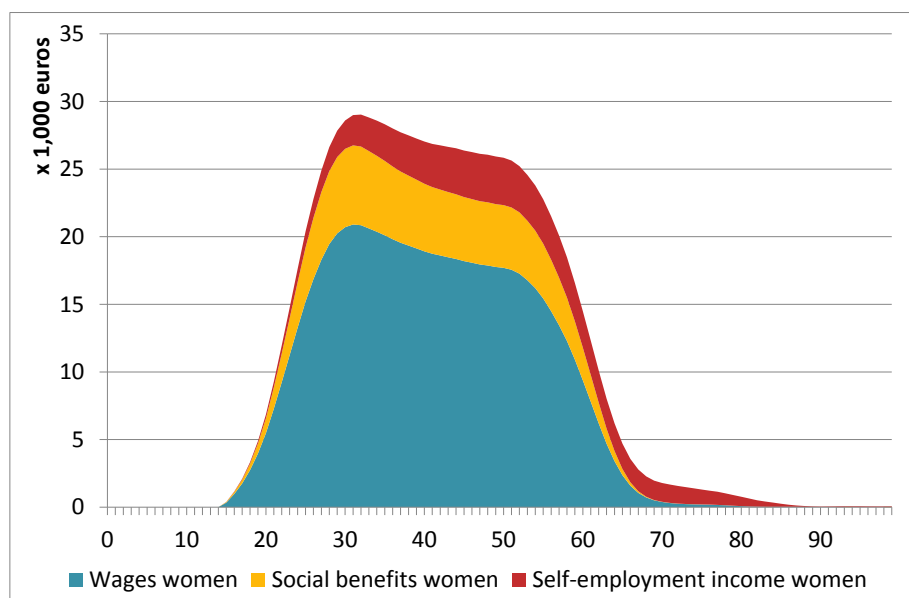
Figure 11   Labour income men

Figure 12   Labour income women

This issue raises the question whether for a complete comparison it is necessary that also the *non*-market production should be taken into account. In most countries, and also in the Netherlands, women do most of the work at home. This work falls outside the production

Table 7 Labour force (2010). Source: StatLine.

			men	women
Labour position	Total labour force	x 1,000	4,337	3,480
	Employed labour force	x 1,000	4,119	3,272
	Unemployed labour force	x 1,000	218	208
	Persons not included	x 1,000	1,196	2,005
Labour participation	Gross	%	78.4	63.4
	Net	%	74.4	59.7
Unemployed		%	5.0	6.0

boundary of the SNA, but does create large flows between individuals. From a generational point of view this non-market production is very influential, like the monetary intrahousehold transfers. The inclusion of this concept is part of the National *Time* Transfer Accounts.

Total consumption is built up from collective consumption, private consumption and individual public consumption (STiK). Collective consumption is for example the government spending on public order, or on protection of the environment. The age profiles for the collective consumption are the same for all individuals, because everyone benefits from these collective expenditures. Average private consumption rises until 27 years, after this age the differences

**Figure 13 Age profiles for the total population (2010)**
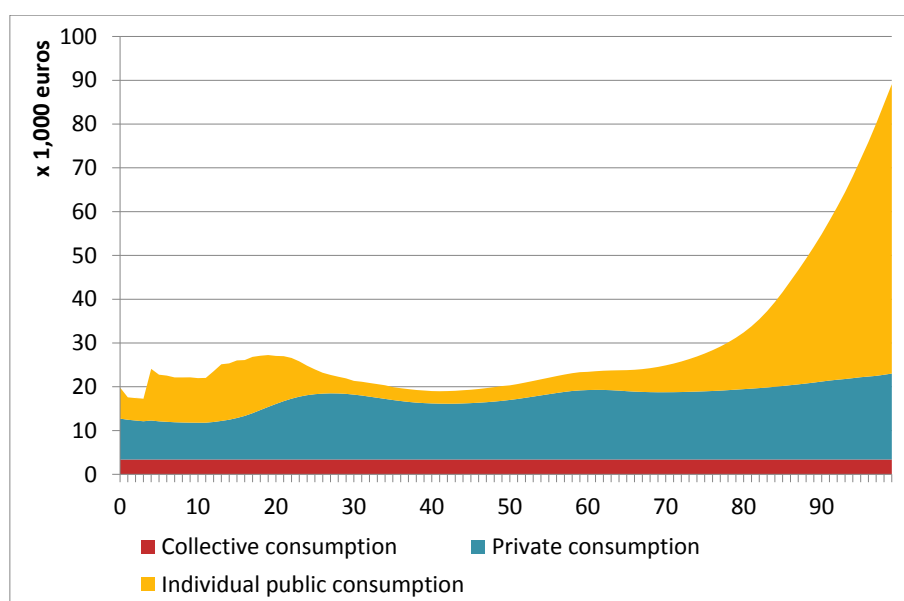
per age group are less influential. Note that the equivalence scale used to allocate the household consumption over the household members gave lower weight to children than to adults. This equivalence scale is impartial towards gender, therefore the age profiles for men and women are quite similar. The difference that still occurs between men and women originate from the HBS. The patterns are similar but at a different level roughly from the 30th until the 45th year. The reason for this is that there is an age difference between couples. In general men

are older than their female partners, but they are allocated with the same amount. Also single parents, with lower average consumption, are often female.

The Social Transfers in Kind are divided into three subcategories; healthcare, education and other. Again these patterns are similar for men and women. For education this is obvious as boys and girls will cost a similar amount, the difference that do occur come from the number of boys and girls enrolled in education as a part of the total population in each age group.

Figure 14   Average spending on total social transfers in kind (2010)
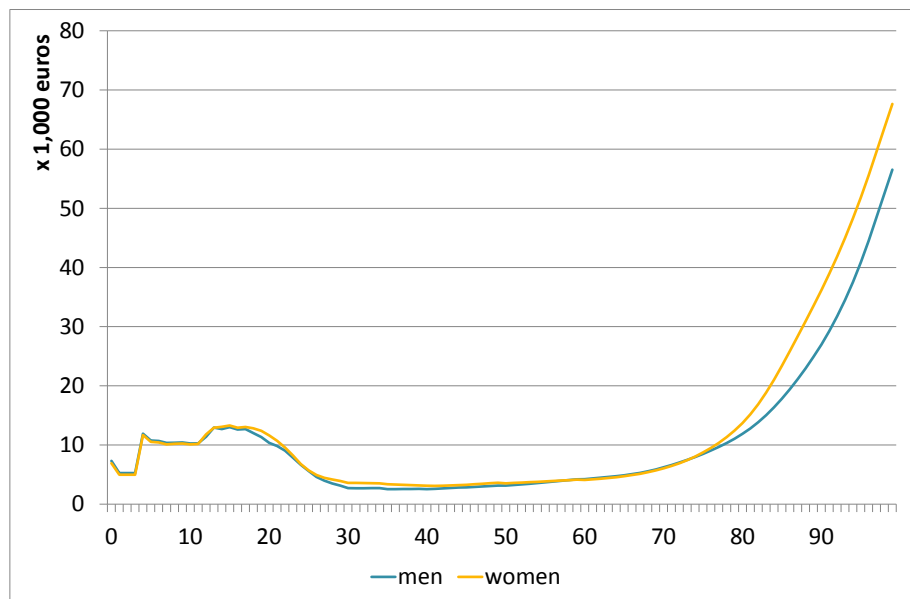
For healthcare, the average costs for men and women are not far apart. From 0-14 years and from 58-80 years, the average costs for men are higher, at the other ages the average costs are higher for women. The other expenditures cover for example day care for children, rent subsidies, and old age transfers. The old age transfers are part of the Exceptional Medical Expenses Act (AWBZ) and distributed in the same way as the healthcare transfers by this act. This results in similar patterns for healthcare expenses and other expenses for the elderly.

The age profiles of these social transfers in kind show that on average the elderly receive high transfers. The aggregates (figure 17) show that the largest part of the transfers go to the young, mainly because of expenditures on education and day care centers. The peak at the 90+ age group is the results from taking all the individuals of 90 and older into one group, so this group represents more individuals than the preceding age groups. The age profiles for healthcare and other expenditures are interesting with respect to the aging society. The increase of the number of elderly will result in increasing aggregates if the age profiles do not change. Financing these larger expenditures is one of the challenges for policy makers. The difference between the labour income and consumption is shown by the lifecycle deficit (LCD). This concept is introduced by the NTA project, and serves as the balancing item of the economic lifecycle account. Just as in the SNA, the balancing item cannot be measured independently, but is a

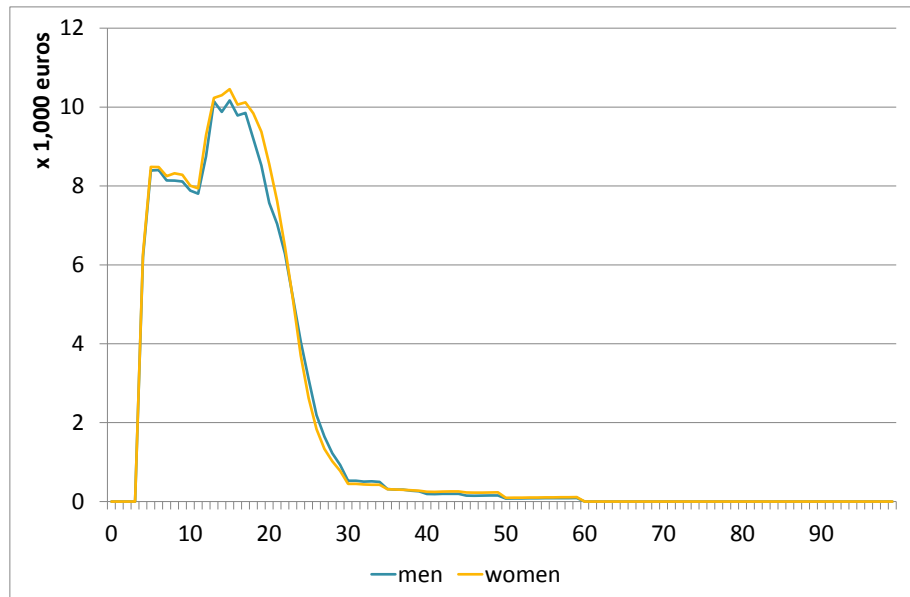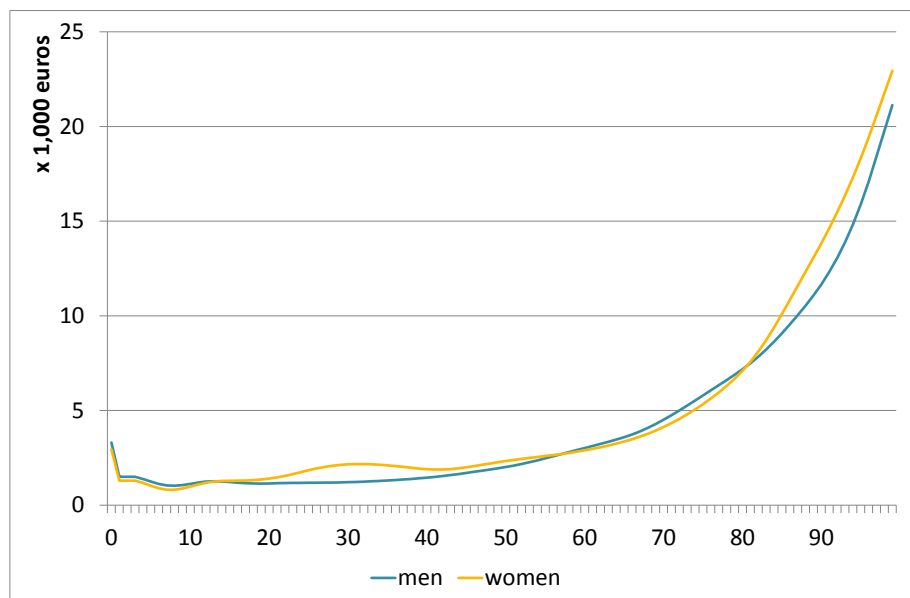**Figure 15   Average spending on education**

Figure 16   Average spending on healthcare

derivative of other variables. It does however give an interesting insight into the dependent and independent age groups. For men the LCD is negative (a negative deficit meaning a surplus in labour income after subtracting consumption) from 25 – 63 years. For women the LCD is barely

Figure 17   Total spending per age group on total social transfers in kind by component (2010)
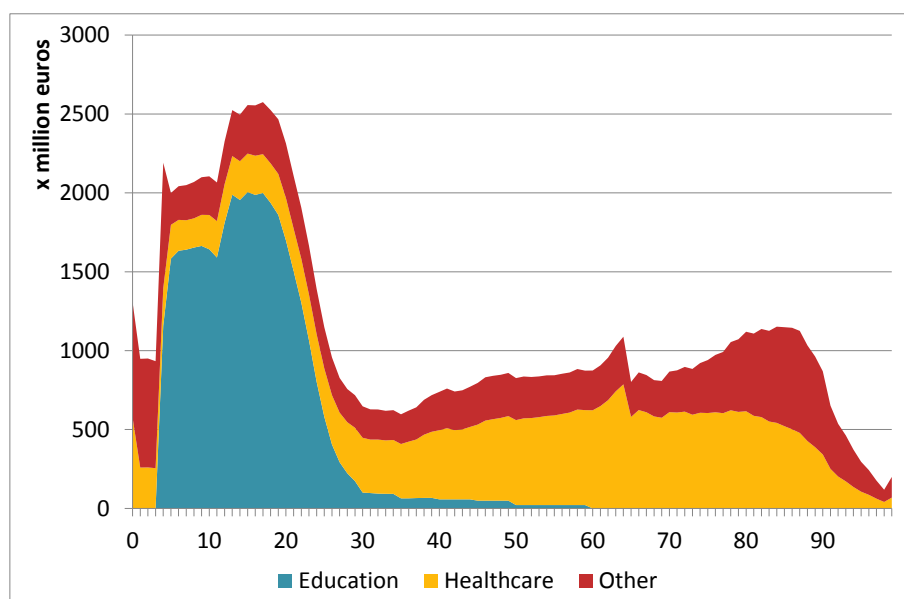
negative from 27-55 years. The same is shown by the aggregate values. Figure 18 clearly shows the difference between men and women, coming from the differences in labour income. The total LCD, as an aggregate over all age groups and gender, amounts to 30 billion euros in 2010. This means we either have to increase our labour income, or reduce consumption to achieve a sustainable level .

The lifecycle deficit of women (shown in figure 18) is similar to that of men during the first dependent stage. However, in the second dependent stages, the LCD of women is larger as women have higher healthcare costs than men during these ages. This is even better reflected in the aggregates shown in figures 19 and 20. The LCD has to be covered by intergenerational transfers. During the youth phase these are for example public transfers for education, or private transfers (intrahousehold) to cover private consumption. Also during the second stage of dependency public and private transfers are important instruments to cover consumption needs, but also asset income can be used.

4.2   Transfer Reallocations

The transfers and asset reallocations together from the intergenerational flows, these are called reallocations. Transfers can either be public or private. The public transfers are all flows that are intermediated by the government. These include taxes and social contributions (outflows) and social benefits and the public consumption / social transfers in kind (inflows). The public consumption is covered in previous sections, here the focus will be on the social contributions and benefits and the taxes.

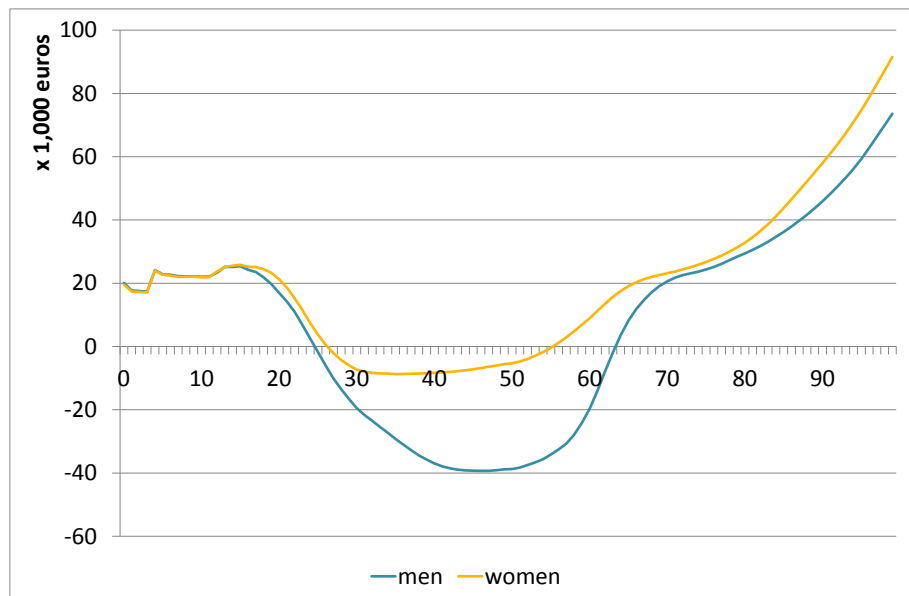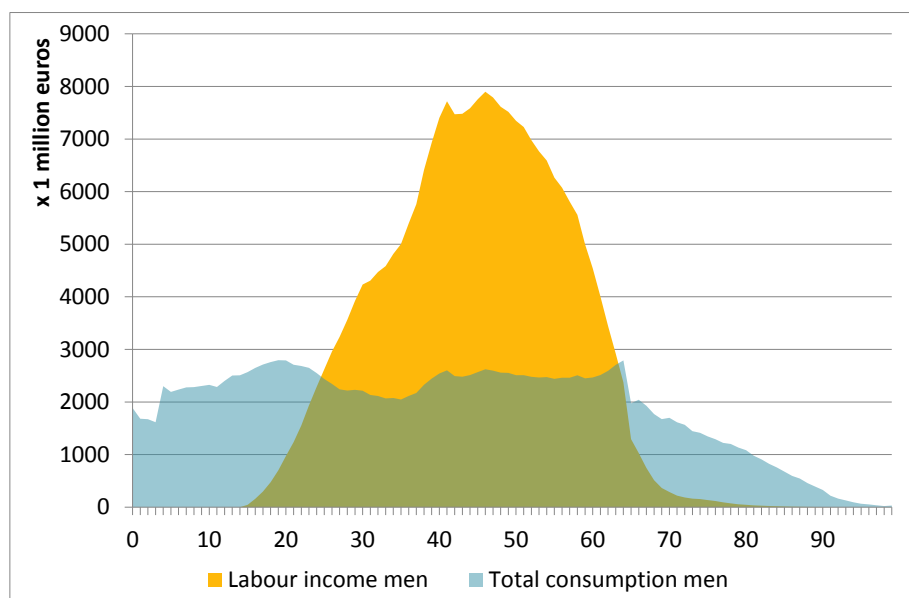**Figure 18   Lifecycle deficit for men and women (2010)**

Figure 19   Aggregate labour income and consumption for men (2010)

The social contributions and benefits can be further specified to the purpose of the schemes. On the benefit side (see figure 21) we identify disability schemes (WAO), unfunded pensions (AOW and ANW) and unemployment benefits (WW). On the contributions side (figures 22) we identify

Figure 20   Aggregate labour income and consumption for women (2010)
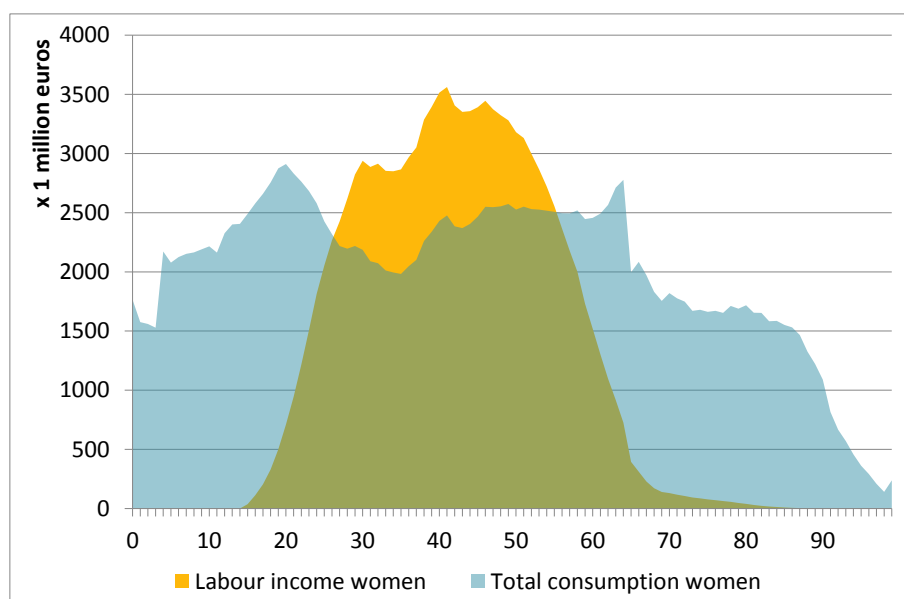
the same schemes. Not presented in these figures, but also specified in the calculations, are the benefits paid out of public funds and the contributions paid for the healthcare insurance act (ZVW) and the exceptional medical expenses act (AWBZ).

Combining the aggregate values for the benefits and contributions gives a clear picture of the challenges that the government faces for the decades to come. The disability and unemployment benefits are fully covered by the contributions, but this is not true for the unfunded pensions (see figure 23). The challenge here is that the aging society results in more elderly people benefiting the unfunded pensions and less people contributing to it. For the unemployment and disability schemes we see that the benefits increase with the age, until retirement is reached. Further increasing the retirement age relieves the burden of the unfunded pensions, but might increase the burden of the other social schemes for the government. On the other hand the contributions are paid by a larger group as well. The taxes on consumption follow the pattern of the private consumption. The difference is that the taxes for the young (0-15 years old) are put to zero and are taken into account by the intrahousehold transfers. The age profiles for the net public transfers (transfer inflow minus transfer outflow) differ between men and women, mainly in the working stage. This result is related to the labour income difference; because men earn a higher labour income it is clear that they also pay higher income taxes. Also the social contributions are on average higher for men than women, following a similar pattern as the labour income. Total net public transfers are positive (33 billion euros), which means that the government spends more on transfers than it receives from households. For men the net public transfers are slightly negative, for women they are positive. Net private transfers are negative, mainly because the funded pension benefits are part of this balancing item. In the Netherlands the employment related pension scheme is rather large, and currently more is saved for future pension benefits than is paid out. The NTA proposes to place the funded pensions in the asset based reallocation account, because they see these flows as

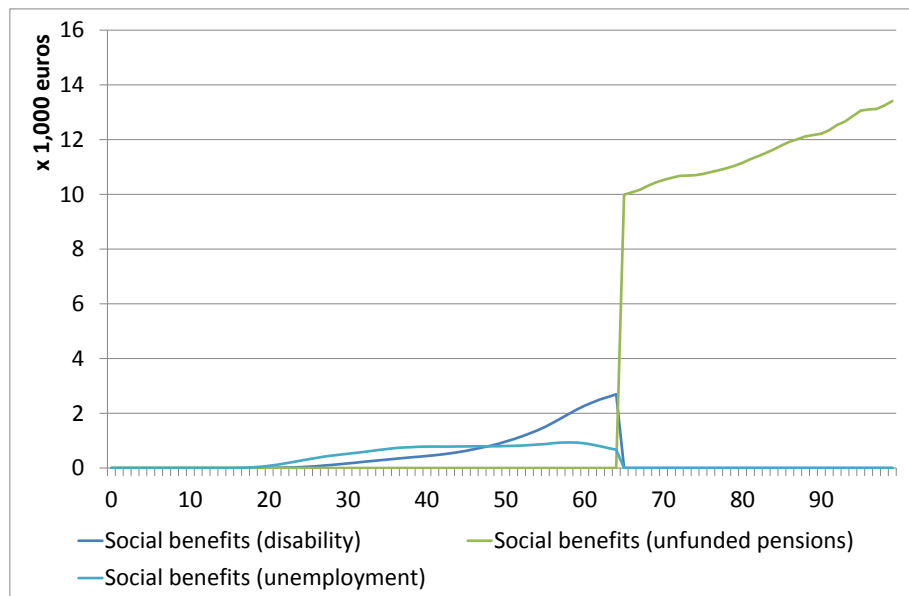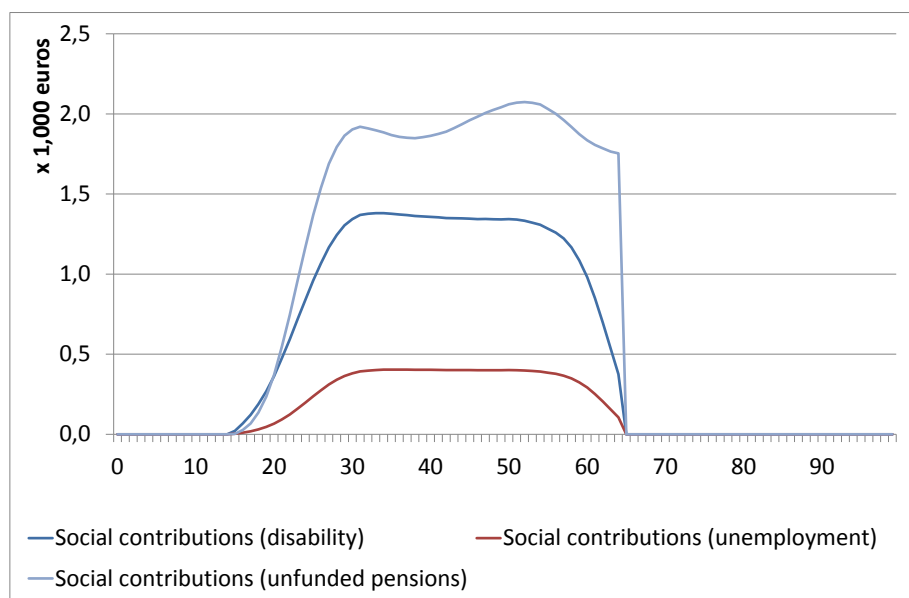**Figure 21   Social benefits for the total population (2010)**

Figure 22   Social contributions for the total population (2010)

savings. SNA both records these flows as savings and income, we prefer to follow the SNA and treat these flows as current transfers. The SNA also includes an adjustment item, which treats the difference between the contributions paid and benefits received as savings. This adjustment

Figure 23   Aggregate values per age group for unfunded pension benefits and contributions (2010)
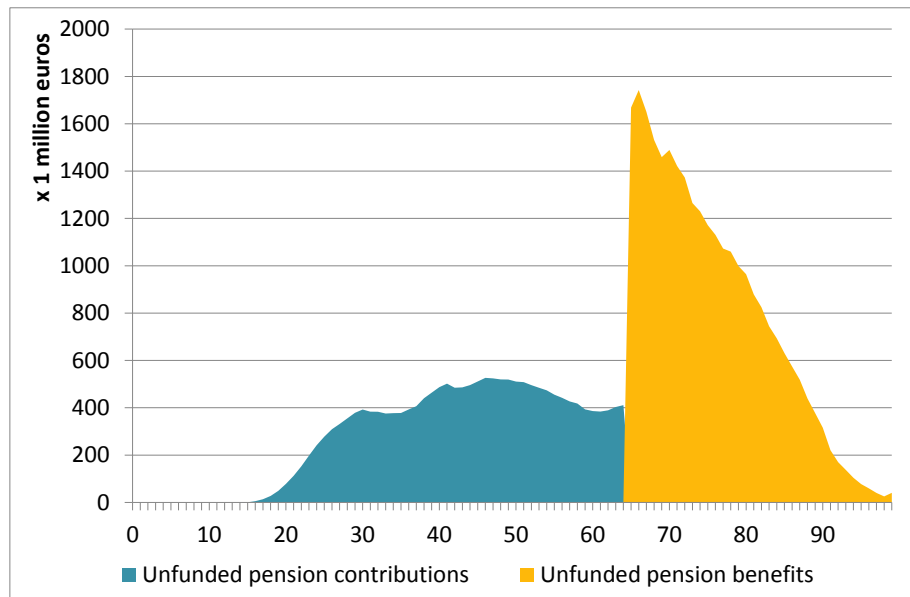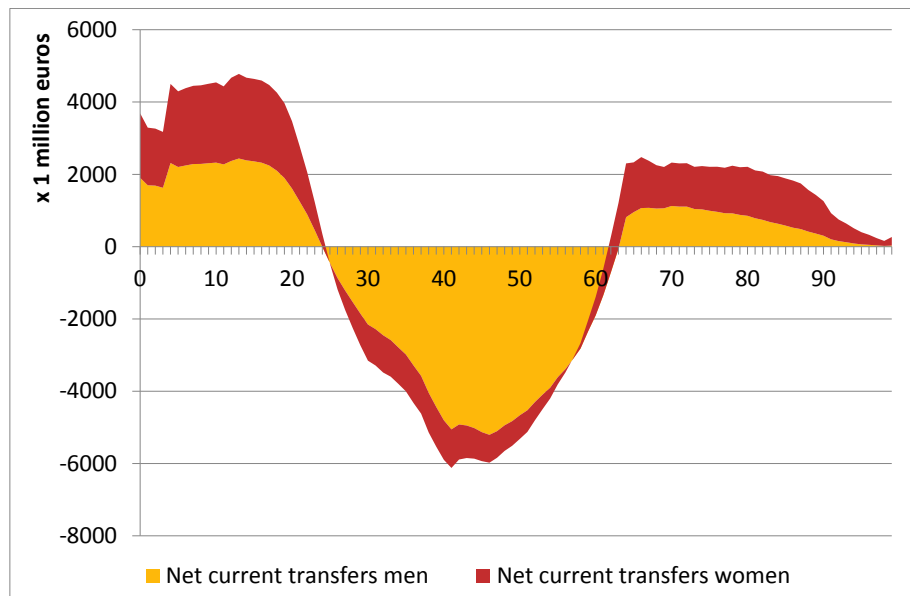

Figure 24   Net aggregate transfers per age group (2010)

item could be taken into account in the asset based reallocation account when also the link with the balance sheets is made,

The net intrahousehold transfers are zero for each household and therefore also on the macro level. Intrahousehold transfers flow from the nucleus of the household to the children. This is again a deviation of the NTA approach where the head of the household is the only person paying intrahousehold flows to all the other members. Our results are therefore less gender biased, because the head of the household is often male. The NTA approach leads to larger flows from men to women than we find. Still we find that men pay more intrahousehold flows, simply because their income is higher and they have more to spent. The received intrahousehold flows are similar for men and women, because private consumption is not very different for children in these ages. For the young it is not possible to have outflows, as they are not part of the household nucleus, which is by definition formed by adults. From the direction

Figure 25   Intrahousehold transfer for men (2010)

—Intrahousehold transfer benefits men
—Intrahousehold transfer contributions men
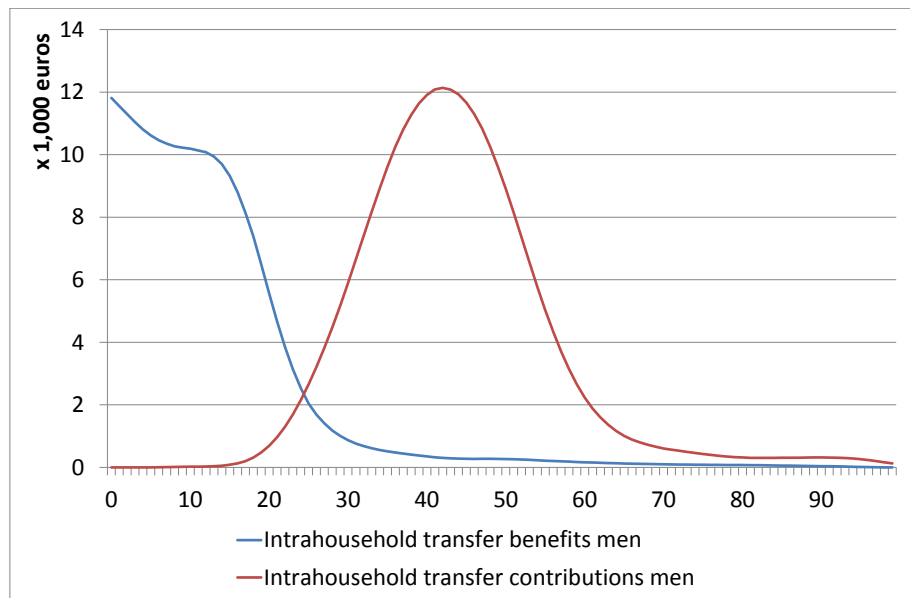
of these flows it can be derived which generation benefits the schemes. A flow is downward when the average age of the population who paid for it is larger than the average age of the population that receives it. Education is a downward flow, because mainly the young benefit these. Pension schemes are upward flows, because the ones who pay are younger than the ones who receive these flows. The results for the Netherlands in 2010 show the need for downward transfers, this can be derived from the mean ages of labour income and consumption. Because the mean age of consumption is lower than that of labour income, transfers are needed by the young more to finance consumption [13]. This is accounted for by downward transfers. This is a preferable situation when a society faces the prospects of aging, as this aging will lead to less youngsters, which will release the transfer burden. These findings are similar as those of Vaittinen and Vanne for example [14].

The direction of flows can be derived from the mean ages of specific flows. The average age of labour income for the Netherlands is 43.9 years, and for consumption this is 41.8. Table 8 shows the average ages for public and private transfers separately. Both the private and the public

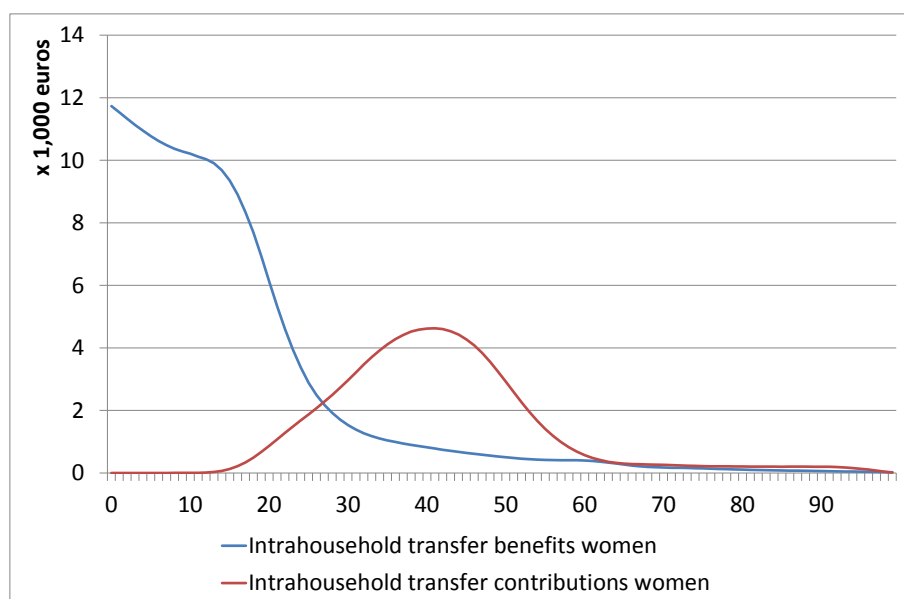**Figure 26   Intrahousehold transfer for women (2010)**


Table 8   Average ages of current transfers.

	inflow	outflow
Private transfers	39.4 yrs	46.2 yrs
Public transfers	45.1 yrs	46.0 yrs

transfer flow downward, where the gap between the private transfer inflows and outflows is largest. This is due to the inclusion of intrahousehold transfers, which flow to the children.

4.3   Asset Based Reallocations

The net asset reallocations consist of the operating surplus and net property income. In 2010 operating surplus was rather small. Production was comparable to other years, but because intermediate use was rather large, the resulting operating surplus is small. The age profile in figure 27 is therefore not very distinctive. The operating surplus is zero for the ages until 15 years old, because it is only when people start working it is possible to accumulate assets and receive income from those assets. Net property income is negative for only a few age groups, 26 − 34, because paid interest on mortgages is higher than the property income received. Property income received is high because it also includes the income attributed to insurance policy holders, which is the return on the assets held by pension funds and insurers. The distinction between men and women is influenced by measurement problems, property income is one of the income components for which corrections are made, because fiscal partners can shift these income items to lower the tax base. Also, some of the distributional information is not measured, but imputed in the micro sources. Our corrections prevent a possible gender bias in the tax data. Because allocation is done to the household head (in case of imputation) or the

Figure 27   Assets based reallocations by age group (2010)
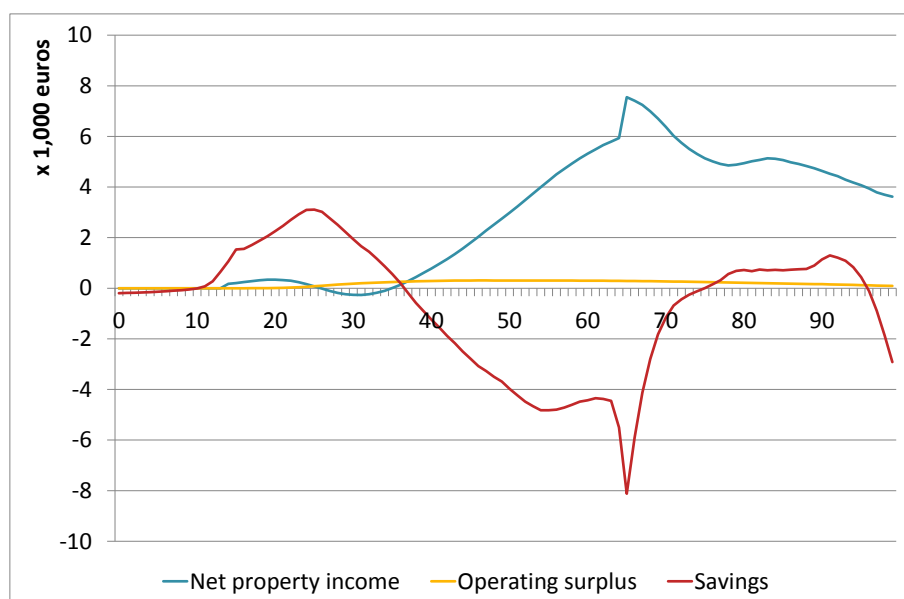
person with the highest personal income (in case of tax shifting) often the men in the household receives these flows, but not in our approach.

Savings are the closing component of the system, as these are not independently observed. Positive savings in figure 27 mean that those age groups derive income from savings, so these are dissavings. At 37 savings become negative, so people in this age group have more income than they need for consumption and transfers. After the retirement age this logically decreases again, and people start to dissave again. The oldest age groups save, but the ages above 90 are very volatile, because of the small numbers in the micro data. The savings are determined after intrahousehold transfers, these flow towards children, so for them savings are zero. This pattern is largely what is to be expected from the lifecycle hypothesis [2]. Only the dissaving for the elderly over 95 is counterintuitive, but this can be due to the poor coverage of these people in the survey data. When the adjustment of private pensions is taken into account in the asset based reallocations account as well, dissavings is much larger for this group. The peak of savings around 65 years is due to the net public transfers which turn from negative to positive around this age. As this is a very interesting age group, further research should carefully consider the accuracy of these results.

5   Conclusions and further research

This paper presents the first experimental results of the National Transfer Accounts methodology for the Netherlands. Following this methodology we added age profiles (by gender) to the System of National Accounts, bringing forward the intergenerational flows, and

allowing for the analysis of the economics of aging. Just as the economic lifecycle hypothesis states, individuals are dependent on intergenerational transfers in two phases of their lives. The young mainly depend on their parents and the government, whereas the elderly receive many public transfers, but also retrieve income from assets.

Constructing the NTA is done by linking distributional information taken from micro data sources to the SNA. This construction is troubled because of many reasons: data availability, conceptual differences between micro and macro data, or simply because of tax regulations which allows partners to jointly file their tax returns. For all of these issues choices are made in the way that we believe best represents the distribution of the SNA transactions, but improvement is very well possible. When new data sources become available this might decrease the need for assumptions or imputations that are currently made. And when insights into the conceptual differences improves distributions can be made on a finer level, also improving the distribution of the total.

The resulting National Transfer Accounts presented in this paper show that the lifecylce hypothesis holds, except for the very old. Dissavings of the elderly are however small. This is partly because the dissaving due to received pension benefits is left out of the current scope. Transfers flow downward, which is favourable in an aging society, as the demographic developments will result in relatively fewer young people. Transfers to the young will therefore decrease, allowing for higher future consumption. So even though public transfers for the elderly are vulnerable considering the increase in elderly people, the total transfer system seems prepared for the challenge.

Further research not only focuses on improvement of the current state presented here, but also on broadening the scope. Currently the NTA project focuses on the flow accounts presented here, but inclusion of capital transfers and the wealth accounts is the next step. Within Statistics Netherlands sufficient data possibilities are available to include these. Also taking into account the non-market production would yield possibilities to better analyze the intergenerational flows, and also the market versus non-market trade-off of transfers. This non-market production is however not part of the core SNA, but this could be added within the NTA framework as new concepts. By doing this, the understanding of the intergenerational flows within the household would improve, but it would also yield a better view on household welfare [12].

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