Research

Appraising home bias exposure

FTSE Russell

Eurozone

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Executive summary

This paper explores the investment impact of the large and persistent home bias in the equity allocations of the five largest European pension fund markets since the global financial crisis.

For this study, we examined the characteristics, performance and return-to-risk profiles of the equity markets in France, Germany, Italy, Netherlands and Spain from 2008 through September 2019. For most of the 12 years reviewed, all five markets underperformed their broad international counterparts, with euro weakness and higher volatility taking a major toll on risk-adjusted returns.

As these findings show, maintaining a home bias has been extremely costly for investors in these countries.

Despite the ongoing integration of the world's economies and financial markets, studies show that pension funds around the world continue to disproportionately skew their portfolios to domestic securities. There are several explanations for this persistent investor preference, including the desire to avoid exposure to exchange rate or political risks, the extra costs to hedge against these risks, regulatory barriers[1] and asset-liability matching needs.[2]

In this paper, we examine the investment effects of home bias in the equity allocations of pension funds in France, Germany, the Netherlands, Italy and Spain from 2008 through September 2019.

For the purpose of the analysis, we use the FTSE All-World Index – a sub-index of the FTSE Global Equity Index Series (FTSE GEIS) that includes large and mid-cap developed and emerging companies – for its representation of the global universe of listed companies. An overview of the index is in the Appendix.

We used the FTSE All-World Index to examine the effects of home bias within the equity allocations of Eurozone pension funds.

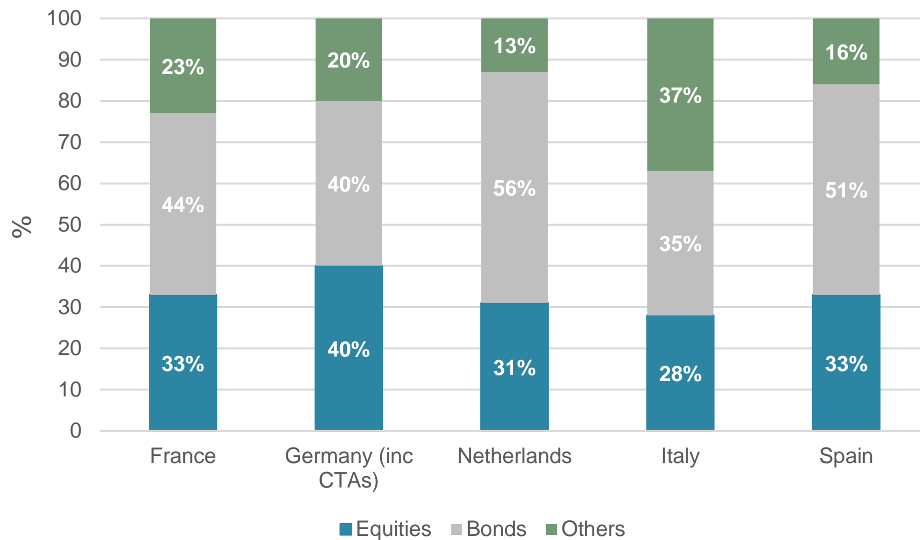
[1] Pension Markets in Focus 2017, OECD.
[2] Liberalising Foreign Investments by Pensions Funds: Positive and Normative Aspects, OECD Working Paper 5.3.

Overview

A recent study[4] showed that pension fund providers in France, Germany (including contractual trust arrangements), the Netherlands, Italy and Spain allocated less than one third of their overall assets to equities in 2018 (blue bars in Chart 1), with Italy the smallest, at 28%.

Equities comprise roughly a third of the pension-fund allocations in the five Eurozone markets we studied.

Chart 1: Estimated pension fund asset allocation in 2018 (% of total)



Source: Mercer European Asset Allocation Survey[4].

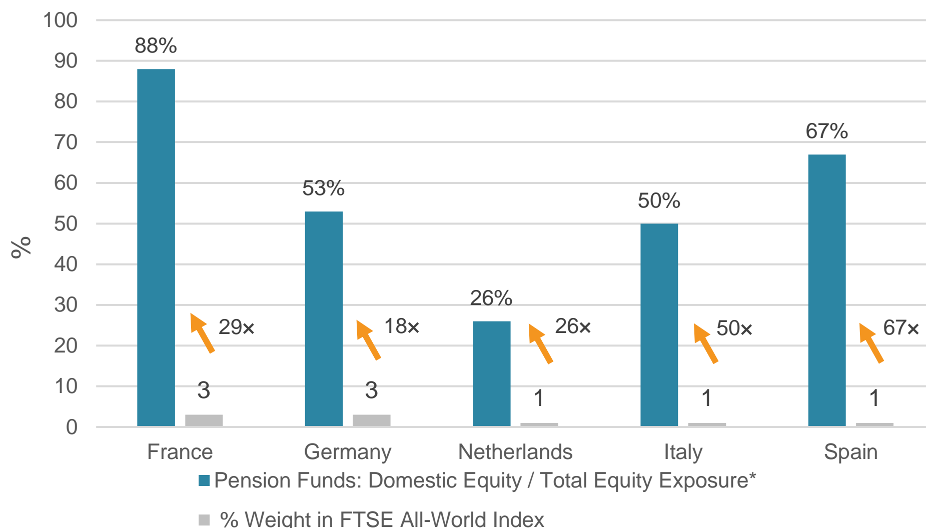
The same study estimated the percentage of domestic allocation within each region's total equity allocation in 2018 (Chart 2). Based on this data (blue bars), all the European markets we examined exhibited substantial home biases relative to their weight in the FTSE All-World Index (grey bar).

Across the large pension-fund markets, Spain stands out for having the largest disparity between its allocation to domestic equities (67%) and its weight in the FTSE All-World Index (1%). By contrast, the disparity is smallest for the Netherlands, which allocated 26% of its equity allocation to domestic stocks and accounts for 1% of the world index.

[4] Mercer European Asset Allocation Survey 2018.

Chart 2: Pension funds estimated allocation to local equities relative to total equity exposure[4] and country weight in the FTSE All-World Index (%)

All five European equity markets examined exhibit large home biases, particularly relative to their weight in the global index.



Source: FTSE Russell as of December 31, 2018, and Mercer European Asset Allocation Survey 2018.[4]

As this analysis reveals, home bias is pervasive across the Eurozone pension schemes. But, in considering the overall opportunity set, has it been good for the investors?

While our analysis found there have been pros and cons to having a home bias over the past 12 years, all five Eurozone equity markets have lagged the world index for most of this period, in both absolute and risk-adjusted terms. This suggests that such preferences have been extremely costly for investors in these countries. It is also important that these results be assessed within the context of the recessionary environment and the extraordinary central-bank measures undertaken in response to the global financial crisis. We make the following points:

All five European equity markets examined have lagged the world index for most of the last 12 years, with home bias proving costly.

- **Post-crisis climate.** Eurozone equity markets began underperforming international counterparts in the early years of the period reviewed. The catalyst was the onset of the multi-year European sovereign-debt crisis, which took a particularly severe toll on peripheral economies and financial markets (i.e., Italy and Spain).
- **Euro weakness.** The performance gap widened after 2014, coinciding with persistent weakness of the Eurozone economies and a steep fall-off in the euro. The euro has depreciated against a trade-weighted basket of foreign currencies from its 2009 peak, although it has strengthened somewhat from the 2014-2015 trough as Eurozone economies have showed signs of recovery.
- **US dominance.** Relative returns across global equity markets have faced stiff hurdles from the overwhelming outperformance of US equities, which make up 53% of the All-World index. Our research[5] found that the FTSE USA produced higher risk-adjusted returns than the FTSE All-World ex US in 10 (or more than 80%) of the past 12 years.

[5] Source: Appraising home bias exposure using the FTSE Global Equity Index Series (FTSE GEIS), FTSE Russell, October 2019: https://www.ftserussell.com/research/appraising-home-bias-exposure-using-ftse-global-equity-index-series

- **Inherent concentrations and higher volatility**. Eurozone markets are more volatile than their respective non-local counterparts, and this greater volatility has weighed heavily on risk-adjusted returns. The reason for this is structural: by definition, no single country can offer anything close to the depth and breadth of the world index. Local equity markets also tend toward large concentrations in certain industries (from oil to technology), as we illustrate in the next section. The broad global index naturally diversifies these sector and economic exposures.

Table 1 summarises the main findings for each region and evaluates the overall impact of home bias from an investor's perspective.

Table 1: Summary of home-bias impact on investor outcomes (2008−Q3 2019)

	France	Germany	Netherlands	Italy	Spain
Net market capitalization (EUR trillions)/ No. of constituents	€1.4 87	€1.1 81	€0.5 28	€0.3 39	€0.4 28
Home-bias ratio	29×	18×	26×	50×	67×
Top three industry exposures (% of index)	58%	58%	65%	70%	66%
Domestic vs overseas revenue sources % of revenue generated by market constituents domestically*.	35%	34%	22%	39%	35%
Relative outperformance in calendar years Number of years domestic equities outperformed international equities	3 yrs.	3 yrs.	5 yrs.	4 yrs.	5 yrs.
Return/risk ratio in calendar years Number of years domestic equities delivered better risk-adjusted returns %	25% (3 / 12 yrs.)	25% (3 / 12 yrs.)	42% (5 / 12 yrs.)	33% (4 / 12 yrs.)	42% (5 / 12yrs.)
Conclusion Was home bias positive or negative?	Negative	Negative	Negative	Negative	Negative

Source: FTSE Russell to September 30, 2019 (Q3 2019). Past performance is no guarantee of future results. Please see the end for important legal disclosures. *On December 31, 2017.

Understanding the Eurozone equity markets

For a more comprehensive perspective of how home bias affects performance, it helps to understand the fundamental characteristics of each Eurozone market.

Industry group concentration

Based on the Industry Group classifications (ICB), Chart 4 shows the combined weights of the three largest industry groups in the French, German, Dutch, Italian and Spanish equity markets (represented by their respective FTSE country indices) and those of the international equity market (the FTSE All-World Index ex Eurozone Index). Eurozone equity markets are more concentrated than the global index – and the smaller the market, the more pronounced the industry concentration.

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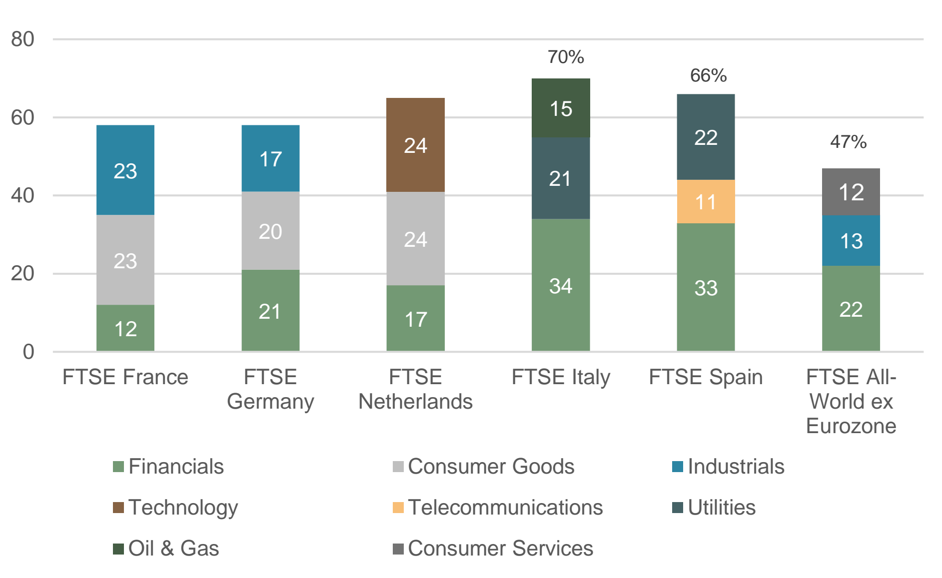
Chart 4: Weight of the top-three industry weights in Eurozone indices and the FTSE All-World ex Eurozone Index (% of total)



Source: FTSE Russell. Data using FTSE All-World Indexes, as of September 30, 2019.

- As shown, financials count among the largest industry exposures across all five markets. Of the five markets, Germany's industry exposures deviate the least from those of the world index.
- The FTSE France Index is also dominated by industrials and consumer goods, which account for 46% of the total market cap, versus 23% for the world index. In the Netherlands, technology and consumer goods share the top industry weights, representing a combined 48% of its total market cap, compared to only 28% for the world index.
- By contrast, financials and utilities make up the biggest concentrations for Italy and Spain, for combined weights of 55% and 56%, respectively.

Of the five markets, Germany's industry exposures deviate the least from those of the world index.

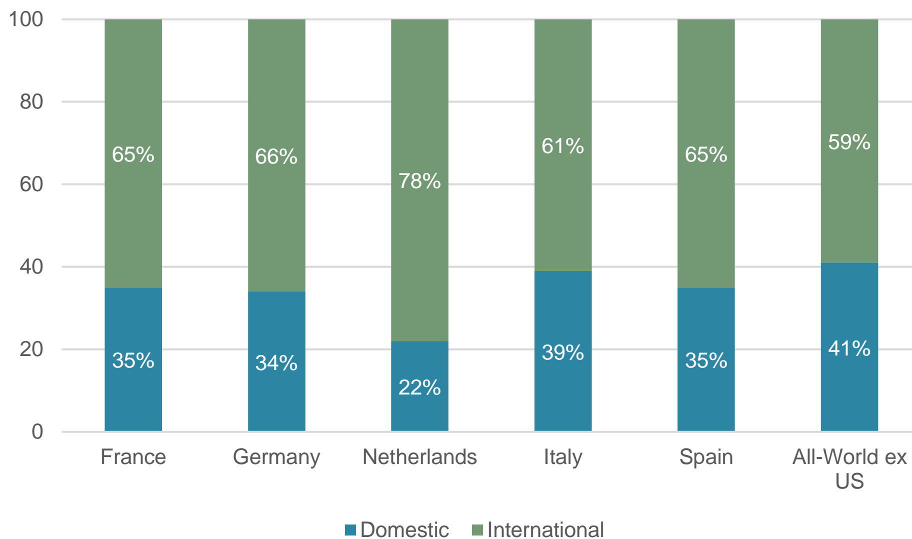
These concentrations make the equity markets in each country more sensitive to the fundamental and macroeconomic trends driving those industries and, thus, contribute to their higher relative volatility (see Chart 11).

Revenue exposure of indices and industry group

The effects of these industry concentrations are amplified by the substantial dependence of all five Eurozone markets on international business. As shown in Chart 5, the constituent companies of each index derive at least two-thirds of their revenues outside of their domestic market in 2018. The Netherlands has the highest share of international revenues (at nearly 80%), while Italy has the smallest (at 61%). This compares with a share of 59% for the world index (excluding the US).

Chart 5: Breakdown of domestic and international revenues in 2018 (%)

The constituent companies of each index derive at least two-thirds of their revenues outside of their domestic market in 2018.



Source: FTSE Russell, using FTSE All-World Index, as of December 31, 2018.

Examining the revenue breakdowns by the industries with index weights of 5% or more (Chart 6), we find an even greater reliance on international revenues. Italy has the smallest number of industries in this category (five) and Spain has the most (seven).

This international dominance is most pervasive in consumer goods and industrials, comprising 60% or more of total revenues across Eurozone markets. (The former ranks among the largest exposures in France, Germany, the Netherlands and Italy, and the latter ranks among the largest weights in France, Germany, Italy and Spain.)

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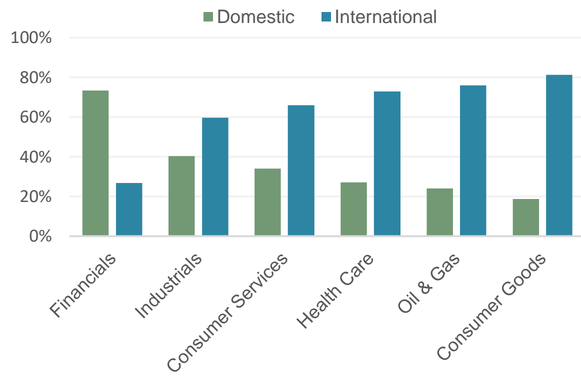
Technology is another standout: the industry derives all its revenues internationally in the Netherlands and Spain and 80% in Germany.

Of the five Eurozone markets, Italy and Spain’s largest industry exposures are the most balanced between domestic and international revenue sources.

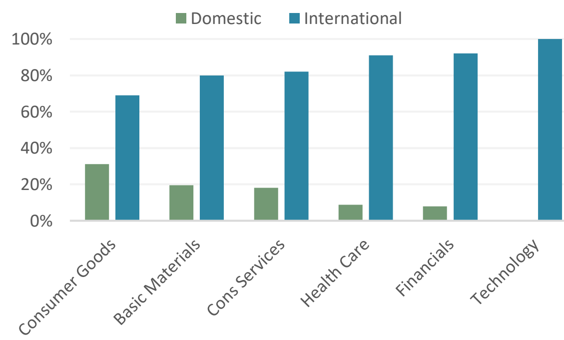
As noted earlier, the Netherlands is the most globally oriented of the five markets.

Chart 6: Domestic and international revenues for industries above 5% of the index in 2018 (%)

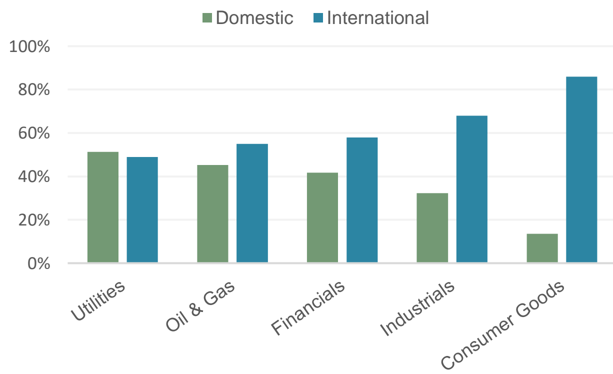
France



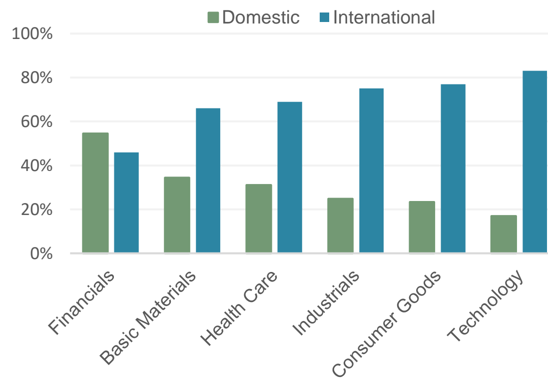
Netherlands



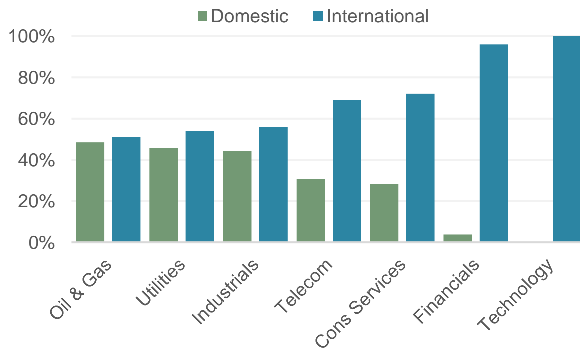
Italy



Germany



Spain



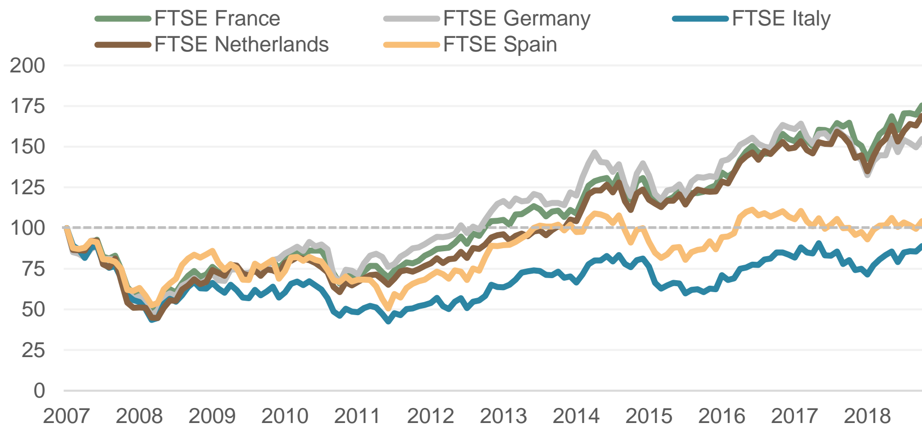
Home bias assessment

Performance analysis – absolute

Chart 7 shows the cumulative total returns of the five Eurozone equity markets since year-end 2007. The improved performances of the Italian and Spanish equities over the past six years have not overcome the losses of the previous six years, with both markets underperforming their larger Eurozone peers on a cumulative basis. France and the Netherlands have posted the strongest gains, while Italy has declined.

Chart 7: Cumulative total returns – FTSE Eurozone indices (EUR, rebased)

Since year-end 2007, France and the Netherlands have seen the strongest gains, Spain is flat, and Italy has lost ground.



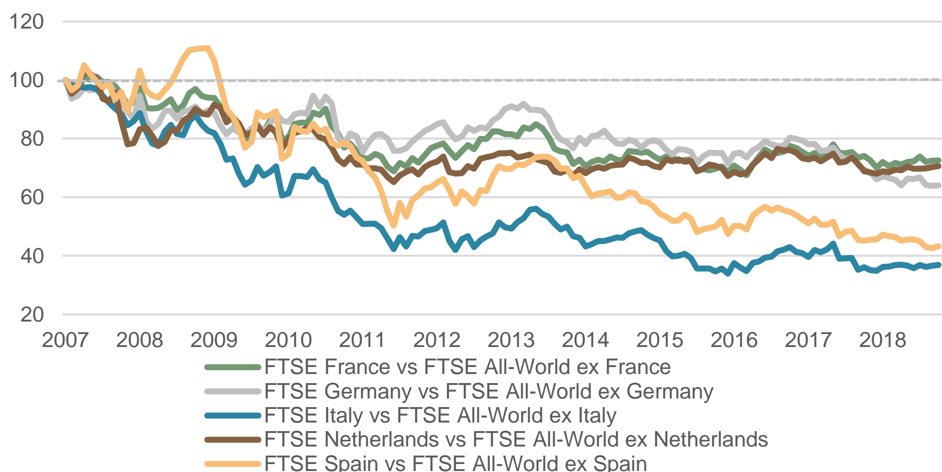
Source: FTSE Russell from December 31, 2007 to September 30, 2019 (Q3 2019). Past performance is no guarantee of future results. Please see the end for important legal disclosures.

A closer inspection reveals noteworthy variations in performance during the period. As illustrated in Chart 8, cumulative equity returns of all five markets have underperformed those of their international counterparts for most of the post-crisis era. Of the five markets, Italy and Spain have lagged the most.

Performance analysis – relative

Chart 8: Relative total returns – FTSE country indices versus the FTSE All-World ex local indices (EUR, rebased)

Of the five markets, Italy and Spain have underperformed the most.

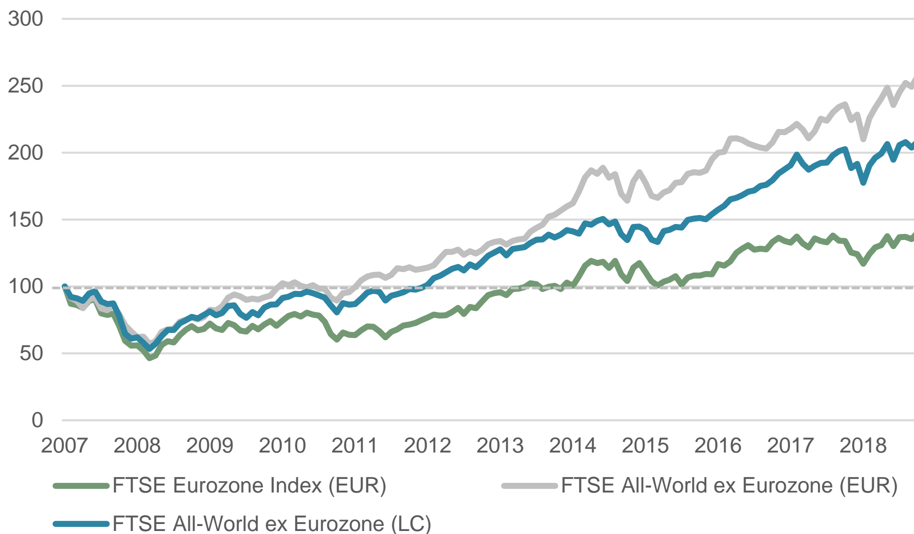


Source: FTSE Russell from December 31, 2007 to September 30, 2019 (Q3 2019). Past performance is no guarantee of future results. Please see the end for important legal disclosures.

Taken as a whole, Eurozone equity returns (as represented by the FTSE Eurozone Index) have significantly lagged those of the FTSE All-World ex Eurozone Index over the 12-year period. As Chart 9 depicts, Eurozone underperformance has been more pronounced in euros (green line) than in local currency (blue line), reflecting the fluctuations and relative depreciation of the euro since 2009, as shown in Chart 10 below.

Chart 9: Cumulative total returns – the FTSE Eurozone Index and the FTSE All-World ex Eurozone Index (EUR) vs. the FTSE All-World ex Eurozone Index (local currency, rebased)

Eurozone underperformance has been more pronounced in euros than in local currency, reflecting the fluctuations and relative depreciation of the euro since 2009.

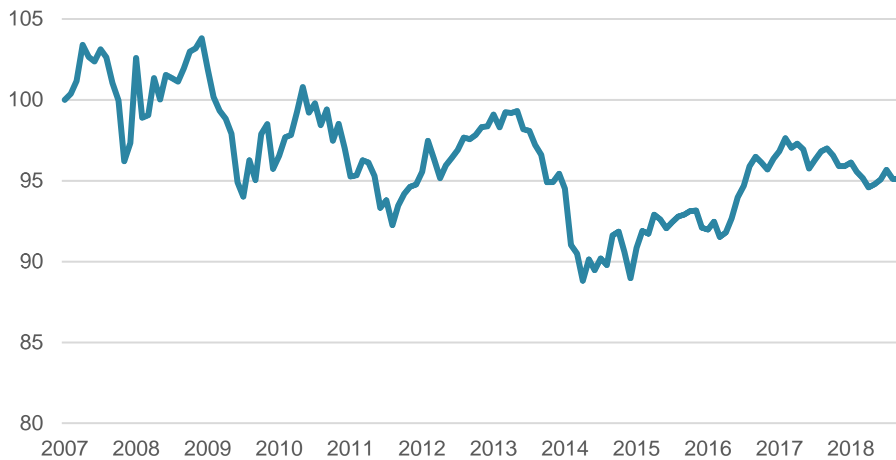


Source: FTSE Russell from December 31, 2007 to September 30, 2019 (Q3 2019). Past performance is no guarantee of future results. Please see the end for important legal disclosures.

In both euro and local currency terms, Eurozone equities began diverging from those of their international peers in 2009, as the former (Italy and Spain, in particular) suffered far worse losses in the wake of the European sovereign debt crisis. Eurozone returns began to improve in 2012, lifted in part by European Central Bank president Mario Draghi's "whatever it takes to preserve the euro" speech that July, which helped boost the euro for a short period.

Nonetheless, the performance gap began widening in both euro and local-currency terms in 2014, coinciding with a sharp drop in the euro amid persistent weakness in the Eurozone economies. Deflation concerns ultimately led to the ECB's launch of quantitative easing (QE) programme in March 2015, just as the US Fed was winding down its QE programme and signalling rate hikes to come (the first was in December 2015).

Chart 10: Trade-Weighted EUR Index, rebased



Source: FTSE Russell from December 31, 2007 to September 30, 2019 (Q3 2019).

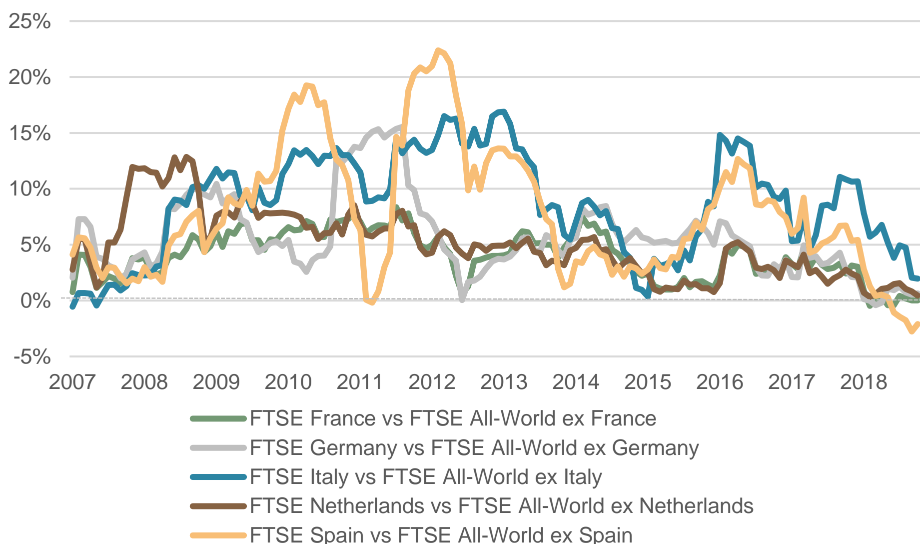
The trade-weighted euro has depreciated over the past decade, though it has strengthened since its 2015 lows.

Home bias impact: risk and return assessment

Eurozone equity markets have also been highly volatile for most of the period. And, as we see in Chart 11, the volatility for the Eurozone markets relative to their international counterparts has itself been quite volatile, rising higher in the aftermath of the global financial crisis through 2012, then generally diminishing thereafter, except for spikes in Spain and Italy during the 2012-2013 and 2016-2017 spans.

Interestingly, over the past 18 months, Spanish equities have become less volatile than international equities, while volatility of German and French equities has roughly matched that of international peers.

Chart 11: 1Y-rolling annualised volatility difference of the FTSE Eurozone country indices and the FTSE All-World ex local indices (EUR) – Relative



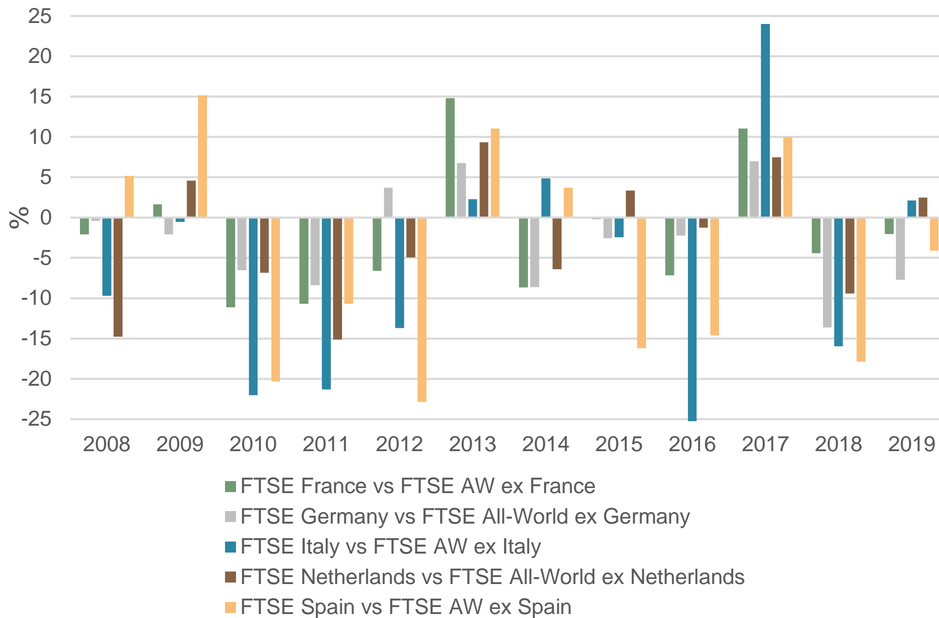
Source: FTSE Russell from December 31, 2007 to September 30, 2019 (Q3 2019). Past performance is no guarantee of future results. Please see the end for important legal disclosures.

Eurozone equities have been more volatile than international peers for most of the post-crisis era, though markedly less so recently.

As for returns (Chart 12), Eurozone equity markets have lagged their international equities for most of the past decade, most notably during 2011-2012 and 2014-2015, coinciding with intervals of the sharpest euro weakness. All five underperformed in 2010, 2011 and 2018, while all outperformed in 2013 (led by France and Spain) and in 2017 (led by Italy).

Chart 12: Year-on-year returns of the FTSE country indices vs the FTSE All-World ex local indices (EUR) – Relative (%)

Eurozone equity markets have lagged their international equities for most of the past decade, most notably during 2011-2012 and 2014-2015, coinciding with intervals of the sharpest euro weakness.



Source: FTSE Russell to September 30, 2019 (Q3 2019). Past performance is no guarantee of future results. Please see the end for important legal disclosures.

Chart 13 reaffirms that the past decade has been mostly painful for 'home-biased' investors in the five Eurozone markets, as the rolling risk-adjusted returns were below those of international equities for most of the period.

Risk-adjusted returns in France and Germany underperformed those of their international counterparts in nine (or three-fourths) of the past 12 years, while Italy lagged in eight (or two-thirds) and the Netherlands and Spain trailed in seven.

Our research found that Eurozone equity risk/return ratios lagged most in the 2010-2012 span and in 2016 and 2018 amid weakening in the euro and upward spikes in equity volatility. The notable exceptions of collective outperformance were in 2013 (led by France) and 2017 (led by Italy).

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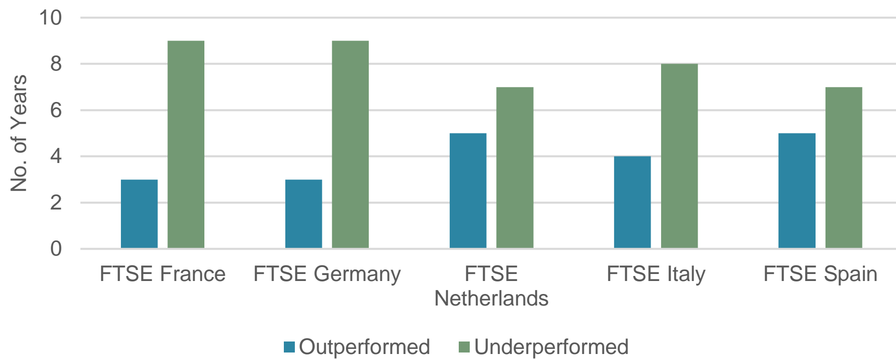
Chart 13: Return/risk ratios of the FTSE Eurozone indices vs FTSE All-World ex local indices (EUR) – Relative

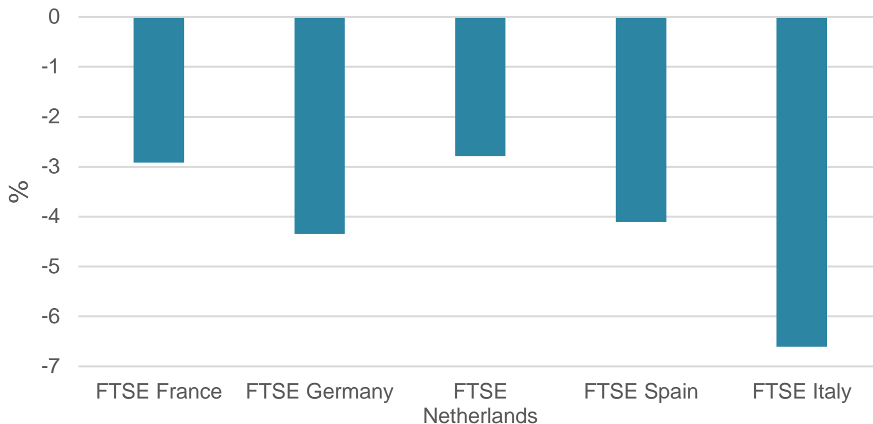


Source: FTSE Russell. Data from December 31, 2007 to September 30, 2019 (Q3 2019). Past performance is no guarantee of future results. Please see the end for important legal disclosures.

Risk-adjusted French and German equity returns have lagged international equities in three-fourths of the post-crisis years.

On a cumulative risk-adjusted-return basis, French and Dutch equities have lagged the least relative to their international counterparts over the past 12 years (by less than three percentage points), while Italy was by far the biggest laggard, underperforming by nearly seven percentage points.

Chart 14: Cumulative return/risk performances of the FTSE Eurozone indices vs FTSE All-World ex local indices (EUR) since Dec 2007 – Relative



Source: FTSE Russell. Data from December 31, 2007 to September 30, 2019 (Q3 2019). Past performance is no guarantee of future results. Please see the end for important legal disclosures.

By this analysis, we can conclude that a home bias has represented a significant opportunity cost for Eurozone investors over most of the period reviewed.

Conclusion

By this analysis, we can conclude that a home bias has represented a significant opportunity cost for Eurozone investors over most of the period reviewed, with risk-adjusted returns of domestic stocks underperforming those of international equities for most of the past 12 years. A key contributor to the underperformance of Eurozone equity markets has been euro weakness, which helped bolster the relative returns of non-Eurozone stock markets.

Appendix

The FTSE Global Equity Index Series (GEIS) covers about 99% of the global equity market. The Series provides a flexible building-block approach to meet the needs of market participants.

FTSE GEIS

Data-driven classification at a granular level.
The confluence of top-down and bottom-up analysis

MARKET STATUS		SIZE		STYLE		SECTOR (ICB®)	
Developed	Advanced Emerging	Large	Mid	Growth	Value	Industries	Sectors
Secondary Emerging	Frontier	Small	Micro	Defensive	Dynamic	Supersectors	Subsectors

FTSE GEIS is divisible into modular subcomponents, such as the large and mid-cap FTSE All-World Index and the FTSE Global Small Cap Index, which combine into a large, mid and small-capitalization index, the FTSE Global All Cap Index.

A wide range of other sub-indexes that further segments the market by size (including micro-cap), sectors, regions, and individual countries are also available, a sample of which is listed below:

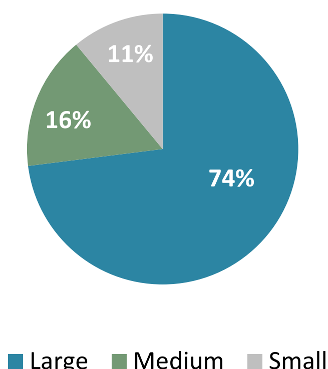
Index	FTSE Global Total Cap	FTSE Global All Cap	FTSE All-World	FTSE Global Small Cap	FTSE Global Micro Cap
Include cap segments	Large, Mid, Small, Micro	Large, Mid, Small	Large, Mid	Small	Micro
% of FTSE Global Total Cap Index	100%	98%	87%	10%	2%
Net market cap (USD trillion)	53.7	52.6	47.0	5.6	1.1
Number of constituents	17,170	8,938	3,954	4,992	8,224

Source: FTSE Russell, data as of September 30, 2019.

Summary of the FTSE Global All Cap Index features

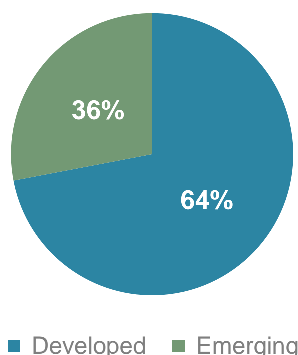
Charts A1 and A2 show the size and regional breakdown of the FTSE Global All Cap Index and Table A1 provides more granular segmentation, including the number of constituents. For the FTSE Global All Cap Index, 74% of the index is made up of large companies and 64% is classified as Developed.

Chart A1: FTSE Global All Cap Index − percentage of total market cap by size



Source: FTSE Russell as of September 30, 2019.

Chart A2: FTSE Global All Cap Index − percentage of total market cap segmented by Developed and Emerging companies



Source: FTSE Russell as of September 30, 2019.

Table A1: Further size and constituent numbers breakdown by Developed and Emerging

FTSE Global All Cap Index Composition Breakdown		
Index	**%**	**Constituent numbers**
Developed (of which)	**64%**	**5,692**
Large	16%	899
Medium	22%	1,271
Small	62%	3,522
Emerging (of which)	**36%**	**3,246**
Large	27%	891
Medium	27%	889
Small	45%	1,466
Total	**100%**	**8,938**

Source: FTSE Russell as of September 30, 2018.

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+1 877 503 6437

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