

## Responding to Long-Term Policy Challenges

# Sugar Daddies, Airbus solution or liability?

We seem to be confronted with multiple long-term policy challenges. Why do these problems come about and how can we limit their impact? A four step agenda for research and public policy shall be considered.

By Detlef F. Sprinz

It appears we are surrounded by long-term policy problems. Public and private pension plans for the elderly are currently redesigned so as to close the gap between implicit entitlements given out in the past and the ability to actually honor those financial obligations. The level of public debt sharply restricts the opportunities for politicians to enjoy the fruits of pork barrel in countries such as Germany, Japan, France or Italy. Public health care systems seem to be stretched in some industrialized countries; and global climate change, if unabated, may lead to severe sea-level rise and subsequently dislocate substantial parts of the earth's population living in proximity of the coastal areas.

These problems have in common that they are long-term policy challenges. In subsequent sections, I briefly define this class of problems, followed by alternative rationales why such challenges come about, and offer a select set of institutional response options. I conclude by way of an agenda for research and public policy (1).

### Defining Long-Term Policy Challenges

Long-term policy challenges shall be defined as public policy issues that last at least one human generation, exhibit deep uncertainty exasperated by the depth of time, and engender public goods aspects both at the stage of problem generation as well as at the response stage.

First, a long-term problem exists only if the mechanism creating it leads to substantial adverse effects for at least a human generation of 25 years or remedies take an equally substantial amount of time. Political proposals by governments to undertake interventions like substantial devaluation of pension entitlements or substantial reductions in net debt by way of welfare cuts are unattractive to most electorates in the short run and thus are expected to lead to the removal of the government of the day. Opposition parties with a chance of being voted into of-

fice are likely to be only marginally more enthusiastic as they might fear a similar fate. For example, German mandatory pension entitlements have been downscaled by a reduction scheme stretching over two to three decades, but no one, including the government that initiated these changes, sees this as sufficient to solving the looming problem of underfunding the compulsory pay-as-you-go pension system.

Second, deep uncertainty, "a situation where the system model and the input parameters to the system model are not known or widely agreed on by the stakeholders to the decision", refers to the breadth of parameter values which we may contemplate (Lempert 2002). For example, there is considerable uncertainty regarding the price of carbon offsets under various choices of policy instruments, and we have little experience with accurately predicting the price of carbon offsets for a 50 percent emission reduction over the next half century.

Third, public goods aspects relate both to the generation of long-term policy challenges as well as ways to respond to them. Quite often, long-term policy challenges are generated by externalizing some cost to the public, both contemporaneously as well as intertemporaneously. For example, if historical carbon emissions already lead to uncompensated climate-related impacts now, then some past decision-makers will have benefitted, knowingly or unknowingly, from carbon releases at the expense of present generations. In addition, curbing future emissions itself is a public goods problem in a mostly decentralized world. Those countries serving as leaders may not witness immediate benefits for themselves, and future benefits may be quite uncertain, thereby making it profitable for only a small range of countries to venture into global public goods productions – and others to free-ride.

Overall, long-term policy challenges pose a rather difficult class of challenges that are beyond the scope of single parliaments, political and bureaucratic tenures in office, and yet have eschewed comparative research.

### Why Long-Term Policy Challenges Arise

Why do problems, such as underfunded pension plans, lack of infrastructure to protect society from the effects of natural disasters or climate change exist? In essence, there are at least two major explanatory routes. First, the time consistency problem may loom and not allow for consistent policy-making over time, and second, even if multiple generations are included in decision-making, a coalition of older generations and segments of younger generations may support intergenerational redistribu-

tion. In the following, I will briefly sketch both perspectives. In their seminal work on time inconsistency, Kydland and Prescott (1977) demonstrate that optimal choices at one point in time may be at odds with optimal choices taken at future points in time. Policies may be designed such that one policy rule is administered in the first period, for example encouraging low inflation by way of wage restraint. However, at a later point in time, it may be the best policy to actually permit some degree of inflation so as to reduce short-term unemployment. More generally, governments are tempted to renege on earlier promises. “The suboptimality arises because there is no mechanism to induce future policymakers to take into consideration the effect of their policy, via the expectations mechanisms, upon current decisions of agents” (Kydland / Prescott 1977).

For example, if it is not forbidden to build houses in flood plains, people will build houses in such locations while anticipating that the government will ultimately build dams so as to protect them or compensate them for flood damages incurred. This example was actually mentioned by Kydland and Prescott in their original 1977 publication which contributed to the award of the 2004 Nobel Prize in Economics (Kydland / Prescott 1977). It would have been preferable to forbid erecting housing in such areas and stick to the announced rule. As a consequence, no houses would have been built in risk-prone area; or only by risk-taking investors. Governments would have been saved from paying compensation. The current global financial liquidity and risk assessment crisis shows strong similarities to the flooding example on both sides of the Atlantic. As a result of their findings, Kydland and Prescott advice to bind present and future decision-makers, for example by having a fixed rule that is enforced over time rather than having easy discretion for change. The adherence to rules and its positive implications for government credibility had substantial impact on the design of institutions of monetary policy, especially the rule-based expansion of monetary aggregates that many central banks adhere to following the 1970s period of stagflation.

A second perspective on why intergenerational issues may arise, originates from models of intergenerational redistribution. For example, Tabellini (1991) builds a simple two generation model where the parent generation lives for two periods while the children generation only lives for one, that means they overlap for one period when they also take common decisions. While both generations receive initial endowments financed through government bonds, the parental generation also received unequal amounts of non-storable output and it can bequeath parts of its wealth to its offsprings.

### Institutional Response Options

Since the parental generation commands a first mover advantage, it can issue debts, but it faces the risk that future generations renege on repaying those bonds in the second period. In his model, Tabellini (1991) demonstrates that a coalition of parents and wealthy children supports the issuance of public

debt, although this has intergenerational redistributive effects. The logic supporting the finding is that wealthy children do not wish to endanger their bequests. For the findings to hold, the debt originally issued must be large enough and sufficiently widely spread so that a coalition of parents and children supports such a policy and does not renege on servicing the debts.

Both models alert us to the reasons why long-term policy challenges may come about. Besides the suggestion by Kydland and Prescott to use rules rather than discretion or Tabellini’s conclusion that there are boundaries to which older generations may impose a burden on future generations, there may be additional institutional response options for policy-makers. I will outline only a few of them below.

Merely calling for long-term problems to be overcome misses the problem, because they exist and persist. Thus, it is beneficial to know from which menu of options policymakers could make selections. This brief exploration comprises merely four options, including the

- sugar daddy solution,
- commitment to rule-based decisions,
- intergenerational accounting, and
- liability.

### Sugar Daddy Solution

Perhaps the most straightforward solution is to buy out the constituency that accounts for the problem. Following proposals by the European Commission to compensate its sugar beet industry in exchange for downsizing in the face of much lower world market prices for sugar cane, I will coin this the sugar daddy solution (Economist 2005). In this particular case, the adjustment is essentially financed by third parties, namely the taxpayers of the European Union in return for lower consumer prices. In essence, an external financier who is capable to solve the long-term policy challenge has to be found. Shifting the burden of adjustment to third parties will certainly be attempted, such as in pay-as-you-go pension systems, but it is unlikely that outsiders will assume responsibility voluntarily. Instead, relevant funds for financing the underfunded portions of pension plans, covering public debt, or financing mitigation of and adaptation to climate change will largely remain national obligations.

### Airbus Solution

The second response option has been foreshadowed by Kydland and Prescott (1977) when they proposed the creation of political institutions that follow rules over time and which are detached from day-to-day political interference. The creation of independent central banks which follow a pre-set path of monetary expansion serves as a good example, as does the consistent and hitherto successful funding of industrial projects, such as Airbus.

In the case of central bank independence, members of the relevant decision-making body are politically appointed, yet ex-

tremely hard to remove during their tenure. The principal goals of such autonomous bodies are normally enshrined in respective laws which provide broad policy guidance, while specific decisions are taken by committee rule. As a consequence, governments find themselves at times at loggerheads with their autonomous central banks as the effects of fiscal and monetary policy risk to cancel each other out.

A weaker version of rule-based decision-making can be witnessed in the creation of Airbus as a competitor to Boeing in the commercial aircraft business for carrying more than 100 passengers. In the early 1970s, Airbus did not yet deliver any aircrafts. By now, it controls roughly 50 percent of the relevant market. Airbus is the result of restructuring the European civilian aircraft industry by the governments of Germany, the United Kingdom, France and Spain who all saw that national industries would not be viable in global competition. Thus, they supported industry restructuring and provided so-called launch aid for new aircraft models such as the A380. Under a 1992 agreement with Boeing, up to 33 percent of the development costs of a new plane are borne by taxpayers. If the product is a commercial failure, launch aid turns into an outright subsidy. In the case of commercial success, however, the bonds are repaid with interest and royalty payments are due on total sales of this type of aircraft, essentially making taxpayers a project-based part-owner of Airbus. This innovative financing of industry projects could, for example, be applied to research and development for a transition to renewable energy sources. Other applications include targeted tax relief for private pension plans so as to avoid that retirees will unnecessarily draw on public welfare payments.

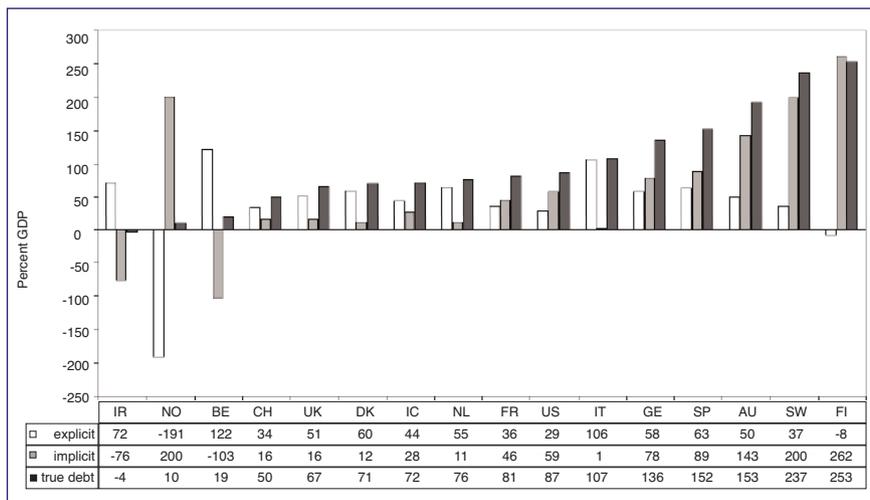
### Intergenerational Accounting

One way to capture the obligations which present societies impose on infinite future generations is the concept of inter-

temporal public liabilities. Originally developed by Auerbach, Gokhale, and Kotlikoff, it has been applied in country-specific, European-wide, as well as cross-national studies of the Organisation for Economic Co-operation and Development (OECD). Generational accounts “report for every generation alive the remaining net payments to the budget and distribute the resulting burden, or surplus, equally on all future generations” (Raffelhüschen 2002). They include both explicit government liabilities, such as those included in present law or commitment to repay public debt, as well as implicit liabilities, for example those caused by the second demographic transition to small families in advanced industrial societies. The major calculus builds on the infinite integral of discounted net tax revenues minus the present public debt. Taking the infinite integral involves judgment about economic growth and reforms of public entitlements. The latter are normally assessed by expert judgment. The resulting indicator of intertemporal public liabilities (IPL), expressed as a percentage of Gross Domestic Product is used to judge how sustainable public financial affairs are.

In an empirical study by Raffelhüschen (2002) of major OECD countries, only Ireland, Norway, and Belgium enjoy rather orderly public finances. Figure 1 illustrates also that Austria, Sweden, and Finland show the opposite pattern by having net IPLs of up to 2.5 times their GDP (Raffelhüschen 2002). While these results are dependent on the configuration of specific assumptions, they provide a coarse overview to which degree public finances are managed more or less prudently. In effect, if public entities would be audited and certified like private companies, such intertemporal public liabilities would have to be added to the balance sheet of the public sector. While such design does not assure a public response and does not preclude myopic reasoning by politicians and voters alike, it certainly is an accounting device that signals the exposure of the public sector. More generally, inducing transparency regarding long-term policy challenges, including associated uncertainties, would constitute a useful option.

Figure 1: Composition of the intertemporal public liabilities in a Cross-Country Comparison (1995), Indexation of Transfers according to legal status quo



Source: Raffelhüschen 2002

### Liability

Intertemporal public liability is an accounting and information device, but it could also form the foundation for intergenerational liability. It is astonishing to see the difference in liability which chief executives of private firms have to face as compared to holders of public office. Politicians essentially face only the threat of not being reelected, private sector Chief Executive Officers (CEOs) have to fear being sued for civil damages implying a threat to their private wealth and being subject to criminal law and imprisonment. For example, recklessly sending a

private company into bankruptcy normally constitutes grounds for exploring personal liability of private sector CEOs. Politicians rarely face such threats in advanced industrial societies for adverse public management outcomes. This could lead politicians to be more risk-taking than they would be in case of more adequate rules of liability.

Liability for public decisions of an intergenerational nature was, considered in a United States court case of environmental non-governmental organizations against the Overseas Private Investment Corporation and the Export-Import Bank in so far as the decisions of both entities have climate impacts on cities in the United States. More encouragingly, in the case of insuring against the effects of earthquakes, the California Earthquake Authority has built a publicly backed private insurance system that allows for homeowners to insure against damages that are likely to occur over longer time intervals in earthquake-prone areas. To avoid undue moral hazard, policy holders must normally accept a 10 to 15 percent deductible.

In conclusion, I have considered four possible solutions to design institutions to deal with long-term challenges. In particular, commitment to rule-based decisions, smart investment, transparency by generational accounting, and liability could be considered as general design options, to be augmented by a broader set of response options.

## Four challenges

This contribution has explored a definition of long-term policy challenges and reviewed a few mechanisms which demonstrate while they exist and persist. Responding to these challenges, some design options were discussed.

Research on comparative long-term policy challenges is a rather novel idea, yet likely to attract both academic attention and become relevant to public policy. Four challenges may lie ahe-

ad, and I invite readers to contribute to their resolution. First, we should undertake comparable evaluations of the magnitude of long-term policy issues. Second, we have to elaborate in more detail why long-term policy challenges arise. Third, we have to expand our menu of institutional response options. And finally, we ought to probe which institutional response options are politically feasible. Each of these steps is a major undertaking. The special issue of the Journal Global Environmental Politics on "Long-Term Policy Challenges", scheduled for late 2009, is merely a first step in this direction.

## Annotations

(1) This article is a condensed, in part verbatim, summary of: Sprinz, Detlef F.: Prediction: Breakthrough in Science, Markets, and Politics. Edited by F. Wayman, P. Williamson and B. Bueno de Mesquita. Ann Arbor, MI, The University of Michigan Press (forthcoming).

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# Nachhaltigkeit

# A-Z



# S wie soziales Engagement

Acht Monate lang reisten Jan, Tim und Matti durch Asien, Afrika und Lateinamerika. Sie trafen 33 »Sozialunternehmer« – Menschen, die nicht tatenlos zusehen, wenn etwas schief läuft, sondern auf eigene Faust gesellschaftliche Probleme bekämpfen. Die drei Studenten porträtierten diese »Sozialunternehmer« und ihre Projekte und geben konkrete Tipps, wie andere junge Menschen aktiv werden können.

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