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European Financial Integration and Equity Returns: A Theory-Based Assessment

Authors:
Kpate ADJAOUTÉ - HSBC Republic Bank (Suisse) SA & FAME
Jean-Pierre DANTHINE - HEC-University of Lausanne, CEPR & FAME

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Abstract:
This paper reassesses, at the light of economic and financial theory, the well-documented recent evolution of the euro area public debt and equity markets. Doing so leads to associating the EMU and the single market with the changes in fundamentals and financial integration with convergence in pricing. For the public debt market, we stress the observation, conform with predictions, that risk free interest rates are now less volatile in the euro area. But also the fact that the establishment of a single public debt market is still not completed. The current fragmentation is costly to Treasuries and taxpayers and understanding its cause is important to evaluate the prospects of currently considered measures of financial integration.

Theory predicted that the single currency would have a minor impact on equity markets since the currency component in euro area equity returns has historically been small. That the asset management industry has undergone a paradigmatic change, moving from a top-down country-based allocation to a top-down global sector-based allocation, is a puzzle in this light. A careful examination of the changing relative importance of country and industry factors for equity returns provides some weak rationale for the change in paradigm. A more complete assessment of the evolving nature of equity returns in terms of portfolio efficiency strengthens this evidence.

Executive Summary:

1. Scope of the paper

This paper tallies the progress of European financial integration in the light of financial theory. We focus on the return on European equities, which we naturally decompose into a risk free rate and an equity risk premium. We study the extent to which the fundamentals underlying public bonds - a proxy for the former - and equities have been altered and whether the pricing of these assets has converged under the combined influence of the single market, the euro and other measures fostering financial integration.

2. Characterizing the changes from an institutional perspective

We first note that, from an institutional viewpoint, the current state of European financial integration is very much one of a glass that may be seen as half-full or half-empty. Clearly, the advent of the single currency and the accompanying measures of integration do constitute a lowering of the effective barriers to free investing across the euro area. However, significant barriers to a truly unified financial market continue to exist and progress often appears to be painfully slow. We also point out that, from a theoretical angle, EMU has often been deemed a minor event for equity markets, as currency risk was not found to be a major component of equity returns.

3. The impact on public debt markets and risk free rates

Against this background, we study the fundamentals and the pricing structure of the risk free asset in the euro-area. A single risk free rate is the hallmark of a truly integrated financial area and, at this level, it appears that major progress has been made. The disappearance of currency risk has eliminated the major discrepancy between bonds issued by governments with identical credit rating in the euro-area. And with identical inflation rates resulting from a single monetary policy, the fundamentals of the participating countries government bonds have fully converged. The same approximate risk-free asset is thus available to all euro-area residents. The low inflation level targeted and delivered by the ECB moreover implies that the approximation is fairly close. Finally, the Maastricht Treaty and attending restrictions on fiscal policies signal the intention to push the convergence even further, at the level of credit risk. Thus in terms of the fundamentals of government securities and the availability of an unambiguously defined risk-free asset, the euro is indeed a watershed.

In line with this assessment, euro-area government bond yields are now closer in levels, display a higher degree of correlation and, in addition, are more stable than ever before. Yet the observed evolution seems to be entirely attributable to the convergence of fundamentals. Significant deviations from the law of one price remain. In particular, same credit rating public bonds show yield differences as large as 30 basis points and correlations between yields or holding-period returns on these instruments are smaller than unity. These pricing differences reflect a failure of integration; they are not consistent with a single public debt market and their cost to euro-area Treasuries, which may be as high as € 5 billion annually, appears unnecessary. Which additional measures of financial integration, if any, would be sufficient to eliminate them and whether the currently contemplated measures will succeed in doing so is an important question for research. In the absence of a convincing positive answer, the debate on the establishment of a multilateral agency in charge of issuing debt on behalf of the euro-area governments should be reopened.

4. The equity markets under EMU

The fundamentals underlying equities have been affected in a more settle way. With a single monetary policy, closely aligned interest rates, and fiscal policies subject to a common discipline, the macroeconomic influences on company profits are clearly converging.

However, another influence may also be at work in the euro area because the lowering of barriers to trade goods and financial assets tend to permit and promote more specialization in national industrial structures. The macroeconomic evidence appears to support the view that the former influence dominates the latter and that, on this score, the fundamentals of equities are converging. In terms of pricing this result may be the counterpart of the reported decrease in the relative importance of country factors in determining returns. The evidence on this score is not unambiguous, however. At the pricing level we also show that one sufficient condition for the lowering of the equity risk premium and the cost of equity capital in response to integration has been fulfilled.

Because the undergoing changes imply new investment and risk sharing opportunities, one would expect the evidence for financial integration to be forthcoming at the level of quantities, i.e. of investment flows. Indeed the impact of these changes on the structure and performance of European financial markets and the benefits obtained by Europeans depend on the extent to which new arbitrage opportunities are seized by market participants. For this reason we also focus on the evidence that portfolio flows have been affected. We typify portfolio investment flows to and from the euro area in the context of quantity adjustments and discuss the growing role of passive investment strategies. Not surprisingly and in line with previous observations, we find weak evidence of significant changes. Market conditions since the inception of the euro have been so extra-ordinary that their impact on investor behavior is likely to have more than offset other adjustments motivated by the structural changes. For this reason, we look beyond the observed quantity adjustments and discuss investment processes. Indeed, at this level, the asset management industry appears to have undergone a paradigmatic change that is not in line with the ex-ante assessment of the euro as a minor event and which may have an important impact on the degree of international diversification within the euro-area.

5. The new asset allocation paradigm

It is common practice among portfolio managers to follow a top-down approach to asset selection. The first step of the top-down approach traditionally consisted in deciding on a country allocation grid, effectively placing first priority on an adequate geographical diversification of portfolios. The second step consisted in selecting the best securities in accord with this allocation, that is, within each national market to the extent permitted by the grid. This practice can be placed in the context of the discussion on the relative importance of country vs. industry or sector factors in explaining the cross-section of international returns.

The standard position arguing that country factors were dominant supported the geographical slant of the top-down approach. The argument is now made that the country orientation of the top-down approach should give way, within the euro-area at least, to an industry or sector orientation. According to this view, the first step of the portfolio optimization should be undertaken at the industry level.

We proceed to a detailed evaluation of the merit of this change and of what it might tell us on the determinants of equity returns. We focus on measures of correlation among industry or country indices (portfolios) showing the methodological equivalence of this more flexible approach with the standard Heston-Rouwenhorst methodology based on factors. The latter indeed appears to be overly sensitive to data sources and time periods. In the end, our approach and our data confirm the emerging superiority of industry portfolios over country portfolios, thus providing supporting evidence in favor of the change in asset allocation paradigm. We consider this evidence to be relatively weak, however, because the incriminated relationships are highly time varying. Furthermore, the responsibility of European financial integration for this reversal is placed in doubt by new evidence that a similar superiority of industry portfolios over country portfolios also characterized an earlier time period.

6. A mean-variance-based assessment of the new paradigm

We next search for confirming evidence of our results in a full mean-variance optimization. Our goal is to provide a more complete account of the observed evolutions of equity returns in terms of portfolio efficiency and check if it supports the change in asset allocation paradigm. We do this with utmost caution realizing that the assumption that average realized returns are truly representative of ex-ante expected returns is very debatable. We find that the Sharpe ratio of the optimal portfolios composed on the basis of sector indices has been superior to the Sharpe ratio of the optimal portfolios made of country indices since 1995. In this sense, standard mean-variance analysis provides stronger support to the changing asset allocation paradigm. There is a distinct possibility that portfolio weights implicit in sector indices have been more conducive to portfolio performance than the portfolio weights implicit in country indices since the Maastricht Treaty. And the euro has facilitated taking account of its implications for portfolio management.

Yet, full optimization also confirms another strand of research arguing that the cost of the standard aggregated approach may well be substantial in terms of portfolio performance. That is, a superior portfolio performance can be consistently achieved at a higher level of disaggregation by implementing a full optimization across portfolios identified by both country and sector components. To make sense of this, one has to assume that a two-step allocation is costlier than a one-step strategy. While these costs may be understood when placed in the larger context of the costs of doing active portfolio management in a multi-industry international setting, they are hard to rationalize in the context of passive strategies.

The growth of indexing and the development of ETFs may be highly relevant in this context and augur of significant performance improvement for European investors.

7. Impact on home bias

The change in asset allocation paradigm we focus on may have some indirect effects on the home bias. The optimists will argue that the new sectoral approach to asset allocation is a strong antidote to the home bias. This is because global sector indices are by definition impervious to national considerations and the reliance on these indices at the first stage of the asset allocation process will automatically force investors towards a more international outlook. The pessimists will argue on the contrary that once the optimal sector allocation has been defined, it will be natural for investors to try to fill in the grid with home stocks belonging to the required industries, something that will be possible in a majority of cases. Of course, doing so systematically would lead to going further away from an optimal geographical diversification.

8. Who gains, who loses?

Treasuries of the euro area have been the clearest winners of financial integration. But substantial additional gains may be forthcoming from the complete unification of the public debt market. Debt markets are zero sum games, however, and if governments pay less on the securities they issue, the holders of these securities also receive less. These are likely to be the more risk averse investors who hold a disproportionate share of government securities in their portfolios. They are also the future retirees whose pension funds produce smaller returns. The conditions for firms to benefit via a reduction of the cost of equity capital are met as well.

Ceteris paribus, firms should also benefit from the observed reduction of the risk free rate. One expects this to be favorable for investment and output and for economic growth. This is not a zero-sum game and everyone will benefit from these developments, among others, the holders of claims on non-capitalized pension schemes. The importance of microstructure considerations in the case of highly homogeneous assets such as public bonds suggests similar considerations are also at work, probably with more force, in the case of equities. There are strong reasons to believe that the current fragmentation of stock exchanges in Europe implies that firms with similar characteristics are priced differently and, as a consequence, experience a cost of equity capital that varies. Such differences introduce costly distortions in the allocation of investments.

For investors, financial integration represents an improvement in diversification opportunities. One of the most obvious positive changes brought about by the euro was the automatic lifting of currency matching rules for institutional investors. Important gains in diversification, ultimately reaped by investors and consumers, are expected from this change and the evidence confirms that the new opportunities are being exploited.