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GLOBAL EQUITY INVESTING

A DISCIPLINED, RISK CONTROLLED FRAMEWORK

Quantitative analysis provides a powerful tool for identifying investment opportunities and for suggesting how to best structure a global portfolio: it's all about picking the winners across countries and across industries

The accelerating globalisation of enterprise activities and the integration of capital markets are creating profound changes in active equity portfolio management. During the coming years it is our expectation that capital market integration will reduce the market inefficiency produced by country segmentation, thus presenting a compelling active management opportunity. In this article we will review how quantitative analysis can be utilised to identify new trends in the determinants of security returns. In the light of these findings, we will then explain how to construct global equity portfolios aimed at providing superior risk adjusted performance.

20TH CENTURY

Active international equity allocations were traditionally conducted in a two-stage process. In the first stage, a "top-down" decision would determine *country* weights on the basis of the relative attractiveness of countries.

In the second stage, securities would be selected within each country or region separately. This "silo" approach was particularly appealing as it was well founded on empirical evidence that country factors were the primary determinants of security returns; namely, and for instance, the performance of Fiat relative to Novartis was determined primarily by the differential performance of Italy to Switzerland, rather than that of the automobile sector relative to the pharmaceutical sector.

Risk management and risk management tools utilised in monitoring the exposures of international equity allocations were similarly structured. In a well-diversified portfolio, country risk would generally account for a larger proportion of overall risk than industry risk or security specific risk. Moreover, global style risk exposures were measured as a collection of country style risks.

RESEARCH

In a recently published study,[1] we questioned the empirical foundations of the traditional active international equity allocation process. In particular, we presented evidence demonstrating that global industry factors are now *relatively* more important than country factors in driving security prices; indeed, in this study we showed that the dispersion in performance across industries is twice as large as that across countries.

This suggests that if the performance of industries and countries were equally predictable, more research efforts should be directed to predicting industry returns than country returns, as this would provide greater opportunity for capturing "alpha". In this study and in a

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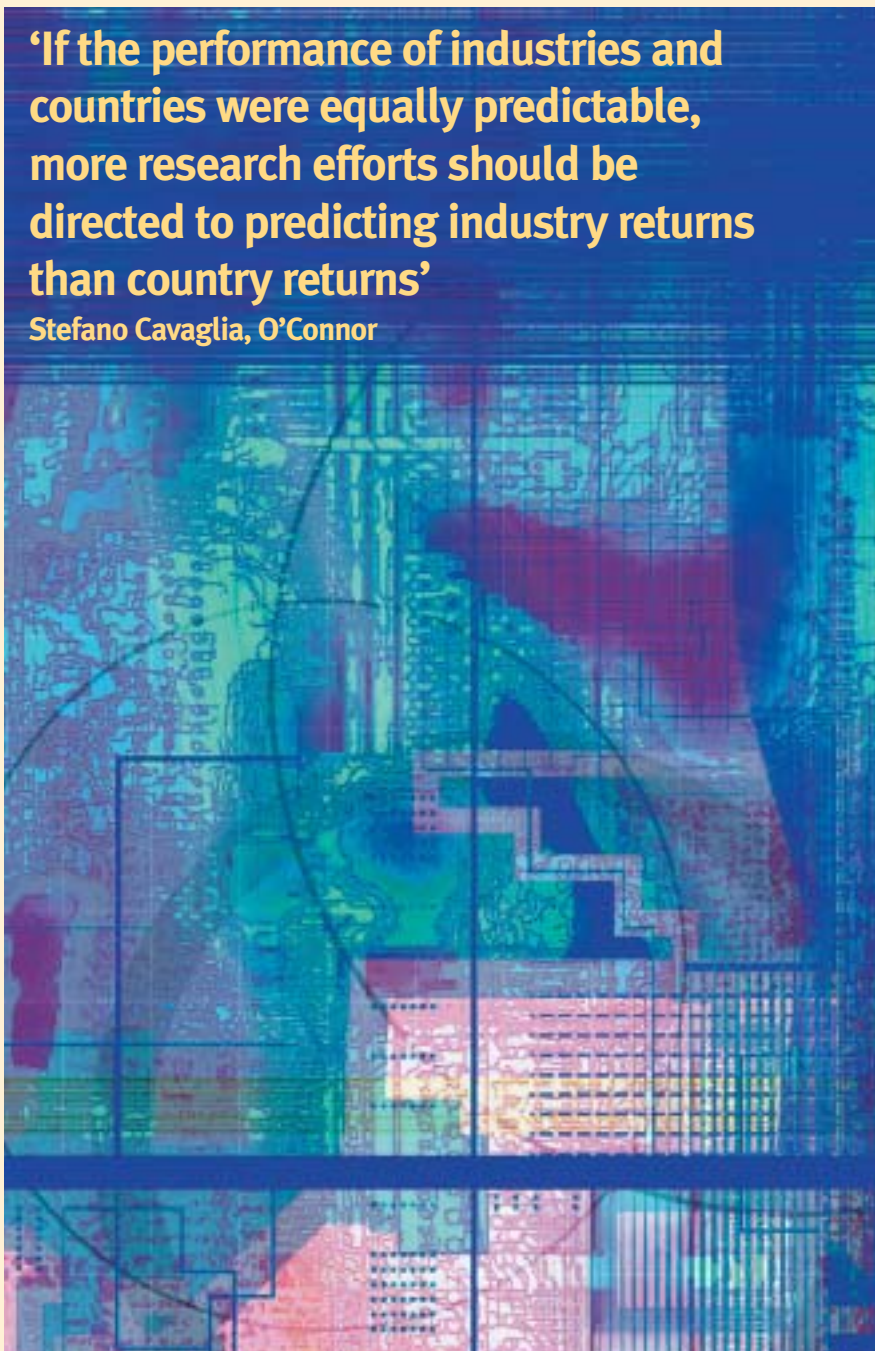
Stefano Cavaglia, O'Connor



related earlier study,[2] we also examined the implications for risk management. We showed that the gains from diversifying by industry *and* by country are very large and significant.

21ST CENTURY

Our quantitative analysis suggested that the traditional "top down" country based asset allocation decision needed to be modified to recognise the importance of global industry factors that operate across countries.

In a follow-up study, we presented CICCA – cross industry, cross country allocation – as a framework for obtaining a first pass "top down" allocation. As illustrated in Chart 1 below, this allocation aims to simultaneously select local (or national) industries across the world. Thus the asset manager evaluates the relative attractiveness of, for instance, US energy stocks relative to other energy stocks in the world (1), relative to other industries in the US (2), and relative to other industries in the world (3). Which relative comparison (the within country, the within global industry, or the across-industry and across-country) matters most is an empirical question which we address.

Some features of CICCA are noteworthy. It provides a means of exploiting top down and bottom up opportunities in a consistent framework. Namely, country allocations (4) and global industry allocations (5) result from local industry selection rather than being determined from a top-level decision. Similarly, style tilts are not imposed from the top down. Rather, they result from local industry tilts. Style tilts at the aggregate level can be monitored for risk control purposes and can be altered via local industry allocations. When combined with stock selection skill, a powerful investment capability results.

FORECASTING

How then could an asset manager predict the performance of national industries? In our study we demonstrate how some fairly conventional tools utilised by asset managers could be applied for this purpose. More importantly we show how to most effectively utilise these tools.

Consider for instance P/E ratios. Using historical company level data over the period December 1985 to June 2002, we obtained P/E ratios for securities along the grid of Chart 1. We then examined the performance of two strategies. One strategy selected value stocks within each country; a global portfolio (neutral on the country exposures) constructed in this fashion would have outperformed the world index by 5.25 per cent per annum over the 1985–2002 period.

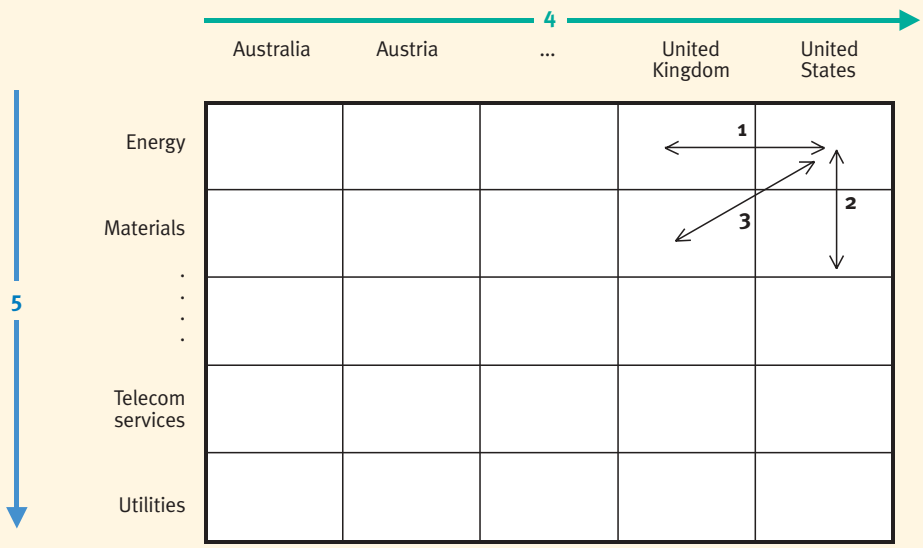
An alternative strategy selected attractively valued securities within each global industry; a global portfolio (neutral on the global industry exposures) constructed in this fashion would have outperformed the world index by 7.83 per cent per annum over the same period. Clearly, P/E ratios provide a useful indicator of future performance. However, a strategy that emphasises *within global industry* comparisons clearly dominates one that emphasises *within country* comparisons.

Certainly, the tools utilised by asset managers extend well beyond P/E ratios.

Some managers focus on macroeconomic factors, others on growth prospects, and others on past share price performance as indicators of relative attractiveness.

1

CICCA allocations



Source: O'Connor

Forecasting and mathematical optimisation tools can be deployed to construct "structured portfolios" that aim to meet client requirements

We present historical evidence that combining all these factors in an econometric framework while emphasising *within* global industry comparisons is a very effective means of obtaining cross industry, cross country allocations that yield superior risk adjusted performance.

What are the sources of this superior performance? In brief, it originates from capturing opportunities over a broad spectrum of countries, industries, and specific stocks, and in particular it originates from picking the "winners" within a global industry.

Several important implications follow from our analysis. Simply, the relative attractiveness of a local industry (or the companies that make up that industry) should not be determined by whether it belongs to a particular global industry or particular country that are identified in a "growth" or "value" quadrant.

VALUE

Rather, the best investments are attractively valued, have strong growth prospects, operate in a supportive macroeconomic environment, and have experienced superior share price performance. This is best accomplished in the full global spectrum. Limiting the universe to a "value" or "growth" box is likely to detract from performance. Secondly, relative comparisons within global industries provide an effective means of structuring information to value companies.

As a result asset managers should consider whether they are properly organised to analyse global industries. Similarly, index vendors may wish to consider creating global value/growth benchmarks that emphasise within industry comparisons rather than provincial country based aggregations. Finally, risk managers may wish to consider whether their models capture the "within" and "across" industry comparisons that are likely to drive active international equity allocations.

WAY FORWARD

Quantitative analysis provides a powerful tool for identifying investment opportunities and for suggesting how to best structure a global portfolio. Forecasting and mathematical optimisation tools can be deployed to construct "structured portfolios" that aim to meet client requirements.

Consider for instance, the transitional problems facing many plan sponsors. Though our evidence unambiguously supports the merits of global investing, it is still true that many equity allocations retain a large "home bias". Why not restructure these mandates on a global basis while requiring a significant allocation to domestic investments? In this fashion, active managers can fully exploit the important and significant benefits of picking "winners" within a global industry.

Consider, for instance, the pension investments of the employees of a technology firm. Is it efficient for them to invest in a global equity portfolio? The present value of their future salary payments is very much affected by the performance of the technology sector. Would they not be "doubling up" their risk by investing in a global portfolio that has a passive 14 per cent allocation to technology stocks?

Clearly from a total risk perspective, the employees of this firm would benefit from a world equities portfolio that excluded the technology sector. This type of structured product could be delivered through a quantitative platform.

Quantitative investment should not be viewed as a panacea. This approach affords great flexibility and ease of execution in meeting client objectives. Fundamental analysis can also be successfully applied to the principles presented herein. Indeed, it would behove investors to hold a mix of these investment approaches, as the returns from these "alpha factories" have tended to be historically uncorrelated; thus, if properly structured, this mix would be expected to deliver returns with a higher return to volatility ratio than each strategy by itself.

Stefano Cavaglia, head of quantitative strategies,
Vadim Moroz and Sonia Dezordo,
quantitative analysts, O'Connor

1. Cavaglia, Stefano, Christopher Brightman, and Michael Aked, 2000. "The Increasing Importance of Industry Factors". *Financial Analyst Journal*, Vol. 56. No. 5 (September/October 2000): 41-54.
2. Cavaglia, Stefano, Osamu Miyashita, and Dimitris Melas, 1994. "Efficiency Across Frontiers". *Risk*, Vol. 7 No. 10 (October 1994): 56-61.

CORPORATE STATEMENT

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Contact:
- Beau Hurst, head of investor services, EMEA
  Tel: +44 (0) 20 7657 6927
  E-mail: beau.hurst@ubs-oconnor.com

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