

The finance-welfare state nexus

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Please note: this paper presents very preliminary results and they should be taken as such.

Abstract: Comparative welfare state research focuses on labour markets and has largely neglected financial markets. This paper explores what hypotheses comparative welfare state research entails regarding the relationship between welfare state and financial development. Do generous welfare states replace household finance as a source of social security or do they actually help retail financial markets to flourish by allowing them to piggy-back on public provisions or by providing universal income security? The answer is relevant for the question of whether the restructuring of welfare states since the mid-1980s contributed to the most severe crisis in the post-war era, for instance by enlisting financial markets in the provision of income security for households and thus exposing them to high risks. In this paper, we propose a systematic way of assessing the relationship between provisions of financial markets and public welfare, using structural vector auto-regression. We spell out the causal mechanisms that can account for a substitutive or complementary relationship and then see whether advanced econometric techniques find evidence for the existence of either of these mechanisms. Our preliminary results make us confident that a causal link runs from public social spending to private social spending and life insurance markets. And there is arguably a complementary relationship between public welfare and private finance in the five OECD countries we analyze.

Introduction

This is an explorative paper on a potential research programme, not a paper with a well-defined puzzle. We start from the observation that comparative welfare state research has largely neglected financial markets and focused on the social safety nets around the employment relationship. In turn, financial market research has largely neglected the welfare state even though private welfare institutions, such as pension funds and life insurers, are big financial players. We bring the two strands together as this allows us to re-examine our theories about the welfare state, on the one hand, and to study the effects of financial markets on households' social security, on the other.

The turmoil in financial markets since 2007 has reminded us how important this nexus is. Take old-age security of households with private pension wealth: as stock markets plunged in 2008-09, the assets of pension funds fell by about 15% in OECD countries (weighted average) and anyone who retired in these two years was at risk of their annuity incomes being significantly reduced.¹ Those who will retire in the coming decade will be hit by low interest rates in the aftermath of the crisis: £100,000 worth of savings convert into an annuity of £5,000 now, while the same amount of savings generated an annual income of £15,000 twenty years ago. Both risks, one related to the retirement date and the other to the rate of return to pension savings, are concrete example for the down-side

¹ In practice, governments often suspended rules that would have forced retirees to turn their (tax-subsidised) pension fund savings immediately into an annuity and thus realise large losses (ref#).

risks that financial markets entail; risks that for the living standard of middle-class households may be more significant than those from labour markets.

At the same time, it is hardly possible to stay away from financial markets as they provide households with saving vehicles, insurance products and credit that can smooth consumption – just as the welfare state does. And it is conceivable that financial market provisions will become even more relevant over the next decades as overstretched public finances make governments go for basic income support rather than the insurance of living standards, a trend that is already discernible in welfare state reforms.

The outline of our paper is as follows: in the next section, we infer from political and economic theories of the welfare state what they implicitly assume about the relationship to financial markets. Then we explain our empirical strategy, focusing on the causal mechanisms we assume in the model. In the fourth section we present first findings from an analysis based on structural vector auto-regressions. The conclusions outline where we would like to go from here.

Two views of the finance-welfare state nexus²

The relationship between public welfare and private finance has been explicitly discussed in the welfare state literature at least once, for the specific case of pensions and housing finance. Kemeny (1980) and Castles (1998) were the protagonists in a debate on why the prevalence of homeownership may be associated with a small welfare state, especially low public pensions. Kemeny made taxpayers' resistance responsible for lean pension provisions, ie where homeownership is high, indebted households of working age resent being taxed for generous social spending (see also Ansell 2011). Castles, by contrast, argued that the 'big tradeoff' results from the fact that a weak welfare state provides incentives for homeownership as a nest-egg. In other words, homeownership can act as the equivalent of a social insurance mechanism (see also Conley and Gifford 2006). While these two authors disagreed on the exact motivation of this relationship, they agreed that private finance substitutes for public welfare and vice versa.

This debate ties in with the mainstream of comparative welfare state research. In the tradition of Karl Polanyi's Great Transformation, Gøsta Esping-Andersen conceptualised all public welfare as 'decommodifying' labour by replacing earnings with income and in-kind transfers (Esping-Andersen 1990: 3). Decommodification extends logically to financial markets: insofar non-market income replaces earnings in the case of incapacity or unemployment, workers and their dependants have also no need to take recourse to savings, debt or private insurance. This more or less generous substitution of markets by the welfare state is ultimately the outcome of a political struggle of labour for protection from the vagaries of the capitalist economy (Iversen 2006).

In this political conceptualization of a substitutive relationship, the Polanyite tradition in welfare state research is backed by the old mainstream in welfare economics, from Pigou's Economics of Welfare (1920) to Okun's big tradeoff between equity and efficiency (1975). Welfare economists in this tradition agree that redistribution must be pursued against the tendency of market forces to settle for income maximizing but inequitable outcomes. In financial markets, this means that low-income or marginally employed individuals are excluded from access to credit, that homeownership

² Schelkle (2012a) elaborates further on these two views of the welfare state but not with reference to the finance nexus.

is out of reach for most households and that women get considerably lower annuities from their insurance companies. Policymakers who want to correct for these inequities must be prepared to forego aggregate income by taxing the well-off in order to compensate for these inequities.

Despite these overwhelming arguments for substitution, there is also a relevant strand in welfare state research that implies complementarity between public welfare and private finance. We can discern a pessimistic-political and an optimistic-economic view of this nexus. The pessimistic version goes back to Richard Titmuss (1958) who had great reservations against the notion of a 'welfare state', not only because of its teleological undercurrent, but also because the term concealed state patronage of special interests.³ He singled out the interests attached to 'occupational welfare', ie all employment related benefits, and professionals in social services themselves. In both cases, special interests push for an extension of the welfare state and market provisions for social purposes like private health insurance and pension plans through tax-subsidies. The increasing influence of financial interests should give the concomitant development of welfare states and financial markets a new impetus. The work of Howard (1997) and Hacker (2004) on the 'hidden welfare state', specifically the privatization of risk in old-age security and health care with the help of tax expenditures, belongs to this tradition.⁴

A more optimistic version of a complementary relationship can be found in the new economics of the welfare state that rationalizes social policy systematically as ways of correcting market failure (Barr 1992, 2012). Competition in areas of health, pensions or insurance is actually self-defeating, with less coverage and less income generation in its wake. But in the presence of public interventions that rein in exploitation, exclusion and opportunistic behaviour, financial markets may flourish and at the same time satisfy individual and collective needs.⁵ Lindert (2003) popularized the message by noting that the 'welfare state looks like a free lunch', achieving both equity and efficiency. His solution to the puzzle is that contestation among interest groups and electoral politics provide a check on overly generous benefits that favour predominantly certain groups. This leads, on average and in the long run, to welfare states, which exploit the spectrum of policies not subject to the big tradeoff between equity and efficiency.

Even the most optimistic new welfare economist would admit, however, that substitution may result from households' budget constraints. If social insurance is quite high and raised further, there may be little room for private pensions or private health insurance until the efficiency gains feed into higher net incomes. This will prove relevant for the interpretation of our results.

A third possibility is that there is no predictable connection between public welfare and private finance. Rising income may be the omitted variable that drives both the development of the welfare state and of financial markets but at different speeds and time horizons. Moreover, the causalities may run in both directions: big welfare states may crowd out finance where they were established before the Big Bang in the 1980s. Or strong financial services, including those of households invested

³ In this, he can be seen as a predecessor of the new politics of welfare (Pierson 2001) in that he stressed that social policy creates its own stakeholders.

⁴ Esping-Andersen (1990:92-94) conceded what was a 'paradox' of commodification along with decommodification in pensions to him, namely governments having built up public systems while they also promoted private provisions.

⁵ The relatively new and burgeoning strand in behavioural financial economics that studies households supports this message for minorities of poor, unsophisticated or naïve investors (Campbell 2006).

in the service, may prevent public offers from developing beyond a minimal level because a strong industry lobby and a private ownership ideology oppose them. Our empirical research design can uncover this third possibility of no significant relationship between welfare and finance as well as feedback effects.

Empirical strategy

This section first explains why we use the econometric technique of structural vector autoregression (SVAR), then which causal mechanisms between public welfare and private finance we assume and finally which data we use. This section can be skipped as the next section on the findings is self-contained; but those who are mildly interested can rest assured that we keep it as non-technical as possible.

The structural VAR's methodology⁶

VAR models are used if one wants to estimate time series that are interrelated by more than just time, so they are, in principle, correlated in more than a random way. *Structural* is a characterization in contrast to 'behavioural' and refers to the fact that these time series of variables may be related to each other as in a simultaneous equation model, so that we could predict the effect of an exogenous change (an 'intervention') on all variables at once through the system of equations. In contrast to simultaneous equation models, however, SVARs allow us to be agnostic as to which behaviour exactly generates this systematic and predictable relationship between series of variables. This does not mean that SVAR is inductive. We should use (political-)economic theory for why we assume certain relationships between these variables even if we do not know the functional form. SVARs are post-Lucas critique in the sense that one assumes that a shock can affect all variables (notably because the change was expected), rather than assume that such a change affects only a subset of variables directly and deterministically.

The first go at the data, the *VAR estimates*, allows us to find out whether there is a more than random relationship between the time series of variables. This relationship can itself change over time, ie analogous to a dynamic simultaneous equation model but without all the problems that dynamic simultaneous equation models run into, such as complex modelling and/or simplistic assumptions. This possible change over a horizon of 10 periods⁷ is revealed, on the one hand, by the *variance decomposition* in which we look at how much of the variance of a variable (such as private credit given by banks) is driven or explained by the variance of the other variables in the model (we are particularly interested in welfare state variables). Since we do this for all variables, we can also capture feedback effects (for instance whether variance in a welfare state variable is explained by private social spending or a financial market variable). On the other hand, we look at *impulse responses* which we get when all but the variable under consideration (say life insurance premia) are shocked by 1%. The results can be read like elasticities (ie the percentage change of a dependent variable in response to a 1% change in the independent variable). We can also infer whether the impulse response of the financial market variable to a shock in the welfare state variable is negative or positive, thus revealing the substitutive or complementary relationship, respectively, that we are after.

⁶ The following has benefitted from Sims (2002).

⁷ Since we use annual data this amounts to a time horizon of ten years which is rather long for VAR estimates.

The theoretical assumptions in our model

The ordering of the variables in a VAR(p) is crucial since it establishes the order of causality (or structure) in the economy, ie the theory underpinning the estimation. The first variable is assumed to determine the second and all subsequent variables, the second the third and all subsequent and so on. At the same time, the flexibility of the model also accommodates for feedback effects so that the second variable can have contemporary effects on the first, the third can have feedback effects on the first and second variables etc.

Our model consists of the following ordering (all six series of variables are measured in natural logs)⁸:

Public social spending per capita → Taxes (incl. social security contributions) per capita →
Output per capita → Private social spending per capita → average annual earnings →
Ratio of life insurance to non-life insurance premia

We think this captures the line of reasoning in old and new welfare economics and can be supported with political considerations, indicated above. We start with two fiscal variables, public social spending and (redistributive) taxes. The ordering implies that we assume governments determine their desired level of spending first and raise revenue in line with their spending plans. The two welfare state variables then determine private sector variables, such as GDP, private spending on social purposes such as health and pensions⁹ and average earnings. The fiscal variables can affect output negatively (the neoclassical distortionary-taxation story) or positively (the New Keynesian market-failure-amended story).¹⁰ Output, or value added in production determines private social spending¹¹ because of households' budget constraint. This determines average earnings, we assume because wage and salary earners ask for a take home pay that covers their spending on major items of social safety. The financial market variable we chose is a measure of insurance premia: spending on life insurance as a form of saving for old age. Private survivor benefit should rise with income as it is increasing with relative affluence of households and society as a whole (Engel's Law).¹²

When would in particular gross public social spending, the first variable in the causal chain of our model, be substitutive or complementary to spending on life insurance, the financial market variable at the end of the chain?

- Substitution is to be expected in a neoclassical economic reading of the model. Distortionary taxes to finance (higher) public social expenditure then has a negative effect on output and lower value added depresses the ability to spend privately along with earnings; hence, households face a tighter budget constraint for their demand of insurance services. The substitution story could also be explained more directly by the possibility of contracting out,

⁸ More specifications are available upon request. We here report only the most significant results.

⁹ We explain this interesting variable in the next sub-section on data issues.

¹⁰ The advantage of this ordering is that we do not have to decide which story holds since the model allows for either. Impulse responses could in principle detect which one makes more sense but we are not interested in neoclassical v New Keynesian economics here.

¹¹ Our indicator is voluntary and mandatory private spending.

¹² The use of a ratio works best in a technical sense because it increases the size of the variable compared to the others and scales it in a way that controls for the different sizes of insurance markets in different countries (presumably, where life insurance markets are big, non-life insurance markets are big and vice versa).

ie when governments offer individuals to take a private alternative to the public service. Examples for such substitution through contracting out are pensions in the UK or health insurance in Germany. The opposite movement of public and private social spending is expected to be more pronounced in a neoclassical reading of the model, as the private alternatives tend to be less redistributive and hence more efficient.

- Complementarity between public spending and private finance could be rationalised by pointing out that public social spending may increase output by making markets function better, in fact make some market provisions at all possible (through co-insurance or income maintenance that ensures households honouring their contracts). As security is a luxury good, households will spend part of the additional income on more tailored private services, like tuition for their children or supplementary health care insurance. This stimulus to demand will increase earnings and sales of insurance. There is also a direct link, namely when public welfare insures individually catastrophic risk while private insurance covers standard risk, a division of responsibilities that is for instance proposed for long-term care for which households have to pay only up to an insurable maximum amount.¹³ The public spending on care for the elderly would thus stimulate private spending on care insurance.

We run this model for five countries with reasonably good data: Canada as our benchmark non-European country, France, Germany, the Netherlands and Spain. They represent, ex ante, a diverse set of constellations as regards to welfare state size and the relevance of financial markets for their economies and households in particular.

Data issues and country cases

The relationship between finance and social welfare has received much less scholarly attention than the connection between finance and growth (Levine 2005). Hence, the limited data availability is a real issue, for instance there exists no data reaching back to the early 1980s on pension assets or mortgage credit. However, this is changing. The ECB is building up a database on household debt that it keeps under wraps so far. The World Bank collects and publishes time series indicators of financial development (Beck et al 2010) although they relate largely to corporate finance. The OECD has detailed and more meaningful data on social expenditure (Adema et al 2011). Other data sources include the IMF and Reuter's EcoWin, in particular for advanced economies that are our focus.

As a consequence, our country case studies had to be selected not least on the basis of data availability. Notably, this excluded Scandinavian countries. How do our countries compare with respect to our key variables, public and private social spending? The OECD provides a number of measures on the size of welfare states, among them the most widely used, *gross public social expenditure* on both cash transfers and services. This measure does not include benefits that are distributed through the tax system, ie the various forms of tax breaks for social purposes such as saving for old age or buying child care. Being a gross, ie before tax, measure, it also leaves out that benefits can be taxed and that beneficiaries pay taxes on their consumption.¹⁴ Nor does it take into account that governments make private spending on social purposes mandatory, for instance force

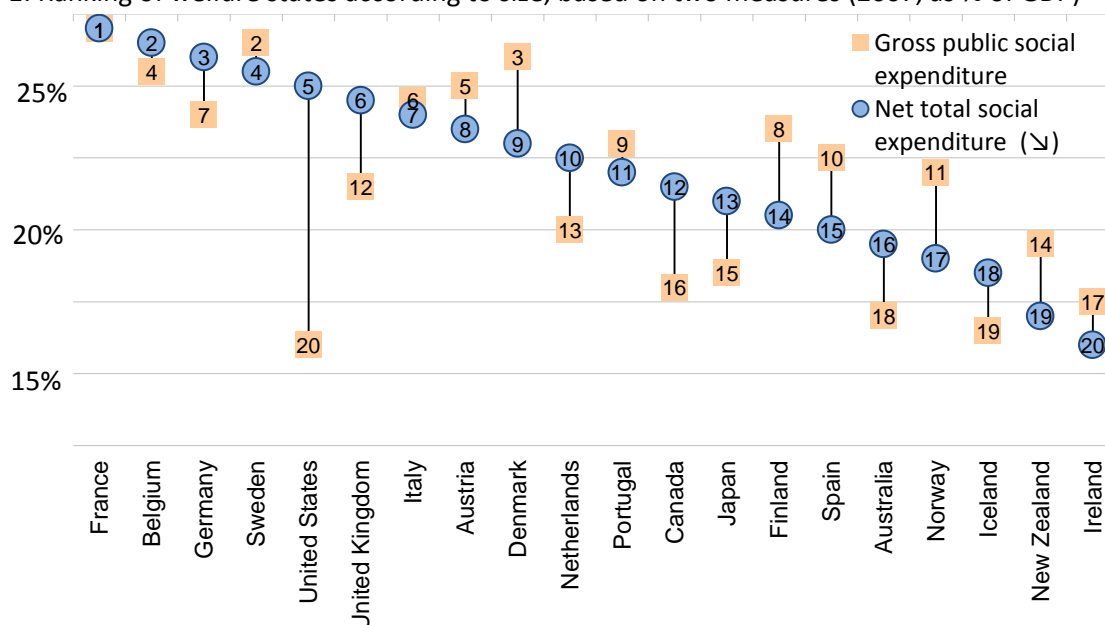
¹³ The cap that the Dilnot Commission on Care and Support recommended was £35,000 (URL: <http://www.dilnotcommission.dh.gov.uk/our-report/>, accessed 10/3/2013).

¹⁴ Indirect taxes are sometimes compensated, for instance when energy taxes go up, poor pensioners may get a higher winter fuel allowance.

employers or wage earners to buy insurance against accidents or occupational diseases. Governments also incentivise voluntary private spending for social purposes by making such spending tax-deductible, for instance on health insurance.¹⁵ Research since the mid-1990s, by Willem Adema and collaborators at the OECD, allows us now to take some of these indirect and hidden ways of public welfare provision into account.

The following graph shows for 20 OECD countries¹⁶ how the ranking of welfare states according to size changes as we move from measuring *gross* (before tax) *public* social expenditure to *net* (after tax) *total* (public and private) social expenditure. The latter measure, shown as blue dots, has not only taken into account a number of tax breaks for social purposes (TBSPs), direct taxes on benefits as well as indirect taxes on beneficiaries' spending, but also mandatory and voluntary private social spending. It is *social expenditure* in that it is for a 'social purpose' (ie serving one of nine policy areas) and involves compulsion and/or interpersonal redistribution incentivised by tax advantages (Adema et al 2011: 90-94, cf Gilbert 2010).

Fig. 1: Ranking of welfare states according to size, based on two measures (2007, as % of GDP)



Source: OECD SOCX data base 2011

We can see that France is now the country with the highest social expenditure, whatever measure we use. Germany is high, especially when tax benefits are taken into account, the Netherlands is middle while Canada and Spain are in the lower half of rankings.¹⁷

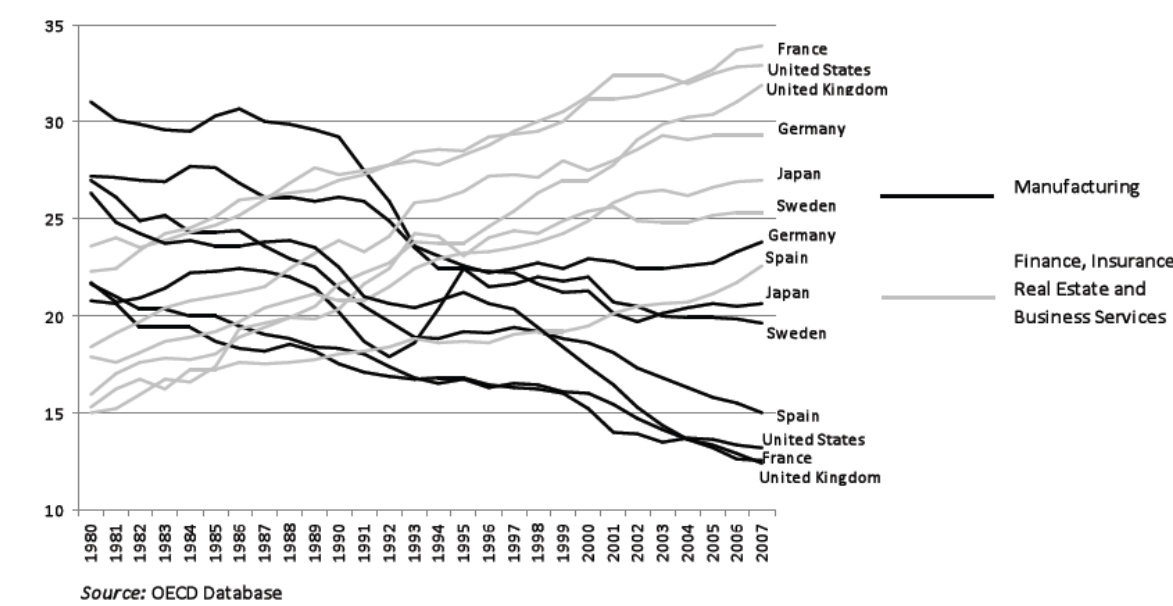
¹⁵ The tax incentives for private spending are counted as Tax Breaks for Social Purposes (TBSPs) which are then deducted from the amount of private social expenditure, so as to avoid double counting.

¹⁶ Greece and Switzerland had to be left out because there was no breakdown of social expenditure available.

¹⁷ The most dramatic change occurs for the US, not in our sample. With about 16 percent of GDP, the US is at the bottom of the lot when welfare state size is measured in terms of gross public social expenditure while it is the fifth largest behind Sweden when tax expenditures and private channels of social spending are taken into account: voluntary but tax-advantaged private health insurance adds more than 10% (gross and net).

In terms of financial market development, we can look first at the ‘financialization’ of the economy (Bermeo and Pontusson 2011), here measured as the contribution of financial activity to output, in contrast to manufacturing. We do not have Canada and the Netherlands in the picture yet but both would probably look similar to Germany. The striking picture here is that France is not only the highest social spender but also the most financialized economy; if we find complementarity at all, we should find it for France. It is also striking that even in Germany, with its manufacturing-based export-oriented economy, financial services contribute more to national income than manufacturing; which is also the case in Spain which experienced noticeable deindustrialisation over these years.

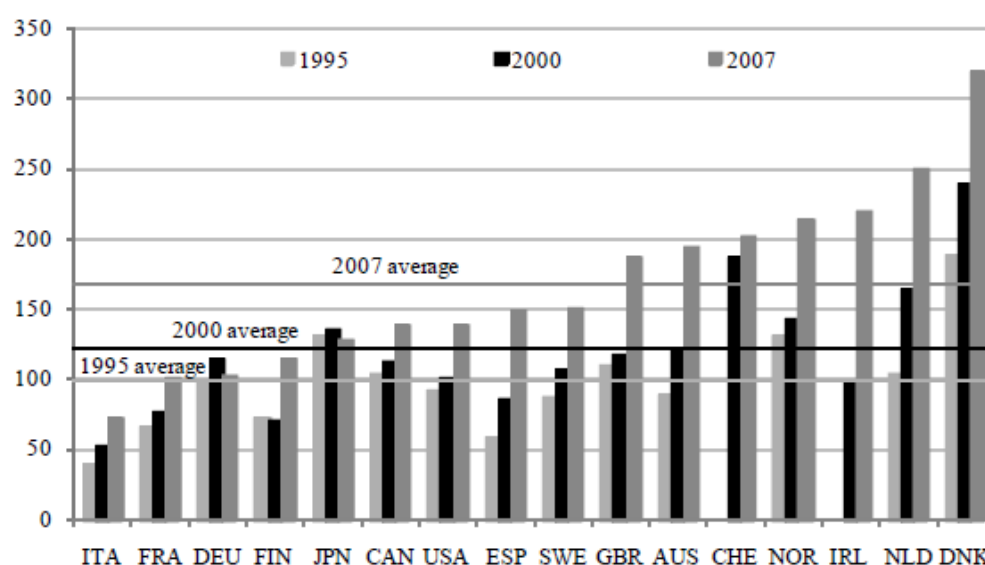
Fig. 2: Financial services v manufacturing, value added as percentage of GDP



Source: Bermeo and Pontusson (2011, fig.6)

We can finally also look at household indebtedness, a time series that is not available back to the 1980s, which we therefore could not include into our model.

Fig.3: Household debt as percentage of disposable income



Note: Averages are unweighted.

Source: OECD National accounts.

Source: André (2010, fig.8)

The Netherlands is the country with the highest household debt due to, until recently, very high tax incentives for mortgage debt that made Dutch households hold on to it purely for tax purposes. Our other country cases range in the middle (Spain) to low end (Canada, Germany, France). Germany, along with Japan, was the only country where households reduced debt as a share of disposable income between 2000 and 2007, a tribute to depressed development of real wages during these years.

First findings

At this early stage, we have managed to address three questions:

- Does public social spending indeed cause private social spending? We can answer this by looking at the SVAR estimates (t-statistics) together with the variance decomposition, the latter allowing us to pick up the dynamics of the causal link as well as feedback effects from private to public social spending.
- Can we identify any significant drivers of (life) insurance premia? The sources for an answer are the same as under a).
- Are indicators of social spending and taxation substitutive or complementary to insurance markets? For an answer, we look at the impulse response of (the time series of) the insurance market variable since these contain the elasticities.

The data runs from the early to mid-1980s until the late 2000s, depending on the time series available in each country. Our findings are encouraging as regards the model but suggest we need

refinement as regards the simple dichotomous hypotheses of either substitutability or complementarity between public welfare and private finance.

Public social spending *causes* private social spending in Canada, the Netherlands and Spain in the fairly robust sense that we have both significant SVAR estimates and a relevant contribution of public spending to the variances of private spending. In addition, we find in the case of Canada and the Netherlands a feedback effect from private to social spending in the variance decomposition. Where we do not find this causal link so clearly, in France and Germany, there are still some links discernible. In the case of France, it consists of a significant SVAR estimate of the causal link from public to private social spending and a lagged feedback effect from private to public. In Germany, we find only a causal effect of public on private spending in the variance decomposition, ie dynamically, but neither a significant SVAR estimate nor a feedback effect.

As regards potential welfare state drivers of insurance markets (public, private social spending, taxes), we find evidence for all or some of these drivers in every country but to varying degrees: for all three drivers in Canada and Spain, for public and private spending in France, for public spending in Germany, and for taxes only in the Netherlands.¹⁸

As regards the complementary or substitutive relationship between the financial industry and the welfare state, the comparison between the five countries reveals some surprisingly robust patterns. In the impulse response of insurance premia, *public social spending* is first substitutive (ie contributes negatively to the response) and then complementary (positive contribution) in all countries except France. Because we are interested in the long-run impact (beyond the contemporaneous effects), we can say that the two are complementary. This interpretation is compatible with the complementarity hypothesis if we take into account that an increase in public social spending will first make households spend less on private provisions, because they have less demand for the latter but also because of a tighter budget constraint if this leads to higher taxes. But as time goes by, households and private providers piggy-back on the public services at the margin, hence public welfare and private spending on insurance complement each other.

This chain of reasoning is supported by the fact that *higher taxes* cause a negative (or substitutive) response of insurance markets in all countries but Germany, where the contribution of taxes to variation in insurance premia is insignificant. If private social spending is typically incentivised by tax subsidies, then lower tax revenue means higher subsidies for private spending and vice versa. So, in fact, this is in line with a story of complementarity between public welfare (foregone tax revenue) and private finance for social purposes (life insurance).

In France, public social spending is shown to be complementary over the entire impulse response horizon of insurance premia. This is in line with our expectations that France is a big social spender and a highly financialised economy. The pattern fits neatly into the Titmuss tradition of welfare state research.

¹⁸ This result for the Netherlands confirms what was said with respect to tax incentives for mortgage debt above and is also visible in graph 1. Even if not all SVAR estimates of these drivers are significant, the variance decomposition confirms their importance in driving the insurance markets.

Finally, we do not find any robust relationship of *private social spending* and insurance premia, which is an interesting and surprising non-finding. One would assume that when insurance premia vary, this is largely due to shocks in private social spending. Moreover, we would find complementarity, ie a positive variation more plausible as paying for insurance is part of private social spending. But only in the Netherlands do we find clear-cut and sustained complementarity. In Germany, the relationship is initially substitutive and becomes complementary over time. In Canada and France, insurance premia respond as if private social spending were a substitute. In Spain, there is no contribution of private spending to the impulse response of insurance premia. Only a closer look at the country cases can tell.

Concluding remarks

We are encouraged by our findings so far. We used SVAR because it is an advanced econometric technique to establish causality between variables that may be linked in a rather complex and dynamically varying fashion. Our model establishes a link between public welfare and private finance (in the disguise of life insurance premia) that so far hardly anybody in comparative welfare state research or in financial economics has even looked for. For the five countries we looked at, the finance-welfare state nexus fits the complementarity hypothesis better. We inferred this hypothesis theoretically from an account of the welfare state inspired by Richard Titmuss (1958) who stressed the private interests that attach themselves to the benefits of public welfare and use it for their own, not necessarily intended purposes, for instance reduce the risk of private insurance. Another, if more optimistic version of this complementarity can be inferred from the new welfare economics, that is interested in the range of policy options that escape the equity-efficiency tradeoff because redistributive policies may also alleviate market failures.

There is a potentially big research programme hidden in these preliminary findings. It would involve running the model with other financial variables than insurance premia. Household panel data could be exploited to make the findings on complementarity or substitution between public welfare and private finance more robust. Another is to allow structural changes and variations in shocks (and transmission) throughout the entire sample period. Ultimately, one will have to do qualitative case studies to uncover what establishes the nexus in political terms. Finally, one would also like to relate the link between public welfare, private social spending and financial markets to outcomes in terms of inequality and risk allocation.

Our more immediate intention is to relate this work to the question of who's to blame for the financial crisis. At the height of the financial crisis, in 2009-10, the Western welfare state arguably prevented a repeat of the Great Depression. But there were also suggestions that social policy had contributed to the crisis, particularly by promoting households' access to credit in pursuit of welfare goals (eg Fannie Mae's role in subprime-lending). This would fit the complementarity hypothesis although the exact ways of how social policy complements financial market provisions may make a difference (Schelkle 2012b). By contrast, Schwartz (2012) claims that it was the withdrawal of state welfare that contributed to the disaster which is in line with understanding public welfare as a substitute for private finance. One way of distinguishing between these two hypotheses with a view to explaining the crisis is to look for structural breaks in the finance-welfare state nexus around the mid-1990s.

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