

Logeay, Camille; Meinhardt, Volker; Rietzler, Katja; Zwiener, Rudolf

Research Report

Macroeconomic Consequences of the Funded Pension System Illusions and Realities

IMK Report, No. 43e

Provided in Cooperation with:

Macroeconomic Policy Institute (IMK) at the Hans Boeckler Foundation

Suggested Citation: Logeay, Camille; Meinhardt, Volker; Rietzler, Katja; Zwiener, Rudolf (2009) : Macroeconomic Consequences of the Funded Pension System Illusions and Realities, IMK Report, No. 43e, Hans-Böckler-Stiftung, Institut für Makroökonomie und Konjunkturforschung (IMK), Düsseldorf

This Version is available at:

<https://hdl.handle.net/10419/106054>

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Macroeconomic Consequences of the Funded Pension System Illusions and Realities

Camille Logeay, Volker Meinhardt¹,
Katja Rietzler², Rudolf Zwiener

In order to tackle the predictable effects of demographics on Germany's mandatory national pension system, legislators introduced several reform steps between the years 2000 and 2007. The retirement age has been increased, pension levels reduced and a so-called "sustainability factor" inserted into the pension formula. Those measures are supposed to prevent the rise of the contribution rate above 22 percent of each payer's gross income, even if the number of pensioners rises in relation to the number of contribution payers, i.e. employees subject to social security contributions. All of these steps denote a fundamental goal alternation in Germany's pension system: From securing the living standard of pensioners toward contribution rate stability. To compensate for the resulting lower pension level, state-subsidised private insurance plans were introduced (the so-called "Riester pensions"), relying on individual capital funds. The novelty: Only employees contribute to these funds, employers are off the hook. This paper discusses the macroeconomic consequences of these reforms, which tend to be neglected in most studies. We reveal how increased capital funding can curb economic growth today and will nevertheless result in insufficient pension levels in the long run. Ultimately, the current policy strategy will not be able to counterbalance demographic challenges.

Which pension level can be considered "fair"?

Presently, it is exceedingly difficult to find a generally accepted scale for intergenerational fairness, since real wages are stagnating, life expectancy is rising and the elderly are a fast-growing population group. Even if someone tries to define a steady implicit return on pension contributions for all generations, as the German Rürup commission did (Rürup-Kommission 2003), today's contribution payers will receive their pensions over a longer timespan. Consequently, the return will be split over more years, thus their pension level will ultimately decline, at least if the number of employment

years is not raised at the same time. But if the number of pensioners rises dramatically in relation to the number of contribution payers, steady returns can only be guaranteed if extra financial burdens are imposed on the younger generations.³

In a second theoretical approach, pensioners' living standards would be secured by providing them with a certain percentage of their former net income: They would receive 60 or 70 percent of their former income as an index-linked pension. To achieve a pension level this high, the contribution rate would have to rise, resulting in a growing gap between gross and net incomes. But lower net incomes would automatically result in lower increases of net pensions, i.e. pensions after taxes and national health care contributions.

¹ Economist, Berlin.

² Rietzler Economics, Berlin.

³ In a setting like this, we might assume additional immigration, but this is another policy field entirely.

A third theoretical approach links economic growth to vital statistics. In a scenario with long-term economic growth per capita, constant or even rising real pensions are conceivable (but not rising pension levels⁴), even if the number of pensioners increases. But this approach would include rising contribution rates as well.

If we presume that constant real net pensions should be the minimum objective in this approach, these could be guaranteed in a pay-as-you-go system, provided that all extraneous insurance benefits would be tax-financed, and the political majorities would approve of and implement this strategy. If this sounds illusory, we have to remind that the influential Rürup commission projected not only constant, but even rising gross pensions (their defined standard pension in real terms is supposed to rise from 1,170 € per month in 2003 to 1,429 € per month in 2030, taking into account the new sustainability factor in the pension formula; in Rürup-Kommssion 2003, p.106). In this third approach, employees would still obtain rising net incomes, if a number of criteria are met: the long-term economic growth exceeds the growth rate of the number of pensioners, and the employees' incomes are not further decreased by growing income disparities.

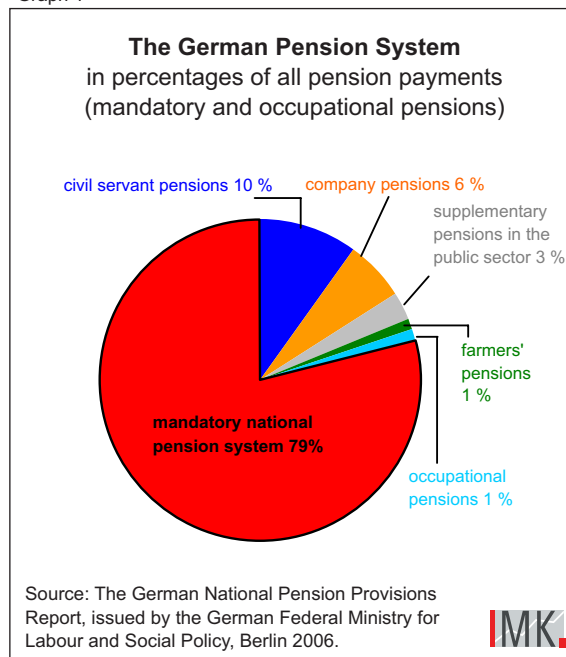
Some pension systems are more crisis-proof than others

In most countries worldwide, pension systems are affected by the current global economy crisis. Graph 1 shows the structure of the German pension system: the national pension system plus company, occupational and civil servants' pensions. The national pension system is by far the largest and it works on a pay-as-you-go basis. As it happens, this system is fairly crisis-proof compared to funded systems: Its revenues remain comparatively steady because they depend on the gross wages and salaries sum; plus, this system cannot go bankrupt.

The German pension system's expenses are linked to the wages and salaries per capita (including built-in reductions), but with a time lag effect. For a certain time period, this system even helps to stabilize the economy (Döhring et al 2009; Faik/Köhler-Rama 2009). After this period, whenever deficits occur, they are first compensated by the national pension system's fluctuation re-

⁴ "Pension level" describes the relation between a standard pension and the average labour income of the working generation per year. The "standard pension" is the pension reached after 45 contribution years, without any deductions. The pension level can be shown as the mean of gross pensions, or of net pensions after taxes (before 2004), or of net pensions before taxes after 2005, due to the introduction of deferred taxation.

Graph 1



serve (termed the German equivalent of "sustainability reserve"), or later by the federal budget.

Whereas in funded systems, the returns largely depend on the economy's development, and the returns determine the pension level. The current crisis demonstrates this drastically: According to OECD estimates, the overall drop in private pension plans amounted to 5.4 trillion US dollars in 2008, measured in share values, or 23 percent compared to the previous year (OECD 2009 p. 25ff.). The U.S. had to cope with a drop of 26 percent. Americans over the age of 45 had to expect a decline in their private pensions plans between 17 and 25 percent. With 37 percent, the drop in Ireland was the most drastic. In Germany, the decline of private pension plans was moderate, only 7 percent, due to stricter legal regulations.

The short-term effects of this trend are devastating to economic recovery, even if rising share values were to compensate for the current losses within a few years, which nobody can guarantee. In the U.S., some pensioners had to rejoin the workforce due to decreased pension payments. In times of large-scale layoffs, they have to compete with unemployed workers for the scarce new jobs. Some elder employees postpone retirement altogether (Rampell/Saltmarsch 2009), whereas other elder unemployed are often disillusioned and quit the workforce, settling for considerably reduced pension plans.

In a funded system, the crisis-induced drop in private pension plans inevitably results in a slowdown of consumer spending, aggravating the economic crisis

further. The German pension system, on the other hand, has several built-in “automatic stabilisers”, for instance the prevalent pay-as-you-go system and the stricter legal regulations for private pension plans.

Not very long ago, numerous German experts and politicians claimed that the country’s pension system should be converted to a funded system, at least partly (Börsch-Supan 2002). They could refer to an extensive and ongoing international debate that often favoured funded systems, claiming their supposedly higher returns (World Bank 1994). Experts argued that if a funded system were to be introduced at least partly, its financing would probably not increase labour costs further, as all other scenarios would. Its introduction would thus enhance most companies’ international competitive edge, and it would also be fairer to the following generations. But when it comes to intergenerational fairness, it is often overlooked that both systems can only be compared if the financial burdens on the “transition generation” are taken into account: The first generation that has to finance present-day pensioners and has to build up their own private pension plans simultaneously.

From a pay-as-you-go system toward a funded system

In order to adequately evaluate present and future pension system reforms, two fundamental facts have to be taken into account. *The first fact is: All payments to pensioners are generated by the national income of each year.* Whenever the differences between funded systems and pay-as-you-go systems are discussed, it often appears as if tomorrow’s consumption could be put aside today in a funded system. But this never works. What both systems do is: They both transfer claims on production into the future; the two systems merely represent alternative approaches (see Barr 2000).

In case of funded systems, financial assets are purchased, and their value plus interest is expected to finance retirement consumption. In case of pay-as-you-go systems, the government guarantees to finance the retirement generation’s consumption from the contribution payments of the working generation. But in both cases, the dynamics of economic growth are the decisive factor to determine pension levels. All claims ultimately depend on the economic production of a certain period of time. In an open economy, the funded system can justify claims on foreign production as well. In this case, major risks concerning exchange rates and political stability have to be considered.

The second fundamental fact is: In the future, an

ageing society like Germany will have to allocate a larger share of its national income to the elderly, since the number of pensioners will increase, leading to rising pension claims. How will this redistribution take place? Contribution rates to the national pension system may rise, straining employees only; taxes may be increased, affecting wages and profits alike; subsidies from the federal budget to the pension system could be increased; or capital gains could play a more important role in pensioners’ gross income, in case of a funded system. But to achieve the latter, today’s labour force not only have to finance the present day pensioner generation in the pay-as-you-go system. Additionally, they have to finance their own private capital funds through saving, which ultimately results in non-consumption (see Krupp 1997).

This double financial burden for the working generation can only be justified if economic growth would boost during the time of (partial) transition from one system to the next (Davis, Hu 2005), induced for instance by increased investments of individual savings.

From securing the pension level toward contribution rate restriction

Germany’s pension reforms after 2000 initially reduced the pension level and are still reducing it further (see annex: *Crucial Pension Reforms in Germany after 2000*). The original gross pension level of 48 percent in 2000, that amounted to a net pension level of 70.8 percent, will be reduced step-by-step to only 39.7 percent of the pensioner’s former gross income until 2030 (that would be a net pension level before taxes of 58.5 percent), for all persons with 45 contribution years (SVR 2004). Furthermore, these reduced pensions are subject to deferred taxation. Additionally, half-rates to national health and nursing care insurances have to be paid. Deferred taxation alone reduces the net pension level of the newly retired of 2030 by 6.3 percent, according to the German Council of Economic Experts (SVR 2004, p. 241). For the years 2001 and 2001, the pension contribution rate was reduced from 20.3 percent (in 1997 and 1998) to 19.1 percent, and it is supposed to rise only up to 22 percent in 2030, despite all known demographic facts. This contribution rate will inevitably decrease pension levels permanently. Without pension reforms, the contribution rate would reach almost 25 percent in 2030 (SVR 2004, graph 73).

To compensate the reforms’ pension reductions, the working generation is supposed to invest in state-subsidised private pension plans (“Riester pensions”). The individual subsidy level varies according to personal status and income. The crucial question is: Will this

policy be to the advantage of the future pensioners or not? To answer this question, a couple of realistic assumptions have to be introduced: Since life expectancy is rising, pensioners will draw their pensions over a longer time-span, and these pensions will be subject to deferred taxation. With these assumptions, the answers to our crucial question are diverging.

The Rürup commission calculated that the pension level before taxes would decrease by 6.4 percent between 2003 and 2030. The Riester pensions will not be able to close this gap until 2030, unless optimistic assumptions concerning capital returns are applied (Rürup-Kommission 2003, S.108). However, deferred taxation reduces the overall old-age provisions after taxes again by 6.3 percent in 2030.

In the National Pension Provision Report of 2008, the German federal government is by far more optimistic. Including further savings due to the tax exemption of pension contributions, and of course taking into account deferred taxation, all household types in this model are expected to reach even higher overall old-age provisions than in 2008 (Alterssicherungsbericht 2008, p. 22). But the government report also concedes that old-age provisions have declined between 2000/2003 and 2008. Furthermore, it is unrealistic to assume that all tax reductions would be completely invested in private pension plans.

The calculations by the Deutsche Bank are far more pessimistic. They conclude that private pension plans in addition to the Riester pensions are imperative in order to close the pension gap of 10 to 15 percent due to pension reforms (Deutsche Bank Research 2005). The Deutsche Bank experts are by far more cautious when it comes to future capital returns; their calculations are based on a mean nominal interest rate of 2.25 percent (see also Döhring/Buth 2007).

But from a macroeconomic perspective, all above calculations are still by far too optimistic. They all assume that private households "save" the prevented rise in pension contributions, which would have kept the pension level higher. At the same time, they neglect the fact that employees also "lose" the same amount: their employer's contribution to the national pension system in their name. Employees thus have to compensate for this loss with additional private pension plans as well. In the future, when the pension contribution rate hits 22 percent, employees will have to invest 15 percent of their gross income in private pension plans: 11 percent will be their half-share to the national pension system, plus 4 percent for the Riester pension.

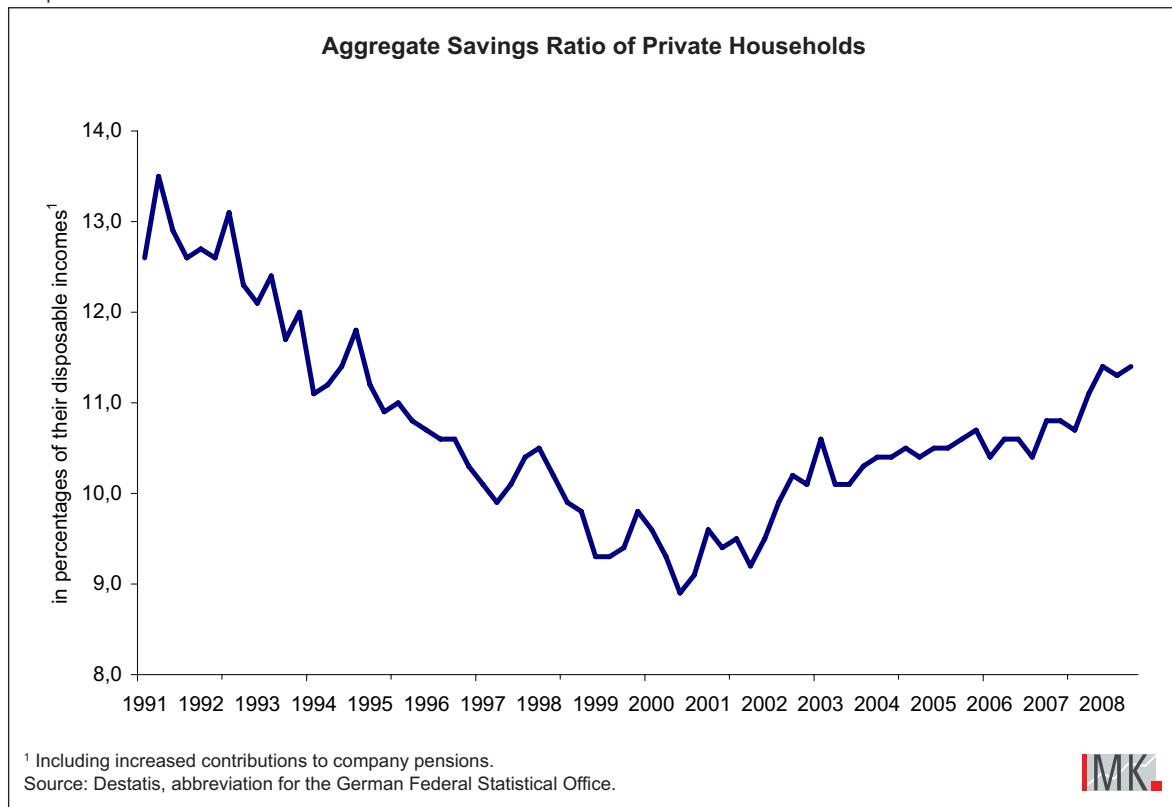
In this scenario, the financial burden is higher than if the contribution rate would rise to 24 or 26 percent. In this case, the employees' contributions would only be

12 or 13 percent. If employees at the same time pay the maximum Riester contribution, they have to take this amount out of their private consumption. These negative macroeconomic consequences are not part of any of the mentioned calculations, for instance of the German Council of Economic Experts (SVR).

The assumed mean capital return rate of 4 percent is also fraught with problems. Future economic growth is estimated at 1.7 percent annually, inflation is estimated at 1.5 percent. Wages are expected to rise nominally by 2.9 percent (per capita), and productivity per capita is assumed to rise by 1.8 percent (Rürup-Kommission 2003); in the long run, this does not lead to distributional neutrality, if simultaneously a capital return rate of 4 percent is assumed. The result of these numbers would entail a long-term redistribution toward capital income. But even if the capital markets have provided a return of 4 percent over several years in a certain period in the past, in a long-term perspective, it is unrealistic to expect continuous returns of this magnitude. As an implicit consequence of these numbers, a massive redistribution from labour to capital income is expected. But we believe that this trend cannot be projected into the future infinitely.

In a comparative analysis of returns from the funded versus the pay-as-you-go system, only the secure German government bonds may be used to estimate capital returns in a funded system, because a pay-as-you-go system cannot go bankrupt. Also, the high management fees of private insurance companies have to be deducted. On the other hand, the German pay-as-you-go system includes partial disability benefits without preclusion clauses based on medical records. The risk of severe financial market crises are also ignored in most calculations. To sum up, the long-term capital return expectation of 4 percent seems highly inflated, at least if based on the mentioned economic growth expectations. Some people would argue that while capital returns in Germany might be low, investments abroad would yield higher profits, especially in emerging markets, where economic growth rates are much higher. But this will probably turn out to be just another illusion. On the one hand, the exchange rate risks are unpredictable. But considerable currency devaluation automatically leads to the value adjustments of foreign capital incomes. This devaluation scenario is not some general risk, on the contrary: It is highly probable. If emerging countries import capital from economies with an ageing population on a grand scale, they permanently have a negative trade balance. In other words: These capital importing countries are at a competitive disadvantage structurally. Either they try to compensate this imbalance through currency devalua-

Graph 2



tion, or these countries' credit ratings suffer. In both cases, the value of the foreign investments plummets. This is happening to the U.S. in the current financial crisis. Again some people might argue they never had American investments in mind, but were thinking of investments in high growth markets like China, where the yuan is considered to be undervalued, not overvalued. But again, this reasoning has severe flaws. A country like China has indeed higher growth rates and thus higher capital returns than the U.S., but at the same time, China also exports capital in net terms and does not import it, due to its competitive advantage. Chinese domestic demand is way too weak to solve other countries' pension problems through high capital returns.

If we look at the Euro zone next, avoiding currency fluctuations, we have to accept the fact that not all countries import capital in net terms. If a country does import capital, like Spain did in the past, it will inevitably suffer severe economic difficulties at some point, because the capital demand is either based on investment bubbles (Spain: a real estate bubble) or on competitive disadvantages in foreign trade. Such demands cannot be sustained over a long period of time.

We summarize that the demographic problems of providing transfers for the growing number of pensioners has to be solved domestically, this problem cannot

be exported. And even if capital funding is introduced, the fundamental fact remains that the pensioners' living standards can only be secured by increased financial efforts of the working generation in an ageing society.

Increased aggregate saving of private households since 2001

The declared goal of the Riester pension reforms was to increase private pension plans significantly. Since private pension plans are part of private households' savings, their increase should result in a rising aggregate savings ratio. International literature on the transition from a pay-as-you-go to a funded system has discussed the effects on individual saving and on national aggregate saving extensively. But the empirical results are inconclusive. Whilst Schmidt-Hebbel (1998) shows a rising aggregate savings ratio for Chile, Samwick (2000) points out that Chile is the only country showing a positive relation. Proponents of funded systems argue that the savings induced by this system would reduce real interest rates, causing higher investments and ultimately higher rates of economic growth (z.B. Feldstein 1974; Deutsche Bundesbank 1999). We will analyse whether the German pension reforms have lead to increased aggregate savings. We

Table 1

Income Distribution and Savings Ratio in percentage of the disposable incomes	
household incomes relative to the median value	mean savings ratio of households
< 0.6*Median	4.0
0.6 till under 1	6.9
1 till under 1.5	12.3
1.5 till under 2	16.8
>= 2	23.6
all households	12.3

Source: DIW, German Institute of Economic Research, et al. (2007), on the basis of the EVS surveys.





Table 2

Explaining the Rise of the Aggregate Savings Ratio between 2001 and 2008 single equation method, in percentage points	
variable	influence on savings ratio changes since 2001
savings ratio	2.2
provision saving	1.1
rise of capital income ratio	1.0
Dax development	-0.1
short-term interest rate	-0.1
long-term interest rate	0.1
residual variation	0.2

Source: IMK model simulation, see also Meinhardt et al. (2009)



Singel equation estimation of the savings ratio

An error-correction equation of the savings ratio is estimated to quantify the effects of individual factors, including the introduction of a subsidised funded pension (Riester pension), on the savings ratio. The single equation includes statistically significant variables which influence the savings ratio in the short and in the long run. In a second step the effects of each explaining variable can be analysed in isolation.

Numerous national and international comparative studies are dedicated to the factors which determine the savings ratio (cf. e.g. Dischmid/Glatzer 2004; Klär/Slacalek 2006; De Serres/Pelgrin 2003; Callen/Thi-mann 1997). On this basis a pre-selection of potential variables explaining the savings ratio was carried out. The following 13 variables were further scrutinised with respect to their explaining power for the savings ratio: the unemployment rate, the inflation rate, the short-term and the long-term nominal interest rate, the short-term and long-term real interest rate, the ratio of net wealth to disposable income, the German share price index DAX as an asset price, the Gini coefficient, the profit share, the ratio of young (20-64 years old) to old (older than 65 years) persons, the share of self-employed persons, the general government budget balance in % of GDP (for theoretical considerations and statistical sources cf. Meinhardt et al. 2009, p. 61).

As all variables except for the budget balance are non-stationary I(1) variables, estimating an error-correction equation suggests itself. For this purpose the savings ratio is estimated in levels in a first step. Owing to the considerations mentioned above and the results of other analyses a specification which takes both the income distribution and the Riester reform into account was chosen. Due to the use of highly aggregated data of all private households (including non-profit institutions serving households) and limited data on savings related to subsidised Riester pensions, proxies have to be used to a substantial extent. Thus the profit share serves as a proxy for the income distribution. The effects of the Riester pension reform are modelled by a trend beginning in 2001. The latter facilitates a wide interpretation of the effects of the Riester pension reform. They certainly exceed the mere subsidised Riester savings. In fact, households are very likely to have been substantially upset and induced to increase their savings by the mere discussion of demographic change and the necessity of cuts in public pensions. For this reason, too, it seems sensible to start the trend already in the year before the introduction of the Riester pension.

In the following equation (cf. Table 3) the long-term evolution of the savings ratio is thus explained by

the short-term nominal interest rate, the DAX (index 2001 = 100) as an asset price, the profit share and a trend beginning in 2001. The residuals of the regression of the savings ratio on a constant and these variables proved stationary. At -7.50 the t-value of the ADF test of the residuals is considerably below the critical value of -4.43 (cf. Hassler 2004, pp. 101 and 111). Thus there is a stable long-term relationship between the respective variables.

Therefore an error-correction equation is estimated with these variables as a next step. In addition the long-term nominal interest rate and the DAX affect the savings ratio the short run. The coefficients and their statistics are given in Table 3. For lags 1-4 the residuals are uncorrelated and homoskedastic. The equation is stable in the estimation period. At -0.79 the magnitude of the error correction coefficient suggests a high speed of adjustment.

Table 3

Estimation equation of the seasonally adjusted savings ratio				
variable	coefficient	standard error	t-statistic	probability
Constant	5.29	1.00	5.29	0.000
Savings ratio(-1)	-0.79	0.11	-7.50	0.000
Short-term nominal interest rate(-1)	0.27	0.04	6.64	0.000
DAX(-1)	-0.01	0.00	-6.15	0.000
Profit share(-1)	0.09	0.03	3.09	0.003
Trend beginning in 2001Q1	0.03	0.01	3.68	0.001
D(DAX (-1))	0.01	0.00	2.24	0.029
D(Long-term interest rate (-1))	0.20	0.10	1.95	0.056
Impulse dummy 2004Q4	0.58	0.24	2.43	0.018
R-squared	0.56	Mean of dependent variable		-0.03
Adjusted R-squared	0.50	Standard deviation of dependent variable		0.31
Standard error of regression	0.22	Akaike information criterion		-0.04
Sum of squared residuals	2.98	Schwarz criterion		0.25
Log likelihood	10.55	Hannan-Quinn criterion		0.07
F-statistic	9.50	Durbin-Watson statistic		1.95
Probability (F-statistic)	0.00			

Source: Estimation of the IMK, cf. Meinhardt et al. 2009.



show the aggregate savings trends for the recent years, discuss the influence of the recent pension reforms and ask whether other factors could explain these trends, for instance income distribution change.

The aggregate savings ratio of private households in Germany has peaked in 1991 at 12.9 percent and has declined for nine consecutive years, hitting the bottom with 9.2 percent in 2000. Ever since, the ratio has

been rising steadily, reaching 11.5 percent in 2008 (Graph 2). In the transition from a pay-as-you-go to a funded system, there is a purely arithmetical alteration of income and savings levels: In the former system, pension contribution payments are subtracted from the primary income, resulting in a lower disposable income. This again is higher in a funded system, as well as the savings, because private pension plan contri-

butions are paid from the disposable income and become part of the individual savings. Thus every funded system exhibits a higher savings ratio, even if neither income nor old-age provisions have changed.

In line with the statistical standards SNA93 and ESVG 1995, the aggregate savings ratio is determined by complementing private savings with a reference parameter that includes company pension plans as well as Riester pension contributions (see Eurostat 96; Brümmerhoff 2007). These statistical definitions render an analysis of German household savings complex. Apart from national accounts, there are several disaggregated studies of household types, namely the EVS surveys (German abbreviation for "Income and Consumer Sample") and the SOEP panel surveys (Socio-economic Panel). On some issues however, the results from these data sets differ. Therefore we chose several different approaches to discern the reasons for changes in savings behaviour. Various empirical studies show that the saving ratio usually increases with rising income; this is true across all household types (Table 1). So changing income distribution should definitely affect the aggregate saving ratio. The Deutsche Bundesbank stresses this correlation as well, but without quantifications (Deutsche Bundesbank 2007). In their 2006 spring report, the leading German economic research institutes estimate the effect of income distribution change on the savings ratio to be 0.3 – 0.6 percent, between 2000 and 2005. They combined the EVS savings ratio with the SOEP income groups. (Arbeitsgemeinschaft deutscher wirtschaftswissenschaftlicher Forschungsinstitute 2006, p. 265).

The EVS survey is only conducted every five years, so it cannot trace changes in the savings ratio from year to year for most socio-economic groups. Here the SOEP data come in useful: They show a distinctly increased savings ratio for the self-employed in recent years. Employees and pensioners also display a slight rise in their propensity to save. At the same time, the unemployed saved less than in the late nineties, in relation to their income (Stein 2009).

Even if the EVS is only conducted in five-year intervals, the German Federal Statistical Office provides annual statistics of disposable incomes across household types. With this data set, we were able to construct a hypothetical aggregate savings ratio, assuming that the savings ratio of each household group remained constant; income change would be responsible for any remaining variations. From 2003 to 2007, we see our hypothetical savings ratio rise by 1.8 percent⁵. So

⁵ We depict these changes in percentages and not in percentage points because the savings ratio of the EVS and German national accounts (VGR) differ: The latter includes non-profit organisations in the category "private households".

this rise is solely due to income distribution changes. For the same period, the German national accounts show a rise in the aggregate savings ratio by 5.5 percent. We conclude that more than one third of this rise is due to distributional changes alone (for details see Meinhardt et al. 2009, p. 58).

The trend reversal of the aggregate savings ratio coincides with the major German pension reforms, especially the introduction of the subsidised Riester pensions. This evidence suggests that the novel Riester pension contributions did indeed prompt the rise in the aggregate savings ratio (see also OECD 2008; Benz et al. 2009).

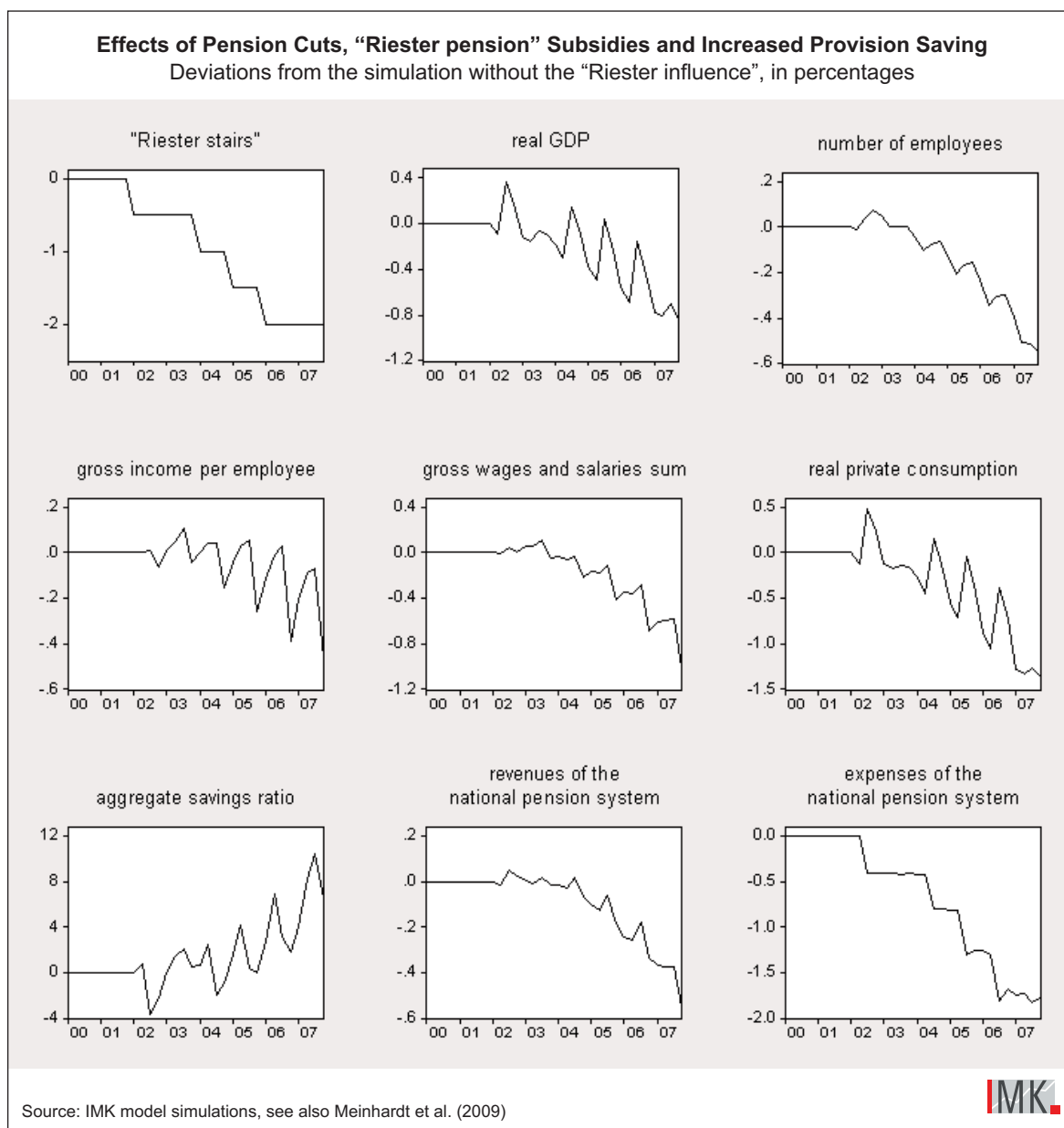
In order to quantify the effect of each variable, an econometric regression analysis with "savings ratio" as the dependent variable was carried out (single equation method), using aggregate data (see box). We were searching for the various causes behind the obvious rise in aggregate savings. The results of the regression analysis show crucial influences of income distribution and private pension plans; the development of share values (Dax) and interest rates play a statistically significant role as well. By means of the single equation method, we measured each variable's specific influence by keeping all other variables constant. Thus we were able to subdivide the rise in aggregate savings between 2001 and 2008 into two main variables: Roughly one half of the rise can be attributed to private pension savings due to the Riester reforms, and other old age provisions triggered by the proclaimed pension cuts. The other half of the rise is caused by income distribution variations. The effects of share values and interest rates can be disregarded (Table 2).

Pension level reductions and increased private savings are slowing economic growth

Next we simulated the impact of the Riester reforms and announced pension cuts on economic growth in a macroeconomic model (Meinhardt et al. 2009). A separate model of the national pension system was integrated interdependently into the IMK's macro econometric model. In the resulting refined model, the "Riester stairs" (the step-by-step pension level reductions) play a crucial role in estimating private consumption, besides the real disposable income, changes in unemployment and in the short-term interest rates.

The new variable "Riester stairs" subsequently becomes an indicator for further exogenous variables influencing the savings ratio of private households, starting in 2002 and becoming more influential. In the

Graph 3



consumption equation, the parallel rise of the capital income / labour income ratio could lead to increased savings, as well as the need for financial security after the Riester reforms and other social security cutbacks, like the "Hartz reforms" and the so-called "Agenda 2010"⁶. If this need for financial security increases the savings ratio, it proves difficult to distinguish whether private households want middle-term savings or if they are saving for retirement. But private households after

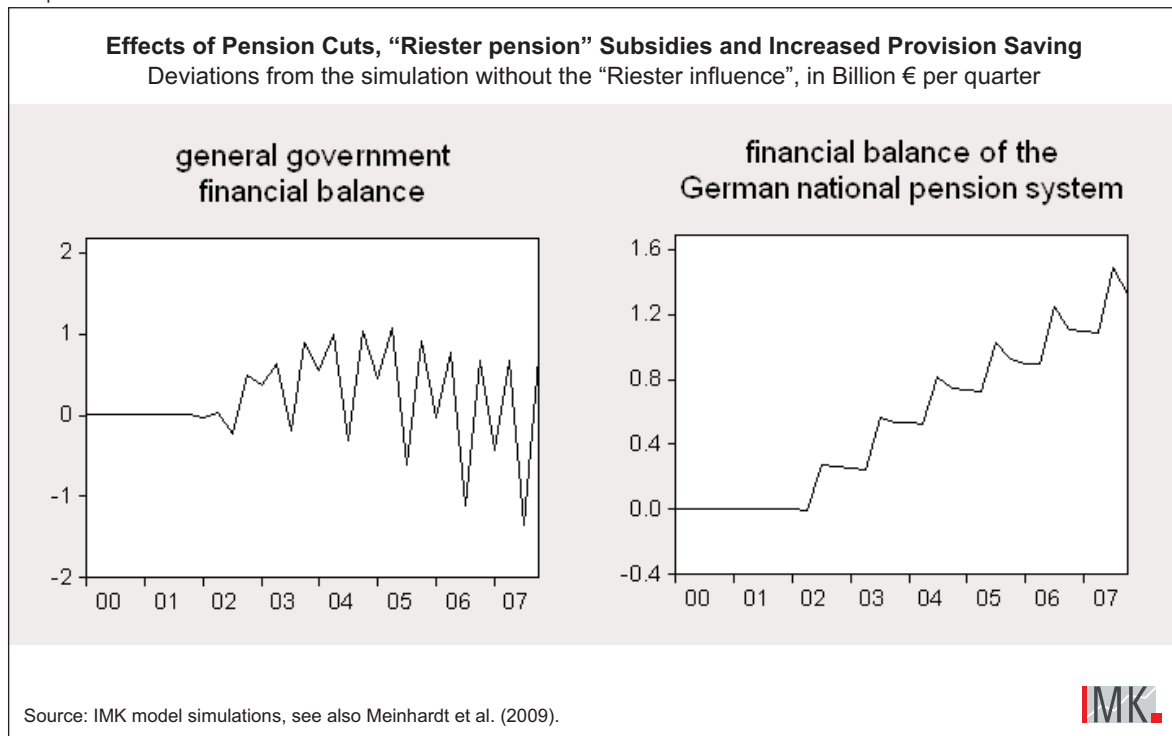
2002 have displayed a persistent tendency to save, otherwise the rise in aggregate savings would have abated along the way. And this is what counts for our model.⁷

The above mentioned IMK' macroeconomic model is influenced by Keynesian economic theory; its main focus is short-term analysis. In contrast to the neoclassical theoretical model that would expect a rise in investments as the result of increased savings, in the

⁶ If the 9/11 attacks on the World Trade Centre resulted in additional savings at all, we expect this to have been a short-term effect only.

⁷ The recent decline in 2009 can be attributed to the popular German "scrappage scheme", at least to a large extent: Government subsidies were handed out to promote the sales of new cars.

Graph 4



IMK's empirical estimated model, investments do not depend on savings but on the aggregate national demand, on interest rates and labour costs.

In our model, increased private savings only result in a negligible reduction of capital interest rates – with the key interest rate being determined by the European Central Bank ECB anyhow, and the German economy being part of the global capital market. In an open economy, the relationship between saving and investing is balanced mainly through capital exports, which automatically cause a reduced import demand.

For comparative reasons, we constructed a second model without the "Riester stairs" and without subsidised private pension plans. In this model's equation for private consumption, the "Riester influence", and thus all its mentioned implicit effects on on private savings, is halved compared to the status quo scenario.⁸ As a proxy for other influences on savings, the "Riester stairs" are statistically highly significant. Changes in income distribution are the most prominent of these implicit factors. Our proxy also reacts to changes in unemployment and interests rates; but those factors are already part of the consumption equation.

If we compare the results of both models for the respective years, the increase in private savings plus the

pension level cuts have had a dampening effect on real consumption of almost 1.5 percent (Graph 3); the effect of income distribution has been neglected. Without increased savings, the aggregate savings ratio would have been almost one percent lower; this value corresponds with our results of the earlier regression analysis (see box). Inevitably, this consumption slowdown impairs economic growth and employment figures. In the first six years after the Riester reforms, the real gross domestic product grew almost one percent less compared to the simulation without these reforms and without an increase in aggregate savings; the employment level was more than one half percent lower. Consequently, the wage rise was lower as well.

Pension expenses were decreased by almost two percent. Thanks to the "Riester stairs", and contribution payments were down a half percent. These results remain valid when we compare the real-world accounting balance of the national pension system to the second scenario, the one without "Riester stairs". Interestingly, the financial balance of German general governmental has not benefited from the Riester reforms (Graph 4). The weaker economic growth induced by these reforms has effectively ruined all revenues achieved through pension cuts. Effectively, the higher revenues of the national pension system were achieved at the expense of other governmental levels or other branches of the German social security system. Furthermore, increased private savings as pro-

⁸ We assume that in the consumption equation, roughly 50 percent of the "Riester stairs" were actually other factors on the savings ratio, namely the growing income inequality. This assumption is backed by the results of our regression analysis.

posed by numerous politicians and scientists alike reduce consumer demand without prompting investments. On the contrary, the demand slowdown even impaired private investment activity.

The results of our model simulations are no exceptions. "There is no empirical evidence supporting the theory that funded systems lead to higher economic growth", writes Backer (2004, p. 25).

Danger of old-age poverty increases

In the future, the danger of old-age poverty will increase in Germany, due to the pension reforms of the last decade as well as the gradual cessation of the German minimum income pension. Most dramatic are the pension level cuts. At the same time, gaps in work biographies are growing, both in number and in extent.

Even today, an employee needs 33 contribution years just to reach a pension at welfare level (called "Hartz IV" in German), if he or she earned 75 percent of the average income in those years. And German low-income earners who earn 50 percent of the average income attain very low pensions: 59,2 percent of their former average income (indexed to general wage rises). Contrary to the OECD average: In all member countries combined, low-income earners receive 82,1 percent in pensions (OECD 2009, p.121).

The organisation labels the German social safety net for the elderly as being weak, compared to other member states. There are several options how to supplement low pensions (see also Rietmuller/Willert 2009) – because a mandatory pension system that cannot prevent old-age poverty is simply not acceptable (Schmahl 2008).

With this strategy, the government will have to establish government-financed programs to cope with old-age poverty at some point, thus saving absolutely nothing in the long run. But the mandatory pay-as-you-go system loses its credibility and legitimacy. A large proportion of the present-day German workforce are still fooling themselves that their contributions to the national pension system plus their "Riester savings" will result in an acceptable pension. In order to meet this expectation, the pension level should not be reduced as dramatically as planned.

Conclusion

Inevitably, an ageing society requires increased expenditures in pensions, nursing and health care, in absolute as well as in relative numbers. But from a macroeconomic perspective, these growing demands are not financed more easily in a funded system, based

on individual capital funds, than in the traditional German pay-as-you-go system (see also Barr 2000). In fact, the additional saving efforts, both mandatory and voluntary, curb economic growth, at least in the transition period during which private households have to support the current pensioner generation as well as finance their individual capital funds. Therefore the funded system is fraught with problems in Germany, a country with traditionally high private savings rate and a notorious trade balance surplus. Furthermore, any funded system is at the mercy of global economic trends and risks, especially in the short term, as the current financial markets crisis shows spectacularly. Is the German national pension system in the midst of an economic crisis? Yes, but not as a result of the current global economic crisis. The German pay-as-you-go system remained largely unaffected and was able to provide for the pensioner generation without serious problems. Rather, the national pension system's purpose was redefined, curtailing its function to secure pensioners' living standards. With this step, the working generation was supposed to be coerced into saving individual capital funds, in cooperation with government subsidies and the financial industry. This step was justified with the international competitive edge of companies in Germany, with demographic risks, and with the allegedly higher returns of funded systems. It was designed to prevent a long-term financial strain on employees and employers alike due to demographic change, resulting in rising distribution rates for everyone. Instead, it would have been much more logical to tax-fund all extraneous insurance benefits, for instance the expenses of the German reunification (Meinhardt/Zwiener 2005). This approach would have made pension rises possible.

In the last decade, meagre effective wage rises plus the gradual transition toward a funded pension system impaired economic growth as well as the national pension system. Several labour market reforms are partly responsible for the small wage rises: extension of sub-contracted labour and so-called "Mini-Jobs" (with a maximum pay of 400 Euros per month), and introduction of "One-Euro-Jobs" (with 1 Euro per hour in addition to unemployment benefits) and the repeated rejection of a national cross-industry minimum wage (see Logeay/Zwiener 2008). At the same time, this development also increased the German trade surplus, which again contributed to the global economic imbalances.

Germany as the "world's export champion" is almost too competitive, meaning the German economy should absorb more goods and services from other countries. But with insufficient domestic economic growth, resulting in few profitable investment opportu-

nities, German companies and individuals have gambled for high stakes in the U.S. financial market – and lost a fortune.

Annex

Crucial Pension Reforms in Germany after 2000⁹

2001: Altering the Pension Adjustment Formula: the “Altersvermögensergänzungsgesetz”

Until 1999, the pension adjustment formula of the German national pension system ascertained pension rises according to the annual increase of net wages and salaries. With this new legislation, the former procedure was replaced by a “modified gross wages adjustment”: The basis for each adjustment was now the increase of gross wages and salaries; changes of the mandatory pension contribution rate are taken into account as well, but future financial burdens like rising taxes or social security contributions are excluded.

Furthermore, pension cuts are introduced and described as “retirement provisions amount”, meaning that private retirement provisions should close the gap: This “amount” rises from 0.5 percent to 4 percent within 8 years. Since this new law is part of the adjustment formula, it concerns all future pensioners: Their pensions will be reduced by approximately 0.6 percent per year, resulting in a reduction of about 5 percent in 8 years. The dependants’ pensions were reduced from 60 to 55 percent. The number of included child care years is raised.

2001: Subsidised Private Pension Plans plus Supplementary Pensions: the “Altersvermögensgesetz”

Introduction of a state-subsidised private pension funds, also referred to as “Riester-pension”. Additionally, company pensions are promoted through a legal entitlement of employees to “receive” part of their wage/salary as contributions to a private pension plan. Introduction of supplementary pensions that have the function of welfare pensions in cases where pensions are insufficient, or where (partial) disability causes employees to retire; based on welfare benefit levels.

2004: Deferred Taxation of Pensions: the “Alterseinkünftegesetz”

Starting in 2005, all pensions are subject to deferred taxation. At first, 50 percent of each individual pension is taxed. This percentage rises progressively until 100 percent are reached in 2040.

2004: Introduction of the “Sustainability Factor” and other Alterations: the “Rentenversicherung-Nachhaltigkeitsgesetz”

By introducing the so-called sustainability factor into

the pension formula, changes in the pensioners / contribution payers ratio were anticipated. With the help of a “protection clause”, pension cuts due to decreasing numbers of contribution payers are supposed to be prevented.

The German national pension formula is linked to wage changes and not index-linked. To determine this change on an annual basis, only the wages and salaries that are actually subject to social security contributions are presently taken into account, not the gross wages and salaries (as of 2001). “One-Euro-Jobs” are excluded.

Secondary and college education times are now disregarded in the pension formula; previously, pension credits were granted for education years exceeding compulsory schooling. For the newly retired, this can amount to a monthly pension cut of up to 60 Euros.

2007: Raising the Retirement Age:

The “Gesetz zur Anpassung der Regelaltersgrenze an die demografische Entwicklung und zur Stärkung der Finanzierungsgrundlagen der gesetzlichen Rentenversicherung” (RV-Altersgrenzenanpassungsgesetz)

The statutory retirement age is raised incrementally from 65 to 67. This increase starts in 2012 with the 1947 cohort and continues until 2029; in 2030, 67 will be the general retirement age; only pensioners with 45 mandatory insurance years are excluded.

2007: Exemption of Company Pension Contributions:

Contributions to company pensions (on the basis of the 2001 reforms) are exempt from social security contributions. In the past, this exemption was only temporary; with the law of 2007, it became permanent. This step has manifold consequences. Initially the exemption leads to lower contribution payments, including pension contribution payments, whereas pension payments remain constant: Inevitably, the contribution rate has to rise.

On the other hand, the sum of wages and salaries subject to contributions rises at a slower rate compared to the gross wages and salaries. This again curbs the rise of the overall pension level, an effect mostly felt by present-day pensioners.

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Herausgeber: Institut für Makroökonomie und Konjunkturforschung (IMK) in der Hans-Böckler-Stiftung, Hans-Böckler-Str. 39, 40476 Düsseldorf, Telefon 0211 7778-331, Telefax 0211 7778-266, IMK@boeckler.de, <http://www.imk-boeckler.de>

Redaktionsleitung: Prof. Dr. Gustav A. Horn
Pressekontakt: Rainer Jung, 0211 7778-150

Druck: Setzkasten GmbH, Kreuzbergstraße 56, 40489 Düsseldorf
ISSN 1861-3683

Nachdruck und sonstige Verbreitung – auch auszugsweise – nur mit Quellenangabe zulässig.

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