# LONG-TERM BUDGETARY IMPLICATIONS OF TAX-FAVOURED PRIVATE PENSION SCHEMES

*Pablo Antolín, Alain de Serres and Christine de la Maisonneuve*[*]

## Introduction

In most OECD countries, governments promote the development of private pensions by means of tax incentives. In the most common regime, private pension savings can be deducted from the income tax base, and accrued return on investment is exempt from taxation, but pension benefits arising from these savings are taxed. Apart from providing a tax incentive to pension saving, this tax treatment also creates an implicit fiscal asset.

The central purpose of this paper is to provide estimates of the implicit fiscal asset, as well as of the evolution over time of fiscal costs and benefits related to tax-favoured pension regimes in several OECD countries, taking into account current and future contributions, asset accumulation and withdrawals, all of which will be strongly influenced by future demographic developments. The paper also examines whether governments should expect sizeable net tax revenues as large cohorts of workers who benefit from tax exemption reach retirement and begin relying on taxable pension benefits to finance consumption.

Section 1 discusses the methodology and main assumptions. Section 2 presents the main results of projecting net fiscal revenues arising from tax-favoured schemes over the period 2000-2050 and examines the extent to which alternative assumptions on saving diversion affect those results. Finally, Section 3 explores a number of policy options with a particular emphasis on factors potentially affecting the effectiveness of tax-favoured pension schemes in boosting private saving.

## 1. Net fiscal revenues and assets from tax-favoured plans: methodology

This section presents briefly the approach used to project the future profile of net fiscal revenues arising from tax-favoured private retirement plans, taking into account current and future contributions, asset accumulation and withdrawals, all of which will be strongly influenced by future demographic developments. The study

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focuses on schemes that generate tax deferral, in particular those where both the funds contributed and the accrual return on accumulated funds are exempted from taxation but where the benefits are treated as taxable income upon withdrawals. Such arrangements are commonly referred to as "exempt-exempt-taxed" (EET) schemes. The main aim is to provide estimates of the future flow of budgetary costs and revenues over time as well as their net present value as a measure of the implicit net fiscal asset associated with these schemes. Projections are conducted as an accounting exercise and take into consideration the direct effects from revenues foregone on contributions, revenues foregone on accrued investment income and revenues collected on withdrawals. The impact on fiscal revenues from consumption or corporate taxes as well as potential second-round effects from a change in saving behaviour is not taken into account in the calculations.

### *1.1 Framework*[1]

Generating estimates of future costs and benefits of tax-favoured saving plans requires projecting forward a number of key variables including the number of contributors, total contributions, assets, accrued income from assets, and withdrawals, taking into account initial assets and that average income, contributions rates and tax rates vary across age groups.

Current and future net fiscal revenues and assets have been estimated for 17 OECD countries.[2] The country coverage has been primarily conditioned by the amount of information available to conduct the exercise in a meaning full way but as well on the importance of tax-favoured schemes in each country, both in terms of asset size and participation (Figure 1). The projections cover all the countries with accumulated assets in tax-favoured retirement saving schemes equivalent to at least 20 per cent of GDP.

Net fiscal revenues (*NFR*) are calculated for each year on a cash-flow basis as the net sum across all generations of the revenues collected on withdrawals, revenues foregone on contributions and revenues foregone on accrued income:

$$NFR_t = \mu_b \cdot \sum_g B_{t,g} - \sum_g \mu_{c,g} \cdot C_{t,g} - \mu_a \cdot i \cdot \sum_g A'_{t-1,g} \qquad (1)$$

*Revenues collected on withdrawals* (first term) are determined by the tax rate on withdrawals, $\mu_b$, and total withdrawals made by age group $g$, ($B_{t,g}$), which depend on total assets accumulated in tax-favoured retirement saving plans at the

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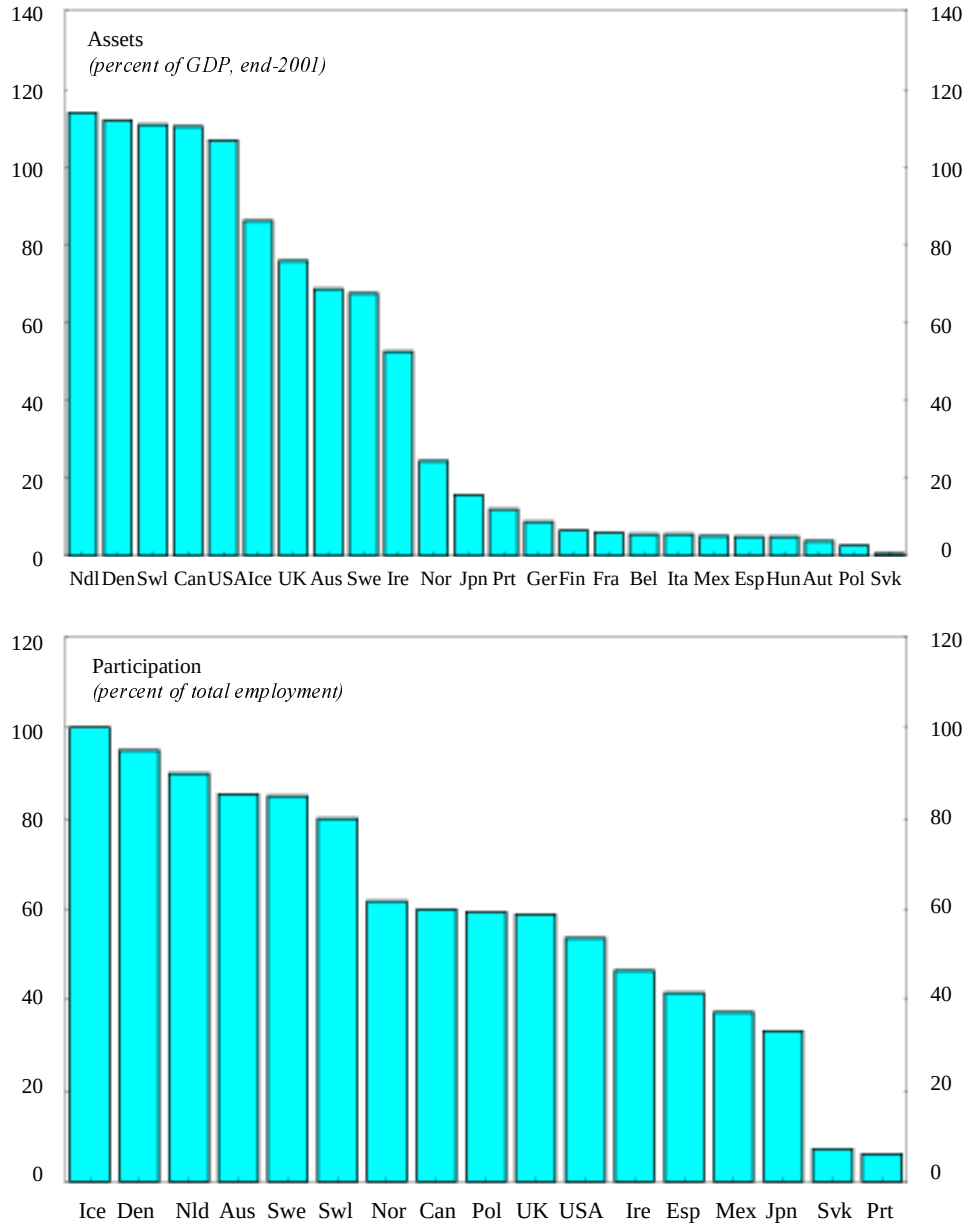
1 See Antolín, de Serres and de la Maisonneuve (2004) for a complete description.

2 The countries included are Australia, Canada, Denmark, Iceland, Ireland, Japan, Mexico, the Netherlands, Norway, Poland, Portugal, Slovak Republic, Spain, Sweden, Switzerland, United Kingdom and United States.

**Figure 1**

**Assets and Participation in Tax-favoured Retirement Saving Plans**
*(percent)*




Source: International Pension Funds and their Advisors (2003), national sources and OECD.

time of retirement. Assets accumulate according to the (nominal) rate of return on previous period assets *i*, new contributions, ($C_{t,g}$), and withdrawals:

$$A_{t,g} = (1+i)A_{t-1,g} + C_{t,g} - B_{t,g} \tag{2}$$

Withdrawals are modelled on the assumption that the total amount of assets accumulated until the age of 65 is run down according to a constant annuity formula until full exhaustion at the age of 85. In the cases where sufficient information was available, early withdrawals between the age of 55 and 65 are allowed, using withdrawal rates per age category observed in recent years.

As contributions can generally be fully deducted from taxable income, *revenues foregone on contributions* (second term in equation 1) made by each age group are the product of the age-specific marginal income tax rate on contributions $\mu_{c,g}$ and the total amount contributed in age group *g*, $C_g$. Total contributions per age group are calculated using employment projections, age-income profiles, average wages, participation rates and contribution rates per participants.

Employment projections are based on population and labour force participation rate projections from Burniaux *et al.* (2003) combined with assumptions regarding the future evolution of unemployment rates. Data on the age-income profile come from national sources and OECD. The simulation exercise assumes that the age-income profile observed in 2000 will remain constant over the projection period. The average (nominal) wage in the total economy grows at a constant rate of 3.7 per cent *per annum*, reflecting the assumptions of a productivity growth rate of 1.7 per cent and 2 per cent inflation.

The age-specific rates of participation in tax-favoured schemes are based on current rates of participation in tax-favoured schemes per age group. They are assumed to remain constant in the future in all cases except Mexico, Poland and the Slovak Republic where participation raises gradually over time to reach full participation in the cases of the former two countries, consistent with the mandatory nature of their schemes, and to around 50 per cent in the case of Slovak Republic.

Foregone tax revenues on accrued income from investment (third term in equation 1) measure taxes that would have been collected on investment income if private savings had been invested in a benchmark saving vehicle. It is measured as the net present value of taxes paid on a stream of investment earnings in proportion to pre-tax cumulative investment earnings. It thus depends on the tax rate on accrued income from alternative savings, the nominal rate of return on assets, and the amount of assets accumulated. Note that in contrast to the calculation of revenues collected on withdrawals, the relevant stock of assets in this case is not total assets invested in the scheme but only those accumulated from diverted savings. The reason for including only a subcomponent of total assets in the calculation of revenue losses on investment income is that contributions to tax-favoured retirement saving plans comprise the tax subsidy (foregone tax revenues on contributions) and personal saving. The latter can in turn be split into diverted saving and new saving.

Since neither the new saving nor the tax subsidy components would have generated investment income in absence of the scheme, they need to be excluded from the calculation of tax revenue losses.

### *1.2 Tax parameters*

The relevant tax rates used to estimate revenues foregone on contributions and accrued investment income, as well as revenues collected on withdrawals are calculated based on a number of assumptions.[3] First, the current tax treatment of standard savings vehicles in each country is taken as the benchmark tax system. In all cases, this is some version of the comprehensive income tax regime (TTE). Second, marginal tax rates corresponding to different levels of income and family status are derived from a tax model reflecting the current tax code in each country (OECD, 2002). In all countries where contributions to private pension plans can be used to lower taxable income, these effective marginal tax rates measure the fiscal revenue foregone on a unit of contribution.

Third, as concerns taxation of investment income, detailed information on the tax treatment of specific non-pension savings vehicles included in the benchmark portfolio is used to derive implicit tax rates on the return to investment (see Yoo and de Serres, 2004). Fourth, given the lack of sufficient information about the overall income of private pension beneficiaries, the general rule has been to set the tax rate applied on benefit withdrawal from private pension at 5 percentage points below the average tax rate (across age groups) used to calculate revenues foregone on contributions.[4] Finally, the pre-tax nominal rate of return on assets is set at 6.5 per cent *per annum*, including 2 per cent inflation.

## 2. Results

The baseline projections presented in this section are conducted as an accounting exercise and are based on the assumption that contributions to private pension plans do not affect the overall level of national savings. In other words, private consumption is assumed to remain unchanged following the introduction of a tax-favoured scheme. Hence, while contributors are assumed to save the amount corresponding to the value of the tax break, they do not provide new saving, *i.e.* that would be financed by a reduction in current consumption. The potential implications of allowing for new saving are discussed in Section 2.2.

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[3] A detailed exposition of the calculation of relevant tax rates and related assumptions can be found in Yoo and de Serres (2004).

[4] The motivation for having a lower tax rate on withdrawals is that tax deferral often creates the scope for tax smoothing, suggesting that the effective tax rate is likely to lie somewhere between the marginal and average tax rates corresponding to the amount of pension benefits. Give that a proper calculation would require adequate information about the level and various sources of taxable income of pensioners who have contributed, a simple rule was adopted.

### 2.1 Base case results

The base case projection provides, for each five-year period between 2000 and 2050, estimates of fiscal revenues foregone and collected in per cent of GDP. In addition, the stream of future net fiscal revenues over the period 2000-2050 is also discounted (using the rate of return on assets as the discount rate) to provide a measure of the implicit net fiscal assets as of 2000. The main results can be summarised as follows:

- Net fiscal assets are negative for all countries, and in the majority of them, even the flow of net fiscal revenues remains negative throughout the projection period, owing largely to foregone revenues on accrued investment income (Figure 2).
- In all countries except Sweden and Denmark, the flow of net fiscal revenues is projected to decline over the next 10 to 20 years, but to increase significantly thereafter in the majority of cases.
- By the end of the projection period, an improvement in the budget contribution relative to 2005 is expected in several countries. The improvement is particularly pronounced in Denmark, Iceland, the Netherlands and Sweden. In contrast, net fiscal revenues are expected to remain below their 2005 level at the end of the projection period in Ireland, Japan, Poland, Portugal, Slovak Republic, Switzerland and the United.

These results may look surprising in the face of arguments that governments should expect a windfall from tax-favoured schemes over the next decades (see Annex 1 in Antolín, de Serres and de la Maisonneuve, 2004). These claims notwithstanding, the above findings should not be seen as counter-intuitive. In the absence of new savings, each currency unit invested in an EET pension scheme entails a net fiscal cost over the whole life span of the investment, owing mainly to the non-taxation of investment income. Moreover, the effective tax on withdrawals is generally lower than the marginal tax on contributions. For the aggregate cost to turn into a net benefit, total withdrawals would have to exceed total contributions by a sufficient margin to at least compensate for the revenue losses due to the non-taxation of investment return.[5]

In fact, simple calculations suggest that under the set of assumption made and given the respective tax rates, withdrawals would have to exceed contributions by a factor of 16 (Japan) to slightly over one (Denmark) in order to bring net fiscal revenues to balance at a given point in time (Figure 3).[6] Consistent with the results shown above, the required ratio of withdrawals to contributions to balance net fiscal

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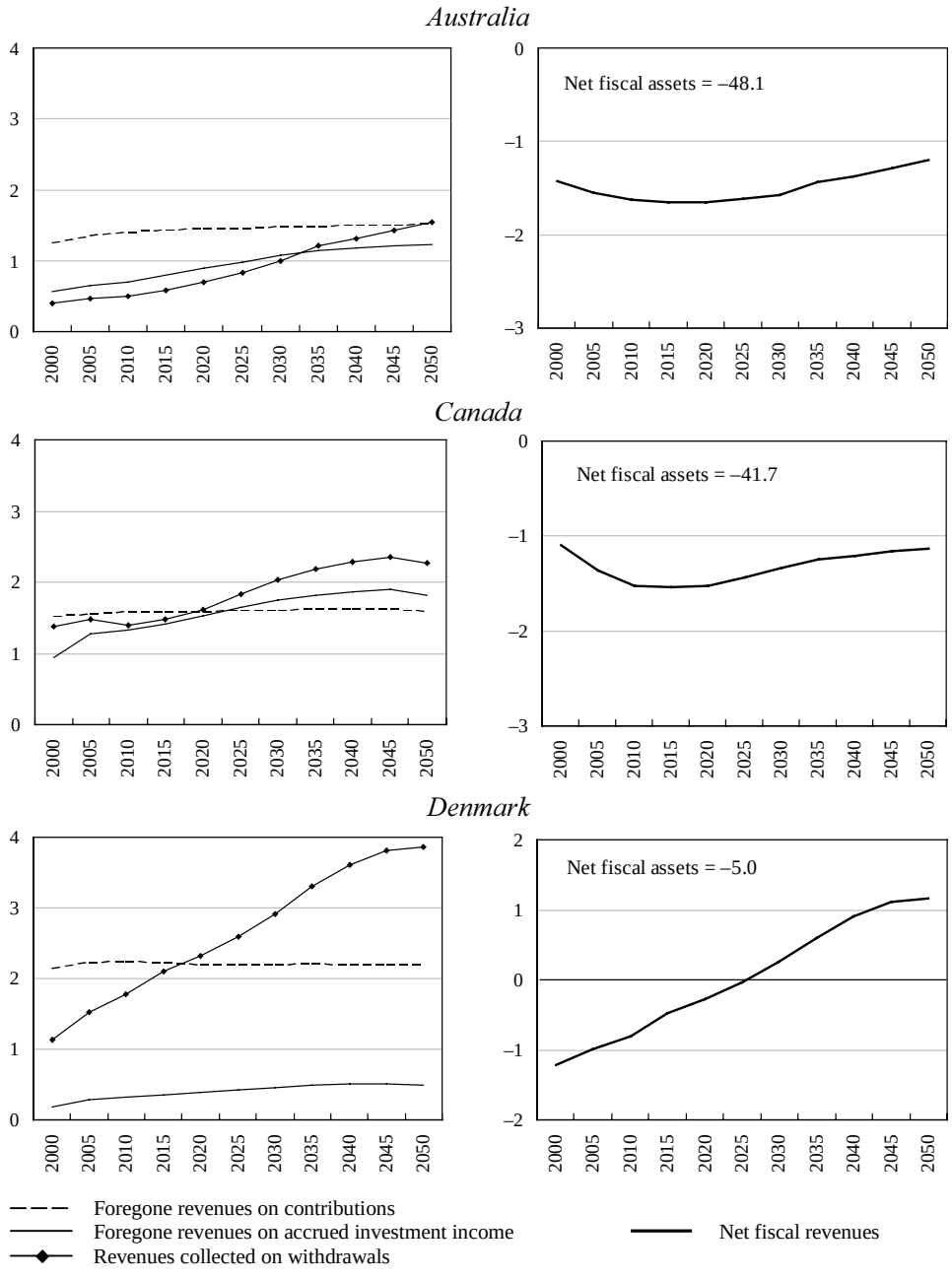
[5] Assuming that the tax rates on contributions and withdrawals were the same, the revenues collected on future withdrawals would, in present value terms, just offset the revenues lost from contributions. In such a case, the net fiscal cost would correspond to foregone revenues on accrued income from investment, which rises with the accumulation of assets.

[6] Since these required ratios depend on the amount of assets, they are calculated for the year during which the projected withdrawal to contribution ratio reaches its peak. In most cases, this is near the end of the projection period, *i.e.* between 2035 and 2050 depending on the country. Further details on these calculations are provided in Antolín, de Serres and de la Maisonneuve (2004).

**Figure 2**

**Projected Net Fiscal Revenues and Their Components, 2000-2050**[1]

*(percent of GDP)*

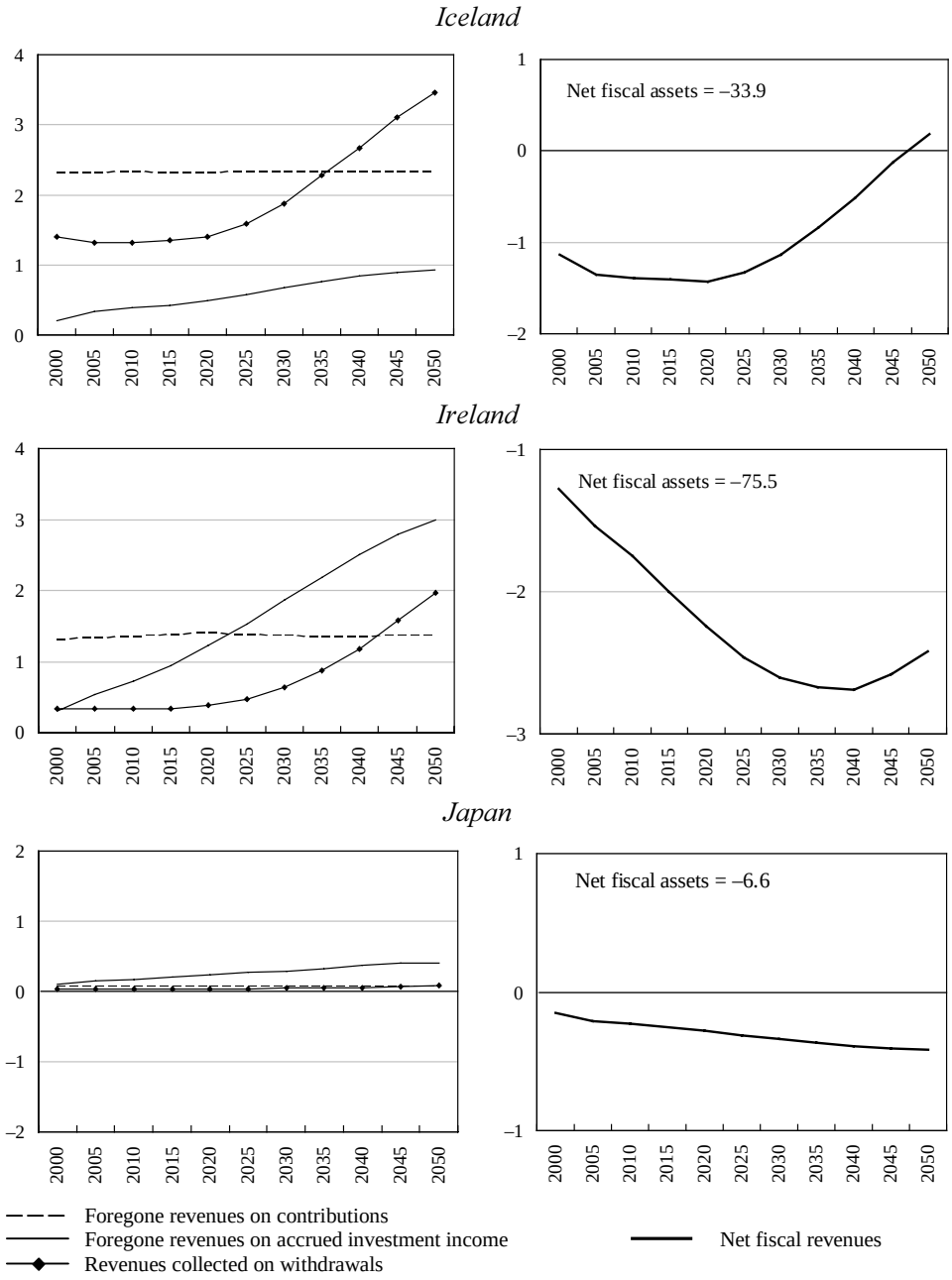



1. Net fiscal assets reported on the right-hand side graphs for each country are the discounted stream of future net fiscal revenues from 2000 to 2050.

**Figure 2 (continued)**

**Projected Net Fiscal Revenues and Their Components, 2000-2050**[1]

*(percent of GDP)*

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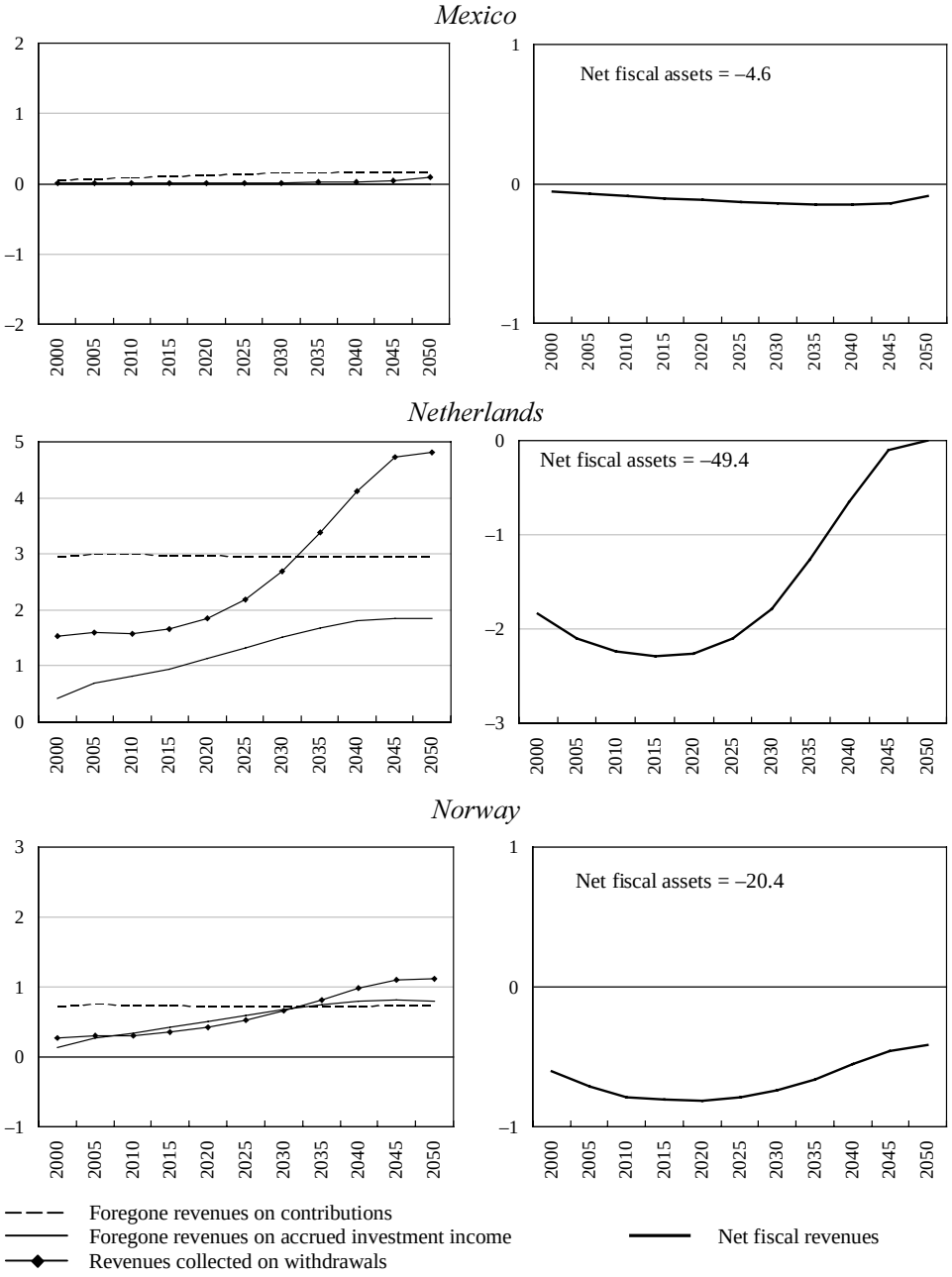
*(percent of GDP)*

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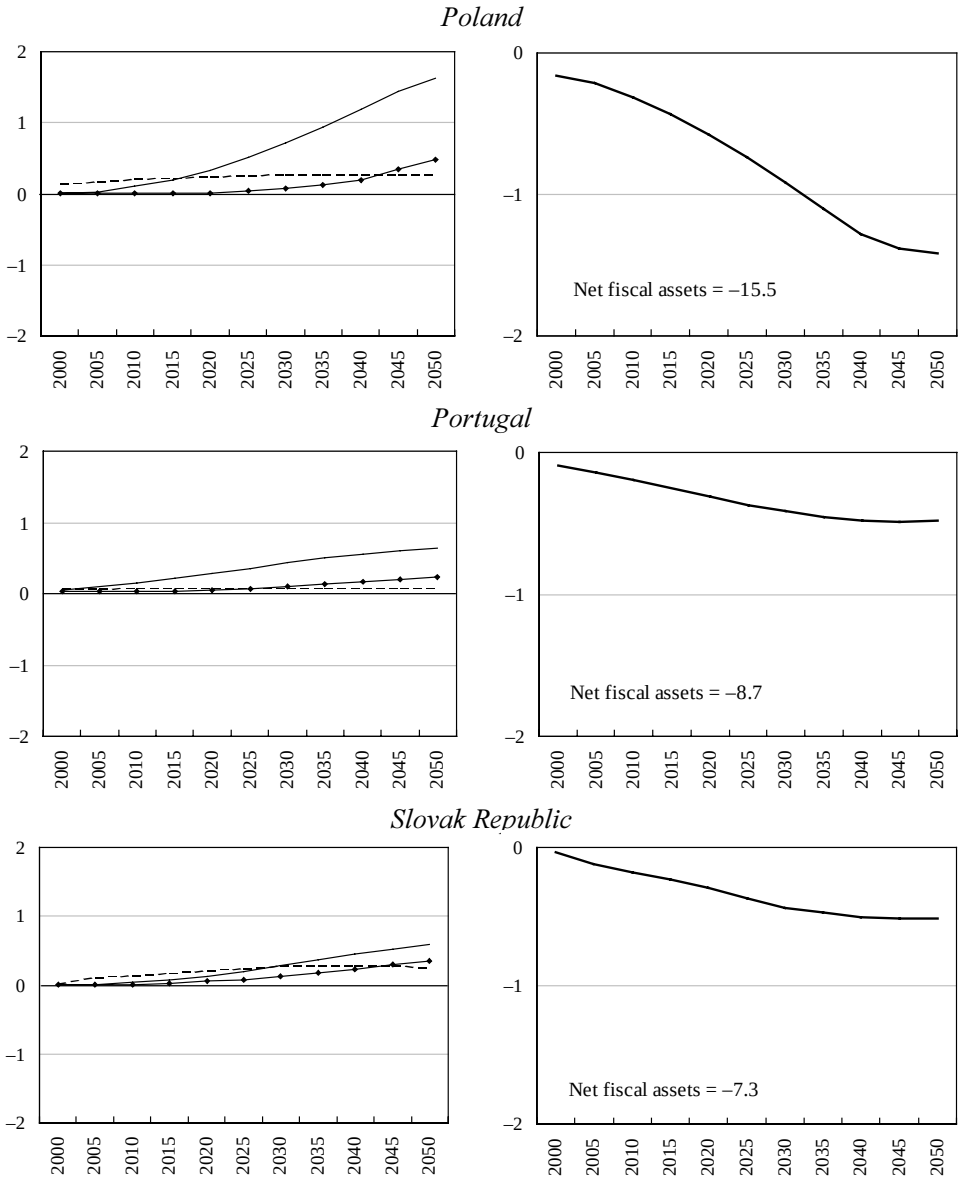
*(percent of GDP)*

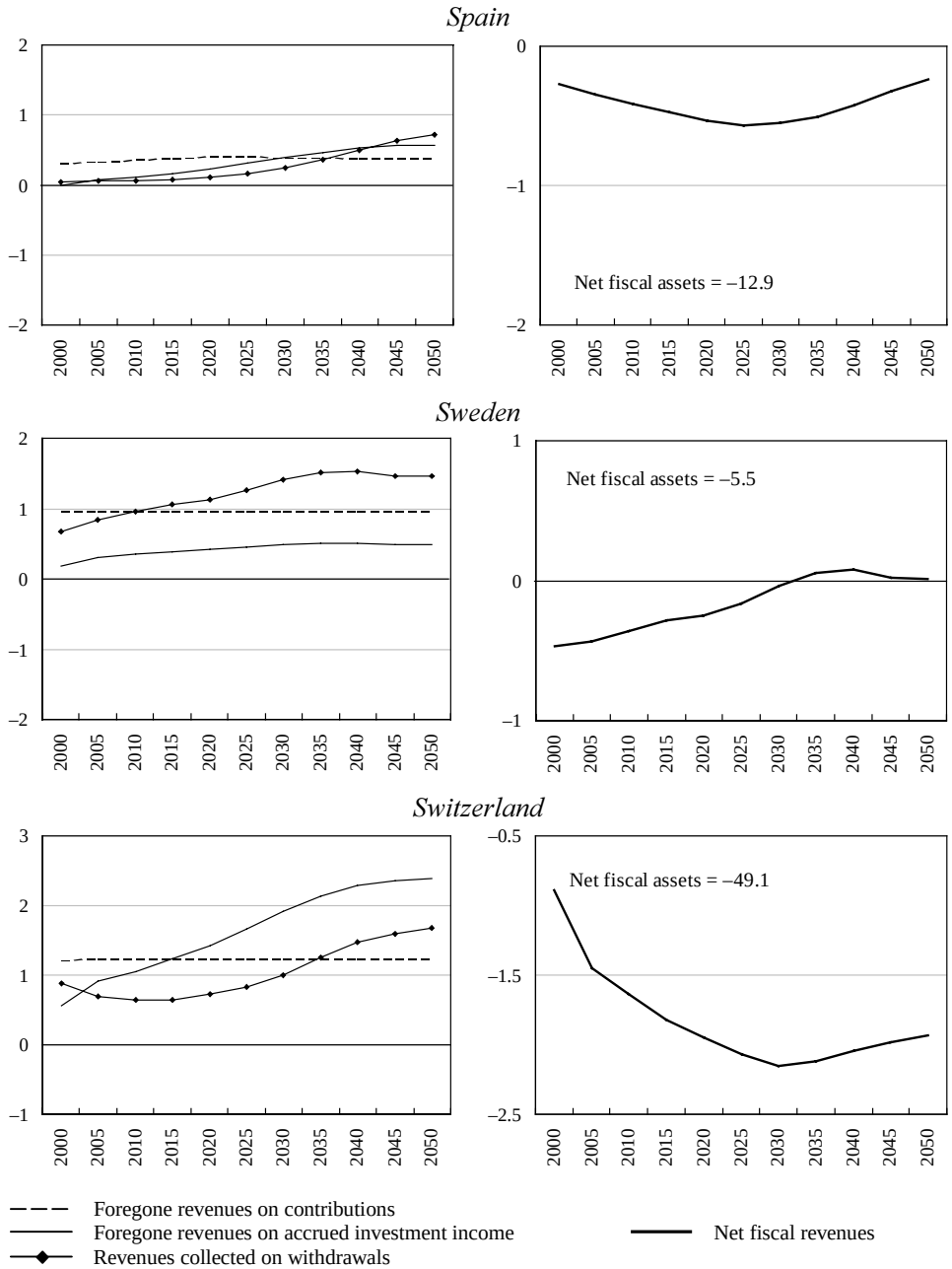



1. Net fiscal assets reported on the right-hand side graphs for each country are the discounted stream of future net fiscal revenues from 2000 to 2050.

**Figure 2 (continued)**

**Projected Net Fiscal Revenues and Their Components, 2000-2050**[1]

*(percent of GDP)*

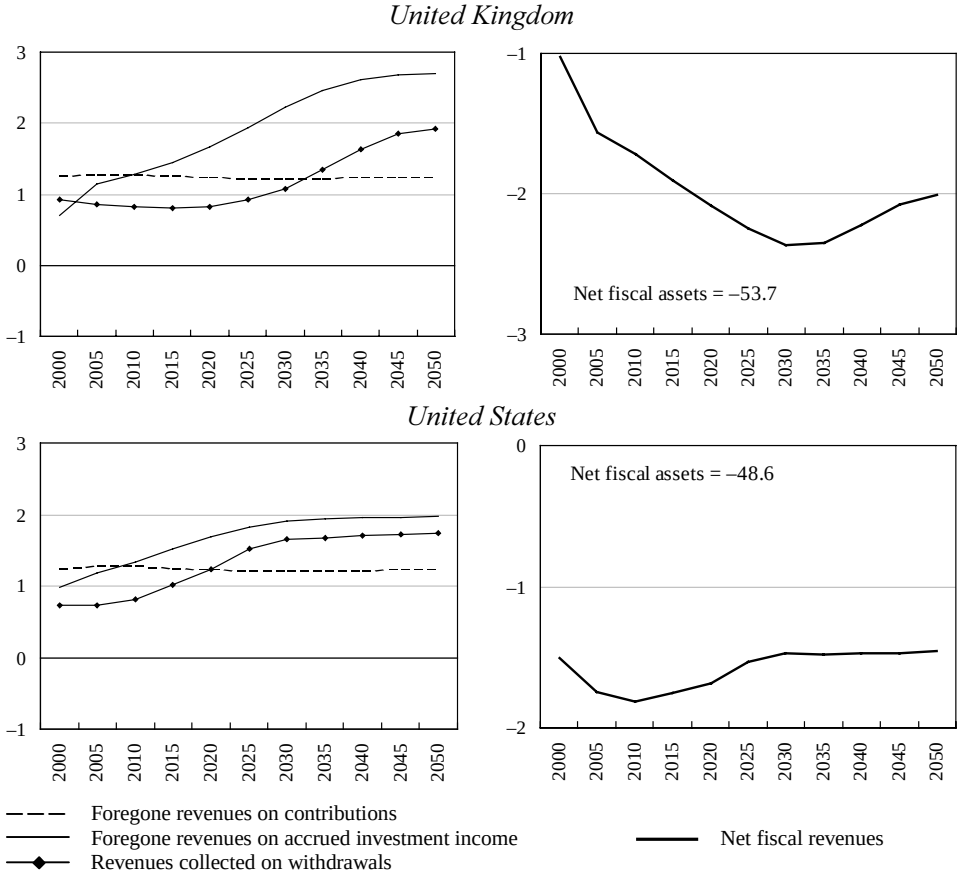



1. Net fiscal assets reported on the right-hand side graphs for each country are the discounted stream of future net fiscal revenues from 2000 to 2050.

**Figure 2 (continued)**

**Projected Net Fiscal Revenues and Their Components, 2000-2050**[1]

*(percent of GDP)*




1. Net fiscal assets reported on the right-hand side graphs for each country are the discounted stream of future net fiscal revenues from 2000 to 2050.

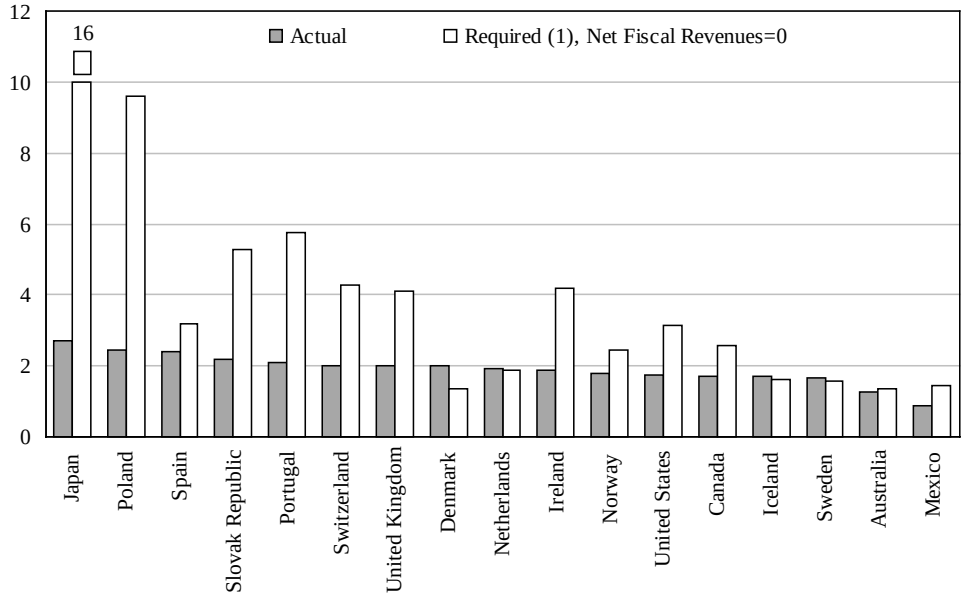
revenues is larger than the projected one, except in the cases of Denmark, Sweden and Iceland.

### *2.2 The importance of new saving in lowering the cost of tax-favoured schemes*

The projections shown above have revealed that the budgetary cost of tax-favoured schemes in terms of revenues foregone is likely to remain significantly larger than revenues collected despite the sharp rise in the latter resulting from population ageing. However, as mentioned earlier, this result partly depends on the

**Figure 3**

**Projected and Required Ratio of Withdrawals to Contributions**




(1) This is the ratio of withdrawals to contributions that would bring net fiscal revenues to 0. They are calculated for the year during which the projected withdrawals-to-contributions ratio reaches its peak (between 2035 and 2050 in most countries).
Source: OECD.

assumption that tax incentives lead to saving diversion rather than creation.[7] This sub-section highlights how saving creation could help closing the gap between costs and revenues stemming from private pension arrangements.

The extent to which tax incentives create rather than divert saving is ambiguous in theory and still unresolved empirically, despite the large amount of studies addressing the question, in particular in the United States.[8] As reviewed in more details in Antolín, de Serres and de la Maisonneuve (2004), little consensus has emerged from the empirical literature on the effectiveness of tax-favoured

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7 Clearly, to assume that these incentives fail to generate any new saving as is done in the base case projections reported above may be seen as an extreme view, even though one can not exclude *a priori* the possibility that national saving decline as a result of the tax incentive. This would be the case if contributors were to consume part of the tax subsidy.

8 The theoretical ambiguity arises from the uncertainty as to which of the familiar substitution or income effects on saving dominates in the long run.

saving plans in the United States despite intensive research focusing on 401(k) plans and individual retirement accounts (IRAs).[9]

In any case, to give a feel for the potential impact on net fiscal revenues and assets of allowing for new saving, alternative projections have been generated under two scenarios, one where new saving finances around 25 per cent of total contributions and another one where that proportion is set at around 50 per cent, as assumed in Boskin (2003). Any proportion of total contributions in private pension that is financed by new – as opposed to – diverted saving lowers the budgetary cost arising from foregone revenues on accrued investment income given that these funds would not have been saved elsewhere in the first place. This direct income tax effect from additional national saving is taken into account in the alternative scenarios presented here (Figure 4).

As expected, increasing the proportion of total contributions that is financed by new saving has a substantial impact on estimated net fiscal assets and the level of net fiscal revenues (Figure 4). The impact is particularly large in countries where investment income in non-pension savings instruments is taxed at a relatively high rate (United States, United Kingdom, Canada and Australia). Under the more optimistic assumption of high new saving (50 per cent), net fiscal revenues would turn positive in a majority of countries. In light of these results, and given that a growing number of countries have decided in recent years to implement tax-favoured plans or expand coverage of existing plans, it is important to assess how they can best stimulate private saving.

## 3. Policy issues

### *3.1 The link between distribution across income levels and effectiveness of tax-favoured plans*

One of the factors potentially affecting the effectiveness of tax incentives to generate new saving is the distribution of participants across categories of income. Recent empirical studies looking at the impact of 401(k) plans on saving patterns across income levels have found a significantly stronger impact of incentives on new saving among low- and middle-income earners or savers (Poterba, 2003; Engen and Gale, 2000; Benjamin, 2003). Hence, the higher is the proportion of upper-income individuals in total participation in tax-favoured schemes, the less new saving is likely to be generated. Furthermore, given the progressive nature of the tax system prevailing in most countries, the cost of the incentive rises with the income of participants, just as the effectiveness may well be declining.

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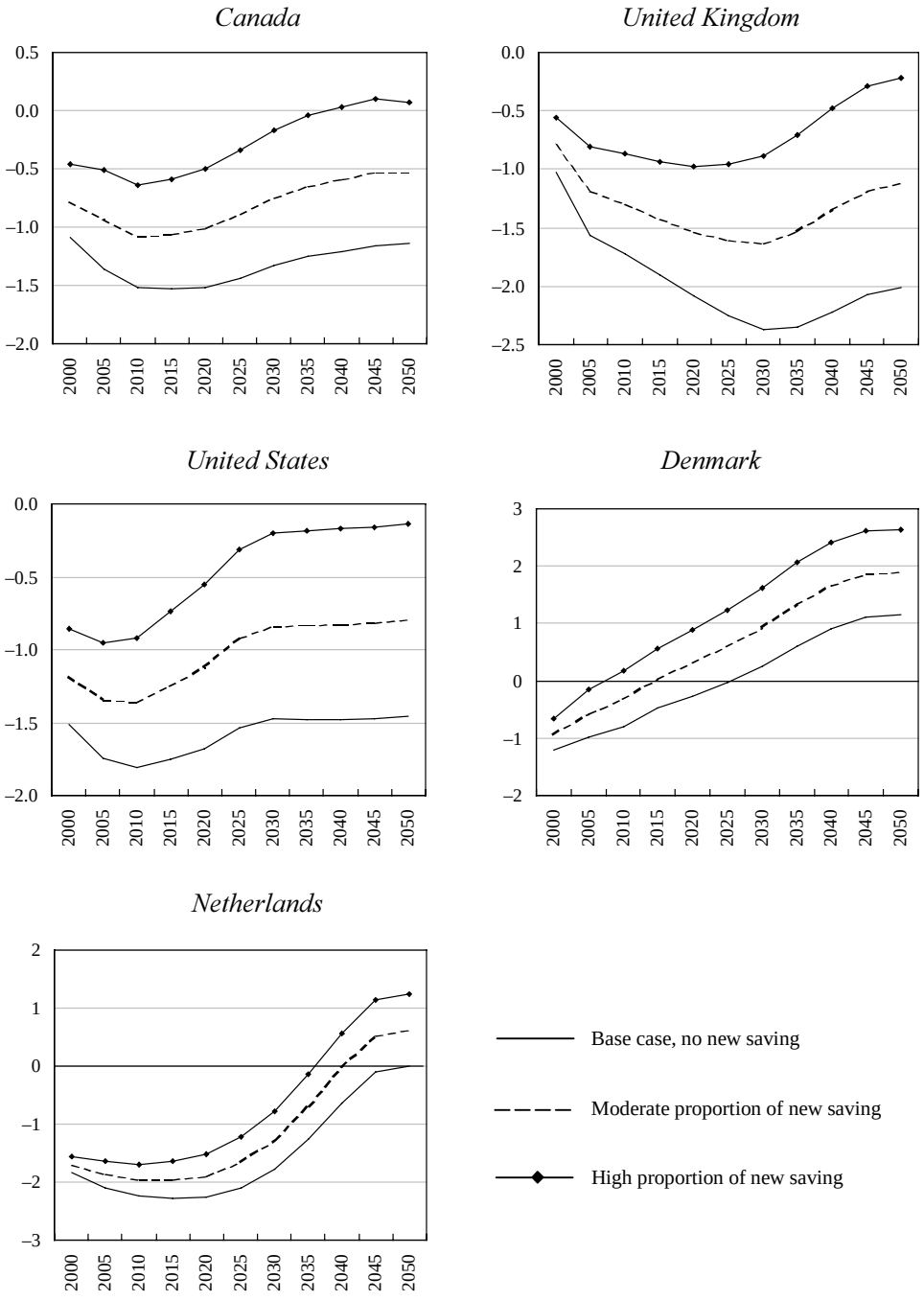
[9] The range of estimates found, even in the most recent papers, still goes from almost one extreme to the other. Nevertheless, the weight of evidence would suggest a proportion of new saving in total contributions of between 25 to 40 per cent at most.

**Figure 4**

**Net Fiscal Revenues Under Alternative Assumptions on New Savings**
*(selected countries)*



A look at income profiles of participants compared with that of all employees in Canada, the United Kingdom and the United States indicates that at least in countries where participation is voluntary, tax-favoured schemes indeed tend to be used disproportionately by upper income individuals (Table 1). First, the average income of participants exceeds that of employees by 28, 33 and 45 per cent in the United States, United Kingdom and Canada, respectively. Second, participation and the average amount contributed are higher among high-income individuals. While individuals earning 2 times or more of the average wage represent 13 per cent of all employees in the United States, they account for around 20 and per cent of total participants and nearly 50 per cent of total contributions, whereas their share of total salaries is 38 per cent. Similar figures are found in the case of Canada. Considering the size of the tax break in these countries, not only is such a skewed distribution of participants potentially expensive, but it also has implications for income redistribution. In this regard, encouraging a more balanced participation across income levels may not only be desirable from a strict equity perspective but, as suggested above, it may also lead to better results in terms of boosting private saving, which is the primary goal of tax-favoured plans.

### *3.2 Factors affecting the distribution of participants across income levels*

Possible explanations for the weaker participation and contribution rates from low and middle-income groups focus on two aspects: variations in workers' access to occupational pension plan membership and differences in the set of incentives and options faced by eligible employees.

**Table 1**

**Income of Participants in Private Pension Schemes**

| **Panel A** | Canada | U. K. | U. S. A. |
|---|---|---|---|
| Average income per participant (percent of average income) | 145 | 133 | 128 |

| **Panel B** | Share of Employees | | Share of Participants | | Percent of Contributions | | Percent of Income | |
|---|---|---|---|---|---|---|---|---|
| | Canada | U.S.A. | Canada | U.S.A. | Canada | U.S.A. | Canada | U.S.A. |
| Percentage of people earning | | | | | | | | |
| Less than 2 times AW | 86 | 87 | 73 | 80 | 53 | 53 | 60 | 62 |
| More than 2 times AW (80K+) | 14 | 13 | 27 | 20 | 47 | 47 | 40 | 38 |

Source: Antolín, de Serres and de la Maisonneuve (2004).

Eligibility plays a significant role. In fact, data on sponsorship of pension plans by US firms indicate that for various reasons, lower-income workers are less likely to be employed by a firm that offers membership (Copeland, 2003).[10] One possible reason is that low-skills, low-paid jobs may be more highly concentrated among small and medium-sized firms who may not as easily absorb the administrative costs of pension plans sponsorship.[11] Another possible contributing factor, at least based on some evidence from Canada and the United States, is the relative decline in manufacturing jobs – and along with it the decline in unionisation.[12]

Furthermore, it appears that where eligible workers do have a choice of whether to join or not, participation is also weaker at lower income levels. One basic reason is that for individuals living on very low income, saving may be neither accessible nor optimal, in particular for those whose income prospects have clear chances of improving over time. Relatively high replacement rates in countries with a highly redistributive public pension pillar may also reduce incentives to participate in tax-favoured schemes for low-income earners.

Perhaps more importantly, given that in most countries the tax relief on contributions takes the form of a deduction, the value of the incentive diminishes when income levels fall and may be of little value for workers with low taxable income. In addition, given that in many countries the basic state pension and other transfers are often income-tested, the marginal effective tax rate on benefit withdrawals may be very high for individuals whose pension income is expected to hover around the income-testing threshold. For instance, calculations based on the US tax and social security systems suggest that depending on the assumed rate of return, contributing to 401(k) plans may actually raise lifetime tax payments for families earning $50,000 or less (Gokhale and Kotlikoff, 2001). In contrast, one factor contributing to the generosity of the tax incentive for high income individual is that tax-deferred schemes (EET or ETT) are generally designed in a way that creates the scope for significant tax smoothing, especially in countries with very progressive tax schedules.

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[10] According to data on plans sponsorship by various characteristics, less than 50 per cent of workers with an annual income below $50,000 are employed by a firm that sponsors a plan, whereas the sponsorship rate rises to 75 per cent for workers with earnings above that level.

[11] The numbers for 2002 indicate that while the sponsorship rate is around 68 per cent in large US firms (over 100 employees), it falls to 28 per cent among smaller firms (less than 100 employees). Viewed from another angle, while small and medium-sized firms account for 50 per cent of employees, they account for less than 30 per cent of total eligible workers.

[12] In the United States, the sponsorship rate is higher in manufacturing (63 per cent) than wholesale and retail trade or personal services (around 45 per cent on average). In Canada, the decline in occupational pension plan participation during the Nineties has been largely attributed to two factors: the relative decline of manufacturing sectors and the rise in administrative costs (Morissette and Drolet, 2001).

### 3.3 Policy options to increase participation of workers at low- and middle-income levels

Several countries have achieved rates of participation in tax-favoured private pension plans that are both high and uniformly distributed across income levels, but they have done so by means of compulsion or quasi-compulsion, either *de jure* or *de facto*.[13] Compulsion – aside from ensuring a uniformly high participation rate across the income distribution – allows reducing the budgetary cost given that the tax concession need not be as generous, even if encouraging contributions beyond the compulsory threshold may remain an objective. Indeed, countries with compulsory or quasi-compulsory schemes generally tend to offer less generous tax breaks. For instance, three of them (Australia, Denmark and Sweden) tax the accrued return on investment in private pensions, albeit at a favourable rate relative to the taxation of non-pension saving instruments.

These advantages notwithstanding, some countries may find difficult to justify compulsion in the case of private pensions, not least when those are supplementary to one or two layers of mandatory public schemes. In such cases, the discussion in the previous sections suggests that in order to maximise the creation of new saving, the value of incentives may need to be strengthened for low and middle-income workers. One way to do so – in the context of EET or ETT schemes – would be to replace the deduction from taxable income with a non-wastable tax credit (or a subsidy) that would be set at a flat rate. Currently, only a few countries apply a tax credit for contributions to tax-favoured schemes (Austria, Belgium and Portugal) or a subsidy (Czech Republic, Germany and Mexico).

### 3.4 Impact of alternative tax treatment on net fiscal revenues

The previous discussion has identified two ways in which net fiscal revenues from tax-favoured plans could be increased: introducing a flat tax on accrued investment income, which would seem particularly appropriate in countries with mandatory schemes; and replacing tax deductions with tax credits or subsidies. Both these measures would have repercussions on behaviour, at least in countries where participation is voluntary. Indeed, introducing a tax credit would be expressly designed to improve incentives for low- and middle-income participation to tax-favoured schemes, thereby increasing new saving. However, the projection model used in this paper cannot account for such behavioural changes. Nonetheless, this section examines, for illustrative purposes, the potential impact on net fiscal revenues and net fiscal assets of replacing the deduction of contributions by a tax credit or of taxing investment income.

To this end, the rate of tax credit is assumed to be equal to the effective tax rate on benefit withdrawals. Even though the effect would be to lower the incentive

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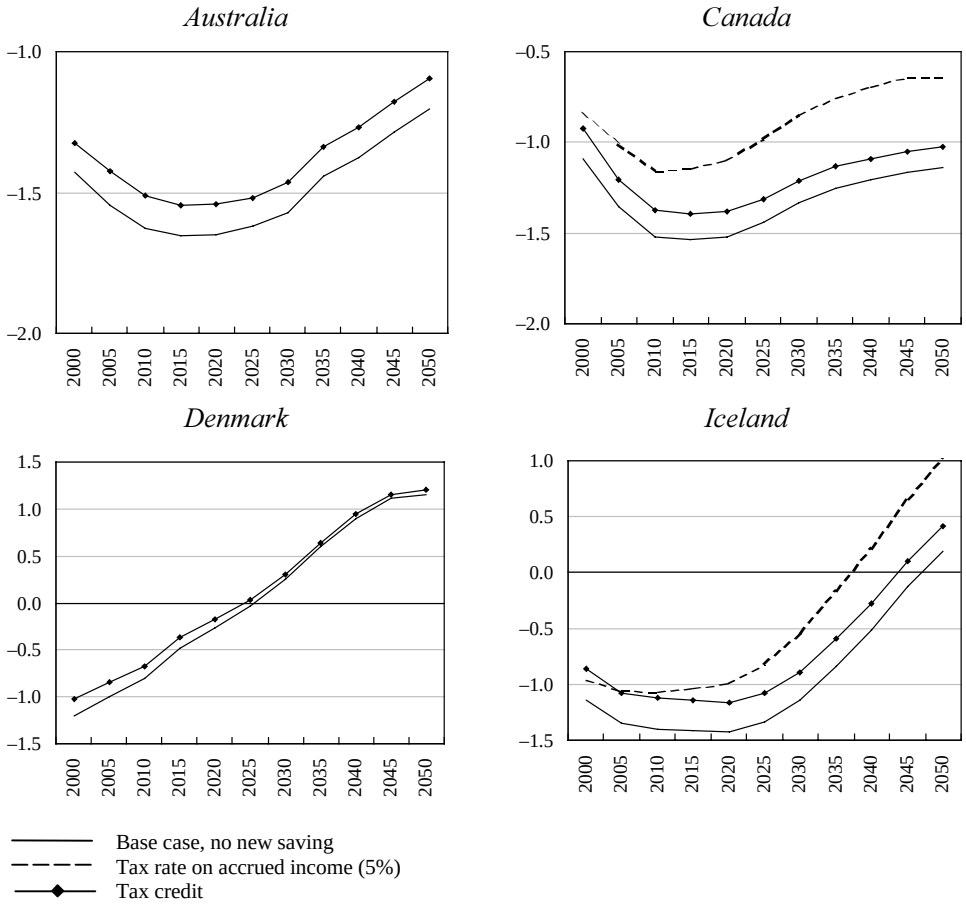
[13] Australia, Denmark, Hungary, Iceland, Mexico, Poland, the Netherlands, Sweden and Switzerland.

on average, it would be raised for low-income groups in a number of countries, in particular, those with steeper tax schedules. As for the flat tax rate on accrued investment income, it is fixed at a modest 5 per cent across the board. The effects on net fiscal revenues from these measures can be substantial, especially in the case of the flat tax rate on accrued investment income in countries accumulating a large amount of assets (Figure 5). By comparison, the effect of a tax credit would be

**Figure 5**

**Net Fiscal Revenues Under Alternative Tax Treatments**[1]
*(percent of GDP)*

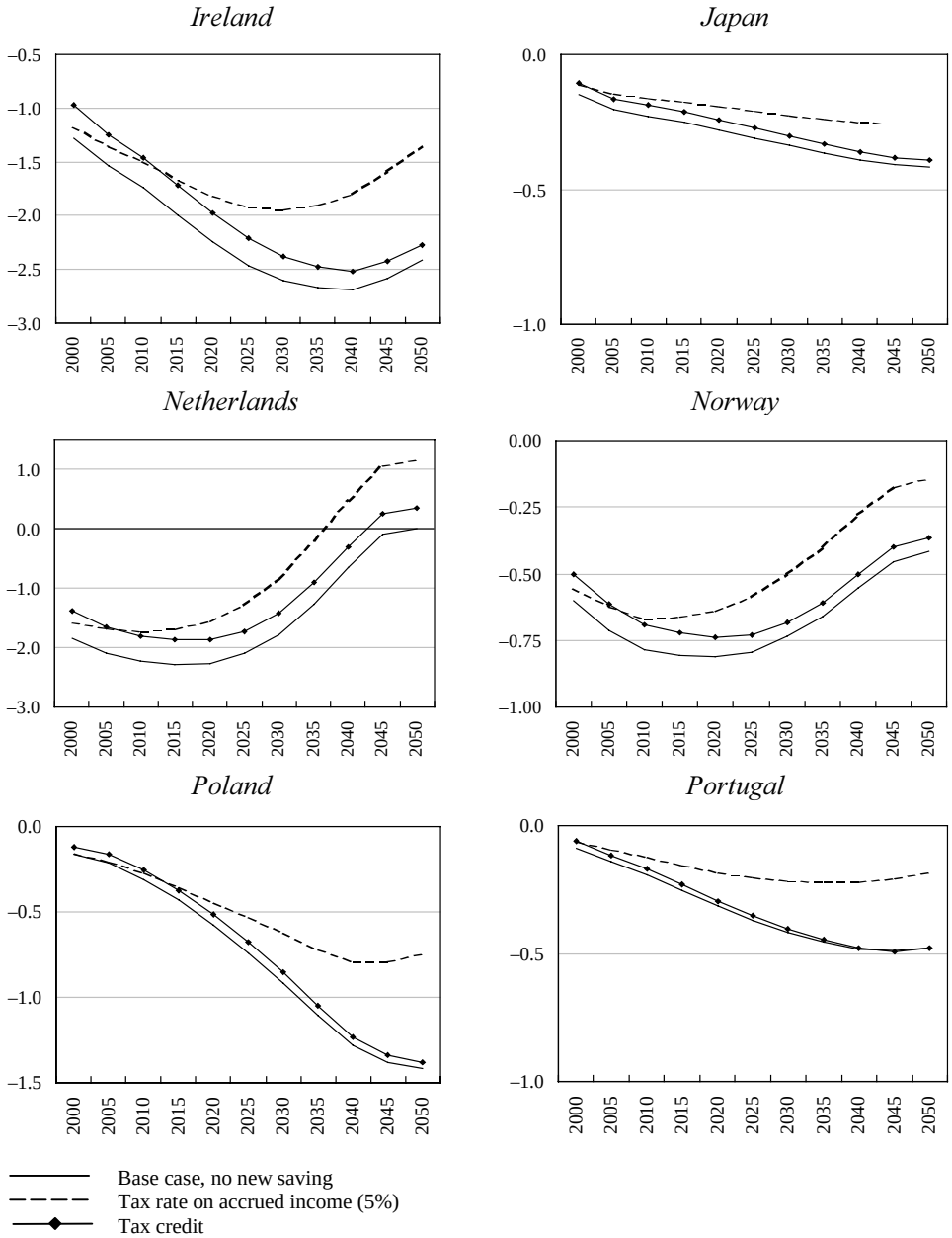



1. Given that Portugal already applies a tax credit, and that Sweden and Denmark already tax-accrued investment income, they are left out from the respective simulations.
Source: OECD.

**Figure 5 (continued)**

**Net Fiscal Revenues Under Alternative Tax Treatments**[1]

*(percent of GDP)*

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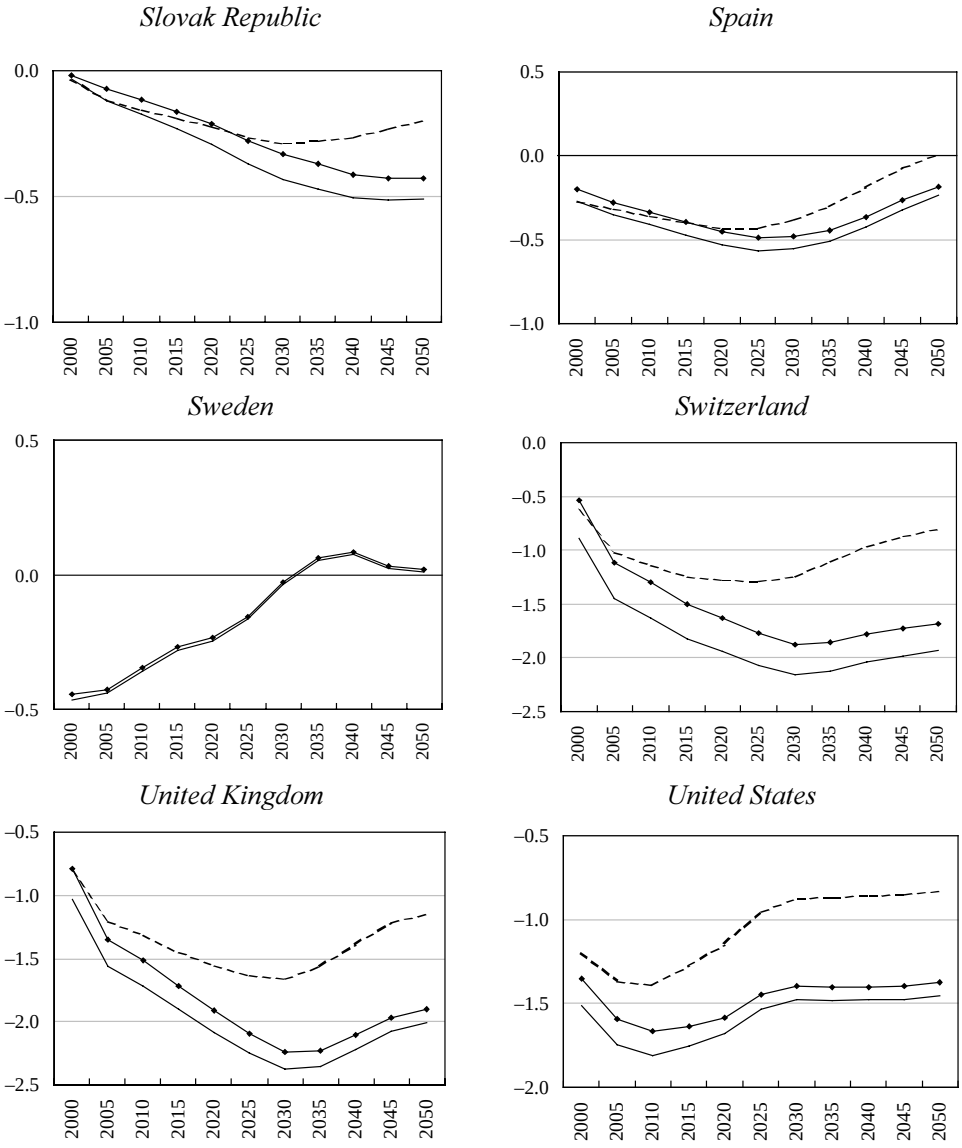
**Net Fiscal Revenues Under Alternative Tax Treatments**[1]

*(percent of GDP)*




1. Given that Portugal already applies a tax credit, and that Sweden and Denmark already tax-accrued investment income, they are left out from the respective simulations.

Source: OECD.

significantly smaller, inducing generally a modest upward shift in the profile of net fiscal revenues.[14]

## 4. Conclusions

This paper has provided estimates of the implicit fiscal asset, as well as of the evolution over time of fiscal costs and benefits related to tax-favoured pension regimes in 17 OECD countries. The main findings and conclusions are:

- Tax-favoured private pension schemes are likely to remain costly over the next 50 years, despite the increase in tax revenues resulting from population ageing. However, relative to the current level, the net budgetary cost will decline over time in the majority of countries examined in this paper.
- Budgetary costs would be significantly reduced if tax incentives were to lead to additional savings.
- The main policy issue is therefore that to assess how tax-favoured schemes can be best designed so as to stimulate personal and national savings and thus increase their cost-effectiveness.

The existence of tax-favoured pension arrangements does not seem to be questioned. In fact, more and more countries are either introducing them or extending their coverage. Three factors could help motivate their existence:

- The shift towards long-term retirement saving may be an objective worth pursuing, not least to stimulate the demand for long-term financial instruments.
- The need to establish a framework for encouraging private pension in order to ease the impact of reductions in public pension benefits on the income level of future retirees.
- One could argue that tax-favoured retirement-saving plans have played a useful role in allowing governments to shift important fiscal revenues to a period in the future where the fiscal impact of ageing will peak. Without such a shift, it is not clear that governments would have resisted political pressures to spend these revenues rather than using them to build assets so as to meet the future cost of populations ageing.

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[14] This partly reflects the relatively high rate chosen for the tax credit in this experiment as well as the fact that the potential impact on participation across age groups and on saving creation is not taken into account.

## REFERENCES

Antolín, P., A. de Serres and C. de la Maisonneuve (2004), "Long-term Budgetary Implications of Tax-Favoured Retirement Saving Plans", OECD, Economics Department, Working Paper, No. 393.

Benjamin, D.J. (2003), "Does 401(k) Eligibility Increase Saving? Evidence from Propensity Score Subclassification", *Journal of Public Economics*, Vol. 87, Issue 5-6.

Burniaux, J.M., R. Duval and F. Jaumotte (2003), "Coping with Ageing: A Dynamic Approach to Quantify Alternative Policy Options on Future Labour Supply in OECD Countries", OECD, Economics Department, Working Paper, No. 371.

Boskin, M.J. (2003), "Deferred Taxes in Public Finance and Macroeconomics", Hoover Institution, Stanford University.

Copeland, C. (2003), "Employment-based Retirement and Pension Plan Participation: Declining Levels and Geographic Differences", *EBRI Issue Brief*, No. 262.

Engen, E.M. and W.G. Gale (2000), "The Effects of 401(k) Plans on Household Wealth: Differences Across Earnings Groups", NBER, Working Paper, No. 8032, December.

Gokhale, J. and L.J. Kotlikoff (2001), "Who Gets Paid to Save", Federal Reserve Bank of Cleveland, Working Paper, No. 01-14, September.

Morissette, R. and M. Drolet (2001), "Pension Coverage and Retirement Savings", *Perspectives*, Statistics Canada, Summer.

OECD (2002), *Taxing Wages*, Paris.

Poterba, J. (2003), *Government Policy and Private Retirement Saving*, CES-Munich Prize lecture.

Yoo, K.Y. and A. de Serres (2004), "The Tax Treatment of Private Pension Savings in OECD Countries and the Net Tax Cost per Unit of Contribution to Tax Favoured Schemes", OECD, Economics Department, Working Paper, No. 406.