Impact case study (REF3b)

Institution: *London Business School*.

Unit of Assessment: *C19 — Business and Management Studies*.

Title of case study:

The Home Bias in Investment.

1. Summary of the impact

The *home bias* is the observation that investors systematically hold far too many domestic assets, and consequently far too few foreign assets, than is justified by economic models. Ian Cooper, Evi Kaplanis, Richard Portes, and Hélène Rey, developed the theory of and evidence for the home bias phenomenon. *This research has had a substantial impact on investment managers (via additional value from increasing the global diversification of their portfolios), and on central banks and regulators (via accounting for the excessive concentration in domestic debt).*

2. Underpinning research

This research was carried out at London Business School, with research outputs published over the period 1994 to 2005. Cooper and Portes held appointments throughout and do so now; Kaplanis was at LBS at the time the research was conducted. (Hélène Rey joined LBS more recently.)

Home bias is the phenomenon whereby investors hold significantly too much of their wealth in assets that are based in their home country, as opposed to assets from other countries. The phrase *too much* is unequivocal because it can be demonstrated that they could earn higher returns, but carry the same overall portfolio risk, by investing more of their money abroad.

LBS finance researchers Ian Cooper and Evi Kaplanis devised a simple way of calibrating the home bias so that the rationality or otherwise of portfolios can be tested. They also demonstrated that one important proposed explanation, that investors hold domestic assets in order to hedge inflation risk, is incorrect. They then devised a technique to quantify the loss to investors from inadequate international diversification, by inverting the investor portfolio holdings to get the implied costs that would justify the level of equity home bias. They showed that this is greater than any actual observable cost and is inconsistent with the motive of hedging inflation. LBS economists Richard Portes and Hélène Rey used a new, large database on cross-border equity transactions to examine how geography affects investment. They used telephone-call traffic and multinational bank branches to account for information transmission. They demonstrated that this explains a very large fraction of cross-border investment flows. They also (with co-author Yonghyup Oh) showed that the degree of home bias was different across asset classes (government bonds, corporate bonds, equities) and depended on the degree of information intensity required to trade in those different assets. Information variables explain much more than the motives ascribed by traditional finance theory, such as diversification. Their papers showed that a *gravity model* is at least as good at predicting international asset trade as it is for goods trade.

3. References to the research

"Home Bias in Equity Portfolios, Inflation Hedging, and International Capital Market Equilibrium," Ian Cooper and Evi Kaplanis, *Review of Financial Studies*, 7(1), 1994, pp. 45–60. dx.doi.org/10.1093/rfs/7.1.45

"Home Bias in Equity Portfolios and the Cost of Capital for Multinational Firms," Ian Cooper and Evi Kaplanis, *Journal of Applied Corporate Finance*, 8(3), 1995, pp. 95–102. dx.doi.org/10.1111/j.1745-6622.1995.tb00640.x

"The Implications of Home Bias in Equity Portfolios," Ian Cooper and Evi Kaplanis, *Business Strategy Review*, 5(2), 1994, pp. 41–53. dx.doi.org/10.1111/j.1467-8616.1994.tb00075.x

"The Determinants of Cross-Border Equity Flows," Richard Portes and Hélène Rey, *Journal of International Economics*, 65(2), 2005, pp. 269–296. dx.doi.org/10.1016/j.jinteco.2004.05.002.

"Information and Capital Flows: The Determinants of Transactions in Financial Assets," Richard Portes, Hélène Rey and Yonghyup Oh, *European Economic Review*, 45(4–6), May 2001, pp. 783–796. dx.doi.org/10.1016/S0014-2921(01)00138-6

Evidence of quality. The outputs are published in leading general interest (*European Economic Review*), finance (*Review of Financial Studies*), and international economics (*Journal of International Economics*) journals; these are rated as 3⋆ or 4⋆ by the ESRC-RES benchmarking review of UK Economics. All outputs have been cited extensively: almost 2000 "google scholar" citations.

4. Details of the impact

Beneficiaries. There are two main groups of beneficiaries of the research: firstly, investment managers; and, secondly (and especially) central bankers and other regulators.

Nature of the impact. Firstly, the research has had an impact on investment managers because it has demonstrated the additional value they can obtain by increasing the global diversification of their portfolios. In response to this growing awareness over the past decade, investment portfolios held by pension funds and other investors have become greatly more diversified.

Secondly, central banks and regulators have been significantly impacted because home bias determines the need for regulation and intervention, and the kind of regulation and intervention that are optimal. For example, the European Central Bank needs to account for the fact that most banks hold portfolios that are heavily concentrated on their own countries' government debt. Hence default, write-downs, and price falls caused by market concerns about sovereign creditworthiness have a magnified impact. The research has very wide reach because all central bankers need to take account of international linkages in designing regulations and interventions.

Impact process (i): the academic channel. The impact flows through the research of other academics. The reason for this is that the Cooper-Kaplanis (1994) and Portes-Rey (2005; originally 1998) papers are foundation pieces: jointly they have received almost 2000 "google scholar" cites. These papers have substantially changed the academic literature; this has, indirectly as well as

directly (there is specific evidence for direct impact) changed the understanding of the impact beneficiaries; and this new understanding has resulted in the impact. Cooper and Kaplanis (1994) was the first to test inflation hedging as the explanation for home bias, and also developed a method for inverting portfolio holdings to measure the implicit opportunity cost of home bias. Portes and Rey (2005; 1998) was the first empirical explanation for the equity home bias and the first to use information variables to test information flows as the explanation.

As further evidence of the reach of Portes-Rey, Yohei and van Wincoop ("Gravity in International Finance," Journal of International Economics, 2012) said: "The past decade has witnessed an explosion of papers estimating gravity equations for cross-border financial holdings. This used to be the territory of the international trade literature . . . at least three factors are driving this interest in estimating gravity equations applied to international finance. One is the discovery that gravity equations for international asset trade explain the data at least as well as for goods trade. *The contribution by Portes and Rey (2005) is central in this regard.* . . . there is a wealth of potential policy questions that can be addressed through the estimation of gravity equations . . . "

Impact process (ii): the final impact on beneficiaries. The work has important implications for practitioners who take crucial decisions in international portfolio investment and international corporate finance. There are two specific impacts: it has contributed to greater international diversification by portfolio managers; and it changes the way central bankers design regulations and interventions.

The significance of the research for investment managers is reflected in the switch to more diversified portfolios. This impact has occurred through the channel of practitioners making direct use of their research articles (evidence is provided in the corroboration sources) and also by the research filtering into other researchers' work.

As an illustration, a senior investment manager is quoted in the Financial Times of June 12, 2011 on the growing awareness of the costs of home bias: "Alan Brown, chief investment officer with Schroders, contends that intellectually, it is almost impossible to justify favouring your country's stock market. 'Its hard to explain why you would want to invest in such a narrow opportunity set," he says. He thinks home bias is far less prevalent than it was a decade or two ago . . . '

The use of gravity models in international finance has become a significant tool used by central bankers including staff at the Federal Reserve Board and Banks, the ECB, and the IMF. For example, Hellerstein and Ryan (NY Fed) used a gravity model to estimate US dollar cash flows; a paper by the principal economist at the ECB Directorate General International and two colleagues (Chiţu, Eichengreen, and Mehl) used a gravity model to explain foreign bond holdings; and the IMF research bulletin contains an article explaining how gravity models are used to explain foreign direct investment flows. (References are provided in the corroboration sources.)

Although investors responded by diversifying investments more than they used to, home bias still exists and affects the way central bankers and other regulators form policy. For example, Jens Weidmann, president of the Bundesbank, writing in the Financial Times, described how

banks "invest in government bonds and the 'home bias' of buying the local sovereign's debt has increased during the crisis. Because such debt can usually be lodged as collateral at the ECB in return for cheap funding, exposure to government bonds of countries like Spain and Italy is even more attractive since the debt now also yields more."

5. Sources to corroborate the impact

An important corroboration source is the direct knowledge and use of the research by practitioners and policymakers. We have provided (the maximum) five senior sources who will corroborate:

- Assistant Director of the Research Department of the International Monetary Fund.
- Deputy Director of the Research Department of the European Central Bank.
- Vice President for Financial Intermediation, Federal Reserve Bank of New York.
- Head of Research, Private Banking and Asset Management, Credit Suisse.
- Global Chief Economist, Citigroup.

Links to quoted Financial Times articles.

www.ft.com/cms/s/0/9388e814-938a-11e0-922e-00144feab49a.html#axzz2lO1Ok79X

www.ft.com/cms/s/0/9388e814-938a-11e0-922e-00144feab49a.html#axzz2lO1Ok79X

www.ft.com/cms/s/0/557fe8be-29f2-11e3-9bc6-00144feab7de.html?siteedition=uk#axzz2lO1Ok79X

Papers from Deutsche Bundesbank, ECB, Federal Reserve, and IMF.

"Portfolio Holdings in the Euro Area: Home Bias and the Role of International, Domestic and Sector-Specific Factors," Axel Jochem and Ute Volz, Deutsche Bundesbank, July 2011.
econstor.eu/bitstream/10419/45175/1/656569743.pdf

"The Pecking Order of Cross-Border Investment," Christian Daude and Marcel Fratzscher, *Journal of International Economics*, 74(1), January 2008, pp. 94–119.
dx.doi.org/10.1016/j.jinteco.2007.05.010

"History, Gravity, and International Finance," Livai Chiţu, Barry Eichengreen, and Arnaud Mehl, ECB Working Paper No. 1466, September 2012.
www.ecb.europa.eu/pub/pdf/scpwps/ecbwp1466.pdf

"Decomposing the US External Returns Differential," Stephanie E. Curcuru, Tomas Dvorak, Francis E. Warnock, *Journal of International Economics*, 80(1), January 2010, pp. 22–32.
dx.doi.org/10.1016/j.jinteco.2009.06.005

"Cash Dollars Abroad," Rebecca Hellerstein and William Ryan, Federal Reserve Bank of New York Staff Report no. 400. www.newyorkfed.org/research/staff_reports/sr400.pdf

"International Investment Patterns," Philip R. Lane and Gian Maria Milesi-Ferretti, *Review of Economics and Statistics*, 90(3), August 2008, pp. 538–549. DOI: 10.1162/rest.90.3.538

IMF Research Bulletin 9(1), March 2008. www.imf.org/external/pubs/ft/irb/2008/01/index.pdf