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Agenda

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Cross-border investment restrictions for pension schemes: what are the costs?

Pension schemes are often restricted in how they can invest their portfolios in different asset classes and internationally. Based on an Oxera report recently published by the European Commission, this article examines the restrictions that apply to international investment of certain EU pension schemes, and the impact on the risk–return performance of the investment portfolios

In response to the growing pension problem, many EU Member States have taken steps to reform their pension systems. In addition to developing occupational and private pension schemes, they are reforming their state pension and social security systems by introducing or developing funded elements to complement the traditional pay-as-you-go (PAYG) structure.

National legislation often restricts the investment activities of funded pension and social security schemes. The restrictions set quantitative limits on investment in different asset classes as well as on international asset allocation. Cross-border investment restrictions may not only violate the EC Treaty freedom of capital movement, they may also have wider negative economic consequences if they impede efficient international portfolio diversification.

In a report recently published by the European Commission, Oxera examines the quantitative restrictions that apply to certain pension schemes in the EU 27, and evaluates the economic costs of those restrictions in terms of their impact on the risk–return profile of the investment portfolios. This article gives an overview of the main findings.

Relevant EU pension schemes

Pension systems are very diverse in the EU Member States, and there are significant differences not only in the structure but also the terminology used to describe different pension schemes. The focus here is on two types of funded pension scheme that can broadly be classified as constituting part of the state pension and social security system (ie, the First Pillar of old-age retirement provision).

– **(Demographic) reserve funds**. Some predominantly PAYG-financed social security systems have statutory requirements for partial pre-funding and, particularly in view of the increasing pension expenditure, reserve funds have been set up to support the traditional PAYG schemes.

– **Statutory funded private pension schemes**. These are often described as the separate second tier of the First Pillar (referred to as Pillar 1 bis).[1] Some countries have switched part of their social security pension schemes into privately funded schemes; the provision and participation is usually statutory, but the schemes are generally operated and managed by private institutions, and benefits accrue to members in individual accounts.

Supplementary occupational schemes (ie, Second Pillar schemes) are not considered further in the Oxera study, mainly because the majority fall under the IORP Directive (Directive on the Activities and Supervision of Institutions for Occupational Retirement Provision) or other EU Directives. The IORP Directive already deals with investment restrictions and provides for the elimination of, or at least a reduction in, quantitative restrictions, by requiring investments to be based on ‘prudent person’ principles.[2] Voluntary individual pension schemes in the Third Pillar were also beyond the scope of the study.

Relevant schemes have been established in 18 Member States: 11 countries have a reserve fund, and nine have statutory funded private pension schemes. Reserve funds are concentrated in the EU 15 (nine countries), while statutory private schemes are mainly observed in the new Member States (seven countries).

This article is based on the Oxera report ‘The Effect of Cross-border Investment Restrictions on Certain Pension Schemes’, prepared for European Commission (DG Internal Market and Services), April 2007. Available at www.oxera.com.

Table 1 Size of reserve funds and statutory funded private schemes

	Total value of assets (€ billion)	% of EU 27 GDP	% of gross public pension expenditure (EU 25)
Reserve funds	358.3	3.3	27.5
Statutory funded private schemes	97.0	0.9	7.4
Total	455.3	4.2	34.9

Notes: The volume of funds is in general measured as of end 2005, as is GDP. Data on gross public expenditure refers to 2004.
Sources: Economic Policy Committee (2006), 'Age-related Public Expenditure Projections for the EU 25 Member States up to 2050: European Economy—Special Reports'; Eurostat; and Oxera calculations.

The total assets of the schemes analysed amounted to €455.3 billion in 2005 (see Table 1)—corresponding to around 4.2% of total EU GDP. The assets managed by reserve funds are around four times greater than those managed by statutory private schemes. The largest reserve funds are in Finland (€102 billion) and Sweden (€84 billion), and large reserves have also accumulated in the Fonds de réserves pour les retraites (FRR) and Agirc-Arrco in France (€76 billion). Among the statutory schemes large funds have been accumulated, for example, by the Open Pension Funds (OPFs) in Poland (€21 billion) and in the Premium Pension System (PPM) in Sweden (€20 billion).

Several schemes have been introduced recently and have been growing at a rapid pace due to regular contributions—eg, the National Pensions Reserve Fund (NPRF) in Ireland, and the statutory funded private schemes in the new Members States—suggesting that the economic importance of these schemes is likely to increase in the near future.

What are the cross-border investment limits?

The funds accumulating in pension schemes are invested in the capital markets, subject to any restrictions that apply to both the class of assets available for investment and the geographic location of the issuer or currency of denomination. A detailed review of the investment restrictions imposed on the relevant pension schemes is provided in the Oxera report. Table 2 provides a summary of the main quantitative limits on international investment applying to a selection of the reserve funds and statutory private pension schemes in the EU. The schemes are ranked in order of the extent to which they invest internationally; the proportion of the portfolio invested in foreign assets is also reported (in most cases measured as of end 2005).

Among the schemes considered, only a few are not subject to any form of quantitative limit on foreign investment. Examples of the unconstrained schemes are the statutory private pension schemes in Lithuania, the Swedish PPM system and the Irish NPRF.

There are some instances where the investment rules for the relevant schemes are significantly stricter than those allowed in the EU Directives that apply to other pension schemes—eg, the IORP Directive allows Member States to limit currency risk exposure to 30% if justified.

– Some reserve funds are required to invest all or half of their assets in domestic securities, usually in government bonds (ie, in Belgium, Poland, Portugal and Spain). This directly contrasts with the provisions for the Irish NPRF, which by law is not permitted to hold domestic government bonds.

– Among the statutory funded private pension schemes, the requirement to invest in domestic assets is strictest in Poland (foreign investment is limited to 5%), but also applies in Slovakia, where at least 30% must be invested domestically. The limit on foreign investments also used to be strict for the statutory schemes in Bulgaria (10%), but the law was changed in 2006, and now the only remaining cross-border restriction is the requirement that 80% of the assets be denominated in either Bulgarian lev or euros.

– In other cases, existing restrictions do not refer to all foreign investments, but only to currency risk exposure (which generally can be hedged) or investments outside a certain geographic area (eg, the EEA or OECD areas).

What is the impact on pension portfolio allocation?

A key precondition for cross-border investment limits to have an economic impact is that they present a binding constraint on international asset allocation. With the exception of those reserve funds that are subject to a fully binding constraint of investing the entire portfolio in domestic assets, the actual portfolio allocation of the relevant schemes falls short of the statutory limits to foreign investment—ie, schemes are less internationally diversified than would be permitted under existing laws or regulations.

This does not imply that observed limits are irrelevant for normal business decisions. Rather, the existence of strict

Table 2 Cross-border investment limits for a sample of relevant pension schemes

	Cross-border investment limits	Actual proportion of foreign investment (%)
Reserve funds		
Ireland (NPRF)	–	92
Sweden (AP1–4)	40% maximum currency risk exposure	59–73
Finland (TEL)	Maximum 10% outside the EEA. Maximum 20% currency risk exposure	66
Portugal (FEFSS)	50% must be invested in Portuguese government debt. Maximum 15% currency risk exposure. Only investment within OECD area	44
Spain (Social Security Reserve Fund)	Maximum 50% in foreign public debt with AAA rating	21
Belgium (Ageing Population Fund)	100% must be invested in Belgian government bonds	0
Poland (Demographic Reserve Fund)	100% must be invested in Polish securities	0
Statutory private pension schemes		
Estonia (Mandatory Pension Funds)	Maximum 30% in non-EU and non-OECD countries	85
Lithuania (Pension funds accumulating part of the state social insurance contributions)	–	81
Sweden (PPM)	–	73
Latvia (State-funded Pension Schemes)	30% currency exposure limit (euro is additional matching currency since 2005). Government bonds must be issued by EEA or OECD states. Equities and corporate bonds must be listed on an exchange in the EEA or OECD	28
Slovakia (Old Age Pension Savings)	30% of portfolio must be invested in Slovakia	11
Bulgaria (Universal Pension Funds, Professional Pension Funds)	Maximum 20% in assets denominated in currencies other than Bulgarian lev or euros. Until 2006, foreign investment restricted to 10% and requirement to hold 50% in domestic government bonds	1.4
Poland (OPFs)	Maximum 5% in foreign assets	1.1

Source: Oxera (2007), op. cit.

limits (as well as uncertainty about possible changes in the limits) may lead to a cautious asset allocation strategy that leaves sufficient headroom between actual portfolio weights and limits—eg, because of a risk of breaching the limits if markets soar, and because short-term portfolio adjustments can be costly.

The evidence suggests that schemes subject to the stricter limits tend to invest less abroad. Among the reserve funds, the most diversified is the fund without cross-border limits to investment (the Irish NPRF invests more than 90% abroad)—sharply contrasting with the funds that are required to invest only or mainly in domestic assets (government bonds). The same observation applies to the statutory private schemes. Among the top three schemes in terms of foreign investment (all invest more than 70–80% abroad), two face no legal constraints when it comes to international investment decisions (Lithuania and Sweden), and one is subject to a limit that constrains investment only outside the EEA and OECD area (Estonia). In contrast, the Polish OPFs are subject to a 5% limit on foreign investment and invest only 1% of assets abroad.

Importantly, given the limits in place, the schemes with strict limits would not be able to attain the degree of international diversification observed for comparable schemes that are subject to no, or weaker, restrictions.

There is also evidence of significant shifts in portfolio allocations towards increased international investment in cases where cross-border investment limits have been relaxed, further suggesting that investment limits can present, and indeed have presented, a binding constraint on international asset allocation.

- State-funded pension schemes in Latvia are subject to a minimum 30% currency-matching requirement, which in 2005 was relaxed to include the euro as a matching currency in addition to the lat. As a result, the allocation to foreign assets increased from 15% to 28% by the end of 2005.

- Investment regulations applying to Universal and Professional Pension Funds in Bulgaria were changed in 2006, removing in particular the requirements to invest 50% in domestic government bonds and not

more than 10% in foreign assets. This triggered a portfolio reallocation process—the share of domestic government bonds fell significantly, and the share of foreign investments doubled (albeit from a very low level). Further portfolio adjustments are expected.

The asset managers interviewed as part of the study, and particularly those operating in regimes with tight cross-border investment limits, confirmed the view that restrictive limits can interfere in their asset allocation decisions.

However, while seen as important, cross-border investment limits are not the only, or in most cases even the main, restriction to foreign investment. Rather, it is the combination of factors, including explicit quantitative investment restrictions, that explains the investment portfolios of the relevant pension schemes.

Other factors limiting international investment may arise from additional provisions in the laws and regulations that have an indirect impact on cross-border investment. Such factors include, in particular, quantitative limits on equity, mutual funds or other asset classes through which international diversification would otherwise be achieved; minimum-return guarantees; performance benchmarking; and caps of fees.

Furthermore, a degree of home bias can also be explained by, for example, aversion to currency risk (and impediments to hedging this risk); temporarily favourable domestic market conditions; information asymmetries and resulting problems of generating returns in foreign markets; lack of scale and expertise of the more recently established schemes; taxes; and transaction costs.

Therefore, although they cannot fully explain the international asset allocation patterns observed for the relevant schemes, cross-border investment limits—if strictly defined—are of importance.

What is the impact on the risk–return performance?

Restrictions on cross-border investment can have a negative impact on risk–return performance of pension scheme investment portfolios. As examined in a wide body of academic literature, the main reason for this is that such restrictions prevent schemes from holding an internationally diversified portfolio, which in turn prevents them from taking advantage of the opportunity to diversify away non-systematic risks associated with their domestic economies.

As an illustration of the benefits of international diversification and the corresponding costs of investment restrictions, Table 3 compares the risk–return performance of portfolios that are invested only in domestic equities of a sample of EU 15 Member States with the performance of portfolios that are diversified across European equities. The table shows average real returns, the volatility (standard deviation) and the variance coefficient (ratio of volatility to average return) for three equity portfolios—the domestic market portfolio; a portfolio that is invested 60% domestically and 40% in a value-weighted European portfolio; and a 100%-diversified European portfolio. The risk–return parameters are estimated using monthly returns over a 30-year period, using the MSCI equity return index series for the relevant domestic markets and a European index that includes the EEA constituent markets on a market-value-weighted basis.

The results in Table 3 illustrate that moving towards the more diversified European equity portfolios does not always improve the portfolio performance for the countries in terms of average returns—for many, domestic returns exceed the EEA average over the period. However, greater diversification results in a significant reduction in the portfolio volatility—the volatility of the EEA return index is lower than that of each of the domestic market indices. As a result, the variance coefficient—ie, the ratio of the portfolio volatility to the average return—generally declines as the portfolio is diversified to include equity from other European countries. Put differently, for a given level of return, greater diversification across European equity results in a portfolio with lower risk.

The Oxera study contains a wide range of new empirical results on the benefits of international diversification. Investors in the EU can improve the risk–return performance of their portfolios by increasing the exposure to international investment, within and outside Europe. On average, changing portfolio allocations from a domestic portfolio to one that is diversified internationally allows reductions in the risk of the portfolio without forgoing returns. This conclusion applies in particular to diversification across equity markets. The estimates show that investing in international government bonds produces lower, and in some cases negligible, improvements in portfolio performance.

Oxera also conducted case study analysis of relevant pension schemes that are subject to comparatively tight cross-border investment limits in order to examine the extent to which the risk–return characteristics of the schemes' portfolios would improve if the actual asset allocation were adjusted to increase international investment up to and beyond the levels permitted under existing regulations. These simulations generated results that are broadly consistent with the conclusion that international diversification beyond the maximum diversification allowed improves the risk–return performance. However, for the relevant schemes and

Table 3 Risk and (real) return performance of domestic and diversified European equity portfolios, 1976–2006

	Average returns (%)			Volatility (%)			Variance coefficient		
Country	Local	Mixed (60:40)	EEA index	Local	Mixed (60:40)	EEA index	Local	Mixed (60:40)	EEA index
France	11.536	10.767	9.623	20.643	17.517	14.999	1.790	1.627	1.559
Germany	9.050	9.279	9.623	20.085	17.348	14.999	2.219	1.870	1.559
Italy	10.228	9.986	9.623	24.404	18.997	14.999	2.386	1.902	1.559
Netherlands	12.292	11.218	9.623	17.755	16.085	14.999	1.444	1.434	1.559
Sweden	9.779	9.716	9.623	16.081	14.898	14.999	1.644	1.533	1.559
UK	9.972	9.832	9.623	16.862	15.605	14.999	1.691	1.587	1.559

Note: Average returns, volatility and variance coefficient are based on monthly MSCI index data from July 1976 to July 2006, but are annualised for presentation purposes. Nominal returns are adjusted by inflation and measured in local currencies. The EEA index includes equities in countries that are not included in this table.
Source: Thomson Financial Datastream and Oxera calculations.

countries, the time series of data is often too limited to allow robust estimation of the relevant parameters.

The estimates obtained using longer time periods of data suggest that international diversification has benefits in terms of improving the risk–return characteristics of investment portfolios. In other words, any restrictions to cross-border investment that impede efficient diversification impose a corresponding cost since they prevent investments that would allow higher returns for the same level of risk, or lower risks for the same level of returns.

Asset managers operating under restrictive regulation confirmed that tight investment restrictions can impede their ability to invest assets in a way that is in the best interests of pension scheme members.

Concluding remarks

Capital markets are becoming more integrated within Europe and globally. Nonetheless, benefits of international portfolio diversification remain, particularly in equity markets. Any restrictions that impede efficient portfolio diversification can therefore impose an economic cost in terms of inferior risk–return performance.

It is precisely for this reason that arguments have been put forward for moving away from quantitative investment regulation to an investment framework that is based on prudent person principles, allowing investment to be made in the best interests of scheme members, and taking account of security, quality, liquidity and profitability of the portfolio as a whole. Portfolio diversification and prudent person principles have also been enshrined in the IORP Directive for supplementary occupational pension schemes.

Among the First Pillar reserve funds and statutory private pension schemes in the EU, strict cross-border investment limits are rare, and limits have been relaxed over time. However, where strict limits remain, the impact on portfolio performance, and ultimately pension scheme members, can be significant if the limits prevent risk reductions for a given level of return or imply forgone returns for a given level of risk.

Cross-border investment restrictions are generally imposed to promote the domestic economy. They may be deemed necessary if there is a concern about capital flight or a desire to deepen domestic capital markets, in particular where they are undeveloped. However, these are generally also the economies where pension schemes can gain proportionately more from international diversification.

Where tight investment limits remain, the costs are likely to increase going forward. The relative importance of quantitative limits can be expected to increase as other barriers to cross-border investment fall. Moreover, the pool of pension scheme assets to be invested is growing rapidly, presenting particular challenges where domestic capital markets are not appropriate in terms of size, quality, liquidity and availability of asset classes to absorb the inflow of pension investment.

[1] Under the World Bank terminology, and as adopted in many of the new Member States, these schemes are referred to as Pillar 2 schemes.
[2] Article 18 specifies that 'Member States shall require institutions located in their territories to invest in accordance with the "prudent person" rule'. Member States can, however, be more restrictive and set quantitative investment limits if appropriately justified, but only up to defined limits. For example, Member States cannot prevent institutions from investing up to 30% of technical reserves in currencies other than those in which liabilities are expressed.

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