Linking social expenditures to household lifestyles

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Abstract

Communities and governments in all societies provide social assistance for temporary setbacks and long-lasting misfortunes that befall individuals and households. EU countries have traditionally provided a relatively extensive safety net supported by the success of their market economies. Now EU social welfare systems are being subjected to massive shifts in demographics, to difficulty in financing social services, and to changing notions about the social contract. There is reason to believe that self-reliance will become more important than in the past at least for certain segments of the EU population. Households, along with corporate and government decision-makers, are key economic actors within civic society and potential agents of social change. Bold scenarios about the future and analysis rooted in social science theory and method can be a powerful combination for informing personal and community initiatives as well as social welfare policies. Structural economics is a framework for organising quantitative information about production and consumption activities into a database and using it to analyse scenarios about the future. Through the social accounting matrix, this approach is generalised to describe activities of social institutions and link technological changes to changes in social structures. This matrix is also useful in its own right as a set of consistent descriptive statistics that are an extension of data collected by national statistical offices.

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1. Introduction

The countries of the European Union face increasing challenges in the decades ahead both in the formulation of social welfare policies that are relevant to their changing populations and in the ability to pay for them. Changes in people’s material situations, values and attitudes are reflected in where they choose to live and with...
whom, their reproductive behaviour, and their expectations about a good life and an appropriate social welfare system. New information technologies affect the education and training that are required to prepare effective citizens and productive employees, and new biological technologies impact food, health, reproduction and personal identity as associated with each person’s unique genome. The planned enlargement of the EU to include culturally and economically diverse populations exacerbates the already daunting task of further integration. At the same time that the demands on social welfare systems are being transformed and in many ways intensified, the nature of the system is also changing. Constraints on resources are causing national governments to seek ways to improve efficiency in the provision and targeting of services and to rethink the funding basis for individual programs [1,2]. The extent of support and the kinds of services to be provided in the future remain open questions.

The forces for change affect the lifestyle decisions of households, and households and their members are central actors in the social and economic institutions through which these forces work themselves out. A better understanding of present social structures, and scenarios about how they might evolve, can inform the planning of government agencies and the decisions taken by households and other actors in civic society. Section 1 describes the challenges to the social welfare system and the relation to lifestyle decisions. Developing scenarios about the future of the social welfare system is discussed in Section 2. Section 3 proposes a framework for analysing scenarios, describing in particular the social accounting matrix, which is a highly structured quantitative representation of household lifestyles and of social expenditures and the relationships between them. Finally, a simple conceptual model for carrying out this analysis using a social accounting representation is presented.

2. The social welfare system and household lifestyles

Public expenditures for social welfare are affected by perceived needs, the state of the economy, and policy decisions about social responsibility. Expenditures for social protection account for a large share of the public budget in EU countries and amount on average to about 28% of GDP. The ratio ranges from about 18% in Ireland, through 22% in Greece, Spain and Portugal, to over 30% in France, Belgium, Germany, the Netherlands and the three Nordic countries, with Sweden having the highest rate at around 35% of GDP [3, p. 26]. Spending on old-age and survivors’ benefits accounts for by far the largest element of social protection (12% of GDP), followed by health care (6%), with most of the rest accounted for by disability and unemployment benefits; assistance to families and children; and assistance for sickness, housing and integrating marginal populations (reducing “social exclusion”) [2, p. 14]. Adding the total EU budget for education at just over 5% of GDP [4, p. 32], expenditures for social protection and education combined account for a full third of GDP.

One of the greatest concerns of European policy makers is the pressure building on the public pension system. The increasing life expectancy of the elderly, coupled
with the popularity of early retirement, is expected to result in labour shortages and a larger burden on the active working population (i.e., increased old-age dependency ratio). As the baby boom generation moves through its life cycle, the age group from 50–64 will have increased by more than 25% between 1995 and 2015, while the growth rate of people of retirement age (65+) and the very old (80+) will approach 30 and 40%, respectively [5, p. 7]. The significance of these facts, combined with low rates of fertility, will affect all aspects of social and economic life. There will be a shift in relative demand from elementary schools to services and homes for the elderly as well as significant implications for labour markets and family structure. More generations will be alive simultaneously, and there will be fewer siblings and more one-child and no-child households [6]. It used to be that people lived pretty much like others of similar education, similar jobs, and similar means. However, the affluence that has made early retirement available to a broad segment of the population, due in large measure to the rapid succession of new technological developments, has also made possible a multitude of lifestyle options. Changes in lifestyles, which include the expanded role of women in the labour force both to increase income and as the expression of a changed psychology and social role, are reinforcing low fertility rates and changing consumption patterns.

Ageing of the population has major consequences for the health-care system. The EU in addition needs to contend with wide differences in health status within and across countries and high levels of premature death (one-fifth of all deaths are called premature, i.e., before the age of 65) from diseases related to lifestyle including the emergence of new infectious diseases, such as HIV/AIDS or the Creutzfeld Jacob Disease [2,7].

Health-care professionals recognise the crucial impact of lifestyle decisions for the incidence of illness and for longevity. Table 1 gives an overview of the relation between certain diseases and lifestyle-related risk factors. The intake of food and drink, and the choice of recreational activities (notably physical exercise), are identified as major factors affecting the incidence of disease.

The education systems in all countries need to respond to major changes in both

<table>
<thead>
<tr>
<th>Smoking</th>
<th>Unhealthy nutrition</th>
<th>Obesity</th>
<th>Sedentary lifestyle</th>
<th>Alcohol consumption</th>
<th>Unsafe practices</th>
</tr>
</thead>
<tbody>
<tr>
<td>Coronary heart disease</td>
<td>x</td>
<td>x</td>
<td>x</td>
<td>x</td>
<td></td>
</tr>
<tr>
<td>Stroke</td>
<td>x</td>
<td>x</td>
<td>x</td>
<td>x</td>
<td></td>
</tr>
<tr>
<td>Cancer</td>
<td>x</td>
<td>x</td>
<td>x</td>
<td>x</td>
<td></td>
</tr>
<tr>
<td>Diabetes</td>
<td>x</td>
<td>x</td>
<td>x</td>
<td>x</td>
<td></td>
</tr>
<tr>
<td>Hypertension</td>
<td>x</td>
<td>x</td>
<td>x</td>
<td>x</td>
<td></td>
</tr>
<tr>
<td>Injuries</td>
<td>x</td>
<td>x</td>
<td>x</td>
<td>x</td>
<td></td>
</tr>
<tr>
<td>AIDS</td>
<td>x</td>
<td>x</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

a Source: Adapted from [23]
demography and technology. Family size is fundamentally a household decision, and the age distribution is a crucial determinant of the mix of educational services needed. Upgrading of technical skills through life-long learning is an integral part of a knowledge-based economy and will be accomplished through a mix of private and public initiatives. Ensuring wide access to the information society’s key tools, and to literacy training in the effective use of information and communication technologies, is rightly viewed as a public responsibility—the contemporary equivalent of teaching basic reading, writing, and arithmetic. Virtual education might lead to a new conception of the school as a learning space [3]. The public education system has been slow in taking on the challenges associated with technology-supported learning and lifelong learning [1]. Given the size of the investments in question, a close examination of likely future demand for different kinds of services is justified.

The demand for social services is clearly related to the numbers of households of different kinds and their lifestyle decisions. So is the revenue available to pay the social welfare bills through the various taxes paid by households as employees, consumers, and owners of property and financial assets.

3. Scenarios about the future

The factors governing future social services will evolve in ways that cannot be fully anticipated. Arguably the most useful input that can be provided today to government agencies charged with these responsibilities is to offer bold visions about how key variables may change in the future coupled with an analytic framework for analysing the plausibility and implications of alternative scenarios. Such an effort brings us into the territory of both futurists and social scientists, two communities that are distinct despite some overlap. A number of recent articles indicate the desire of futurists to build bridges over this divide. Niiniluoto describes the search of futures studies for an identity as a new academic discipline among the design sciences [8]. Masini identifies a two-way challenge that should be issued between futures studies and the social sciences, where the latter need a more emphatically future-oriented perspective while the former require more methodological rigor [9]. McMaster emphasises the need to pose the right questions and to address them through an understanding of the relation between structure and design. He argues that we need to understand the structure of the present to have a feel for the structure of the future [10]. Fontela, a futurist and economist, is the most explicit about the nature of the marriage and calls for bold scenarios from futurists combined with quantitative models that are formulated by economists at meso-level economic detail [11].

Structural economics features models of the economy at a meso-level of detail and includes the well-known input-output models, which have a long history in the analysis of industrial activity and technological change. This structural approach is also well suited to the analysis of households and demographic and lifestyle changes. The so-called social accounting matrix extends the more familiar input-output table by the inclusion of substantial detail about household activities and government expenditures and can be analysed using similar methods. Structural economists are
concerned with substantial rather than incremental changes and are accustomed to analysing scenarios about the future. Nonetheless, their scenarios may strike futurists as conservative and unimaginative. Economists in turn may value futurists’ scenarios but are critical of the frequent lack of quantification and analysis. The prospects for a fruitful collaboration are promising. Scenarios need to be expressed in terms of the variables and parameters in the database and model, and the model and database need to be formulated in terms of the variables and parameters that are needed to describe the scenarios. This convergence is the essence of the collaboration.

3.1. Household lifestyles

For the policy community, the citizenry is a collection of individuals who are relatively passive, in that desirable changes in their behaviour need to be guided by incentives, laws, and educational campaigns. For economists, the population consists of individual consumers. Private consumption accounts for the lion’s share of national income in all parts of the world (57% in the EU), so consumers have the potential to be viewed, and to view themselves, as important decision-makers. Structural economists recognise that major decisions of social significance are often only weakly related to economic considerations faced by the individual, as most day-to-day decisions are taken by larger units, notably at the level of the household. In addition, there is repeated evidence that people will be proactive when they perceive important discrepancies between how things are and how they want them to be. Examples of sharp departures from routine behaviour are social movements, such as the women’s movement or the environmental movement. In these situations, people are active agents, who can and do deliberate and inform themselves, anticipate the consequences of decisions made by others, are concerned about justice and fairness, and act in concert with others with similar objectives. One of the most important current challenges to the social sciences is developing a sufficiently rich conception of people as decision makers so that households are viewed, beside corporate managers and government policy makers, as the agents of change, with economic power, that they are in reality.

We suggest that the activities of virtually all households can be described in terms of 17 areas, which are identified in Table 2. The activities pertain to goods and services bought, exchanged, or produced for oneself or others. They also reflect the major ways people spend their time. The commonalities among households at this level of detail are striking. However, there are also striking differences in how these activities are carried out. While all households provide food for their members (the first category in Table 2) and often eat together (this is generally the anthropologist’s definition of a household), there are systematic differences in diets and preparation methods and the prevalence of eating in and eating out, even within a given income category. With all ethnic cuisines available in many cities around the world, these differences reflect the lifestyles people construct for their households on the basis of exposure, personal and cultural preferences, and economic means.

While the activities in Table 2 are in principle independent, it is clear that many are related through physical interdependencies—such as housing, transportation, and
work for pay. Financial means, related to education and occupation, limit people’s options or enable experimentation. One would anticipate cultural commonality joining a household’s food preferences, health-care practices, and choices regarding recreation, entertainment and vacations. Culture cuts across class considerations in that households of similar socioeconomic status may make undeniably different lifestyle decisions. Yet the set of choices made by a particular household is not fundamentally unique because cultural preferences and practices are widely shared in the age of information, and the potential for distinctly different lifestyle behaviours is limited by our physical requirements, and by the infrastructure and institutions in place.

The pioneering work in grouping households with common lifestyles was done by market researchers in the US in the effort to increase sales of goods and services. The guiding idea was to describe each household in terms of a large number of variables, use statistical techniques to cluster the households in terms of similar patterns, and then name each cluster. Approximately 100 million households were classified into several dozen categories that revealed the importance of location, size of household, education, and position in the life cycle.

To illustrate these ideas, 13 lifestyle categories of EU households are shown in Table 3 along with their relative numerical importance in nine member countries. The claim is that all households in a particular country that fall into a given household category have similar ways of carrying out every day activities (in Table 2). Even in this abridged classification scheme, patterns related to age and location are apparent. Inspection of more detailed classification schemes (not shown) reveals that households tend to cluster according to their position in the life cycle. For example, there are clusters of young people living alone or in non-family settings, clusters of new, young families, of households with young children, of adults whose children have left home and of retired individuals. Thus this approach to describing households makes it possible to represent commonalities and differences among generations as

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1 As to the significance of location, note that Agrarian Heartlands and Farming Town Communities jointly represent more than a quarter of the total number of households (see Table 3, last column), but half the population in Ireland and only about 12% in the UK and the Netherlands.
Table 3
Classification of households and distribution of household types in 9 EU countries

<table>
<thead>
<tr>
<th>Household types</th>
<th>Household distribution by country</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Belgium</td>
</tr>
<tr>
<td>1. Agrarian heartlands</td>
<td>0.14</td>
</tr>
<tr>
<td>2. Farming town communities</td>
<td>0.17</td>
</tr>
<tr>
<td>3. De-Industrial legacy</td>
<td>0.12</td>
</tr>
<tr>
<td>4. Old wealth</td>
<td>0.08</td>
</tr>
<tr>
<td>5. Career-focused materialists</td>
<td>0.15</td>
</tr>
<tr>
<td>6. Midscale metro office worker</td>
<td>0.07</td>
</tr>
<tr>
<td>7. Greys, blue sea and mountain</td>
<td>0.03</td>
</tr>
<tr>
<td>8. Blue-collar self-sufficiency</td>
<td>0.09</td>
</tr>
<tr>
<td>9. Educated cosmopolitans</td>
<td>0.06</td>
</tr>
<tr>
<td>10. Inner city melting pot</td>
<td>0.05</td>
</tr>
<tr>
<td>11. Hardened dependency</td>
<td>0.01</td>
</tr>
<tr>
<td>12. Lower income elderly</td>
<td>0.03</td>
</tr>
<tr>
<td>13. Non-private residences</td>
<td>0</td>
</tr>
<tr>
<td>Total</td>
<td>1.00</td>
</tr>
<tr>
<td>Households (thousands)</td>
<td>3955</td>
</tr>
</tbody>
</table>

*a Source: Duchin [24] based on data from the website of the Global MOSAIC segmentation system of the Channel Marketing Corporation [25]*
well as across socioeconomic and cultural divides. National statistical offices around the world collect data about household consumption and employment but usually in aggregated categories. Duchin (1998) [20] has recommended the adoption by statistical offices of the kinds of household classifications discussed above.

3.2. Scenarios regarding household lifestyles

The development of scenarios is now familiar in the business world and in the policy community and is used increasingly by researchers concerned with related practical problems. The most useful scenarios are multi-faceted narratives constructed, as emphasised in an early definition, “for the purpose of focusing attention on causal processes and decision points” [12]. Today it is possible to proceed to a more structured analysis, with a division of labour between scenario builders with bold and imaginative visions about the future and social scientists with theory and methods for analysing them.

Rotmans et al. describe a process for building scenarios around three elements: substantive themes (like social services), sectors of the economy that are affected (like health care and education) and major actors or decision-makers. The last include representatives of government agencies and of corporate management as well NGOs and scientists [13]. In this paper we argue that categories of households need to be brought explicitly into the analysis and show how this can be done.

4. The analytic framework

4.1. The social accounting matrix

A social accounting matrix is a table of numbers that describe the flow of income through an economy at meso-level detail in terms of the dominant institutions, factors and activities. These three categories for organising the data match well with the structured approach to constructing scenarios proposed by Rotmans et al. [13]. The institutions consist of the agents, or decision-makers, which own the factors of production—different categories of labour, capital, and resources—and receive the income earned by them. The institutions, in turn, buy the goods and services flowing from the production activities that employ the factors of production. Institutions are defined to include corporations, government agencies, and households. Activities include moderately detailed manufacturing and service sectors. Table 4 shows a schematic representation with $n$ activities, $k$ factors, and $m$ institutions.

$A$ is the $n \times n$ matrix of inter-industry flows that are the heart of an input-output table. $C$ is the $n \times m$ matrix of consumption showing the purchase of goods and services by the institutions and the corresponding flow of income to the activities. $F$ is a $k \times n$ matrix showing the use of factors by the activities and the corresponding income paid to the factors. $A$, $C$, and $F$ are included in a standard input-output table.

The social accounting matrix includes two additional components. $W$ is an $m \times k$ matrix quantifying the transfer of income from factors to institutions while
Table 4
Structure of a social accounting matrix

<table>
<thead>
<tr>
<th>Expenditures by:</th>
<th>Activities ((n))</th>
<th>Factors ((k))</th>
<th>Institutions ((m))</th>
</tr>
</thead>
<tbody>
<tr>
<td>Receipts to (below):</td>
<td>(A \ (n \times n))</td>
<td>(C \ (n \times m))</td>
<td></td>
</tr>
<tr>
<td>Production activities ((n))</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Factors of production ((k))</td>
<td>(F \ (k \times n))</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Institutions ((m))</td>
<td>(W \ (m \times k))</td>
<td>(T \ (m \times m))</td>
<td></td>
</tr>
</tbody>
</table>

* Capital letters represent matrices of dimensions indicated in parentheses. Source: [20, p. 101]

\(T\) is the \(m \times m\) matrix showing the income transfers among institutions. The resulting social accounting matrix is square, of dimension \(n + k + m\). When all transactions are accounted for, the total value of all numbers in a row (the income received by the activity, factor, or institution named at the left) is by definition equal to the sum of figures in the corresponding column, which itemizes the expenditures.

If the institutions are defined to include different categories of households and the factors include workers of different occupations, then \(F\) shows the distribution of these workers among activities and \(W\) shows their distribution among households. \(T\) quantifies cash transfers, including taxes paid to the government by households and corporations as well as payments received by them from the government.

The conception of the social accounting matrix as a generalisation of the input-output table is due to Richard Stone [14], who envisaged for each nation an interlocking “set of social accounts for the systematic quantitative description of social systems, particularly in their economic aspect” [15]. These accounts have been implemented for a growing number of developing countries, mainly as a means to investigate scenarios about structural adjustment policies and the incidence of poverty. The matrix incorporates data from several sources and imposes a logic of consistency upon them, and a number of pioneering studies have appeared in the literature [16,17] including pathbreaking work on social welfare and public spending [18,19]. Nonetheless, many challenges remain for improving the data quality and expanding the size and level of detail of the matrices and extending their use. Perhaps the most fundamental technical requirement is the need for widely accepted classifications for institutions—in particular, households—and factors as well as guidelines for representing selected non-market transactions, notably social services that are partly or entirely subsidised. The data quality is highest for the portions of the matrix that correspond to the input-output table, the coverage of financial transaction \((W\) and \(T\)) still being rudimentary.

4.2. Household lifestyles in a social accounting matrix

The classification system for establishments producing goods and services, or the Standard Industrial Classification, is well established and is the basis for the representation of production activities in a social accounting matrix. Detailed classifications
of occupations have also been developed and could be used for disaggregating the relevant factors in the matrix.

The portion of the C matrix corresponding to households quantifies their consumption patterns, and we are proposing that an appropriate classification is one like that of Table 3 but sufficiently expanded to reflect cultural characteristics and life-cycle stages. One obstacle is that the idea comes from market researchers, a community foreign to the statistical offices that prepare official data. In addition, it is difficult to quantify the C and W matrices because censuses and government surveys are currently defined in terms of household classifications that are too aggregated (sometimes a single category for the entire population!). Some of these challenges are discussed in the final section of the paper. Quantifying the C matrix requires developing consumption data for each household activity as described in Table 2 and aggregating the data over all activities. W is based on data about all workers comprising a particular category of household.

### 4.3. Social expenditures in a social accounting matrix

The representation of social expenditures requires distinguishing government functions that provide services to individuals and households from those that provide transfer payments or pure public goods or perform essentially administrative functions. The former produce output comparable to those of the private economy, such as education and hospital care, and should be included among the activities in the social accounting matrix. To accommodate the special nature of these activities, government subsidy needs to be added as a factor of production (in F) that is paid out of government revenues (in W). These publicly-provided private services are delivered to the relevant households (in C), and the transfer payments (in T) are adjusted downward to compensate (see Round 1997 for further discussion [19]).

### 4.4. Analysis of scenarios using a social accounting matrix

A social accounting matrix is a compact quantitative description of the transactions resulting in the flow of income, and goods and services, through an economy in a given year. It is converted to a set of technical coefficients by dividing every entry by the corresponding column total. In this form a particular column shows the expenditures per unit of total income for each activity, factor or institution. Typically some income flows are treated as residuals. In Table 4, investment and international trade can be treated as the residual.

If we designate the social accounting matrix in coefficient form as M, the n + k + m vector of total income as x, and the vector of residual incomes as y, then the following equation holds: 

\[(I-M)x = y \text{ or } x = (I-M)^{-1}y\]

The inverse matrix is a generalisation of the so-called Leontief inverse of an input-output matrix of technical coefficients. Every element of the inverse reflects all elements of the original matrix, and it is in this way that the manipulation captures the interdependency among activities, factors, and institutions. If selected elements
of \( M \) are changed, in general all elements of the inverse will change because of these interdependencies.

The equation given above is the simplest form of analysis using a social accounting matrix and is adequate to illustrate the kinds of scenarios that can be investigated. Here are some examples:

- The delivery of public education services to households could be changed (in \( C \)) to reflect fewer services to children and more to adults, especially those in particular kinds of households. If this turns out to be more costly, the taxpayers will automatically assume the burden in proportions governed by their tax coefficients (in \( T \)). But these coefficients can in turn be adjusted to distribute the burden in alternative ways.
- Data could be collected from household surveys about the current diets of different categories of households. Then assumptions could be developed about the relation of these diets and possible new ones to demand for health-care services. The original matrix includes information about the reliance of each household type on private and public health-care services, and these coefficients would be adjusted according to the assumptions of the scenario. The computation would indicate how many savings could be achieved and how tax burdens could be reduced accordingly.
- Scenarios representing the ageing of the population could be explored by assuming an absolute increase in the proportion of households with elderly people. These assumptions will affect the demand for goods and services, including social services. The effects on costs of changes in the eligibility for pension benefits could be explored by changes in the coefficients (in \( T \)) governing the delivery of these benefits to recipient households.
- Much bolder scenarios also need to be envisaged. EU governments could respond to financial pressures by dramatically reducing welfare spending and requiring households to depend more heavily on their own resources. Scenario elements could include the phasing out of early retirement and increased prevalence of people holding multiple part-time jobs. Another possibility is changes in eligibility rules so that the most privileged receive reduced services but services to other categories of households are substantially expanded. Other scenarios could explore the implications of technological changes that are substantial enough to affect the needs and affluence of different parts of the population. The clearest examples are information technologies that make it common to do a much wider range of jobs from home or biological technologies that transform the economics of agriculture and eating habits, as well as health and health-care costs. The methods described above are well suited to exploring the implications of such changes in policies, technologies and behaviours.

4.5. Scenarios, social accounting matrices and economic models

The social accounting matrix comprises a useful set of descriptive statistics and can be manipulated in the simple but powerful ways described above. These ways
are powerful in that a simple equation captures fundamental interdependencies and can quantify their impact. Yet a lot of other relationships, such as changes in prices and subsequent effects on demand, are not explicitly specified in this equation. The analyst has a choice, to opt for a simple analysis and spin a story, itself a scenario, around it or to incorporate the social accounting matrix in a more comprehensive model of the economy. Most analyses to date have either been of this simple type or have used the matrix within a broader modelling framework. Duchin [20] develops a structural economic framework for analysis of changes in technologies and in household demographics and lifestyles and uses the framework to analyse changes in the practices of Indonesian households.

A major research challenge is to achieve the conceptual integration of scenarios with both the data and the model, three elements of analysis that are produced by only partially overlapping research communities. The research design needs to provide for dialogue among these communities to assure that the substantive content of the scenarios that are developed is not subsequently sacrificed in an unplanned way.

4.6. A social accounting matrix for the European Union

Social expenditures are linked to household lifestyles. As the EU, through increasing its membership, comes to include more kinds of households with changing demographics, the need for services will shift. But as the provision of services and eligibility for them changes, households will need to adjust their activities as well as their expectations. Scenarios reflecting different sets of assumptions about social expenditures and lifestyle decisions can be described within the structure of a social accounting matrix for the EU.

The discussion of Section 2 assumed the existence of a social accounting matrix for an individual country. In fact, few exist at the present time for EU countries. One way to proceed is to extend the input-output tables for EU countries into social accounting matrices that follow the same definitions and conventions and use compatible classifications for activities, factors, and institutions. Then it would be possible to analyse alternative scenarios for the countries individually but without capturing the interdependencies among them.

A second approach would be to develop a matrix for the EU as a whole. Here there are two further options. Activities, factors, and institutions could be represented without distinction as to their geographic location or ownership. Alternatively, they could be distinguished by their geographic locations so that the matrix captured the flows across country borders, and additional countries could easily be added to the original set. In either case, a set of institutions that serve the entire region could be included. These possibilities are explored in Round [22].

2 The most extensive data work and analysis in a developed country is in the Netherlands; see, for example, [21].
4.7. Case studies about households

National Accounts and input-output tables have become standard datasets in statistical offices around the world, and a growing number of nations also compile social accounting matrices. However, adequate classifications for households and other social institutions have not been developed, in large part because analysts are only beginning to demonstrate the need for them. We have attempted to show the value of such data for analysis to improve planning for social services. In addition, over the last several years concerns about environmental damage have provided a new motivation for interest in personal consumption and household lifestyles. The time may be right to take advantage of both interests to launch a new area of inquiry as the basis for a fuller description of household activities in the National Accounts.

The household classifications described in this paper were developed in the market research community on the basis of the bottom-up statistical clustering of data about millions of households. The outcome is sufficiently powerful that an international industry has developed around geodemographics and micro-marketing. Now that the feasibility of the effort has been amply demonstrated, a team of economists, sociologists, and anthropologists could set out to identify clusters using variables selected in the interest of promoting social welfare, developing methods and datasets that would be in the public domain. This research would require a careful design and should probably begin with the commissioning of case studies about specific categories of households, such as persons over age 65 living alone in an urban area, and specific activities, such as the diets of individuals in this and other household categories. The objective of the case studies would be to reveal key variables so as to make the data collection task manageable while focusing on households and activities of sufficient interest that the results could justify the effort independent of the larger ambition.

Many case studies of this type have been carried out about corporate and government activities. Academe, government, and industry all include experts in virtually all areas of production and management. Consultants are hired to develop and present alternative courses of action for corporate investment or government policy. Comparable services for households barely exist. Electric power utilities sometimes offer energy audits, and there are consumer guides and how-to books that offer common-sense advice about reducing waste (shut off the water while brushing your teeth). But the concept that one’s household has characteristic ways of carrying out major activities and that these can be examined and realistic alternatives considered, is a new concept. The fact that deep changes in lifestyles may require changes in institutions, like new legislation, or in the built infrastructure, like a public transportation system, should come as no surprise.

This research would be valuable for corporations selling goods and services, especially those with an interest in innovative goods and services, and for the government agencies that provide social services and collect the taxes to pay for them. More importantly, such analyses can help inform and empower households to act in their long-term common interests—surely the most important potential countervailing power in a democracy to competitive market forces.
References