How and Why Foreign Direct Investment into Small International Financial Centres Promotes Exports

A Report from Europe Economics for the International Financial Centres Forum

Table of Contents

SUMMARY

1   In this paper we consider arguments and evidence concerning the impact of capital invested abroad, particularly from major EU countries into small international financial centres (SIFCs), on exports.

2   We focus upon FDIA from Germany, France, and the UK, the European Union's three largest economies, into a particular natural subset of SIFCs: Jersey, Guernsey, Cayman Islands, Bermuda and British Virgin Islands.

3   We show that standard economic theory predicts that exporting capital is of benefit to the home country.

4   We consider the opportunity costs (do the costs of the FDIA outweigh the benefits of increased exports), as well as gross benefits.

5   We use the gravity model of international trade and capital flows to test the hypothesis that when FDIA to a country is greater, exports are likewise expected to be greater.

6   We find that both standard theory and empirical evidence suggest that foreign direct investment abroad (FDIA) is associated with increases in exports. We also find that changes in FDIA into SIFCs have just as much effect upon exports as do changes in FDIA into other jurisdictions. In addition, SIFCs attract more FDIA than do other jurisdictions, relative to their size and other characteristics, so their total export generation is greater.

7   We conclude that Germany, France and the UK

> would do worse, in terms of promoting exports, by redirecting the FDIA away from SIFCs into non-SIFCs instead; and

> would do worse, in terms of enhancing exports to promote jobs and prosperity, by stopping the FDIA that goes into SIFCs, instead requiring it to be invested at home.
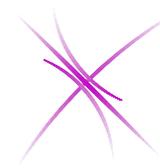
1   INTRODUCTION

1.1   In this paper we consider arguments and evidence concerning the impact of capital invested abroad, particularly from major EU Member States into small international financial centres (SIFCs), on exports. We find that both standard theory and empirical evidence suggest that **foreign direct investment abroad (FDIA) is associated with increases in exports**. We also find that **changes in FDIA into SIFCs have just as much effect upon exports as do changes in FDIA into other jurisdictions**. In addition, **SIFCs attract more FDIA than do other jurisdictions**, relative to their size and other characteristics, **so their total export generation is greater**.

1.2   Why does this matter?   Well, amongst certain European policy-makers and opinion-formers, there is suspicion about FDIA that goes outside the EU. Some appear to believe that capital exported outside the EU is "lost" to the EU, in some sense.   The idea appears to be that if capital is invested within the EU — say in Germany, or France, or the UK — then it funds investment in machines and businesses, generating prosperity. By contrast, the thought goes, if capital leaves the EU then that investment occurs elsewhere, and the jobs and prosperity are created elsewhere, to the EU's loss.

1.3   In this paper we shall show that that idea is wrong, both in theory and in practice. More than that, we shall show that, if one accepts the *general* proposition that international trade and two-way international investment is, *at least on average*, to mutual benefit (i.e. that trade and international capital flows tend to create prosperity), then capital flows into SIFCs must (at least to this extent) be of net benefit, because they generate more benefits than the average for the rest of the world.   More specifically, the central thesis of the paper is that the theory of comparative advantage through trade implies that open opportunity for external investment is likely, in principle, to generate benefits for capital-exporting countries. Further, we shall argue that that the evidence demonstrates that capital exporting through SIFCs has particular added value for the UK, German and French economies relative to other locations for external investment.

1.4   We begin by considering the theory of how FDIA promotes exports. Then we move on to consider how this theory applies to SIFCs in practice. To make the case concrete we focus much of the later analysis upon FDIA from Germany, France, and the UK, the European Union's three largest economies, into a particular subset of SIFCs: Jersey, Guernsey, Cayman Islands, Bermuda and British Virgin Islands (though we also take account of a number of other jurisdictions). These five form a natural block for study, since they are of a similar order of size (e.g. the issues might be slightly different if one considered Hong Kong or Singapore) and because they have a well-developed rule of law and regulatory framework. British Offshore Centres assessed in this study display a high degree of compliance with international regulatory standards. IMF Financial System Stability Assessments (FSAP) for Bermuda, The British Virgin Islands,
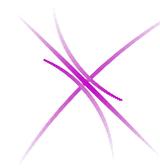
The Cayman Islands, Jersey and Guernsey note high financial regulatory and supervisory standards. Jersey is rated as the jurisdiction most compliant with international standards against money laundering, with Cayman also ranking in the top quartile in the anti-money laundering assessments conducted by the Financial Action Task Force. The five jurisdictions referred to above have substantially implemented the international standard on tax information exchange and transparency and are active participants in the OECD Global Forum program on transparency and exchange of information.[1]

Recent trends in FDIA into SIFCs

1.5   Before proceeding we first need to establish a definition for SIFCs. For the empirical parts of this study, and given that most of the data used provides from Eurostat, we used the classification contained therein (as described in the Balance of Payments Vademecum[2]) which contains 38 countries.[3] However, we

---

[1]   References:

- "Bermuda: Assessment of Financial Sector Supervision and Regulation", IMF Country Report No. 08/336, October 2008
- Bermuda Monetary Authority, Anti-Money Laundering, Supervision & Regulation, http://www.bma.bm/anti-money-laundering/supervision-regs.html
- "Bermuda Peer Review Report", OECD Global Forum on Transparency and Exchange of Information for Tax Purposes, September 2010
- "British Virgin Islands Supplementary Report", OECD Global Forum on Transparency and Exchange of Information for Tax Purposes, Oct 26 2011
- "British Virgin Islands: Mutual Evaluation Report Anti-Money Laundering and Combating the Financing of Terrorism", the Caribbean Financial Action Task Force (CFATF), 21 November 2008
- "British Virgin Islands: Financial Sector Assessment Program Update", IMF Country Report No. 10/323, October 2010
- "Cayman Islands: Off-Shore Financial Center Assessment Update—Assessment of Financial Sector Supervision and Regulation", IMF Country Report No. 09/323, December 2009
- "Cayman Islands, Supplementary Report", OECD Global Forum on Transparency and Exchange of Information for Tax Purposes, 12 September 2011
- "Cayman Islands: Report on the Observance of Standards and Codes, FATF Recommendations for Anti-Money Laundering and Combating the Financing of Terrorism", IMF Country Report No. 09/324, December 2009
- "Cayman Islands: Mutual Evaluation/Detailed Assessment Report Anti-Money Laundering And Combating the Financing Of Terrorism", Caribbean Financial Action Task Force (CFATF), Nov 23 2007
- "Guernsey: Financial System Stability Assessment—Update", IMF Country Report No. 11/1, January 2011
- "Guernsey Peer Review Report Phase 1, Legal and Regulatory Framework", OECD Global Forum on Transparency and Exchange of Information for Tax Purposes, 27 January 2011.
- "Guernsey: Detailed Assessment Report on Anti-Money Laundering and Combating the Financing of Terrorism", IMF Country Report No. 11/12, January 2011
- "Jersey: Financial Sector Assessment Program Update—Financial System Stability Assessment", IMF Country Report No. 09/282, September 2009
- "Jersey: Detailed Assessment Report on Anti-Money Laundering and Combating The Financing of Terrorism", IMF August 21 2009
- "Peer Review Report of Jersey - Combined Phase 1 + Phase 2", OECD Global Forum on Transparency and Exchange of Information for Tax Purposes, 26 Oct 2011
- "Summary of Rating of current compliance with FATF 40+9 recommendations", Jersey Finance, March 2010

[2]   The BoP Vademecum reflects requirements laid down in the Regulation (EC) No 184/2005 of the European Parliament and of the Council of 12 January 2005 on Community statistics concerning balance of payments, international trade in services and foreign direct investment (BoP Regulation) and in the Regulation (EC) No 716/2007 of the European Parliament and of the Council of 20 June 2007 on Community statistics on the structure and activity of foreign affiliates (FATS Regulation). The Vademecum is available at http://forum.europa.eu.int/Public/irc/dsis/bop/library.

[3]   The list of countries is Andorra, Antigua and Barbuda, Anguilla, Netherlands Antilles, Barbados, Bahrain, Bermuda, Bahamas, Belize, Cook Islands, Dominica, Grenada, Guernsey, Gibraltar, Hong Kong, Isle of Man, Jersey, Jamaica, St Kitts and Nevis, Cayman Islands, Lebanon, Saint Lucia, Liechtenstein, Liberia, Marshall Islands, Montserrat, Maldives,
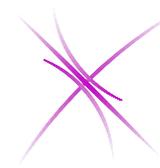
emphasize that the SIFCs upon which we are focused are those that are *by nature intermediaries* or conduits of capital in the global economy. Due to their domestic market sizes and specialisation in providing sophisticated international financial services and facilitating cross-border transactions, FDI flowing in their direction can be expected to be rerouted to other (ultimate) recipients of FDI.

1.6   Let us consider FDIA from our three EU Member States (Germany, France, UK) along with the US. The share of FDIA going to SIFCs is significant, especially when considering the small size of SIFC economies. There are a number of interesting trends. France and Germany invest similar amounts in total, and only a small share of total FDI (2 to 4 per cent) of this goes to SIFCs (Figure 1.1). It would thus appear that if Germany and France are concerned that FDIA is not productive, their main concerns would be expected to lie outside SIFCs.

1.7   The UK, on the other hand, invests a much larger amount in total, and interestingly the share of SIFCs in this investment increased from under 10 per cent in the 1990s to 20 per cent in the late 2000s. Indeed, *most* of the increase in FDAI from the UK between 2002 and the mid-2000s was directed to SIFCs!

Nauru, Niue, Panama, Philippines, Singapore, Turks and Caicos Islands, Saint Vincent and the Grenadines, Virgin Islands British, Virgin Islands U.S., Vanuatu, Samoa.
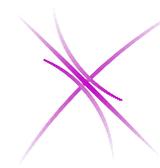
Figure 1.1: SIFC vs. non-SIFC FDI

FRA

(bar chart showing Non-SIFC and SIFC values for years 2002 through 2009, values ranging from approximately 550 to over 1,000)

GER

(bar chart showing Non-SIFC and SIFC values for years 2002 through 2009, values ranging from approximately 580 to 950)

UK

(bar chart showing Non-SIFC and SIFC values for years 2002 through 2009, values ranging from approximately 900 to over 1,200)

Non-SIFC   SIFC

1.8   There are some similarities in the destination countries across the EU Member States. For Germany and France, Hong Kong and Singapore were the most popular destinations in 2009, whilst for the UK, Hong Kong was the top destination (over €30bn), but Singapore only ranked in sixth place. The UK also invested relatively large amounts in Cayman Islands, Jersey, Bermuda and Guernsey.

Figure 1.2: SIFCs as destinations for FDI (2009)
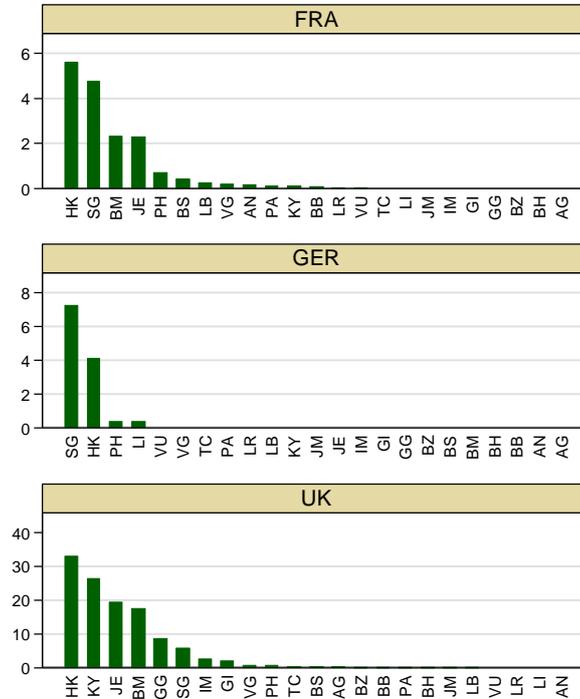
Note: AD Andorra, AG Antigua and Barbuda, AI Anguilla, AN Netherlands Antilles, BB Barbados, BH Bahrain, BM Bermuda, BS Bahamas, BZ Belize, CK Cook Islands, DM Dominica, GD Grenada, GG Guernsey, GI Gibraltar, HK Hong Kong, IM Isle of Man, JE Jersey, JM Jamaica, KN St Kitts and Nevis, KY Cayman Islands , LB Lebanon, LC Saint Lucia, LI Liechtenstein, LR Liberia, MH Marshall Islands, MS Montserrat, MV Maldives, NR Nauru, NU Niue, PA Panama, PH Philippines, SG Singapore, TC Turks and Caicos Islands, VC Saint Vincent and the Grenadines, VG Virgin Islands British, VI Virgin Islands U.S., VU Vanuatu, WS Samoa..

1.9   Later, our empirical analysis will focus upon five fairly similar SIFCs: Bermuda, Cayman Islands, Jersey, Guernsey, and the British Virgin Islands.

1.10   FDIA into SIFCs from France and Germany — and in particular into the five SIFCs on which we focus in this study — was fairly stable relative to total FDIA during the 2000s.   By contrast, FDIA into SIFCs from the UK increased, particularly to 2007, falling away a little during the financial crisis.

2   WHAT THEORY PREDICTS CONCERNING THE IMPACT OF FDIA

2.1   In this section we shall show that standard economic theory predicts that exporting capital is of benefit to the home country. There are two features to this. First, to the extent that capital flows are balanced (i.e. capital outflows are balanced by capital inflows), international capital flows are closely analogous to international trade. And when capital flows are imbalanced — in particular, when capital outflows exceed capital inflows — then exports of capital encourage increased exports of goods and services.

Classical Theory of Capital Flows

2.2   At the centre of the theory that follows is the following key point. Suppose someone objected to exports of goods and services on the grounds that those products had been produced through effort and expense within the home country but now their consumption was being enjoyed by foreigners. Most people would quickly see that that idea was wrong, because in exchange for exporting the products, the home country receives money — the exports are not *lost*; they are *exchanged*. Furthermore, most people are familiar with the idea that, at least when international trade is "balanced" (exports equal imports) it is to the mutual benefit of those concerned — each country can exploit its "comparative advantage" and the overall result is most efficient (more output is produced and consumers receives goods and services that they prefer, at lower prices).

2.3   In a very similar way, it is a mistake to imagine that exports of capital are somehow "lost". What happens is that they are exchanged. When citizens of a country (e.g. Britain, France, Germany) invest capital abroad (e.g. in an SIFC), they have a claim on the returns of that investment. Those returns come back to the country as dividend or interest payments. So the capital is not "lost" — it is at work for the citizens of the home country, generating wealth for them. And, of course, since they become wealthier through such exchange, they then have more wealth to invest, creating further jobs and prosperity at home.

2.4   In a very similar way to that applying to trade, international capital flows (investing abroad and receiving investments from abroad) allows the exploitation of comparative advantage. Consider the case in which capital outflows are perfectly in balance with capital inflows. Let us suppose there are just two countries, A and B, between which such capital flows occur. Then when there are capital flows between these countries, what that means is that some investors in country A prefer the investment opportunities available in country B to those available domestically, and vice versa. These capital flows therefore result in greater investment and hence increased output in both countries. Balanced capital flows thus enhance economic output for reasons very similar to the reasons why balanced trade enhances economic output.

Unbalanced Capital Flows

2.5   But what if capital outflows and capital inflows are not in perfect balance? Consider the balance of payments identity for any economy as a whole.

Capital outflows – Capital inflows + change in domestic money stock
= Trade Exports – Trade Imports

2.6   Let us briefly step through the components of this identity. Suppose first that trade (which, for our purposes here, we are defining such that it includes earnings on "invisibles") is in balance (i.e. Trade Exports = Trade Imports). Suppose that there were no capital inflows at all. Then an outflow of capital would mean money leaving the country, so the domestic money stock must drop. Alternatively, suppose there were no capital outflows. Then if there is a capital inflow, the domestic money stock must rise.

2.7   Next, suppose that capital inflows and outflows were in balance. Then suppose there were no imports. A trade export must be paid for, so when there are exports out, money must be coming in. So trade exports increase the domestic money stock, whilst trade imports decrease that stock.

2.8   In times past, when most developed economies used gold, it was felt that it mattered how much of the world's total gold was held domestically. Similarly, in order to sustain a fixed exchange rate regime, the domestically-held stock of money might matter. But in a floating exchange rate regime, the central bank controls the domestic stock of money directly by changing interest rates, quantitative easing, etc.. Since both the euro and sterling (the currencies of the three EU Member States under consideration) float on international markets, let us consider the case where the domestic stock of money is controlled by central banks — for simplicity, let us assume it is fixed.

2.9   So the change in domestic money stock is zero. The implication, from our balance of payments identity, is that whenever capital outflows rise faster than capital inflows, trade exports must, likewise, rise faster than trade imports (exports must rise or imports must fall). FDIA, being a form of capital outflow, is thus a promoter of increased net exports in a floating exchange rate regime — this is an automatic and standard consequence of the balance of payments identity. Setting aside the case in which FDIA in some way reduced imports, it is natural to assume that increased FDIA should be associated with increased exports.

2.10   There are many mechanisms that might deliver this. For example: increased capital outflows lead to downward pressure on the money stock lead to a loosening of monetary policy (to keep the money stock constant) lead to lower interest rates for investment lead to increased investment lead to increased exports. Or again: increased capital outflows lead to a depreciation of the exchange rate lead to exports becoming cheaper lead to an increase in exports. (In this latter case it might seem to some readers, *prima facie*, that the increase in

net exports has come at the expense of the citizens of the country becoming poorer, as the exchange rate depreciated. But, of course, the citizens of the country own the FDIA, so what has happened is merely that their total domestic-currency-denominated assets have declined; their total assets in all currencies have increased, since we must add in the assets arising from the FDIA.)[4]

Sudden Flows of Capital

2.11   Perhaps this is all very well, but doesn't it sometimes happen that there are sudden, rather extreme capital flows? Surely they, at least, are damaging?

2.12   According to standard theory, sudden changes in capital outflows might be symptoms of good events or bad events. For example, if the growth prospects in country B suddenly improve, then investors in country A might consider themselves under-invested in B, and capital outflows from A might suddenly increase. This would be a good event, since the greater growth prospects of B will increase world output, making country A wealthier, also.

2.13   Bad events might be that investors in A fear that A's growth prospects have deteriorated, or that A's government might shortly impose restrictions on capital outflows. But even when a capital outflow is a symptom of something bad, that does not imply that the capital outflow itself is bad. The capital outflow, in these cases, is an efficient response to the bad event — the capital outflow makes things *better*, not worse. It means the citizens of the source country are going to be wealthier or safer (because now investing abroad). It is a symptom that is part of the cure, the Market healing itself.

Remark on Opportunity Cost

2.14   Economists should always be aware of opportunity costs (do the costs of the FDIA outweigh the benefits of increased exports), as well as gross benefits. Addressing it is the main focus of the rest of this paper. To understand what comes hereafter, it is important to grasp the following point. If we accept the general argument that the benefits, in terms of investment returns and export promotion, outweigh the costs (including opportunity costs), then it must be the case that, on average, the benefits are greater than the costs. If we deny that, we are denying that international investment, international trade, and the exploitation of comparative advantage in general, are economically beneficial. There are a small number of theorists that do deny this, but for the purposes of this paper we shall take the overwhelming majority position — that international trade and investment in general are of net economic benefit — as given. So if we can

---

[4]   In Appendix 1 we consider various academic counters to the above, mainstream, view, and how others have responded to support the classical position.

demonstrate that, in the particular case of FDIA from EU Member States (such as France, Germany and the UK) into SIFCs, such FDIA is at least as beneficial as FDIA into non-SIFCs, it follows that such FDIA must be of net overall benefit.

2.15   We shall now see that, in a standard economic trade model, it does indeed turn out that FDIA into SIFCs is indeed more export-promoting than FDIA into non-SIFCs.
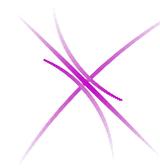
3 EMPIRICAL EVIDENCE ON THE RELATIONSHIP BETWEEN FDIA INTO SIFCS AND EXPORTS

3.1 A standard way economists model international trade and capital flows is via what are called "gravity models". Gravity models can take account of a number of factors affecting an interaction between two countries (e.g. trade or capital flows between them), but recognise a particular role for the size of the two places and the distance between them (hence the name "gravity model", by analogy with Newton's theory of gravitation).

3.2 Gravity models of trade were first introduced in 1962 by Jan Tinbergen (winner of the first Nobel Prize for Economics in 1969). Thus the approach we have adopted is highly authoritative and long-established. We set out some of the underlying mathematics of the model in Appendix 2, but here it is worth noting the following key features:

- Countries that have larger economies (greater GDP) are expected to import more.

- When a country's exchange rate is stronger (has appreciated more), it is expected to export less (because its exports become more expensive for foreigners to buy).

3.3 We use the model to test the hypothesis that, for the reasons set out in the previous section, when FDIA to a country is greater, exports are likewise expected to be greater.

3.4 Remember that the key issue for us, in this section, is whether FDIA into SIFCs is at least as export-promoting as the average FDIA across all countries (including non-SIFCs).

Empirical Analysis

3.5 The analysis is undertaken for German, French and UK exports according to the equation described in Appendix 2. The empirical results are reported below in the Table 3.1.

3.6 We report two models for each of the three countries included in the study. Measures of GDP and exchange rate are common for both models and are included in the logarithmic form. Additional variables include the SIFC binary variable (indicating whether partner is an SIFC or not) and a logarithm of direct investment abroad. In the first model for each country these variables are included separately, whereas the second model for each country includes interactions of these two variables. All models include regional and year fixed effects dummies. We have also tried models with fixed effect for each partner but these models were not robust.

3.7   The same sample size of the regressions range from 609 for Germany to 986 for France. Reported models have high R-squared ranging from 82 per cent to 92 per cent. The coefficients of significance were calculated using robust standard errors.

3.8   Our results show that the coefficient of real GDP is significantly positive as expected suggesting that countries trade more with larger partners. Coefficients of direct investment abroad (real FDIA) are also significantly positive confirming complementary relationship between FDIA and exports.

3.9   On the other hand, the results related to the coefficient of exchange rate (in euros for Germany and France, sterling for the UK) are mixed. In simple one-period models that neglect the dynamic impacts of strong exchange rates on labour costs and other aspects of competitiveness, one would expect that as the local currency appreciates, exports become more expensive and should therefore decrease. On the other hand, a strong exchange rate might be a driver of increased competitiveness, disciplining wage growth and technological efficiency, and thereby stimulating exports. The coefficient for the UK is negative, confirming the expectations of the simpler models, whereas it is not significant for Germany and France — perhaps indicating that dynamic effects are more important in Germany and France than in the UK.

3.10   In all three Member States, the SIFC binary variable (1 if a country is an SIFC, 0 if not) is significantly positive in the first model indicating that trade exports to SIFC countries are higher than exports to non-SIFC countries, after controlling for other factors such as size. In our preferred model (Model 1) Germany exports are 29 per cent higher, whereas in France and the UK they are 79 and 60 per cent higher, respectively.

3.11   The coefficient of the interaction of SIFC and FDIA variables in the second model is not significant for any of the three countries indicating no differences in the marginal effects of direct investment abroad that move through IFC. In other words, even though exports to SIFCs are higher, that does not make changes in the amount invested less efficient in promoting even more exports (there are no different returns in the investment for SIFC and non-SIFCs). The implication is that the higher level of FDIA to SIFCs is unambiguously associated with higher exports than the FDIA to non-SIFCs.
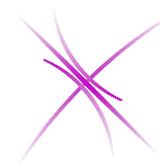
Table 3.1: Gravity model estimates

Variable	Germany (Model 1)	Germany (Model 2)	France (Model 1)	France (Model 2)	UK (Model 1)	UK (Model 2)
Real FDIA	0.2315***	0.2490***	0.2789***	0.2733***	0.1364***	0.1429***
Real GDP	0.6719***	0.6569***	0.5990***	0.6002***	0.7668***	0.7615***
Exchange rate (€/local)	0.0044	0.0015	0.0182	0.0195		
Exchange rate (£/local)					-0.0492***	-0.0503***
SIFC (1 = Yes)	0.2883**	0.7653	0.7871***	0.6164*	0.5984***	0.7796**
Interaction FDIA and SIFC		-0.0872		0.0353		-0.0279
Region dummies	yes	yes	yes	yes	yes	yes
Year dummies	yes	yes	yes	yes	yes	yes
Number of observations	609	609	986	986	603	603
R-squared	0.9211	0.9221	0.8202	0.8204	0.9211	0.9213

*Notes: * $p<0.05$; ** $p<0.01$; *** $p<0.001$*

Intuitive Interpretation of Results

3.12   There are three key results here, relevant to the concerns of this report:

(a) For all three countries considered (France, Germany, and the UK), increases in direct investment abroad are associated with increases in exports, as predicted and explained in the Classical Theory set out in Appendix 1.

(b) The three countries export more to SIFCs than is explicable in terms of the effects in the standard gravity model.

(c) Changes in the direct investment that goes from the three countries into SIFCs are just as efficient in promoting changes in the level of exports as are changes in direct investment into non-SIFC countries. It is not, for example, the case that SIFCs attract additional capital flows but those capital flows are less efficient at promoting exports than are capital flows to non-SIFCs.

Conclusions

3.13   In combination, these three results mean that, after adjusting for the size of economies, their distance apart, and so on, as suggested by the gravity model of trade, FDIA into SIFCs is more export-promoting than FDIA into non-SIFCs.

3.14   Consequently,

(a) we can say that **FDIA into SIFCs produce export-promoting benefits** that are at least as great as the opportunity costs in terms of other FDIA opportunities foregone (i.e. Germany, France and the UK would have done worse, in terms of promoting exports, by redirecting the FDIA away from SIFCs into non-SIFCs instead); and

(b) if we take as given (which we do) the standard view that international capital flows must, at least on average, be beneficial (e.g. the export-promotion is more valuable than the opportunity cost), then the fact that FDIA into SIFCs is at least as export-promoting as the average indicates that **FDIA into SIFCs must be beneficial** (i.e. Germany, France and the UK would have done worse, in terms of enhancing exports to promote jobs and prosperity, by stopping the FDIA that goes into SIFCs, instead requiring it to be invested at home).
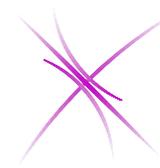
APPENDIX 1: BRIEF REVIEW OF LITERATURE CHALLENGING AND DEFENING THE CLASSICAL POSITION ON CAPITAL FLOWS

FDI and Economic Outputs: Objections and Counters

A1.1   The traditional objections to FDIA often focused around the idea that FDIA 'exports' jobs and production abroad. According to the argument, production costs (for labour-intensive goods especially) are likely to be lower in developing countries and jobs and production will then be shifted abroad (Lipsey and Weiss, 1984). Other objections to FDIA have traditionally alleged shifts in employment which involve a move from high-skilled to low-skilled work, implying lower workers' wages. More recently, it has been noted that total employment is a function of supply and demand for labour, and not only of individual firms' investment decisions. Even if production in some firms is shipped abroad, the net effect of this will depend on the extent to which workers in these firms are absorbed into other firms and industries. The bottom line is that in well-functioning labour markets all those willing to work at wages that reflect their skills will find jobs (Feldstein, 1995)

A1.2   Models of economic growth have stressed the important effects of factors such as technological progress and capital accumulation, both of which may be affected by FDIA, according to some authors. In this sense, outward FDI may increase growth in the host country by encouraging the transfer of technology, for example by increasing the variety of capital goods. In some cases it has even been argued that FDI constitutes an important component of a country's competitive strategy as it makes firms more productive and this productivity spills over to firms operating in the home country (Hejazi, 2007). Some studies have found that FDI results in a statistically significant increase in growth in cases where the host country has high levels of human capital (Borensztein et al., 1998). Other authors describe how outward FDI allows parent firms (in the source country for the FDIA) to earn especially high rates of return based on their existing patents, technical know-how, brand names and other assets that cannot be fully exploited domestically (Feldstein, 1995). It follows from this argument that outward FDI is important in ensuring a high return on capital for high value added activities.

A1.3   In addition to economic growth, it is often argued that FDI abroad results in a reduction in national income and this is due to the fact that tax that would be paid domestically is in fact paid abroad. However, some other authors have noted that lost taxes may be compensated for by outward FDI's increasing domestic firms' exports, revenues and access to foreign debt. This implies that FDI can ultimately enhance national income. Feldstein (1995) shows how this is achieved by comparing the returns on investment of US investment in domestic and foreign firms. On the one hand, foreign investment will be taxed by the government of the foreign country, so that the pre-tax return does not flow to the US. But on the other, it is argued that borrowing by the foreign affiliate takes place at an after-tax

cost that is substantially less than the domestic real return on capital and this confers a net benefit to the US.[5] Feldstein (1994) calculates that $1.00 of outward FDI generates a return of $1.72, which means additional income for the US. Thus, even if each dollar of outward FDI displaces a dollar of domestic investment, an incremental expansion of outward FDI raises the present value of US national income and this is caused because the assets abroad are financed with a mix of US and foreign equity and debt.

A1.4   Other objections argue that FDI may also affect the capital stock and in particular reduce domestic stock if FDI acts as a substitute for investment in the home country.   However, the empirical evidence has not been able to support this argument unambiguously. For example, Feldstein (1995) finds that each dollar of outward FDI results in a reduction in the US capital stock of $0.20-0.38 (for 1970 to 1980). However, repeating Feldstein's exercise with data on Canada (for the period 1961-1998) Hejazi and Pauly (2002) find no statistically significant link between outward FDI and investment. The same authors also examine a panel of data on 15 Canadian industries for 1983-1985, again finding that outward FDI has no statistically significant effect on capital formation. The lack of statistically significant relationship in the later studies makes these objections hard to substantiate.

A1.5   Finally, the effects of FDI on trade have also been examined. Initially, some simple models suggested that exports and FDI may be substitutes, if for example firms choose between exporting domestic production and production abroad based on their relative cost. Other research has argued that trade and FDI may be complements and this is under alternative highly plausible assumptions. For example, in cases where firms shift part of the production chain abroad high FDI be associated with higher exports. Developments based on the theory of multinational enterprises also support the complementarity argument as much as the presence of FDI stocks facilitate the flow of information between economies (Hejazi and Safarian, 2001).

A1.6   From an empirical perspective, there seems to be enough evidence that suggests that trade and FDI are complements. For example, Lipsey and Weiss (1983) find that for both intermediate goods and finished products foreign production at the firm level does not substitute for exports by that firm;   Hejazi and Safarian (2001) use a gravity equation to examine bilateral trade between the US and 51 countries for 1982-1994 and find that both outward and inward FDI stimulates US trade, with the impact being greater for exports than imports.

---

[5]   In contrast, when the firm borrows domestically to finance the alternative domestic investment, the gap between the return on capital and the net cost of borrowing is simply a redistribution among equity owners, lenders, and the government with no net impact on US national income (Feldstein, 1995).

FDIA and SIFCs

A1.7   The evidence reviewed so far does not take into account the use of SIFCs specifically. We now review a number of studies that researched the use of small international financial centres (or SIFCs) as conduits of investment abroad to determine whether the effects associated with outward FDI can be extended to FDIA that uses SIFCs.

A1.8   We should first note that there is no internationally agreed definition of what constitutes international or offshore financial centres, the general tendency being to adopt the approach of "you know one when you see one" (House of Commons, Treasury Committee. Offshore Financial Centres, Written Evidence). The different attempts by academics, international organisations, regulators and others have pointed to some common themes but there has been no real consensus.[6] The definitions are usually centred on the concept that an SIFC provides financial services (usually in currencies other than that used domestically) primarily to non-residents, for whom it offers a favourable tax regime (see the Treasury Committee).

A1.9   The research evaluating the effects associated with SIFC's outward investment has received attention from policy practitioners and academics.

A1.10   Amongst practitioners, the most important study is the recent "Review of British offshore financial centres", conducted by Michael Foot, commissioned by the Chancellor of the Exchequer (the Foot Review). As a traditional recipient of funds from SIFC's, the report noted the importance of these centres for the UK, but also the importance of the additional business flows from such jurisdictions[7], for example in the form of insurance and professional services (management fees from investment companies domiciled in the British offshore financial centres, or provision of auditing and accounting services, legal, tax compliance and transaction advice to the jurisdictions).

A1.11   Another report commissioned by the Society of Trust and Estate Practitioners highlights the importance of international financial centres:[8]

---

[6]   The OECD defines an Offshore Financial Centre (OFC) as a jurisdiction with financial institutions that deal with non-residents that may gain from tax benefits. The IMF provides a similar definition when it recognizes that OFCs provide low or zero taxation; moderate or light financial regulation; banking secrecy; and anonymity inferring the negative impacts of OFCs.   The Foot Review uses the classification provided by BIS, namely, it classifies about 20 centres as being 'offshore' but it subsequently adds the Turks and Caicos Islands to the OFC category.   Finally, some have defined OFCs through a range of criteria. In 2007, Ahmed Zoromé qualified jurisdictions as OFCs if: (a) "the primary orientation of business toward non-residents; (b) The favourable regulatory environment (low supervisory requirements and minimal information disclosure); and (c) The low-or zero-taxation schemes".

[7]   The report covers nine jurisdictions: three crown dependencies (Guernsey, Isle and Man and Jersey) and six overseas territories (Anguilla, Bermuda, British Virgin Islands, Cayman Islands, Gibraltar, and Turks and Caicos Islands).

[8]   http://www.policyexchange.org.uk/events/event.cgi?id=231.
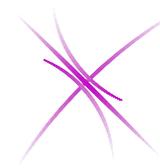
"Offshore financial centres play a key role in the international financial system, improving the availability of credit and encouraging competition in domestic banking systems. The result is a boost in investment in the major economies, which ultimately support job creation and growth

The evidence indicates that offshore centres contribute to financial development and stability in neighbouring countries, encouraging investment, employment and other aspects of business development. They have salutary effects on tax competition, promote good government, and enhance economic growth elsewhere in the world."

A1.12   The academic literature that quantifies the benefits that flow from such SIFCs is rather limited. The few that consider this issue are descried below.

A1.13   Several studies were recently published by Desai, Foley and Hines (2004). In their 2004 working paper the authors examined the use of SIFCs and the influence on the economic activity in nearby non-SIFC countries. Using affiliate-level data of American multinational firms they found that ownership of SIFC affiliates is associated with reduced tax payments equivalent to a 20.8 per cent tax rate reduction. However, the evidence also indicated a complementary relationship between SIFC and non-SIFC activity. The authors contend that the evidence also indicates that the use of SIFCs indirectly stimulates the growth of operations in non-SIFC countries in the same region. They claim that a one percent greater likelihood of establishing an SIFC affiliate is associated with 0.5 to 0.7 percent greater sales and investment growth by non-SIFC affiliates.

A1.14   These results were further confirmed in the 2006 study (Desai, Foley, and Hines, 2006a) where the authors concluded that SIFC activity increases activity in nearby non-SIFCs.

A1.15   Although both of the above studies point out a positive impact of SIFC activity on non-SIFC activities it is not particularly clear where the causality comes from. In their second 2006 paper (Desai, Foley and Hines, 2006b) the same authors studied the types of firms that establish SIFC operations. Using data for American firms they found that larger, more international firms and firms with high R&D are most likely to use SIFCs. According to the study, one per cent greater sales and investment in non-SIFC countries is related to a 1.5 to 2 per cent greater chance of establishing a SIFC operation. These results suggest that it might be the case that greater sales and investment associated with SIFC affiliates found in previous studies are due to the fact that faster growing firms are more likely to establish such affiliates rather than the affiliates having a positive impact on firms' operations.

A1.16   Another study related to the impact of SIFCs and FDIs is Hejazi (2007). The author examined Canada's FDI of which 20 per cent move through low-tax jurisdictions with Barbados being the most important one. The results of the analysis indicate that:

> "…outward FDI that flows through conduits such as Barbados results in higher Canadian trade (exports) than FDI that flows through high tax jurisdictions, and hence higher amounts of capital formation and employment."

A1.17 Some other studies examined other potential benefits SIFCs can have.[9] A few examples include:

- Rose and Spiegel (2006) discussed the impact of SIFCs on banking sector of neighbouring countries and concluded that the proximity to an SIFC is likely to have pro-competitive impact for the domestic banking sector.
- Dharmapala (2008) stated that: "under certain conditions, the existence of tax havens can enhance efficiency and even mitigate tax competition."
- Hong and Smart (2010) discussed the positive impact SIFCs can have on a reduction of the tax burden on mobile capital, which could facilitate investment.

REFERENCES

Borensztein, E., De Gregorio, J., Lee, J-W. (1998). "How does foreign direct investment affect economic growth?". Journal of International Economics. Vol.45 No.1

Desai, M.A., Foley, C.F., Hines, J.R. (2004). "Economic Effects of Regional Tax Havens". NBER Working Paper 10806.

Desai, Mihir A., Foley, Fritz C. and Hines, James R. (2004) "Economic effects of regional tax havens" NBER Working Papers 10806, National Bureau of Economic Research, Inc.

Desai, Mihir A., Foley, Fritz C. and Hines, James R. (2006a) "Do tax havens divert economic activity?" Economics Letters, Vol 90, No 2 (February).

Desai, Mihir A., Foley, Fritz C. and Hines, James R. (2006b) "The demand for tax haven operations" Journal of Public Economics, Vol 90, No 3 (February).

Dharmapala, Dhammika (2008) "What Problems and Opportunities are Created by Tax Havens?" Working Papers 0820, Oxford University Centre for Business Taxation.

Feldstein, M. (1994). "Taxes, Leverage and the National Return on Outbound Foreign Direct Investment". NBER Working Paper 4869.

---

[9] An article in The Economist, "Places in the Sun" from 2007, argues that OFCs are beneficial to the global financial system. Joanne Ramos states that financial crime, financial contagion and tax evasion are reasonable concerns in OFCs and that this should be prevented. However, overall OFCs are a positive body: "offshore holdings now run to $5-7 trillion, five times as much as two decades ago, and make up perhaps 6-8% of worldwide wealth under management" ("A Survey of Offshore Finance: Places in the Sun, The Economist." *The Economist - World News, Politics, Economics, Business & Finance.* 22 Feb. 2007).
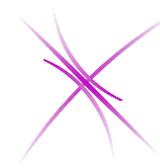
Feldstein, M. (1995). "The Effects of Outbound Foreign Direct Investment on the Domestic Capital Stock" in Feldstein, M., Hines, J.R., Hubbard, R.G. (eds.) The Effects of Taxation on Multinational Corporations. University of Chicago Press.

Hejazi, W. (2007). "Offshore Financial Centres and the Canadian Economy". Working Paper.

Hejazi, W., Pauly, P. (2002). "Foreign Direct Investment and Domestic Capital Formation". Industry Canada Working Paper No. 36.

Hejazi, W., Safarian, A.E. (2001). "The Complementarity Between US Foreign Direct Investment Stock and Trade". Atlantic Economic Journal. Vol.29 No.4.

Hong, Qing and Smart, Michael (2006) "In praise of tax havens: International tax planning and foreign direct investment," Working Papers tecipa-265, University of Toronto, Department of Economics.

Lipsey, R.E., Weiss, M.Y. (1984). 'Foreign Production and Exports of Individual Firms'. Review of Economics and Statistics. Vol.66 No.2.

Rose, Andrew K. and Spiegel, Mark M. (2005) "Offshore financial centers: parasites or symbionts?" Working Paper Series 2005-05, Federal Reserve Bank of San Francisco.

APPENDIX 2: THE GRAVITY MODEL

A2.1   The analysis of the relationship between FDI and the volume of trade is generally conducted using what are called "gravity equations". The basic "gravity model" explains bilateral trade between two countries, j and i, as a function of their GDP and the distance between them.[10]

A2.2   We have estimated two different equations for exports and each of the Member States under study, namely the reporting countries UK, France and Germany.

A2.3   In his paper Hejazi (2007) introduced a standard gravity model which is used here as a starting point. The model explains exports between two countries using log-linear specification with a number of explanatory variables including GDP, distance, language, exchange rate, direct investment and several regional variables.

A2.4   For the purpose of our study we incorporate the suggestions in Westerlund and Wilhelmsson (2006)[11] for dealing with panel data.[12] The chosen specification allows the inclusion of fixed effects which capture all types of unobserved specific heterogeneity between countries that are constant over time, and this would cover for variables such as distance and language.

A2.5   After including additional variables to control for other standard determinants of trade the proposed model can be written as:

$$ln(export_{ijt}) = \alpha_{ij} + \lambda_t + \beta_1 \, ln(GDP_{it}) + \beta_2 ln(Xrate_{ijt}) + \beta_3(FDIA_{ijt}) + \Sigma\beta_{4k}(Regions_{kit}) + \varepsilon_{ijt}$$

where

$export_{ijt}$ represents exports volumes from country j to country i in year t.

α_{ij} captures the fixed effects of all types of unobserved specific heterogeneity between countries i and j that is constant over time such as distance or language and others.

λ_t captures all forms of time-varying heterogeneity between countries i and j (in the form of year dummies).

---

[10]   The gravity model of trade is generally used in international economics to measure the bilateral trade flows based on the size and distance of economic variables. The gravity model is not only used for the effects of trade, but also to examine the effectiveness of treaties in such organizations as the WTO and NAFTA.

[11]   Westerlund, Joakim and Wilhelmsson, Fredrik (2006) "Estimating the gravity model without gravity using panel data" *Applied Economics*, Vol 43, No 6 (June), p641-649.

[12]   Estimation using panel data possesses several major advantages over conventional cross-section or time series methods as they allow researchers to use larger number of data points. This increases the degrees of freedom, reduces collinearity among explanatory variables and thus improves the efficiency of estimates.

GDP_{it} measures real Gross Domestic Product in country i in year t.

$Xrate_{ijt}$ is the exchange rate between the reporting country j and country i in year t.

$FDIA_{ijt}$ is the direct investment from the reporting country j to each of the partners i in year t.

$Regions_{kit}$ represents a set of dummy variables that refer to the different geographical regions. We have used the following regional dummies: E2: Other European countries (19 countries); E5: North Africa (5 countries); E6: Other African countries (50 countries); E8: North American countries (3 countries); E9: Central American countries (30 countries); F1: South American countries (13 countries); F3: Near and Middle East countries (17 countries); F4: Gulf Arabian countries (8 countries); F5: Other Near and Middle East countries (7 countries); F6: Other Asian countries (32 countries); F7: Oceany and Polar Regions (33 countries).

Finally ε_{ijt} represents an error term and the remaining Greek letters are parameters to be estimated and associated to the different set of variables.

A2.6 The interpretation of the parameters of the model and their expected effects of the key explanatory variables are as follows:

- β_1 is expected to have a positive impact on outcomes indicating that the Member State will have more exports with larger countries (as measured by GDP).

- β_2 is expected to have a negative impact on exports because as the exchange rate increases, exports to the partner country will decrease as these become more expensive.

- β_3 is expected to have a positive impact since there is a complementary relationship between FDIA and exports.

- There are no prior expectations for the coefficients for regional locations β_{4k}.

A2.7 Data for the analysis comes from different sources.[13] The different datasets have been merged and cleaned before incorporating them into our usable dataset. The

---

[13] Eurostat provides several data sets on FDI: EU direct investment inward flows by extra EU investing country; EU direct investment outward flows by extra EU country of destination; outward foreign direct investment as a percentage of GDP; and inward foreign direct investment from the rest of the world as a percentage of GDP from 1998-2009. Eurostat ComExt provides EU trade data for different reporting Member States and partners. Data on nominal GDP and GDP deflators for all countries come from the IMF's World Economic Outlook database. The World Bank provides data on

model has been estimated over the period 2002-2009. Data were missing in some years for some of the countries. We have put special effort in completing data for the five SIFCs of analysis.

---

annual average official exchange rates for all countries. As data appeared to be incomplete for some countries (and in particular for the five specific SIFCs of the analysis) we sought alternative sources. Data on GDP, trade and exchange rates were available from the World Bank for Bermuda; and from the Economics & Statistics Office Statistical Compendium (2009) for the Cayman Islands. For the British Virgin Islands data were available from the Budget Estimates years 2006 to 2009 (inflation was used as a proxy for GDP deflator as this was not available). Data for the Channel Islands (aggregated for Jersey and Guernsey) is available for GDP figures but not for exports so these two SIFCs could not be included at this stage of the analysis.