
*Bruno Solnik
HEC School of Management
Jouy en Josas
France*

Fundamental Considerations in Cross-Border Investment: The European View



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Fundamental Considerations in Cross-Border Investment: The European View

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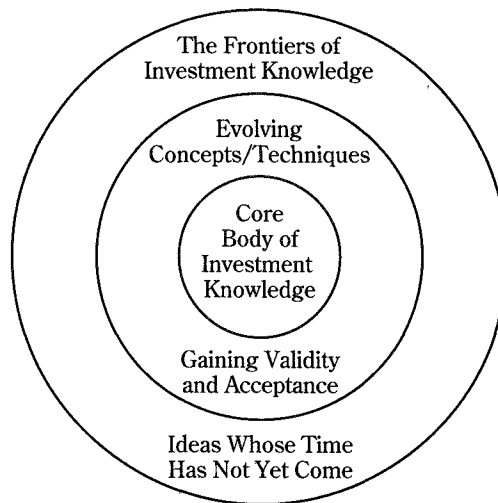
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The mission of the Research Foundation is to identify, fund, and publish research material that:

- expands the body of relevant and useful knowledge available to practitioners;
- assists practitioners in understanding and applying this knowledge; and
- enhances the investment management community's effectiveness in serving clients.



*The Research Foundation of
The Institute of Chartered Financial Analysts
P.O. Box 3668
Charlottesville, Virginia 22903
U.S.A.
Telephone: 804/977-6600
Fax: 804/977-1103*

Foreword

In the United States, investment management for pension funds is carried on in an environment characterized by (mostly) known and agreed-upon rules of procedure. For example, all nonpublic funds are governed by ERISA regulation, promulgated in 1974 to establish uniform standards by which all plan sponsors and investment managers were informed by what rules the game would thereafter be played. In Europe, the pension fund environment is still being shaped. Eventually, all managers and plan sponsors in all European Union (EU) member countries will operate under more or less uniform rules of procedure, with known boundaries and a common roadmap for the content of investment actions.¹ In the meantime, discussion continues among the various parties to the issues involved.

At least two possible models for the governing regulations that will ultimately emerge from these discussions can be identified. The first model is the familiar one that has long been applied to insurance companies both here and abroad and, indeed, is still applied to some degree in many jurisdictions. It was also the model for regulation of U.S. bank trust department investing before about 1960 and still applies to some U.S. public pension fund situations. This model sets maximum or minimum limits to specific forms of investment exposure, may completely proscribe certain asset classes or investment actions, and may mandate certain kinds and/or amounts of asset class representation or specific forms of exposure. The preexisting constraints on investment flexibility and the exercise of investment management skills would, in the European case, be accompanied by restrictions on currency exposures as well. Proponents of this form of pension investment regulation appear to favor it because they consider the nature of pension plans and the degree of fiduciary responsibility they entail to be analogous to those of insurance companies; plan beneficiaries are believed to require the same protection as insurance beneficiaries, and regulation of pension investment should, therefore, be modeled on the regulation of insurance investment.

The second possible model takes a different tack. Proponents argue that pension institutions are different from insurance companies and are, in fact, a distinct and separate class of institutions (“*sui generis*”). This being so, the model that makes the most sense is that found in the Employee Retirement Income Security Act: wide freedom of investment choice and investment action under an enhanced “prudent man” umbrella, with no preexisting man-

¹The European Community (EC) was renamed the European Union (EU) on January 1, 1994.

dates, constraints, or limits except for a requirement of broad diversification. This concept argues that pension investment ought to be international in scope, not dominated by a local (own-country) concentration of asset and currency exposure. Several European countries (the United Kingdom, the Netherlands, and Ireland) already operate, at least to some extent, on such a model. Ironically, for them, adoption of a restrictive, insurance-related model would be a considerable step backward in the development of their investment procedures and styles.

The argument in favor of a broad-based, nonrestrictive statute for pension investment regulation in the EU is articulated in the following paper by Dr. Bruno Solnik, a member of AIMR's Council on Education and Research. In the paper, he has constructed a well-presented, well-supported, and easily understood primer on the basics of international investment that stands on its own as a teaching tool quite apart from the use to which it has been put in the EU discussions. Readers can benefit from this work either as a review of the essential elements of current thinking about whether to invest internationally or as a checklist of environmental considerations for such investment. The examples are especially useful and illustrative of first principles. Overall, the work is a model of clarity and conciseness in the presentation of fact and evidence in support of a particular point of view.

The Research Foundation of the Institute of Chartered Financial Analysts is pleased to publish this edited version of Dr. Solnik's paper and to make it available to AIMR members around the world.

James R. Vertin, CFA
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Preface

European integration is being accomplished in steps described in formal treaties adopted by European Union (EU) member states. For example, 1993 was to have marked full implementation of a single European market for goods and services. The Council of the European Union mandates directives that put into practice the general principles adopted in the treaties. In turn, member states must adapt their national legislation and rules to conform with the EU directives. Directives were prepared before the 1993 deadline for most types of financial institutions (Life and Nonlife Directives, Investment Services Directive, etc.). The preparation of a directive for “the freedom of management and investment of funds by institutions for retirement provision” (pension funds) created intense debate, and a draft directive proposed in 1991 was still not approved at the start of 1994. The principle of free capital movement is affirmed by the EU treaties; the Institutions for Retirement Provision Directive attempts to establish investment rules that would prevent national investment limitations from obstructing the free movement of capital in a disproportionate way.

Many factors are involved in the controversy surrounding the imposition of investment constraints by asset class and by currency. A majority of European countries have predominantly pay-as-you-go pension systems: current employees pay for current retirees. The Netherlands, the United Kingdom, and Ireland are the only EU member states to have a benefit-funding pension system similar to the U.S. system. Other countries tend to be reluctant to adopt liberal rules for pension funds, a type of institution with which they are not familiar.

Many member states already have restrictive investment constraints for insurance companies and related institutions, with minimum and maximum limits by asset type and currency. In many cases, this restraint means that these institutions must primarily invest in national government bonds, providing thereby automatic financing of the national budget deficit. Life insurance companies, which would like to be major players in the pension business, want the regulations and constraints that apply to life insurance companies to be similar for institutions for retirement provision.

The European Federation for Retirement Provision (EFRP), a federation of national associations dedicated, exclusively or primarily, to retirement provision in EU or European Free Trade Agreement member states, has been very active in this debate. The EFRP has taken an active role in relation to EU institutions to promote a sound European regulatory environment for the

investment management of pension funds. The EFRP asked me to prepare a document analyzing the impact of investment constraints on the performance and risks of European pension funds. The following paper is an edited version of the resulting document.

I would like to thank Alan Broxson, Koen De Ryck, Philip Lambert, and all the members of the EFRP for their support, comments, and suggestions.

Bruno Solnik
Jouy en Josas
April 1994

Fundamental Considerations in Cross-Border Investment: The European View

Institutions for retirement provision (the European name for pension plans) should invest in a *prudent* manner. Restrictions imposing arbitrary limits on asset holdings by type of asset, country, or currency distribution run contrary to the prudential principle because they severely limit risk diversification. This constraint forces the institutions to assume more risk, while sacrificing return, and to conduct investment policies that are detrimental to their members in the long run.

A priori restrictions on investment run against the EU principle of freedom of capital movement. Such investment constraints do not exist in countries with the largest pension assets—the United States, the United Kingdom, and the Netherlands.¹ Countries with large pension assets have moved progressively to a “prudent man” rule, eliminating minimum or maximum constraints by asset type, country, or currency. Many European countries now have little experience with pension funds in their developed form, however.

Pension funds are, economically and structurally, fundamentally different from financial institutions such as insurance companies. National and EU rules dealing with prudential controls and congruency should be based on the genuine risk incurred in pension fund financing, and that requires a clear understanding of the economics of this risk. Pension funds are financial institutions “*sui generis*,” and their financial risk is quite different from that of insurance companies.

A pension plan is a contract between an employer and its employees. The plan typically involves three parties: the employee, the pension fund, and the plan sponsor. The employee is the future beneficiary of the pension defined in the pension plan. The pension fund of the plan is the vehicle that carries the accumulation of assets originating from contributions and income earnings

¹U.S. pension assets amount to more than 2 trillion ECU (European Currency Units) and follow a prudent man rule without a priori investment constraints.

on these contributions, less any benefit payments from the fund. Normally, the employer, called the plan sponsor, guarantees the benefits and, therefore, absorbs the investment risk of the pension plan. If the plan has a shortfall, the plan sponsor will have to contribute more. If the plan has a surplus, the plan sponsor may reduce its contribution, and in some cases, the employees may benefit through improvements in the pension plan. The plan sponsor's obligation to pay the promised benefits is like a long-term liability.

Most pension funds in Europe have liabilities that are linked to the development of wages and, to a lesser extent, to consumer prices; these liabilities are mostly used to increase pensions that are in the process of payment. Thus, the future growth of a fund's liabilities is embedded in the economy itself. Pension funds have real obligations, not nominal obligations such as those of insurance companies. The challenge for the pension funds is to invest their assets in such a way as to meet their liabilities at the lowest cost for the plan sponsor. This means that the pension fund ought to optimize the return on investments while controlling investment risk.

It can be argued that imposing investment restrictions increases the risk that a plan sponsor cannot meet its financial liabilities to the fund because of unduly large contributions stemming from relatively low investment returns imposed by the investment restrictions. Therefore, these restrictions add to the risk of shortfall rather than reducing it. Although the fund itself encounters no financial risk, the plan sponsor does. This concept of risk is completely different from that of insurance companies:

- *Insurance companies do not have dynamic obligations with uncertain outcomes in money, or "nominal," terms.* They are involved in a different game; they only have obligations in money terms. This situation is not changed by the distribution of profits beyond the technical interest rates to policyholders. In contrast, pension funds have dynamic obligations defined in real terms and, therefore, should focus on real assets.²

- *Insurance companies have no plan sponsors in the same sense that pension funds do.* The employees (and employers for contributory plans) pay premiums and buy insurance only for the amount of premiums paid. Thus, the insurance company has monetary obligations it can measure perfectly and fund properly at a given rate of interest (asset/liability immunization or cash flow matching). Only the insurance company is debtor of last resort, and in

²For example, foreign goods represent, directly and indirectly, a significant component of the consumption basket of individuals in any European country, and therefore, the purchasing power of any European pensioner is affected by foreign currencies. For that reason, an investment in nominal local-currency fixed-income securities should not be regarded as riskless in terms of purchasing power.

this respect, it bears the financial risk. For pension funds, the risk lies with the plan sponsor, which is the debtor of last resort if the pension fund is insufficient to cover its obligations.

To summarize, pension funds ought to optimize the long-term real return on the invested assets while controlling investment risk. The investment strategy of insurance companies, however, is akin to nominal cash flow matching or asset/liability immunization.

I wish to demonstrate in this paper that it is contrary to the prudential principle to constrain, a priori, the investment policy of pension funds. Imprudence is defined as an increase in investment risk associated with a sacrifice in investment return and is measured by the standard deviation of returns, also called sigma or volatility.³ Because institutions for retirement provision have, by nature, a very long-term objective, data derived from a long time period (January 1971 through January 1992) are used to demonstrate secular trends in risk and return.⁴

This paper takes, in turn, the viewpoints of a British, Dutch, and French investor. The first two nationalities were selected because they represent the largest pension assets in Europe. The French viewpoint was selected to include a Mediterranean country.

In the next two sections, I will present the case for international investment, stressing first the risk-diversification benefits and then the potential for higher return. The third section is devoted to the issue of currency risk. The last section shows how the imposition of a priori investment constraints can severely affect the risk-adjusted performance of a pension fund.

The Case for International Investment: Risk Diversification

The question is not whether to invest in the Hong Kong stock market or in the British stock market; the question is whether to invest in an internationally diversified portfolio or in a purely domestic portfolio. A major precept of investment is that risks do not add up; the risk of a portfolio is less than the risk of its individual components, thanks to risk diversification. The sources of risk diversification in international portfolios are the differences in volatility

³Standard deviation is a well-known statistical measure of the amplitude of price swings. If we measure the volatility or sigma in percent per year, the chance of a loss (or negative deviation from the mean) equal to one sigma in any given year is roughly 1 out of 6; the chance of a two-sigma loss is 5 out of 100.

⁴I am grateful to Lombard Odier for assistance in constructing this data base. All figures are calculated in nominal terms.

among different markets and the low correlation of returns among markets.

Volatility. Foreign stock and bond markets are said to be more volatile than their domestic counterparts, especially when currency risk is taken into account. Indeed, national markets exhibit different volatilities, and some countries' markets can be regarded as very risky (e.g., East Asian markets, such as Hong Kong). Figure 1 compares the volatilities of all major stock markets, as measured by a British investor in U.K. pounds. Hence, these numbers fully reflect currency risk. The British stock market has a volatility of 24.2 percent a year.⁵ These markets tend to have a comparable volatility (between 19 and 28 percent), even after accounting for currency risk. Most developed stock markets are less volatile than the U.K. market, despite currency risk, when returns are measured in U.K. pounds. Some markets, however, are much more volatile: Hong Kong has a volatility greater than 40 percent (associated with a large mean return of 20 percent a year).

Figure 1 also reports the risk of the Morgan Stanley Capital International (MSCI) Europe and World indexes calculated in U.K. pounds.⁶ A passively diversified European stock portfolio has a volatility of only 15.8 percent, considerably lower than the 24.2 percent for the U.K. stock market alone, despite currency risk. The volatility of the world stock portfolio is even lower (only 15.5 percent), although some of the non-European markets are quite risky.

According to Figure 2, a similar conclusion holds from the viewpoint of a Dutch investor (in guilders) or a French investor (in francs). Actually, the conclusion that an internationally diversified portfolio is less risky than a purely domestic one holds for all country viewpoints and for all subperiods.

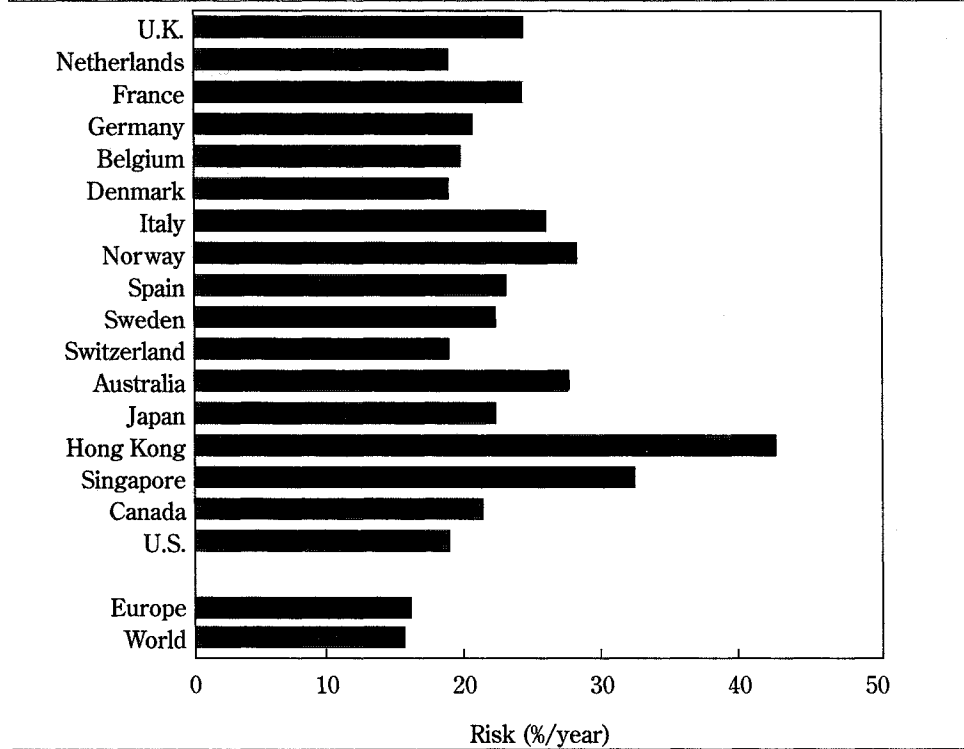
Figure 2 also compares the risk of the domestic U.K. bond market with that of internationally diversified portfolios.⁷ The volatility of a British bond portfolio is 11.3 percent a year, but the risk of a European-diversified portfolio is only 8.2 percent, a much smaller number. For a U.K. investor, the volatility of

⁵The mean return is 16 percent. This means that we expect a down movement of at least 8 percentage points (24 percent minus 16 percent) in one year of six.

⁶These indexes, calculated since 1970, are market-capitalization-weighted indexes of the stock markets in 13 European countries and 20 countries in the world, respectively. Dividends are reinvested.

⁷The national bond indexes were calculated by Lombard Odier. Coupons are reinvested. No international bond indexes have been available since 1971. I calculated these indexes by assuming an equal investment in each of the major national bond markets. The countries included are France, Germany, Italy, the Netherlands, the United Kingdom, Switzerland, Japan, Canada, and the United States.

FIGURE 1. Stock Market Volatility in Selected Markets: U.K. Pounds, 1971-92

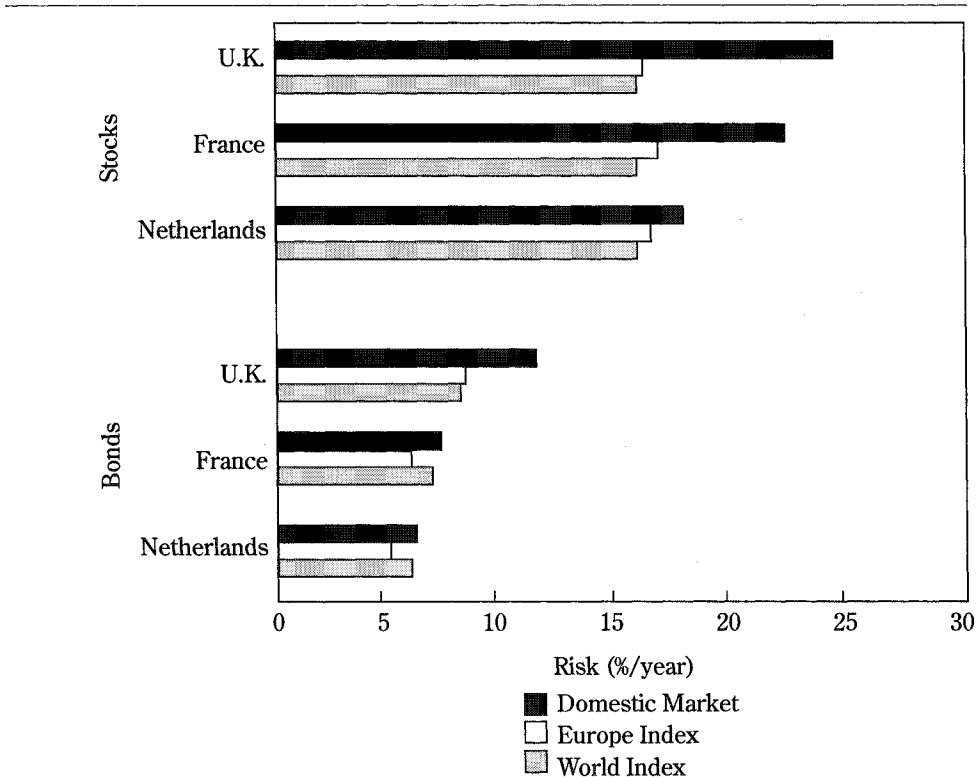


a world-diversified bond portfolio is even slightly lower than the volatility of a European-diversified bond portfolio, despite the yen and dollar currency risk (although this is not the case for a French or Dutch investor). This reduction in total risk in an internationally diversified portfolio, despite currency risk, comes from the low correlation between the various markets.

Correlation. The low correlation between markets allows investors to diversify the risk of their portfolios by spreading across assets with values that are not likely to go down as much as national bond or stock markets go down. The square of the correlation, or R^2 , is a good measure of the percentage of common variation of two markets. Of course, the correlation of one market with itself is equal to 1; a correlation of less than 1 between that market and any other indicates risk-diversification benefits. The smaller the correlation, the better.

The correlations of the British, Dutch, and French stock market with other

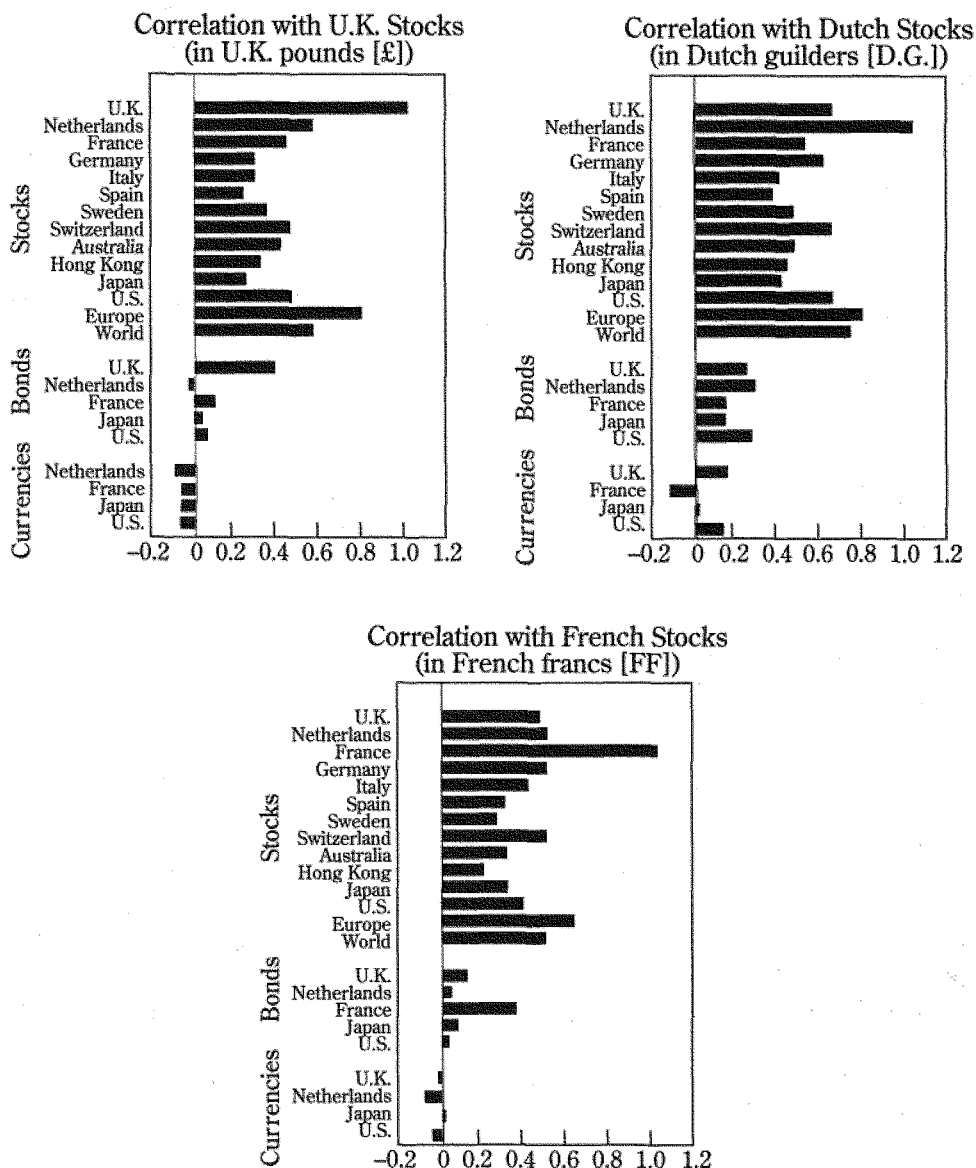
FIGURE 2. Stock and Bond Market Volatility: Selected Markets, 1971-92
(domestic currencies)



markets are shown in Figure 3. The correlation coefficient between stock markets varies somewhat across countries but, for the U.K. market, stays between 0.2 (with Spain) and 0.55 (with the Netherlands). The correlation with the world stock index is also about 0.55, which means that common factors explain only 30 percent (the square of 0.55) of the movements of the British and the rest of the world indexes. The correlation of the U.K. stock market with the European index is high because the United Kingdom is a large component of that index.

Although the correlation of the British stock market with the bond markets is rather low (0.35), foreign bond markets provide much better diversification benefits than the U.K. bond market. The correlation of foreign bonds with the British stock market is close to zero. Foreign currencies have a negative correlation, suggesting even greater diversification benefits for U.K. investors.

FIGURE 3. Correlations of Selected Markets with U.K., Dutch, and French Stocks, 1971-92



Although the numbers differ slightly from the viewpoints of the Dutch or French investors, the conclusions remain identical.

The correlations between bond markets are even lower than those between stock markets, as seen in Figure 4.⁸ These surprisingly low correlations come from three factors. First, long-term yield movements are not strongly correlated across countries, contrary to comments made by many politicians. Second, the returns on an investment in foreign bonds are influenced by the performance of the foreign currency, adding foreign currency volatility to that of the local bond market. Third, currency movements are only weakly correlated with long-term yield movements. Actually, British bond returns tend to be negatively correlated with foreign currencies.⁹ In recent years, however, when the pound became more synchronized with the ECU, this diversification benefit lies mostly with non-EU currencies.

The general observation is that national monetary and fiscal policies are not fully synchronized among countries. For example, the growing British budget deficit in the early 1980s, associated with rising bond yields and a rapid weakening of the pound, was not matched in other countries. The relative independence of national monetary and fiscal policies, which influence both currency and interest rate movements, leads to a surprisingly low correlation of British pound returns on the British and foreign bond markets. Hence, foreign bonds diversify the risks associated with domestic monetary and fiscal policies; this conclusion would be even stronger if risk and return were measured in real rather than nominal terms.

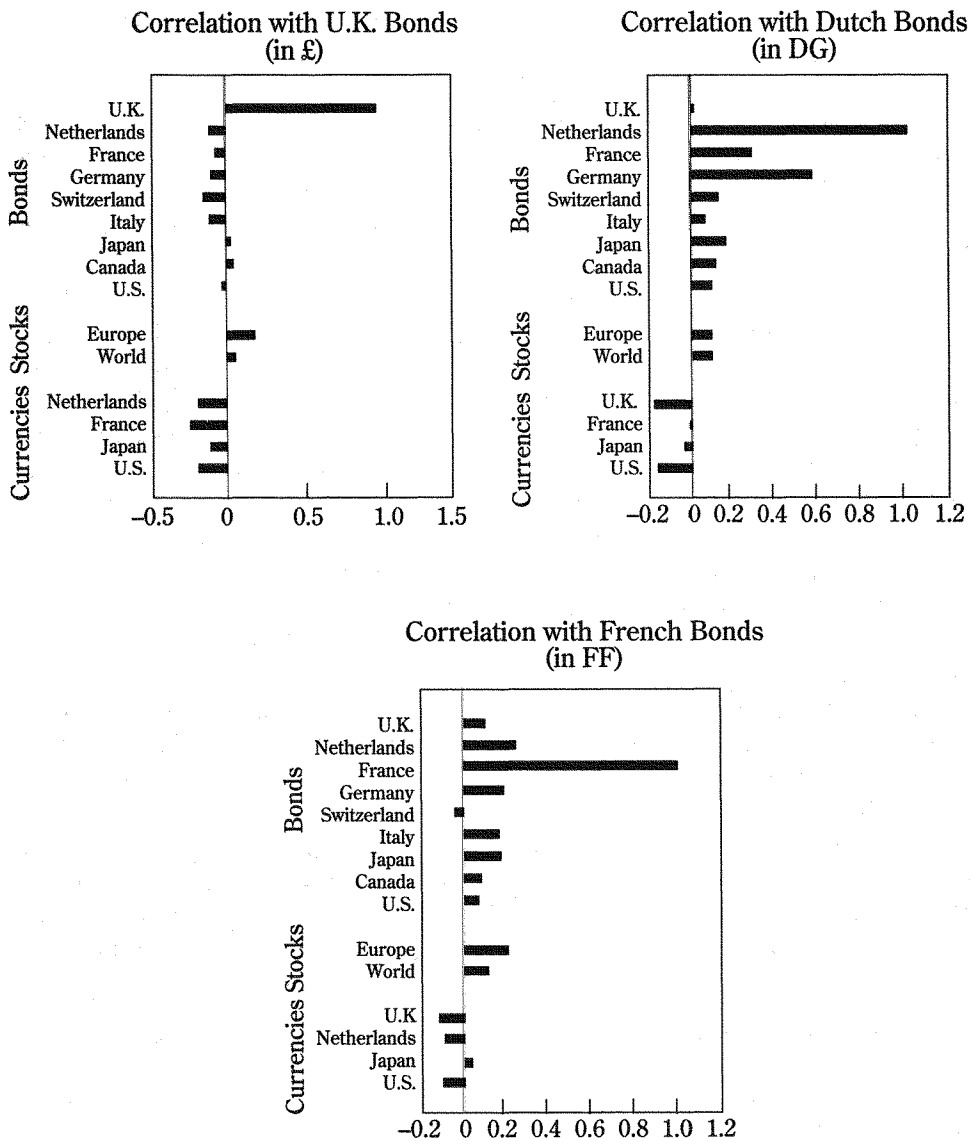
Of course, the correlation of equity and bond markets is higher among countries with strong economic and monetary ties. This fact suggests that one should diversify extensively among non-EU countries and currencies. Altogether, however, these correlations are quite low and explain the good risk-diversification benefits provided by international investment.

In addition to the risk-diversification advantage of international diversification is the advantage of greater *liquidity* (hence, less price risk) compared with focusing all assets in a single national market. For institutions for retirement provision of small countries, such as Ireland, Portugal, Denmark, or Belgium, investing a majority of assets in local markets is simply not reasonable.

⁸The correlations would be higher for currency-hedged bond returns.

⁹This result is consistent with the observation that when the British pound is weak (foreign currencies go up), U.K. interest rates tend to go up (bond prices go down).

FIGURE 4. Correlations of U.K., Dutch, and French Bonds with Selected Markets, 1971-92



The Case for International Investment: Return and Risk

Although investment risk is a major preoccupation of retirement provision institutions, they also try to get the best return on their invested contributions. The objective is to optimize the long-term risk–return profile of their investments. Another major advantage of global asset allocation is to provide better profit opportunities and hence improve the risk–return trade-off.

At present, retirement plan assets in continental Europe are primarily invested in bonds. Therefore, I will first discuss the advantage of adding foreign bonds to a domestic bond portfolio. Again, I will discuss in detail the results for a British fund but also present the same analysis for Dutch and French institutions.

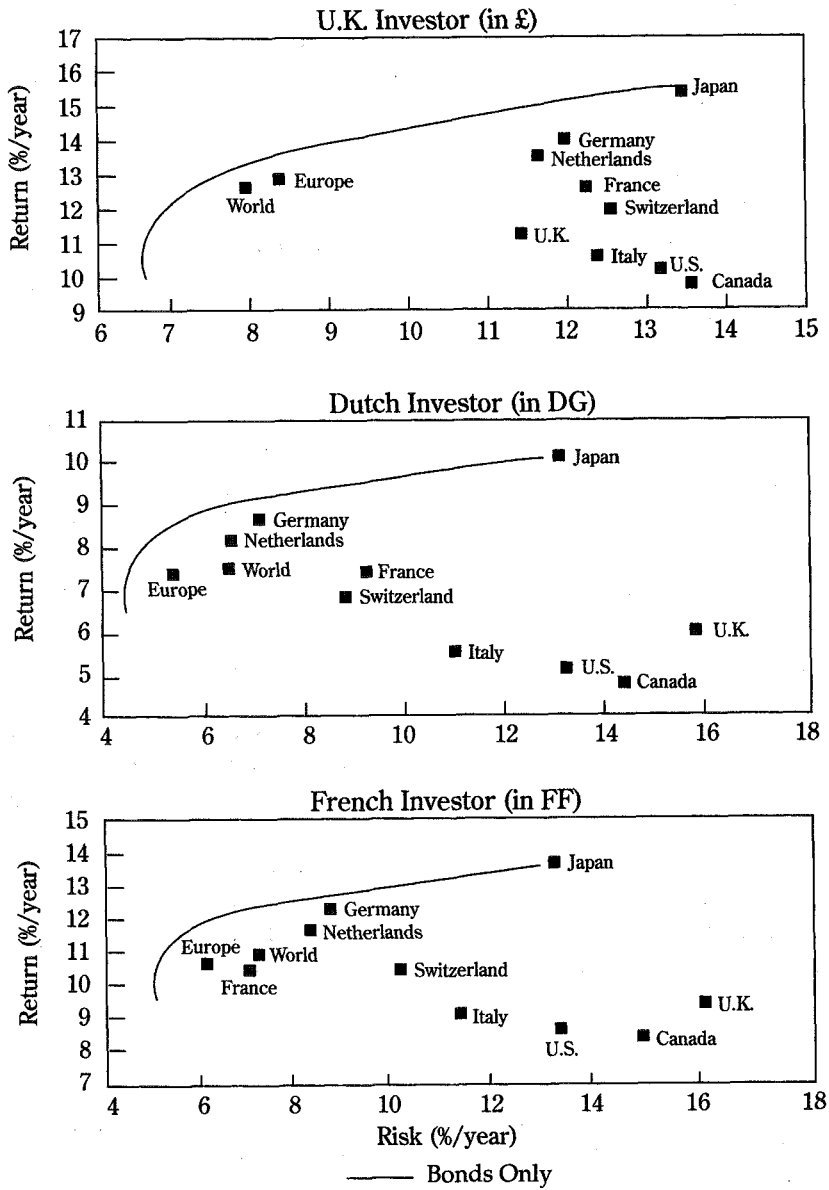
The top panel of Figure 5 shows the optimal international *bond* asset allocations for different risk levels during the past 20 years from the viewpoint of the U.K. investor.¹⁰ Each asset or portfolio is represented by one point on this graph. As noted above, the British bond market has a risk of 11.3 percent and a total return of 11.1 percent a year. Other bond markets tend to be more volatile, mostly because of currency risk. The world and the Europe bond indexes tend to have lower volatility than the national markets (because of the low correlation between markets).¹¹ Combining the various national bonds produces diversified portfolios for which return and risk can be calculated because the returns and covariances of all the assets are known.

The well-known idea popularized by the 1990 Nobel prize winners Harry Markowitz and William Sharpe is that any investor will try to obtain the best portfolio performance and minimize the risk of loss. This leads to selecting asset allocations that lie in the top left corner of the risk–return space. The best achievable risk–return trade-offs, the optimal asset allocations, lie on the efficient frontier. As can be seen in Figure 5, international diversification of a pure British bond portfolio would have greatly enhanced the return on a bond-only portfolio without an increase in risk. An international bond portfolio with the same risk level as a purely British bond portfolio (11.3 percent a year) would have achieved an annualized total return of more than 15 percent a year compared with 11.1 percent for the U.K. portfolio. The difference in performance compounded amounts to about 1,000 percent over 20 years. In other

¹⁰No short selling is allowed. Although the investment universe in Figure 5 is restricted to bonds, no maximum constraint is set on foreign investments.

¹¹Because of diversification, the risk of an international index is less than that of the national markets. By definition, however, the return of the index is exactly equal to the mean return of the national markets. The world index had a better performance than the U.K. bond market but a poorer performance than the Dutch bond market.

FIGURE 5. Optimal International Bond Allocation: U.K., Dutch, and French Investors

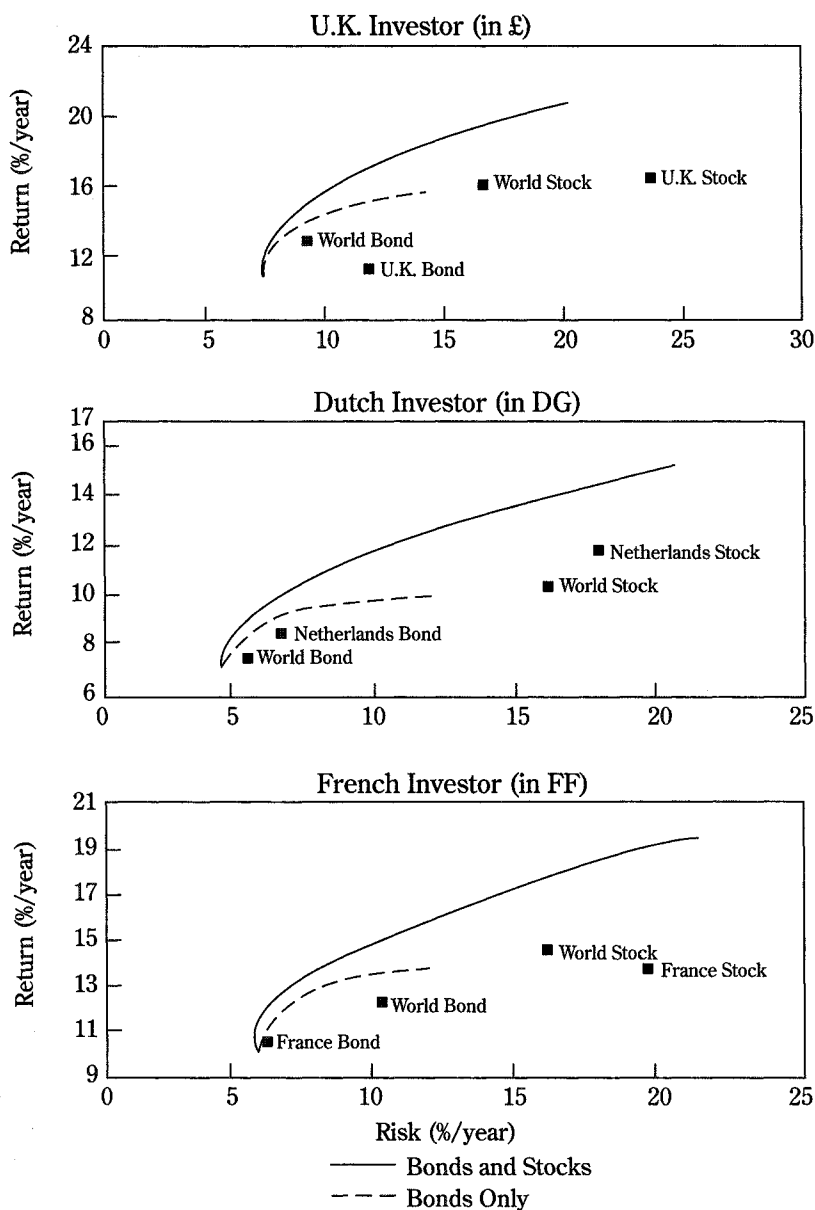


words, a portfolio of British bonds would have increased 8 times in value over the 1971–92 period (in nominal U.K. pounds, with reinvestment of coupons), and the international bond portfolio would have increased about 18 times. This optimal asset allocation includes more than 50 percent in bonds denominated in foreign currencies. Moreover, a large reduction in risk (6.6 percent a year for the international portfolio compared with 11.3 percent a year for a purely domestic U.K. bond portfolio) could be achieved without any sacrifice in performance. A calculation of the optimal allocations among the universe of stocks (as opposed to bonds) also shows the strong advantage of international diversification.

The final question is whether stocks help improve the risk-adjusted performance of global asset allocations. The question addressed here is not whether one should prefer portfolios made up solely of bonds or solely of stocks but, rather, whether stocks should be added to a bond portfolio within a global investment strategy. The top panel of Figure 6 shows the efficient frontier for a global asset allocation allowing for foreign and domestic bonds and stocks. The only investment constraint is against short selling; also, no currency hedging is included. A preliminary observation is that U.K. stocks have more risk but a better return than U.K. bonds, as is true over the long run for any country. The long-term risk premium of British stocks over bonds is about 5 percent. In other words, stocks are more risky than bonds in the short run, but the long-term mean return of British stocks is 5 percent a year higher than that of British bonds. The risk premium of stocks over bonds is about 4 percent in the Netherlands and 3 percent in France. The average world stock risk premium slightly exceeds 3 percent.

The optimal global asset allocations on the efficient frontier strongly dominate British-only investments. A performance equal to that of the British stock market (16.4 percent a year) could have been achieved with less than half the risk. A domestic portfolio of British stocks and bonds underperforms the international efficient allocation with the same risk level by more than 4 percent a year. Figure 6 also shows the efficient international frontier for bond-only investments (same as Figure 5). Clearly, stocks bring a strong contribution in terms of risk–return trade-off to a bond portfolio because the bond-only efficient frontier is strongly dominated by the portfolios of the optimal global asset allocations using both stocks and bonds. The proportion of assets in foreign currencies varies from 60 percent to 90 percent depending on the desired risk level. This amount is well above the 20–40 percent foreign currency maximum that some proponents of restrictions propose. The lower panels of Figures 5 and 6 show that similar qualitative conclusions hold from the viewpoints of Dutch and French investors.

FIGURE 6. Optimal International Global Allocation: U.K., Dutch, and French Investors



Currency Risk

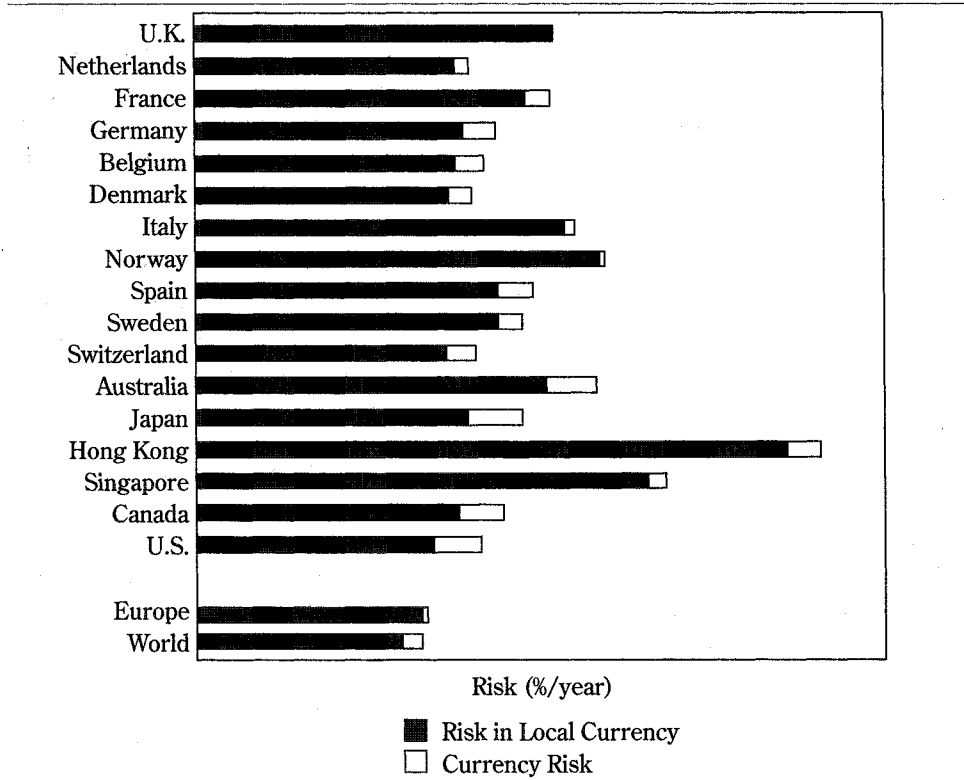
The contribution of currency risk to total portfolio risk in a diversified international portfolio is quite small. This is best illustrated for stock markets, because we have good long-term data on a large number of European and non-European stock markets. Figure 7 gives the contribution of currency risk to the total risk of various stock markets from the viewpoint of a U.K. investor. This figure illustrates the risk in U.K. pounds of each market (as it appears in Figure 1) and the risk of each market in its local currency. The difference is the contribution of currency risk.

Obviously, currency risk is very small compared with market risk. A diversified European portfolio, such as the MSCI Europe Index) has a very small currency risk component. The currency risk contribution of non-EU currencies is larger than that of EU currencies, but it is still small compared with market risk. In a global portfolio (the MSCI World Index), market risk is ten times larger than currency risk. Although exchange rate volatility is far from negligible, it has a low, and often negative, correlation with stock and bond market risks. Currency risk would look even smaller for a currency that has been less volatile than the U.K. pound, such as the Dutch guilder or the French franc. Figure 7 shows only the most volatile base currency (U.K. pounds), for which the impact of currency risk is the largest, although it is still surprisingly small. Some form of European monetary system and economic convergence should help to reduce EU currency risk in the long run.

Because the volatility of bond markets is smaller than that of stock markets, the *relative* contribution of currency risk in an internationally diversified portfolio of bonds is slightly larger. It represents, on the average, 30 percent of the total risk of an international bond portfolio—still a small amount compared with the risk of an investment in the domestic bond market.

Non-EU currencies, although somewhat more volatile than EU currencies from a European viewpoint, provide an excellent and original element of diversification to a portfolio. As Figure 4 showed, foreign currencies tend to be negatively correlated with domestic bond markets. When the domestic currency depreciates (foreign currencies appreciate), domestic interest rates tend to go up, leading to a loss in the domestic bond market. Investments in non-EU foreign currencies are a useful means for diversifying against this important risk. To minimize the risk in real terms would require even greater holdings of foreign currency assets, because foreign goods are a significant component of the price index in all countries. The need for extensive foreign currency asset diversification to protect purchasing power is strongest for small countries. The recent past has shown that ECU-denominated assets could not serve this risk-diversification purpose.

FIGURE 7. Contribution of Currency Risk in Selected Markets: U.K. Investor



A policy of systematic currency hedging is very costly in the long run because of the transaction costs and administrative burden of constantly monitoring and rebalancing the forward currency positions. In the long run, exchange rates tend to revert to fundamentals (the inflation differential), and currency risks get reduced. The high cost of a systematic policy of full hedging is not consistent with the long-term objective of institutions for retirement provision, although this fact does not mean that management of currency exposures, with selective hedging decisions, should not be an integral part of the investment management process.

To summarize, currency risk is very small compared with bond and stock market risks. Investment in foreign currency is desirable for diversification purposes. The eventual convergence of currencies within the European Monetary System means that this element of diversification can only be provided by non-EU currencies.

A Priori Investment Constraints

Because global diversification by asset type and currency reduces portfolio risks and improves long-term performance, setting a priori investment constraints by type of asset, by country, or by currency is highly detrimental to pension fund performance and leads to imprudent investment strategies.

An a priori currency-matching rule is an illustration of the inappropriateness of such constraints. Currency matching makes no sense for EU currencies, which carry small risk. It is also imprudent for non-EU currencies because it unduly constrains a fund's prospects. The currency decision is a part of the entire country and currency allocation process. Limiting assets denominated in foreign currencies to 20–40 percent of a portfolio (as contemplated in the proposed EU directive) would lead to strongly suboptimal strategies.

This result is illustrated in Figure 8, which in the top panel shows optimal global (bonds plus stocks) asset allocations for a U.K. investor with two sets of constraints (20 percent and 40 percent) and with no constraints. The loss in performance is striking. For example, for the same risk level as that of the U.K. bond market (with a return of 11.1 percent a year), the global allocation with a constraint of 20 percent in foreign currencies has a return of 14 percent a year compared with 17 percent for the unconstrained asset allocation. After 20 years, the difference in performance is 935 percentage points (2,210 percent minus 1,274 percent), a huge difference in the amount of pensions that can be paid and in the contributions of employers and employees. The asset allocation with a constraint of 40 percent in foreign currencies leads to a mean return of 15.6 percent a year, or a loss of 494 percentage points in performance (2,210 percent minus 1,716 percent) over the 20-year period.

Similar conclusions obtain from the viewpoints of Dutch or French investors and for both maximum and minimum currency requirements.¹² The basic message is the same: A prudent long-term investment strategy for institutions for retirement provision is to be extensively diversified. This diversification cannot be accomplished in the face of a priori investment constraints. The development of an EU Directive on Institutions for Retirement Provision is a superb opportunity to adapt the legislation to the internationalization of the economies and of their financial markets. The directive should not contain requirements for currency matching, nor should it impose maximum asset class restrictions. Because the directive must serve the best interests of the current and future beneficiaries, the prudential principle must be clearly affirmed, free of archaic a priori constraints.

¹²Clearly, imposing a maximum requirement on an asset category is equivalent to imposing a minimum requirement on other categories.

FIGURE 8. Optimum Global Asset Allocation with and without Investment Constraints: U.K., Dutch, and French Investors

