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Some Considerations Relevant to Prefunded Pensions in France

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Abstract

Increasing use of life insurance instruments and company-sponsored funds in France suggests that French households may be inclined to a greater reliance on financial savings as a source of retirement income. This paper examines the challenges imposed by an aging population on the pay-as-you-go basic and supplementary pension systems, the growth of life insurance and company-sponsored funds in the absence of a comprehensive legislation on prefunded pensions, and issues related to prefunding pension schemes, such as the possibility of an welfare enhancing transition to prefunding; effects on capital markets in view of the experience in other OECD countries; and the importance of the transportability of pensions and measures fostering competition in financial markets.

JEL Classification: H55, H53

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Contents

Summary

The aging of the French population has created a long-term challenge for the French pension system. The white book on pensions (Livre Blanc sur les Retraites) published by the French authorities in 1991 acknowledged the increases in contributions that will be required to finance the system in the future on a pay-as-you-go basis. The reforms effected in 1993 were, however, limited to changes in some parameters ruling the basic system and did not include measures concerning either the supplementary pension schemes or prefunded pensions, leaving many questions unanswered.

Uncertainty about the future of public pensions has been contemporaneous with an increase in contractual financial saving, such as purchases of life insurance and participation in company-sponsored saving funds. This paper argues that the popularity of these saving instruments may reflect more than the tax incentives associated with them, perhaps suggesting a change in the attitude of workers toward retirement income.

The paper analyzes the growth of the life insurance and company-sponsored instruments, examines possible effects on French capital markets of the adoption of pension funds similar to those existing in the United States and the United Kingdom, and discusses the scope of a transition to prefunded pensions in the light of demographic trends.

The paper also highlights three other aspects of such a transition: the possibility of welfare-enhancing transitions based on the fact that, because contributions to prefunded pensions are more likely to be viewed as savings than as taxes on labor, a lesser reliance on a pay-as-you-go system may decrease distortions in labor supply; the importance of favoring transportability of pensions, the right of workers to change fund managers, broad disclosure rules, and other measures aimed at fostering competition in financial markets; and the need of careful calibration of tax incentives, given the goal of fiscal consolidation pursued by the French authorities.

Some Considerations Relevant to Prefunded Pensions in France

I. Introduction

Pension schemes in France have provided increasing coverage and benefits during the last 30 years, but their liabilities are essentially unfunded and the aging population has cast doubts on the long-run viability of such a pay-as-you-go of system. This uncertainty has been acknowledged, but proposals made in the study published by the French authorities in 1991 (Livre Blanc sur les Retraites) were limited to changes in some parameters ruling the current system and did not include the implementation of prefunded pension schemes (actual pension funds). This choice was justified by concerns about the guarantees pension funds could ultimately provide to pensioners, income distribution, and the cost of financing a transition from the current system, but apparently did not consider the often salutary effects on capital markets and savings brought about by institutional investors such as pension funds. Therefore, in contrast to the situation in several other developed countries, where private pension funds play an important role in providing income for retired workers, large-scale adoption of prefunded pensions in France is not yet certain. Nevertheless, a significant number of French workers and households has shown growing interest in financial instruments that share several features with pension funds: they have increasingly purchased life insurance and annuities and participated in company-sponsored savings funds. Such an interest is an indication that markets may be ready for a gradual implementation of pension funds, and since recent research has shown that a transition from a pay-as-you-go system towards prefunded schemes can be achieved without hurting any generation while benefiting some, a choice in this direction may be warranted. The paper provides background material on current and forecast conditions of the pension system in France (Section 2); the expansion of life insurance and other contractual savings in recent years (Section 3); and aspects of a transition toward pension funds (drawing on the experience with funds in other OECD countries), including effects of pension funds on capital markets, and suggestions on how to shift some of the liabilities of the currently unfunded schemes to funded pension funds (Section 4).

II. The Pension System in France

1. Features of the pension system

In France, the average standard of living of retirees improved significantly during the 1970s and 1980s, and it is equivalent to that of most working persons. Generous revaluations of benefits (30 percent in real terms since 1970), decreases in the minimum retirement age (to 60 years in most cases), as well as the possibility of cumulating pensions from different sources, removed retirees from the poorest segments of the population. In fact, statistics indicate that, in France, adjusted individual income peaks at age 66-70, when it is 25 percent higher than at

age 31-40, and that around 80 percent of retirees' income is provided by pensions, including old age benefits (minimum vieillesse). In addition to having a relatively high income, the majority (70 percent) of those aged in the 60-70 year bracket own at least one house, in contrast to those below 40 years, who in most cases (51 percent) do not own the place where they live. This affluence does not fully extend to those older than 75, who often have lower pensions, but it suggests that during coming years the number of relatively well-off retirees will increase. This bright scenario, however, may be difficult to achieve, given the current modus operandi of the pension system in France.

The pension system in France comprises a large number of unfunded schemes, which grew up along occupational lines. These schemes can be broadly divided among those for private sector employees and the self-employed, and those for public sector employees and workers in "special categories", such as railways, the merchant navy, etc. Schemes in the first group usually comprise two levels: the basic level (régime général) and the supplementary level (régimes complémentaires), grouped around AGIRC (Association générale des institutions de retraites des cadres, for employed professionals) and ARRCO (Association des régimes de retraites complémentaires, for other categories). 1/ Contributions to both levels are compulsory, and subjected to ceilings (except for the additional 1.6 percent contribution paid by employers (Table 1)). 2/ All commercial and industrial enterprises are required to participate in an industry or assimilated scheme.

Benefits from the régime général are determined by the number of years the beneficiary contributed, as well as by the average wage earned over a certain number of years, indexed by either changes in price levels, or average wage increases. 3/ Benefits from the régimes complémentaires are proportional to the number of "points" the individual accumulated before retiring. These points are (usually) purchased; the ratio between the annual pension each point secures and its cost is known as the "return

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1/ In some cases, voluntary supplementary schemes are also available. In some large companies (especially in the oil sector) these schemes parallel funded defined-benefit schemes available in the United States and the United Kingdom. Schemes for the public sector usually have only one level, although there is a voluntary funded scheme for public servants.

2/ The ceiling wage for contributions to Social Security corresponded in June 1994 to an annual salary of F 152 160; ARRCO operates under the same ceiling; Contributions to AGIRC are computed based on wages between the Social Security ceiling and 4 times that ceiling for the so-called schedule B, and between 4 and 8 times that ceiling for (optional) schedule C.

3/ Pensions for public servants depend on the length of the contribution period and on wages of the last few months before retirement. Contributions to public servant pensions correspond to about 40 percent of net salaries, with 3/4 of them being financed by the State and the rest by employees.

ratio" (rendement) of contributions. Cumulation of pensions from different sources is allowed and most persons receive more than one pension: the Livre Blanc indicates that retirees receive pensions from an average of 1.5 basic schemes and 1.3 complementary schemes.

Contributions have risen during the last decade, and currently they average about 20 percent of total gross labor income. The régimes complémentaires were able to combine the increase in contributions with a fall in the effective return ratio. 1/ Despite these increases in contributions and efforts by both workers and retirees in the case of the régime complémentaires, the cost of financing an increasing number of retirees for a longer period of time (due to an increase in life expectancy and decreases in retirement age) has strained the pension system in the last few years. For society as a whole, the increasing cost of pensions was reflected in the growth of pension payments, which during the last ten years swelled in real terms at an annual average rate of 4.5 percent, while the economy grew at only a 2.2 percent rate. These effects have been aggravated since 1991 by the slowdown of the economy.

Table 1. Contribution Rates to Pension Schemes

(In percent of wages, 1991)

Contribution Rate	Overall	Employer	Employee
General pension scheme	16.35	8.20 1.60 1/	6.55
AGIRC	14.04	9.36 7.02 2/	4.68 2.34 2/
ARRCO	5.00	3.00	2.00

Source: Ministère des Affaires Sociales, de la Santé et de la Ville.

1/ Additional paid by employer, not subject to a ceiling.
2/ Supplementary pension (schedule C).

1/ The effective return ratio is defined V/(p a), where V is the value of the point, p its price and a is the call up rate (taux d'appel), which is a surcharge on the price of the point. Not only the price of the point has increased more than its value--which has been loosely indexed to the CPI, instead of to average real wages--but the call up rate has also increased. A fall (in real terms) in the numerator is borne by retirees, an increase in the denominator by the active population.

2. Medium- and long-term perspectives

Simulations published in the Livre Blanc show that by 2040 there would be between 1.3 and 1.7 workers for each retiree, compared with a ratio of 2.15 existing in the early 1990s, and that contributions would have to increase accordingly if pension benefits were to keep growing in line with wages. 1/ A high fertility rate and a high activity rate would each reduce the dependency ratio (the ratio of retirees per worker) by 10 points, while lower unemployment would have only a marginal impact on it. Changes in dependency ratios were expected to require increases in contributions in a range between 66 and 127 percent, implying a contribution to wage ratio of up to 41 percent (Table 2). 2/

Table 2. Forecasts of Dependency Ratios and Contribution Rates in the French Pension System in 2040

Dependency Ratio

Low Unemployment

	Low Participation	High Participation
Low Fertility	0.75	0.66
High Fertility	0.66	0.58

High Unemployment

	Low Participation	High Participation
Low Fertility	0.78	0.68
High Fertility	0.68	0.60

Contribution Rates
(In percent)

Low Unemployment

	Low Participation	High Participation
Low Fertility	40.5 (25.1) 1/	35.1 (24.4)
High Fertility	35.4 (25.0)	30.9 (24.3)

High Unemployment

	Low Participation	High Participation
Low Fertility	41.9 (26.2)	36.3 (25.5)
High Fertility	36.7 (26.0)	32.0 (25.3)

Source: Livre Blanc sur les Retraites.

1/ 2010 figures in parentheses.

1/ Simulations comprised eight scenarios, reflecting two hypotheses about fertility, labor force participation and unemployment rates. They indicate that the dependency ratio (beneficiaries/contributors) will increase sharply after the "baby boom" generation starts to retire in 2005.

2/ These scenarios retained the demographic hypotheses described above and a 2 percent rate of growth of real wages.

In the absence of either increases in contributions or decreases in benefits, large financial shortfalls would develop before 2010, reaching some 370 billion of 1990 francs (about 4 percent of GDP) by that date, and worsening thereafter. These shortfalls are to be compared with a shortfall equivalent to 1.1 percent of GDP in 1990.

The Livre Blanc suggested three main changes in social security in order to balance the system by 2010: lengthening the contribution period required to obtain a full pension, lengthening the period taken into consideration when computing benefits, and indexing benefits to the consumer price level (CPI), instead of to the average wage level. These three measures would achieve a surplus by the year 2000, which would be maintained until 2010. 1/

The main suggestions in the Livre Blanc were adopted in 1993. 2/ However, the problems after "baby boomers" start to retire have not been solved, and maintaining a pay-as-you-go system in the long run would still require contributions above 30 percent of gross wages, which may be infeasible. In fact, it is possible that workers and households have anticipated that and, taking advantage of capital market liberalization and low inflation (which increased the supply of financial instruments and reduced the risk of inflationary depreciation of returns), looked for options in the private sector even in the absence of private pension funds as they exist in other countries. 3/ The next section provides an overview of the savings institutions recently favored by workers and

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1/ The Livre Blanc focused its attention on the basic system of social security (régime général), leaving the régimes spéciaux (including that for public servants) and the régimes complémentaires in the background, in part because some in the first group will be absorbed by the basic system in the long run, and those in the second group are managed by autonomous bodies (ARRCO and AGIRC) and have historically run surpluses. Nevertheless, the future of supplementary schemes is uncertain. Although precise data on the amount of their liabilities is not available, generous arrangements in the last 20 years and the value of the current new pensions suggest that these liabilities are large. Until recently, because the schemes were still incorporating a substantial number of new contributors, these problems have not been apparent. Changes in supplementary schemes are important to be discussed because these schemes are mandatory (in contrast with other countries, they are part of the social security system) and the government may be required to bail them out if the need ever arises.

2/ They comprise the indexation of pensions to CPI instead of wage growth, the gradual increase in the contribution period for a full pension from 37.5 to 40 years (over the next 10 years) and in the period used for the computation of the average wage from the best 10 years to the best 25 years (over the next 15 years).

3/ In 1992, for instance, households directed almost half of their net saving towards the purchase of life insurance and annuities.

households in general. This analysis is followed by a discussion of aspects of a transition to prefunded pensions.

III. Company-Sponsored Funds and Life Insurance in France

In discussing the possible effects of pension funds it is important to emphasize that there have been profound changes in French capital markets in the last few years. 1/ Among the changes discussed in this section are the growth of life insurance and company-sponsored savings plans (FCPEs, fonds communs de placement d'entreprise--a sort of closed-end mutual fund--and PEEs, plans d'épargne d'entreprise). Because some of their features are similar to those of pension funds, and because they are provided by the private sector, both instruments are often considered attractive starting points for the establishment of a widespread system of pension funds in France. 2/ Their growth in recent years has been strong, and their assets correspond to about 20 percent of GDP (Table 3), comprising diversified portfolios. Part of this growth is due to tax advantages enjoyed by these and other savings instruments. These advantages need not to be fully replicated if pension funds were to be introduced. Pension funds should benefit not from tax exemptions, but from tax deferrals. That means that contributions deposited on pension funds should be taxed only when withdrawn as pensions. This treatment is similar to that given to contributions currently paid to the social security. 3/ The analysis of life insurance and FCPEs portfolios suggests that the expansion of contractual savings (e.g., pension funds) could lead to more financing to firms (taking into account the importance of equity in the portfolio distribution of FCPEs, as well as the size of the portfolio of life insurance companies) and that management fees and transactions costs could decrease as the volume of savings increases and competition to manage these portfolios develops. These effects would be consistent with those effects of pension funds on the capital markets of other developed countries, discussed later in the text.

1/ See Zerah (1993) for an account of the liberalization process.

2/ As in the United States, life-insurance policies in France can be liquidated during the lifetime of the policy holder, and hence are mainly viewed as a savings instrument, not necessarily related to a bequest motive.

3/ Taxing pensions along the income tax schedule for labor income prevailing at the moment they are actually paid, instead of taxing pension funds, avoids the distortionary effects associated with taxing nominal returns on savings. Clearly, tax deferrals of pension contributions are consistent with a consumption-based tax system.

Table 3. Stock of Financial Assets

(End of period, in billions of francs)

	1991	1992	1993
Life insurance	778	942	1 151
Annuities	248	273	298
FCPEs	80	92	117
Memorandum items:			
M3	5 160	5 429	5 350
Listed shares	1 635	1 619	2 120

Source: Banque de France.

1. Life insurance

Life insurance policies and annuities absorbed about 60 percent of household financial saving in 1993, reflecting the growth of the sector in recent years, which can be attributed to three main factors: financial liberalization in the 1980s, tax advantages, and a new perception of the longer-term needs of workers. Life insurance accounts for about 15 percent of household financial savings, permitting more than 40 percent of households to have some coverage and putting France among those European Union countries, including the United Kingdom and the Netherlands, with the highest per capita premiums (Ministry of the Budget, 1993). Growth has been steady but strong, with annual contributions increasing 10-fold between 1980 and 1992, reaching almost 300 million francs at the later date. 1/

The first factor leading to growth in the life insurance industry was the permission granted in 1985 to banks and other financial institutions to sell insurance policies through their insurance subsidiaries (and the liberalization of the type of product that could be offered). 2/ Currently, these subsidiaries represent about half of the market. Competition has not only increased the volume of retail outlets, but also the yield provided by the average policy, which passed along the high interest rates available in recent years. The second factor comprises an income tax deduction (prime) proportional to the amount invested and the

1/ The growth in life insurance and annuities has been shared by another long-term saving instrument, the so-called "popular savings" (épargne populaire-PEP), which has accumulated deposits of about F 350 billion. This instrument replaced the "retirement savings" (épargne de retraite-PER), introduced in 1986, and benefits from tax advantages similar to those granted to life insurance.

2/ The annual report of the French Bank Commission (Commision Bancaire, 1993) presents a detailed study of the activity of banks in the insurance market.

income tax exemption of capital gains on savings held for at least 8 years, as well as favorable treatment of bequests. 1/ The fiscal expenditure implied by tax-exempting returns on long-term savings or deducting saving from taxable income in France can be roughly estimated at F 50 billion a year; of which F 6 billion benefit life insurance saving. It corresponds to almost 10 percent of the revenues generated by the income tax and results from a somewhat haphazard way of favoring different saving instruments sometimes with conflicting results. 2/ The third factor reflects the concern of economic agents about their future income, and the desire of those already owning a house to diversify their assets.

2. Company-sponsored saving funds

In contrast to life insurance policies, purchased by households on an individual basis, company-sponsored savings programs operate under the framework provided by regulations issued in 1967, requiring firms with more than 100 employees to share part of their profits with the workforce. 3/ This legislation mandates that the share belonging to employees (participation) be frozen for a period of 5 years. During this period, resources can be held in bank accounts or in FCPEs. 4/ In early 1993, these resources amounted to about 80 billion francs, half invested in funds.

1/ The tax deduction, corresponding to 25 percent of investments, is limited to F 4,000 a year per household, with additional F 1,000 per child. In the case of death of the policy holder before 70 years of age, there are no transmission taxes. In the case of death after 70, a reduction of the taxable amount, up to F 200,000, is granted.

2/ Recent changes in life-insurance regulations are expected to increase the length of contracts and the demand for life insurance in coming years, without adding fiscal incentives. A "fidelity clause" allowing insurers to offer special rates for customers who keep their policies active for many years is expected to extend the length of contracts beyond the eight-year tax exemption period and reduce the risk insurers face of large withdrawals. However, at this stage, the absence of formal estimates hampers a precise evaluation of the effectiveness of that clause or it impact on competition among insurers. Flexible distribution of surpluses and new disclosure rules are expected to increase the demand for insurance, while the recent update of the technical bases for computing annuities and premiums should favor supply. Such a flexible distribution of surpluses makes life insurance similar to defined-contribution pensions in the sense that it permits insurers to offer part of the upside of total returns, i.e., to shift part of the risk (and expected returns) to investors. It also responds to EU guidelines on maximum guaranteed returns.

3/ In 1986, the requirement was extended to firms with more than 50 employees, effective in 1991.

4/ For details on holding restrictions and tax regimes, see Lefebvre, 1993. Blocked accounts are usually used as collateral for investment loans to the firm and remunerated at market rates.

Workers' share of profit is not the only source of funds to FCPEs. Firms--on their own initiative, or as result of an agreement between labor and management--can create special funds to collect the participation and other participatory benefits. These funds--PEEs--enjoy several tax advantages, again reflecting the policy of granting fiscal incentives for long-term savings. 1/ Since 1959, workers are entitled to receive incentive payments tied to productivity measures (intéressement), which can also be deposited in tax favored investment instruments. 2/ By 1990, around 2 million employees (about 10 percent of the labor force) had signed agreements to receive incentive payments. Employers' voluntary contributions (abondements) and voluntary worker deposits are also an important source of financing of PEEs, as reported in Table 4. 3/ The interest by employees in participating in these plans and the support of unions to them suggest that workers see these funds not very differently from the way pension funds are viewed in other countries, i.e. as a source of future income, augmented by returns on capital.

1/ The following advantages apply. Employers' voluntary contributions are not included in employees' taxable income, and are not added to the wage bill for the purpose of computing social security contributions, if blocked for a period of time. In addition, they are deducted from the firm's taxable income. Workers' profit shares deposited in PEEs are not taxable for a period of 5 years; and investments made by PEEs maintain tax exemptions intrinsic to the financial instruments in which the investments are made.

2/ These payments can reach up to 10 percent of the wage bill of each firm (except in special cases, when they can reach up to 15 percent), and, at the individual level, up to half of the reference maximum wage for social security contributions. Because PEEs are not mandatory, only 33 percent of companies paying intéressement have one (52 percent in the case of state-controlled institutions and firms), most firms simply sponsoring a mutual fund (FCPE).

3/ Employers' contributions are limited to F 10,000 per employee annually, except if they comprise stock issued by the firm itself, in which case they can reach up to F 15,000. Voluntary worker deposits can amount to as much as one fourth of worker's gross wages. Workers can also participate in stock option programs and sometimes they may be subjected to mandatory contributions to PEEs, but stock options have experienced limited success and mandatory contributions are small, being limited to a maximum of F 1,000 per year.

Table 4. Sources of Funds for PEEs in 1989

(In percent)

Profit sharing	Incentive payments and workers' voluntary deposits	Employers' deposits
53	38	9

Source: Exchange Commission (COB).

PEEs enjoy great freedom in choosing their investment policies, while--because they are institutions handling contractual savings (as are pension funds)--they are overseen by representatives of employees. 1/ Funds deposited in a PEE can be invested in individual accounts, or in many types of closed-end mutual funds. The vast majority of FCPEs (including those linked to PEEs) are managed by financial institutions outside the sponsoring company, mainly banks and insurance companies, under the supervision of a Board which has a majority of representatives of employees. 2/ Competition among financial institutions for managing these increasingly large funds (Table 5) has led them to supply a variety of savings instruments. It has also led financial institutions to charge relatively low management fees. 3/

1/ The type of savings instrument, management criteria, and restrictions on withdrawals, are set out in the internal statutes of the PEEs, which have to be registered with the Stock Exchange Commission (COB).

2/ More than 50 financial institutions manage the 4000-plus existing FCPEs; but there is a fair amount of concentration, since the 10 biggest institutions manage about 70 percent of the total funds. In the case of state owned companies, around 80 percent of the resources in FCPEs are managed by professionals (Pastre and Moscovici, 1991).

3/ Annual fees have been estimated to be around 0.5 percent of the value of portfolios managed by institutions, thus comparing favorably with the management cost of pension funds in regulated countries such as Germany and Japan, but less favorably with those in countries such as the United States (0.4 percent) and the United Kingdom (0.2 percent) (Davis, 1993).

Table 5. Total Assets in Mutual Funds of Enterprises (FCPEs)

(In billions of francs)

Year	1986	1988	1990	1992	1993
Value	38	48	67	92	117

Source: COB.

3. Portfolios of life insurance companies and FCPEs

The aggregate portfolios of life insurance companies and PEEs indicate how contractual savings are invested in France. Their distributions of assets differ, in part because the former offer a more standard product, while the latter offer tailored products that are sometimes a source of financing for the sponsoring firm. A brief analysis of the portfolio of life insurance industry suggests that the current distribution of assets is close to the efficient portfolio frontier, defined as the minimum variance portfolio for a given rate of return.

The portfolio of the insurance industry is mostly composed of fixed income assets, including both government and private paper (Table 6). This is explained by the liquidity and relatively high returns of those assets in recent years and not by binding regulations. 1/ The proportions of real estate and loans have markedly decreased over the years as financial markets developed and low inflation endured, and are well below their respective maxima of 40 and 10 percent. 2/ The proportion of stocks is also below the allowed ceiling of 65 percent. Chart 1 suggests that, although conservative, the portfolio of the life insurance sector is efficient, i.e., for the level of expected return chosen, the variance is virtually minimized. Chart 1 shows the efficient portfolio frontier generated by holdings of bonds, real estate and a diversified portfolio of stocks, considering annualized returns for the period 1979-93. It also shows the position of the aggregate portfolio held by insurance companies. 3/

1/ Since 1990, the obligation to invest at least 34 percent of the portfolio in bonds and notes has been eliminated, and only maximum limits on the other types of assets currently exist.

2/ Nevertheless, insurance companies have faced huge losses in real estate investments since the market for office space softened in the early 1990s.

3/ See Huang and Litzenberger (1990) for the properties of the efficient frontier.

Table 6. Distribution of Life Insurance Portfolios

(In percent)

	1982	1992
Fixed income	52.7	61.3
Stock	...	14.8
Real Estate	19.5	10.7
Negotiable debt	...	10.3
Loans	7.1	2.1

Source: Ministry of Finance.

An increase in the proportion of stocks would be desirable as a way to improve the protection of the portfolio against inflation, especially if the average holding period of policies is to be stretched beyond 10 years. Recent changes in regulations concerning the distribution of surpluses (see above) are expected to work in this direction, by increasing the attractiveness of real assets at the expense of guaranteed returns. An increase of 5 percentage points in the proportion of stocks--along the portfolio frontier--would permit an increase in expected returns of 0.6 percentage points, while increasing the volatility of the portfolio by about 40 percent. Such a portfolio adjustment would create a demand for about F 70 billion in equity--the equivalent of all privatizations carried out in 1993-94.

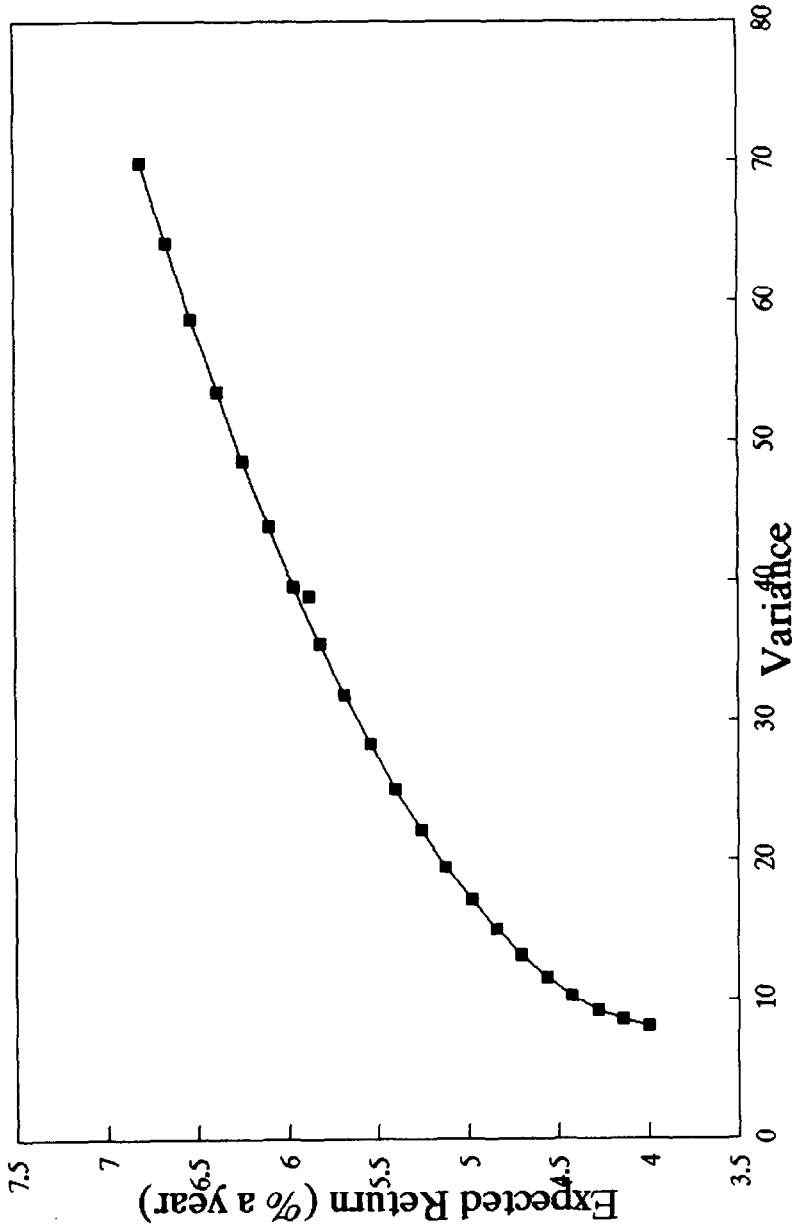
The aggregate portfolio of FCPEs already includes a significant proportion of stocks (Table 7). As noted before, there are almost no restrictions on the type of financial assets held by PEEs, allowing them to take advantage of the relatively long-term nature of deposits benefiting from tax incentives and thus investing a significant proportion of their assets in stocks. 1/ Although the legislation does not impose a cap in the share of PEEs' portfolio invested in stock issued by the sponsoring company, on average this proportion is below 20 percent.

1/ The average period of a deposit in a PEE oscillates between 7 and 7 1/2 years, hence actually exceeding the 5 years "blocking" period determined by the legislation.

CHART 1
FRANCE

The Portfolio Frontier

(Constant Prices, 1979-1993)



Sources: WEFA, COB, and Staff Calculations.

Table 7. Asset Composition of FCPEs

(In billion of francs)

	1986	1990	1993	1993 share (in percent)
Mutual funds	8.8	18.7	27.4	23.2
Stocks	18.1	25.5	55.2	46.8
Of which issued by the company	5.9	11.8	23.6	20.0
Fixed income	10.4	19.6	34.2	29.0
Of which issued by the company	1.8	3.1	8.8	7.5
Cash	0.9	1.1	0.9	0.8

Source: COB.

The portfolio of company-sponsored savings funds and life insurance are an evidence of the growth of French capital markets in the last 10 years and of their increasing competitiveness. This market could benefit further from the adoption of prefunded pension schemes. Such a move is not trivial and indeed raises welfare issues. These issues, as well as the likely effects of prefunded schemes on capital markets, are discussed in the following section.

IV. Aspects of a Transition Towards Prefunded Pensions

This section attempts to address the main concerns usually expressed about the adoption of prefunded pension schemes (i.e., the inter-generational cost of a transition, the degree of protection against inflation such funds can provide, and the relative advantages of defined benefit and defined contribution schemes), discusses expected effects on capital markets, and examines some implications of supporting prefunded pensions by ways other than simply creating yet another tax-favored savings instrument.

1. Intergenerational cost

It is well known that when total labor compensation is growing fast--because of either (1) a high rate of growth population or (2) technical progress reflected in sustained increases in real wages--a pay-as-you-go system may be more efficient than a prefunded system. 1/ However, given the population growth projected for Europe in the coming decades, the above conditions do not seem to apply. It has also been highlighted that contributions to social security most often act as a tax on labor, distorting and reducing labor supply. 2/ On the other hand, because savings are the result of an intertemporal decision about consumption, and not about labor supply, contributions to prefunded pension plans are thought to be neutral in relation to the latter. Taking these elements into account, and in particular the effects of taxes on labor supply, overlapping generation models with endogenous labor supply indicate that prefunded pensions can be more efficient than a pay-as-you-go system (when population growth is modest), in some cases permitting a switch from the latter to a funded system in a way that does not hurt any generation, i.e., permitting a Pareto improving switch. 3/

1/ This will be the case when the combined rate of growth of the population and of the real wage exceeds the interest rate in steady state; i.e., the capital/labor ratio is higher than the so-called golden rule level. See, for instance, Artus (1993).

2/ The rationale for the CSG (contribution sociale généralisée)--a tax used to finance the French social security system (and in particular, pensions) and levied on all sorts of incomes--was to shift part of the burden from labor.

3/ Homburg (1990) and Breyer and Straub (1993) prove the existence of transition paths, from a steady state, that are Pareto improving. This contrasts with results using models that do not consider the utility of leisure, such as Diamond (1965) and Blanchet (1993), where such switch will always hurt at least one generation, because labor supply does not adjust to changes in incentives. Simulations in Raffelhüschen (1993) confirm the results in Breyer and Straub for the case of Germany. In this exercise, reductions in restrictions on remunerated work after retirement age help the labor supply to adjust to reductions in payroll taxes, leading to a Pareto improvement. Results in Cazes, Chauveau, Le Cacheux and Loufir (1992) and Chauveau and Loufir (1994) also illustrate this point. The latter paper presents a simulation in which prefunded pensions lead to a decrease in output in the medium term and to unattractive results in the long term, while the former paper presents a much more positive outcome. The result in the latter paper is due in part to the way prefunded pensions are treated, i.e., the assumption that contributions to prefunded pensions were invested in a "superfund" whose returns were not necessarily associated with individual contributions. Hence, contributions are treated as an additional tax on labor, in contrast to the approach taken in the former paper, where contributions are treated as (contractual) savings.

Implementing such a transition (which would not hurt any generation and therefore addresses the concerns raised in the Livre Blanc, on page 134, for instance) would probably require a transitory increase in public debt, reflecting the implied liabilities of the pension system. 1/ Because in France these exceed annual GDP (Kuné, et al., 1993), a full transition to prefunded pensions without hurting any generation may be infeasible. However, as the Raffelhüschen simulation shows, the effects of a transition are not linear, i.e., much can be achieved with a partial reduction of contributions to unfunded schemes and the establishment of pension funds. This cautious approach can also minimize distributional effects due to macroeconomic and financial uncertainty, not captured in the models discussed above.

2. Protection against inflation

The opposition to funded pension schemes in France results to a large extent from the failure, during the 1930s and early 1940s, of several prefunded pension systems to provide adequate income to their members. 2/ This failure contributed to the choice, made in 1945, of financing the national social security system through the pay-as-you-go method. Nowadays, the increasing sophistication of financial markets and a lasting decrease in inflation may have reduced the magnitude of the inflationary threat, but it is useful to review how prefunded pensions in other countries have performed in this area.

The protection against inflation afforded by defined-benefit schemes varies according to the way sponsoring firms compute pensions. In most countries, defined benefit schemes offer discretionary increases in benefits after retirement and some indexation before that. Notably, in the Netherlands, negotiated increases are the norm and in Germany indexation is mandatory. However, the ability to deliver inflation protection ultimately depends on the return of portfolios and on the existence of assets whose real returns are not systematically eroded by inflation (e.g., stocks and indexed bonds). Indications are that protection against inflation has been effective during the last 25 years, as in most developed countries the

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1/ Homburg (1990) suggested a *capital reserve system cum government debt* (to effect intergenerational transfers), similar to Raffelhüschen (1993) who also suggests the introduction of special credit instruments. In those cases the increase in public debt did not, however, offset the increase in savings, hence permitting an increase in capital accumulation. More generally, the choice between financing through debt or additional taxes should be determined by a balance between the distortion induced by new taxes and the (interest) burden on future generations dictated by debt. See Arrau, 1990 for detailed analysis of financial arrangements in a transition to prefunded pensions in an optimization (Auerbach and Kotlikoff, 1987) framework.

2/ In particular, due to the depreciation of government debt caused by the war.

average return of pension funds' portfolios seems to have exceeded inflation. 1/ In addition, it has also exceeded increases in real average earnings (wages) in several countries (Table 8).

Table 8. Real Returns of Pension Funds and other Financial Assets and the Rate of Growth of Average Earnings (1967-90)

	Real returns				Growth of average earnings
	Pension funds	Government bonds	Market paper	Equities	
United Kingdom	5.8	0.8	1.7	8.1	2.6
United States	2.2	0.6	2.0	4.7	0.2
Canada	1.6	0.0	2.5	4.5	1.7
Netherlands	4.0	1.0	1.6	7.9	2.4
Sweden	0.2	-0.9	1.3	8.4	1.5
Germany	5.1	2.7	3.1	9.5	4.0

Source: Davis (1993).

Returns depend on the distribution of assets held by pension funds, and this distribution varies from country to country, depending on three factors: the extent of indexation of pensions (especially to wages), minimum funding requirements, and the supply of government bonds. In most countries, the proportion held in the form of equities is significant (Table 9). 2/ The first factor favors stocks, whose returns reflect the growth of the real economy. In countries where indexation is not common (as in Canada), the share of bonds tends to be higher. The second factor--high funding requirements--usually induces funds to invest in low-volatility assets, hence potentially decreasing the share of stocks and long-maturity

1/ Of course, the protection afforded by funded pensions against inflation depends to a certain extent on macroeconomic conditions. A war or a continued deterioration of the economy would reflect on the assets held by pension funds and impact on future pensions. Diversification into international markets can, however, hedge pension funds' portfolios against real shocks to the domestic economy.

2/ The paucity of data on funded pension schemes in France limits a discussion of pension funds' investment policies. However, a comparison with the portfolios of FCPEs confirms the important role of stocks in these long-term portfolios.

bonds. 1/ In countries such as the United Kingdom, where required funding is limited, stocks are an attractive investment and do not require sophisticated investment strategies; in the United States, higher funding requirements may have discouraged a larger holding of stocks, despite the availability of financial derivatives, which can hedge the portfolio against stock price falls. 2/ The final factor, supply of public debt, works in two ways to make bonds more attractive to pension funds: a higher supply will tend to increase the liquidity and the coupon rates paid by government paper. However, the effect on protection against inflation is not clear.

Table 9. Asset Composition of Pension Funds' Portfolios

(As percentage of assets, 1990)

	Short term assets	Equity	Bonds		Loans	Property
			Gov.	Priv.		
United Kingdom	7	63	11	3	0	9
United States	9	46	20	16	-	-
Canada	11	29	39	8	0	3
Netherlands	3	20	14	4	39	11
Sweden	3	1	22	63	10	1
Germany	2	18	17	8	36	6

Source: National Flow-of-Funds Data, in Davis (1993).

Several factors suggest that pension funds will continue to provide effective protection against inflation, even in the absence of indexed bonds. They include the proportion of stock holdings evidenced in the table above, the current yield curve in Europe, which does not predict a surge in inflation, and financial innovations, such as portfolio "immunization" (i.e. the reduction of portfolios' sensitivity to interest

1/ Funding requirements may require a company sponsoring a defined benefit scheme to immediately top up the fund with new resources whenever assets fall below projected liabilities. This automatic reaction is what discourages holding a high volatility portfolio.

2/ The proportion of pension funds' assets invested in derivatives is still difficult to measure, because in most cases such investments are off-book items.

rate changes) in an environment of market-determined interest rates. 1/ Generally, the development of new financial instruments is often associated with the introduction of private pension funds.

3. Effects on capital markets

International experience shows that pension funds have fostered the development of capital markets mainly because of the scale of their operations, the nature of their liabilities, and their need and ability to use sophisticated financial instruments. 2/ It also suggests that these effects are strengthened if funds are under outside management; effects on aggregate saving and on firms' governance are considered positive, but difficult to measure. The influence of pension funds on household saving is likely to be positive, but not one-for-one in relation to the increase of assets held by funds. The main studies in this area are Feldstein (1978), which shows that in the United States saving decreased when unfunded pensions were adopted, and Munnell (1976), which suggests that although holding private (funded) pensions decreases other personal saving, the introduction of funded pensions may increase the pool of capital. 3/ An illustration of the importance of pension funds as savings institutions in the United States, the United Kingdom, Canada, and the Netherlands is the size of their assets as a ratio to GDP (Table 10). In the United Kingdom and in the Netherlands, claims on pension funds also represent an important share of personal sector assets: about 40 and 30 percent respectively.

1/ Immunization can be used as a hedge against inflation, because it protects the value of the portfolio against a fall in the price of long-term debt when nominal interest rates increase. This is achieved by reducing the maturity of the portfolio of bonds through the use of derivatives or short-sales of longer-term bonds.

2/ Because pension funds have long-term liabilities, they can provide long-term company financing; and because funds seek to be able to trade a large volume of assets without affecting prices, they create incentives for the expansion of active markets for bonds and stocks. Indeed, countries whose pension funds are large in aggregate tend to have stock exchanges with large capitalizations (Table 10) and generally low transaction costs (Hepp, 1992). Funds also create a demand for derivatives--used as a way to avoid having to trade illiquid assets (e.g., futures on an asset can be more liquid than the asset itself) or, as noted above, for hedging their portfolios against increases in interest rates.

3/ Results in Diamond and Hausman (1980) and Avery, Elliehausen and Gustafson (1986) suggest that each dollar invested in pensions is associated with an increase in total saving of up to 40 cents (see Bodie and Munnell, 1992). Recent research on IRAs (Gale and Scholz, 1993), however, underscores the shifting of taxable forms of savings into sheltered instruments.

Table 10. Assets as Percentage of GDP

	Pension fund assets			Life insurance assets			Stock exchange capitalization 1/
	1970	1980	1990	1970	1980	1990	1991
United Kingdom	17	23	55	26	23	42	97
Unites States	17	24	35	24	18	24	63
Canada	13	17	28	18	14	11	100 2/
Netherlands	29	46	77	16	17	30	40
Sweden	22	30	28	20	21	36	40
Germany	2	2	3	8	12	18	24
France	--	--	--	2	6	13	29

Source: National Flow-of-Funds Data (in Davis, 1993), COB and OECD Financial Statistics, and staff estimates.

1/ Domestic shares.
2/ Includes foreign shares.

Pension funds can also play a role in privatization by providing a group of large, and potentially stable, investors. 1/ In France, the current level of privatizations (around F 50 billion a year) could easily be absorbed by pension funds, even if they were to invest the equivalent of only a fraction of contributions currently paid to mandatory supplementary schemes.

Pension funds, like other institutional investors, create incentives for bank disintermediation, i.e., because funds create a large demand for securities, they may encourage firms to issue stock or bonds, instead of seeking loans from banks. 2/ This may increase the "transparency" of financial markets, but have only indirect effects on the financing of small enterprises. Institutional investors tend to require firms to make public more information, because they are usually less likely than banks to get directly involved in management of firms. In general, more information

1/ Pension funds were among the major players in the privatization process in the United Kingdom, Chile and Brazil.
2/ Securitization in France expanded throughout the 1980s. Lahidji (1994) reports that the reliance on banks for credit (taux d'intermédiation) decreased from 70 percent to 40 percent in 1991 and to less than 20 percent in 1992.

should lead to better investment allocation. However, the dislike of institutional investors for less liquid assets puts small companies at a disadvantage in relation to large companies and may force them to continue to rely mainly on banking credit. 1/ This may make the cost of funds to these firms higher than for larger firms, but a larger savings pool and competition in financial markets should lower the absolute cost of funds so that the overall effect of pension funds could also be favorable to small firms.

The above discussion suggests that effects of pension funds on French capital markets would be positive. These effects would of course depend on the regulations adopted and on the supervisory authority established. If a system based on defined-contribution schemes, where workers have the right to choose and change the manager of their savings, were adopted, an industry along the lines of that currently managing mutual funds could be expected to develop (this industry includes "boutique" funds, but has a large participation of banks and insurance companies that benefit from their strong reputation). 2/ In this case, portfolio regulations paralleling those applied to insurance companies could be appropriate. In any case, a cap on self-investment and on investment in non-listed securities would be desirable. 3/ The supervision of funds should be under one authority, to enhance protection against fraud and the development of guidelines concerning financial disclosure. Therefore, it would be useful to have

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1/ Instruments devised to attract so-called "sophisticated" investors (such as private placements in the U.S.), which could help small companies, have had limited success with pension funds because they are often viewed as risky and difficult to monitor.

2/ The concentration of the financial sector is stronger in France than in the U.S. The top 15 money managers in the U.S. manage about 30 percent of the assets, with the top firm managing 4 percent of total assets (Lakonishok et al., 1992). In France, the top 15 financial institutions have a much more dominant position. For instance, the five largest institutions control just above half of the market of mutual funds (Dermine and Roller, 1992) and the 5 largest banking institutions have 68 percent of total deposits (Commission Bancaire, 1993). In addition, in France, several banks own part of the capital of insurance companies (in addition to their own insurance subsidiaries), and vice versa. The extent to which this concentration affects competition has not, however, been documented. For the case of mutual funds, Dermine and Roller (1992) do not find evidence that the market power of the top banks affects the fees charged to manage mutual funds. They suggest, however, that because of the well-known fact that mutual funds are one among the many services (often) offered as a bundle, to analyze the return of mutual funds in isolation may not reveal the local monopoly power that could exist at the level of bank branches.

3/ In France, cross ownership of (nonlisted) stock among firms is quite usual (Szpiro, 1992) and if pension funds (in particular, defined-benefit schemes) are not required to hold listed stock, firms could simply expand this practice, increasing the risk borne by eventual pensioners.

clarified whether pension funds are to be considered to belong to the insurance industry, or under the control of the Exchange Commission (COB), which already regulates mutual funds.

4. The choice between defined-benefit and defined-contribution schemes

Private pension funds in developed countries comprise mainly defined-benefit schemes, although defined contribution pensions (e.g., personal pensions) are increasingly popular. The main advantages of defined-benefit pensions are that firms bear most of the risk of providing pensions (including, sometimes, inflationary risk), and that they offer the possibility of achieving some income redistribution; the main advantages of defined-contribution schemes are their portability and transparency. In the United States, most of the increase in coverage in the last 20 years has been achieved through the setting up of defined-contribution schemes, which nowadays cover as many workers as defined-benefit schemes. Personal pensions were introduced in the United States during the 1970s in the form of individual retirement accounts (IRAs), and in the United Kingdom during the 1980s. A system based on defined-contribution schemes may be easier to implement because such pensions are similar to savings instruments which most workers are acquainted with, and because they are fully portable. In addition, it suggests that defined-contribution schemes (i) may provide more security to investors than defined-benefit schemes, whose pensions depend on the fate of the sponsoring company, (ii) can be hedged against inflation, as long as there are no undue restrictions on pension funds' investment in stocks, and (iii) should be subjected to restrictions on early withdrawals in order to ensure a minimum amount of savings upon retirement (e.g., when changing jobs, workers should not be able to cash in their savings, although they should be free to change fund managers with some frequence).

5. The choice of contracting out to prefunded schemes

Fostering private pension funds is one among different ways to accumulate enough savings to finance pensions after 2010. Another way would be to increase the current reserves of the supplementary pension schemes (régimes complémentaires), by setting aside contributions to accumulate assets. 1/ Schemes have a good deal of experience on managing reserves. In 1993, for instance, ARRCO's reserves corresponded to about one year of benefits, generating 5 percent of the income of the scheme. 2/ In the future, resources could be accumulated by either increasing contributions or reducing the growth of benefits. An adjustment of contributions and

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1/ Still another approach would be to rely on foreign savings during the period of 2015-55, which has the drawback that other European countries face the same demographic trend.

2/ These reserves were somewhat depleted in 1994 because supplementary schemes cumulated large deficits in 1993. A significant part of this deficit (expected to exceed F 20 billion by 1995) corresponds to arrears from the government in the account of financing early retirements.

benefits is not new to the system either. During the 1950s, AGIRC lowered call-up rates when it wanted to decumulate an incipient reserve caused by the rapid increase in contributing participants (Lynes, 1985). Although there are no precise data about the amount of liabilities of supplementary schemes, it can be estimated that in a PAYG scenario with the value of the point increasing in tandem with wages (i.e., increasing by 75 percent at constant prices), contributions would have to more than treble in the next 40 years to keep schemes balanced. Partially prefunding liabilities would permit balancing schemes with lower contributions and without sacrificing future pensions excessively. For instance, without prefunding, balancing funds at the current effective contribution rate of 7.5 percent would require pensions to be reduced by some 20 percent in real terms in the next 40 years; prefunding using a surcharge of 4 percent on wages would permit pensions to increase by 30 percent on the period. Such scenarios suppose a cumulation of assets starting quite before the year 2000.

Private pensions would decentralize the process of accumulation, and could be introduced by permitting a partial contracting out of the system in exchange of a freezing of the contribution rate. In this case, a decrease in future liabilities of the system would also be achieved, because workers would also have part of their contributions deposited in defined contribution funds of their choice, instead of having them used to finance current pensions or managed by the supplementary schemes. This switch might increase (contractual) savings, which, as noted above, are usually not perceived as distortionary taxes on labor, and would favor faster economic growth. However, by reducing the inflows into the pay-as-you-go system, it would probably require decreases in benefits for those already drawing pensions, relative to the current system.

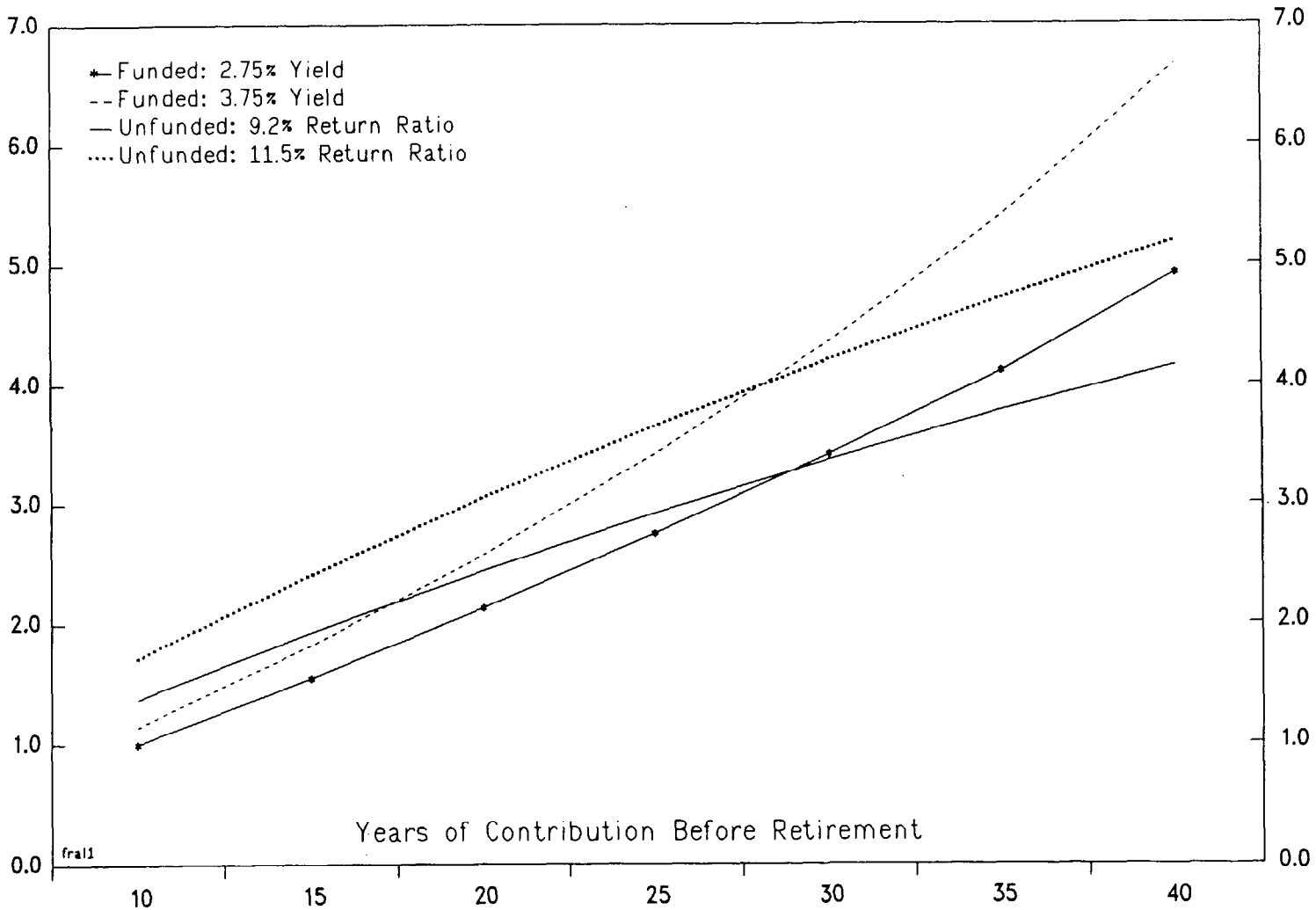
The hoarding of a fraction of labor income in savings instruments should be particularly attractive to younger workers, who would benefit most from the compounding of returns on financial assets. Chart 2 shows how pension benefits (in constant prices) would increase with the number of contribution years to defined contribution funds, for a given real return, and to pay-as-you-go systems, for a given "return ratio" (the values are standardized relative to the pension earned after contributing ten years to a defined contribution yielding 2.75 percent a year in real terms). 1/ The chart illustrates that even for the generous return ratio of 11.5 percent, long-term users of funded pensions may be better off.

1/ The exercise in Chart 2 assumes that wages increase by 1.5 percent a year over the working life and that pensions are on average paid for 20 years--20 percent longer than they are currently paid. The yields adopted (2.75 and 3.75 percent a year in real terms) are conservative when compared with the returns of recent years. The "return ratios" reflect the evolution of ARRCO ratios, which have been reduced over time. Return ratios are not directly comparable with the yield of a bond (see Section 2 for a definition).

CHART 2
FRANCE

Standardized Value of Pensions

(For Similar Patterns of Contributions)



Source: Staff Calculations.

The contracting out scenario is one among several that could be adopted and complements the gradual increase in the retirement age that will take place as a consequence of extending to 40 the number of years needed to qualify for a full social security pension. It has the advantage of not requiring increasing fiscal exemptions that would probably be necessary to make contributions to funded pensions attractive at a time of rising contributions to mandatory schemes. The approach would also keep the basic pay-as-you-go principle (répartition), focusing it on the basic social security pension, while spreading the cost of pensions across generations and favoring the development of capital markets. 1/

V. Conclusions

The growth of the life insurance sector and of company-sponsored savings plans suggests that individuals in France have both increasing confidence in financial markets and the desire to use them to guarantee future income, indicating a favorable environment for the expansion of prefunded pension schemes. The fact that French workers have increasingly included PEEs (which share features with defined-contribution schemes) in their collective agreements indicates a perception that such sources of deferred income can be part of labor compensation, which is a common feature in the United States and other countries that have funded pensions.

Their growth also suggests that financial markets are responsive to changes in demand and that the positive effects on capital markets associated with pension funds in other countries could take place in France. In the case of both PEEs and life insurance, despite the still relative dominance of a few large insurance and banking firms, a dynamic market has developed, suggesting that insurance companies are probably ready to manage large pension funds. In fact, since the deregulation in the 1980s, insurance companies have managed large financial portfolios not only for themselves, but for third parties.

According to the elements presented in this study, pension funds in other developed countries have had a positive effect on capital markets mainly due to the size of their operations, the information they require from firms, and the financial innovations they foster (to some extent, pension funds also tend to help to increase the household savings rate). The effect of institutional investors (including foreign pension funds) on French capital markets in recent years suggests that similar developments could be expected in France following an expansion of prefunded pension schemes for French workers.

The fact that most resources in FCPEs come from participatory benefits does not constitute a significant difference in relation to the financing of

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1/ It would permit to limit the complex web of transfers among régimes essentially to the basic regimes.

pension funds in other countries. Mandatory contributions to funds are present in some countries where the basic social security pension is small. In France, mandatory contributions could be tied to a freeze of contribution rates linked to the relinquishing of future rights on supplementary pensions. Tax benefits applied to PEEs are not essentially different from those granted to most pension funds. But if these incentives were to be extended to pensions, it might be advisable to do so through a coherent system of taxation of capital gains, in order to avoid unnecessary tax expenditure.

If the above indications are taken as pointing to the establishment in France of a pension system based also on private prefunded schemes, questions arise about the social cost of a transition and the guarantees offered by such systems. The preliminary answer to the first question is that a Pareto improving transition, associated with increased labor supply and employment, can in principle be achieved. A possible way to initiate a transition would be to permit workers to contract out from the mandatory supplementary pension system, in order to participate in a defined-contribution plan.

The second question can also be partially answered by looking at the regulations adopted in other countries, as well as by drawing on current regulations covering the French life insurance industry and on the practice among PEEs. The experience in foreign countries, and the fact that regulations on French insurance companies have recently been liberalized, suggest that few restrictions on portfolio distribution would be desirable. Among them, however, would be limits on investment in stocks, in debt issued by the company sponsoring the pension fund, and in non-quoted securities. In addition, the participation of workers in supervisory boards, their right to change fund managers, and broad disclosure rules would tend to protect the assets accumulated and to increase returns, hence encouraging the trust of the public. International experience also suggests that defined-contribution schemes may provide more transparency and be easier to introduce. Because portability of benefits, as well as vesting, add some complexity to the management of defined-benefit schemes, these may be more difficult to implement nationwide. It also suggests that having a unified statutory authority responsible for supervising all pension schemes and regulations, possibly along the lines of that in place in the Netherlands, would increase confidence in the system, hence facilitating its introduction.

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