Regional Blocks and Imperial Legacies: Mapping the Global Offshore FDI Network

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Abstract
While FDI is generally assumed to represent long-term investments within the “real” economy, approximately 30-50% of global FDI is accounted for by networks of offshore shell companies created by corporations and wealthy individuals for tax and other purposes. To date, there has been limited systematic research on the global structure of these networks. Here we address this gap by employing Principal Component Analysis (PCA) to decompose the global bilateral FDI anomaly matrix into its primary constituent sub-networks. We find that the global offshore FDI network is highly globalized, with a centralized “Network Core” of offshore jurisdictions in Northwest Europe and the Caribbean exercising a largely homogeneous influence over economies worldwide. To the extent that the network is internally differentiated, this appears to primarily reflect a historical layering of social and political relationships. We identify four primary offshore FDI sub-networks, bearing the imprint of four key processes and events: European, particularly UK colonialism, the post-WWII hegemonic alliance between the US and Western Europe, the fall of Soviet communism, and the rise of Chinese capitalism.

Key Words: Offshore financial centers, FDI, Principal component analysis, Global financial network, Investment vehicles, Shell companies, BRICs, British Empire

JEL classifications: F23, F65, G15, H26

1. Introduction
In recent decades, the evolution of the world economy has come to increasingly be understood in terms of the processes of globalization and financialization. One the one hand, globalization entails increases in the “scale,” “magnitude,” “speed,” and “impact” of cross-border economic interactions (Held and MacGrew 2000). One the other hand, financialization
entails the “increasing importance of financial markets, financial motives, and financial actors in the operations of the economy” (Epstein 2002). While distinct theoretically, these processes have been intertwined in practice, with financialization proceeding through increasing levels of global financial integration, and the internationalization of production increasingly being motivated, shaped, and to a substantial extent overshadowed by financial considerations (Baud and Durand 2012; Coe et. al. 2013; Milberg 2008; Palpacuer 2008). Indeed, the 21st century “knowledge economy” is largely synonymous with the financial economy, with corporate strategy increasingly structured around the extraction of value from “intangible” intellectual property as a financial asset (Andersson et. al. 2010; Lazonick and Tulum 2011; Willmott 2010). However, research within economic geography has mostly not reflected this convergence of financial and productive globalizations, with concern for the former limited to a financial geography largely separated from the study of multinational corporations and Global Production Networks (GPNs) within the broader sub-discipline (Aoyama et. al. 2011; Lee et. al. 2009).

Coe et. al. (2013) propose a “Global Financial Network” (GFN) approach for bridging this gap by integrating finance into the study of GPNs. At the center of this approach is an analysis of the interactions between three types of territory: the productive regions linked through GPNs; the Offshore Jurisdictions (OJs) which increase the global reach and flexibility of capital; and the World Cities (WCs) housing concentrations of the Advanced Business Services (ABS) firms that increasingly exercise command and control functions within both GPNs and GFNs. While ABS firms are the key actors at the heart of the GFN, its organizational backbone consists of Investment Vehicles (IVs) (Wójcik 2013b). IVs are legal entities, generally lacking in substantial staff or physical footprint, through which investors organize their holdings. Often, this involves constructing “ladders” of entities spanning multiple onshore and offshore
jurisdictions, each specializing in a stage of the production of a desired result such as tax
minimization or the exploitation of a regulatory loophole (Shaxson 2011). These are usually
organized as intra-firm structures linked by controlling investments, and as such reported as
Foreign Direct Investment (FDI) where they cross national borders.

The increasing pervasiveness, scale, and complexity of multinational IV structures has
undermined the traditional assumption that FDI is linked to the real operations of multinational
firms, producing what could be described as a financialization of FDI. The extent of this can be
easily seen in Bureau of Economic Analysis (BEA) data on outward US FDI (BEA 2013).
Remarkably, more than half of the reported FDI stock of US non-financial firms, or 1.9 out of
3.6 trillion dollars, was attributed to overseas “holding companies” (intra-firm IVs) as of 2012.
More than half of the assets of these holding companies—nearly a third of the total FDI stock of
US firms—were reported in only three jurisdictions, the Netherlands, Luxembourg, and Bermuda
(BEA 2012). Such behavior is not limited to US firms; all told, at least 30%, and likely closer to
50%¹ of world FDI can be described as “offshore” FDI lacking a direct attachment to productive
activity in the economy where it is reported (Palan et. al. 2010).

The use by multinational corporations of such offshore holding structures for tax
avoidance has recently become the subject of intense media and political controversy,
particularly in the UK (Barford and Holt 2013). The importance of offshore Special Purpose
Vehicles (SPVs) to the breakdown of financial market regulation and transparency prior to the
2008 financial crisis is also widely recognized (Wójcik 2013b; Zoltan 2010), as is the role played
by shell companies in siphoning capital out of and enabling corruption in developing countries
(Baker 2005; Oxfam 2000). Notwithstanding its recognized importance in structuring the world

¹ While 30% is the figure most often cited, the authors’ analysis suggests that 50% is a more realistic estimate.
economy, however, our understanding of offshore FDI is limited to fragmentary case study evidence and rough generalizations regarding empirical relationships and theoretical drivers.

The goal of this study is to bring together these understandings into a coherent whole, by conducting the first comprehensive analysis, informed by a Global Financial Network (GFN) perspective, of the structure of the global offshore FDI network. By applying Principal Component Analysis (PCA) to a newly released IMF bilateral FDI database encompassing an unprecedentedly large matrix of jurisdictions, we demonstrate that the global offshore FDI network can be described in terms of only a handful of primary underlying sub-networks linking groups of offshore and real economies. Moreover, these sub-networks can themselves be nested within a clearly dominant global network structure. The structure of these networks sheds light on the processes shaping the position of OJs within the GFN. The global offshore FDI network is highly centralized at the OJ supply-side, but remarkably homogeneous across host economies, suggesting that characteristics such as economic and institutional development have relatively little influence on a country’s pattern of offshore activity. Meanwhile, the geographic differentiation that does exist within the global offshore FDI network appears to have primarily been built up through a historical layering of political and social relationships, as opposed to reflecting simpler forces such as time-zone proximity. A relatively small number of historical processes and events appear to have been of decisive importance in shaping the global offshore FDI network, namely the establishment of global cosmopolitan empires by the UK, and to a lesser extent other European countries, the shift in economic and political hegemony from the UK to an Atlantic Axis of the US and its allies, the collapse of Soviet communism, the rise of Chinese capitalism, and financial globalization as an overarching process.
The remainder of the paper is organized into five sections. Section 2 examines the definition of OJs, and their situation within a GFN perspective, before examining the gaps in the existing literature on the structure of offshore financial networks, with an emphasis on the geography of offshore FDI. In the following section, we introduce the IMF coordinated direct investment survey (CDIS) dataset, and the use of principal component analysis (PCA) to deconstruct the global FDI anomaly matrix into its constituent sub-networks. Each of these networks is examined in turn in section 4, which closes with an analysis of the core structures linking them together. The final section discusses the implications of these structures for our understanding of the evolution and operation of the offshore financial network, and promising directions for future research.

2. Offshore Jurisdictions in the Global Financial Network

The offshore world is sometimes portrayed as existing in small island jurisdictions at the periphery of the global political and economic order. What defines offshore finance, however, is less the jurisdiction within which transactions are booked or conducted, than their conduct in a networked transnational legal space produced by the lack of a clear legal basis for multinational activity. As each state defines which entities and transactions are “national” or “foreign,” these can often be structured to fall, for various purposes, outside of the jurisdiction claimed by any state (Picciotto 1999). An OJ, in this sense, can be considered to be one which organizes its laws, in relation to those of other jurisdictions, to facilitate these strategies of escape in matters of tax, regulatory oversight, transparency, or all of the above. While this cannot always be done legally from the standpoint of other governments, this can be sidestepped through financial secrecy, which enables the mechanism of jurisdictional arbitrage (Palan et. al. 2010).
By some accounts, OJs shelter 21 – 32 trillion dollars of private wealth (Henry 2012a). Even such vast estimates of the scale of offshore finance, however, do not fully capture its integration into the fabric of global economic activity, with virtually every transaction in the contemporary world economy, from ordering a coffee to taking out a home mortgage, involving an offshore dimension. In their proposed GFN framework, Coe et. al. (2013) seek to capture the central role played by the offshore world in structuring both the financial and “real” economies. Their framework focuses on three key themes: the financialization of GPN structure and operation, the unbundling of legal jurisdiction from the site of actual activity, and the outsourcing of high-level corporate functions and decisions to specialized financial, legal, accountancy, and consultancy service providers (Froud et. al. 2000; Wójcik 2013b). Out of this focus emerges an economic geographic schematic emphasizing the interactions between productive territories, OJs, and world cities housing the agglomerations of ABS firms which increasingly perform core command and control functions in the global economy.

This proposed GFN framework, like its GPN predecessor, makes few concrete claims regarding the drivers of global economic organization. Rather, it is primarily an ontological project focusing attention on under-theorized aspects of globalization, particularly the so-called “ABS-offshore nexus” (Wójcik 2013b). As Hampton and Christensen (1999) and Shaxson (2011) demonstrate, it is ABS firms which exercise the principal agency within offshore finance, and more often than not design the laws and regulations formally implemented by OJ governments. OJs allow ABS firms themselves to circumvent onshore tax and regulatory regimes, as in the case of the securitized offshore “shadow banking” operations, conducted by networks of investment banks and hedge funds, which lay at the institutional core of the 2007/2008 financial crisis (Wójcik 2013b; Zoltan 2010). In addition, many ABS firms specialize
in the design of offshore structures which serve as captive private financial systems for corporate or wealthy individual clients. These allow clients to hide or shelter assets (or liabilities) from governments, investors, or in some cases family members, and to move funds between jurisdictions with a minimum of outside scrutiny or tax liability (Palan et. al. 2010).

Contrary to the popular association of offshore finance with secret bank accounts, the “ABS-offshore nexus” largely operates through the instruments of the real economy—most importantly Foreign Direct Investment (FDI) and trade. Forming the backbones of the captive financial systems established by ABS firms for their own use and for clients are offshore IVs (Wójcik 2013b). These take a variety of forms including trusts, international business companies (IBCs), and holding companies. What they have in common, however, is their organization into multijurisdictional “ladders” connected by “offshore FDI” (Haberly and Wójcik 2013), which lie at the heart of the regulatory arbitrage and secrecy enhancement strategies defining the offshore financial world. There are incentives for these structures to be as complex as possible, as this maximizes the potential for jurisdictional arbitrage, and the levels of secrecy that can be achieved. Such networks are typically designed to easily shift funds between jurisdictions, usually to those with the lowest tax rates, through “transfer mispricing” i.e. the valuation of intra-firm transactions at non-market rates (Palan et. al. 2010; Sikka and Willmott 2010). This has increasingly been facilitated by, and in turn encouraged the “knowledge economy” attribution of earnings to IP assets without a clearly defined territoriality (Sikka and Willmott 2010).

The prevalence of offshore FDI and transfer mispricing means that FDI and trade data are increasingly losing their usefulness as an indicator of the real structure of the global economy. Particularly questionable is the treatment of the multinational firm as the principal unit of analysis for understanding FDI (Dunning 2001), which is now more realistically seen as a
mechanism whereby “investors,” broadly defined, organize financial capital (Palan et. al. 2010). This financialization of FDI poses a hurdle to research on the multinational firm; however, it facilitates the study of the GFN, with FDI data providing an avenue whereby empirically-informed theory can be attached to the GFN framework’s ontological skeleton. In particular, two areas of conceptual ambiguity at the center of our current picture of the offshore world stand out as being in need of such empirical adjudication.

2.1. Technological, social, and historical determinants of offshore network structure

The first area of ambiguity is connected with a broader tension permeating the geography of finance between the time-space compression potential of information and communications technology, and the premium this places on difficult-to-replicate trust-based relationships, institutional frameworks, and esoteric knowledge bases. Although this tension has been the subject of direct engagement within the geography of finance generally (Clark and O’Connor 1997; Thrift 1994), two essentially contradictory perspectives on it have coexisted within the literature on offshore finance since the 1990s. The first stresses the immaterial, “fictitious” quality of offshore finance, and its potential to be controlled at a distance via electronic communications technology (Roberts 1994). According to this perspective, OJs serve as interchangeable platforms constantly at risk of being sidelined by regulatory developments in competitors. The only major constraint on the footloose quality of offshore finance is the premium which electronic communications places on time zone proximity, which tends to produce longitudinally oriented OJ clusters. Roberts (1994) identifies three major such clusters centered on the London Euromarket and its imitators in New York and Tokyo, and two minor clusters centered on the Persian Gulf OJs and Mauritius, and the Pacific Island OJs respectively.
In contrast, a second perspective on offshore finance has emphasized the importance of political and institutional structures with deep historical and social roots (Palan et. al. 2010; Shaxson 2011). Offshore activities, according to this view, are mediated through tight-knit networks linking communities of specialized professionals to one another and to clients (Wainwright 2011). Far from being rendered unstable and footloose by communications and information technology, offshore financial relationships and institutions possess great inertia, and indeed are largely structured around anachronisms such as the family networks of the European landed aristocracy, or the medieval “free city” of the Corporation of London (Shaxson 2011). Looming largest within this historical inheritance is the legacy of European colonialism (Eden and Kudrle 2005; Palan et. al. 2010; Shaxson 2011). Laws and institutions that facilitated the extraction of wealth by colonizers have sometimes proven to be useful for jurisdictional arbitrage, for example UK domiciliation and Dutch holding company laws. Within the UK and its former colonies, many have argued that the common law emphasis on precedent and literal interpretation facilitates offshore activity (Palan et. al. 2010). More importantly, colonialism established durable networks of political, economic, and cultural ties between core and periphery. These are directly expressed in the organization of offshore financial networks, which continue to funnel the wealth of the former colonial periphery into the metropolitan core.

Of singular significance are the relationships between the City of London, and the UK’s current and former colonies (Palan et. al. 2010; Shaxson 2011). Most important is the City’s relationship with the US, as mediated through the so-called NY-LON (New York-London) “Axis” (Wójcik 2013a). These are not only the two leading world cities, home to the largest concentrations of ABS activities, but are located in the two most important OJs, with the US and UK estimated to host 40% of total offshore activity (TJN 2012). Historically, the development
of offshore and onshore financial services in and around both cities has been mutually reinforcing. The 19th century rise of New York as the predominant US financial center was largely linked to its role as a UK investment conduit; as this predominance grew, nearby New Jersey and Delaware positioned themselves as offshore incorporation platforms for businesses in New York. After WWII, with the British Empire in decline, London’s position as a financial center came to depend on the use of it, and its dependent “booking centers” in the Caribbean and English Channel, as a platform for the offshore Euromarket operations of US banks. By the early 1980s, the success of London inspired the establishment of the offshore International Banking Facilities (IBF) in the US (Wójcik 2013a; Palan et. al. 2010; Shaxson 2011).

In addition to the US, the UK’s global colonial OJ archipelago mediates similar ties with other business communities, particularly in former British colonies. The Channel Islands and Caribbean OJs are known to serve particularly diverse global clienteles (Evans et. al. 2013; Roberts 1995; Vlcek 2013). In the Old World, Hong Kong and Singapore are dominant across East and Southeast Asia, while Mauritius, Cyprus and Bahrain are known to serve the African/Indian, Russian, and GCC markets respectively (Palan et. al. 2010). Apart from this UK-dominated network, several other important post-colonial offshore networks exist. During the 20th century, American business promoted the development of several US-dependent OJs, most importantly Panama (Warf 2002). Meanwhile, the Netherlands has exploited institutions stemming from its history as an imperial entrepot, notably its tax treaty network and holding company legislation, and the operation of the Netherlands Antilles as a tax haven, to position itself as the leading “treaty-shopping” hub (see below; Palan et. al. 2010; Weyzig 2012). Finally, the world’s largest private banking center, Switzerland, presides over dependent Liechtenstein, which specializes in the formation of Anstalts (foundations) offering exceptionally high secrecy.
There have been limited attempts to directly adjudicate between these technological and relational-historical perspectives on offshore financial networks. Haberly and Wójcik (2013), however, find evidence to support the relational-historical perspective in gravity model regressions of worldwide FDI data. Both historical colonial ties and great circle distance (the latter presumably being a proxy for air travel and face-to-face contract) were found to significantly increase FDI between tax havens and “real” economies; meanwhile, time zone proximity was found to have no significant effect on offshore FDI.

2.2. Institutional and regulatory determinants of offshore network structure

The second key area of conceptual ambiguity within our understanding of offshore finance relates to its institutional and regulatory determinants. One perspective emphasizes the provision by OJs of strong institutional and regulatory environments, which facilitate international investment, and offer more stringent property rights and general legal protections than many onshore jurisdictions (Desai et. al. 2004; Dharmapala 2008; Hong and Smart 2007; Sharman 2012). In contrast, others see the offshore world as fundamentally breeding and in turn being bred by secrecy and malfeasance, and having a destabilizing influence on the global economy (Baker 2005; Palan et. al. 2010; Shaxson 2011). Clearly both ideas have an element of truth; the problem is that they have seldom been disentangled in any situation.

This ambiguity is especially acute for developing and post-communist transition economies. Poorly developed institutional and legal environments appear to generate what could be called a primary offshore outflow, consisting of the proceeds of corrupt, illicit, or tax avoiding activity by locals or foreign multinationals, but also a secondary outflow seeking to escape from domestic institutional constraints, political risks, or macroeconomic instability (Baker 2005;
Sharman 2012; Epstein 2005). Given their collinear nature, we have a limited understanding of the relative importance of, relationship between, and distinct structures used by these different types of offshore activity. The only developing countries whose offshore FDI has been systematically studied are the “BRIC” economies. Chinese and Russian investors, according to research by Henry (2012b) the largest and second largest holders of developing world flight capital respectively, have been shown to use similar two-stage structures. These consist of shell entities based in both a regional OJ—Hong Kong for China, and Cyprus for Russia—and in smaller tax and secrecy havens, primarily BVI and the Cayman Islands for China, and BVI, Liechtenstein, Gibraltar, and the Bahamas for Russia (La Franco and Sazonov 2013; Ledyaeva et. al. 2013; Sutherland and Matthews 2009; Vlcek 2013). Meanwhile, Indian investors generally use Mauritius-based entities, while Brazilian offshore FDI is primarily routed through BVI, the Caymans, and the Bahamas (Palan et. al. 2010; Stal and Cuervo-Cazurra 2011).

In all four cases, investors are known to use these structures to intermediate both “trans-shipped” outward FDI, and “round-trip” FDI wherein funds return to the home economy. There is little consensus, however, as to the primary drivers of this activity, although tax reduction clearly plays a universal role. Some view it as a mechanism for political insiders to hide the proceeds of corruption and state asset theft. In the case of Russia, the connection of offshore wealth with the “oligarchs” created by the privatization of the 1990s, and ongoing corrupt and criminal activity, is widely accepted (Brovkin 2001: Ledyaeva et. al. 2013), with some also arguing that China’s offshore investments are a vehicle for state asset theft by “Nomenklatura capitalists” (Ding 2000). However, others see OJs as augmenting the competitiveness of BRIC firms, by allowing them to harness stronger overseas financial and legal institutions (Sharman 2012; Stal and Cuervo-Cazurra 2011; Sutherland and Matthews 2009). Many argue that Chinese
offshore activity—accounting for up to half of developing world illicit financial movements (Kar and Freitas 2012)—is fueled by entrepreneurs escaping from the regulatory burdens, and political and financial discrimination afflicting the private sector, often via OJ-mediated overseas stock market listings (Sharman 2012; Sutherland and Matthews 2009). On the other hand, as Walter and Howie (2011) note, Chinese SOEs use similar OJ conduits—not due to any special Chinese institutional characteristics, but in imitation of structures devised for advanced economy firms by ABS providers. Indeed, it is unclear whether emerging market offshore structures are motivated by different factors than those used by developed world firms. These have also been linked both to innocuous considerations such as “tax neutrality,” and the covert evasion of tax and regulatory regimes, which are often difficult to disentangle (Palan et al. 2010; Rawlings 2005). Regression analysis by Haberly and Wójcik (2013) suggests that rule of law, per capita GDP, and communist history have no significant impact on an economy’s level of offshore FDI.

The strongest evidence of a difference between developing and advanced economy offshore activity relates to its supply side. The OECD economies are not only home to nearly all leading ABS firms, but occupy dominant positions as OJs (TJN 2012). This has complicated recent initiatives by the OECD and other organizations targeting offshore tax evasion and money laundering. OECD OJs—Austria, Switzerland, Ireland, Luxembourg, the UK, and at times the US—have tended to veto proposals which might impact themselves. As such, the burden of these initiatives, aimed primarily at increasing financial transparency, has mostly fallen on non-OECD OJs (Eden and Kudrle 2005; Rawlings 2005; Vlcek 2007). This has produced what Sharman (2005) describes as a regulatory “race to the top” among these jurisdictions, the costs of which only relatively well established and politically connected OJs (e.g. the UK’s major OJ dependencies) have been able to bear. Meanwhile, lower-tier OJs have been squeezed between
the threat of blacklisting, and a lack of resources for regulatory compliance. Ironically, most OECD OJs have made limited moves towards re-regulation at home, with Delaware, for example, comparing poorly with the Caymans for transparency (Findley et. al. 2012).

The impact of this regulatory reconfiguration on offshore activity is imperfectly understood. Several studies suggest that OECD investors now prefer to route FDI through OECD OJs with relatively respectable reputations. Approximately half of US offshore FDI is routed through Dutch conduits, with British, Bermudan, Luxembourg, Singaporean, Caymans/BVI and Canadian entities accounting for most of the balance (Lewellen and Robinson 2013). The largest German FDI conduit is the US, followed by the Netherlands (Weichenrieder and Mintz 2006). Moreover, contrary to the expectation that tax treaties should discourage offshore FDI by undermining secrecy (Blonigen and Davies 2004), most evidence suggests that they encourage it, with the Netherlands’s role as the OECD’s offshore FDI hub primarily attributable to its tax treaty network (Haberly and Wójcik 2013; Rawlings 2007; Weyzig 2012). In all, this research suggests a movement among developed economy investors towards ostensibly “clean” structures, which avoid OJs with questionable reputations, and are increasingly transparent.

Haberly and Wójcik (2013) find evidence of a divide between OECD and non-OECD economies in this respect, with the former receiving disproportionately high FDI from OECD OJs, and disproportionately low FDI from second-tier OJs. This is difficult to interpret, however, given the dubious link between the actual and perceived cleanliness of OECD jurisdictions.

In all, research on offshore finance has produced a wealth of detailed OJ case studies, cross-sectional regression analyses, and maps of IV structures used by investors in particular countries. It has not, however, fully answered some of the most basic questions regarding the geography of offshore finance. Empirically, perhaps the most prominent gap in existing research
is the lack of a clear and comprehensive map of the global offshore financial network, allowing the easy visualization of its key structures. In the following sections we demonstrate how principal component analysis (PCA) can be used to construct such a map of global offshore FDI. Beyond being a descriptive exercise, PCA facilities the identification of major common factors underlying a complex dataset. We find that the global offshore FDI network has a remarkably homogeneous geography of engagement with developed and developing economies in all regions. To the extent that it is geographically differentiated, however, this mostly appears to reflect a deep historical layering of political and social relationships.

4. Data and methodology

Until recently, the collection of data for a global analysis of offshore FDI would have been exceedingly difficult. This state of affairs improved dramatically in 2010, with the IMF’s launch of its annual Coordinated Direct Investment Survey (CDIS). The CDIS consists of two bilateral FDI stock matrices, one containing inward FDI stock data reported by 83 hosts for 245 origin counterparties, and the second containing outward FDI stock data reported by 67 origins for 245 host counterparties. Figure 1 shows all bilateral FDI positions >50 billion USD for both matrixes. Two aspects of the data are striking. The first is the lack of an association between GDP and outward/inward FDI stock, with offshore FDI clearly not being a peripheral distortion of the FDI network, but rather the predominant form of FDI. At the center of the network are four jurisdictions with similar FDI positions; the US, UK, Netherlands, and Luxembourg. The second notable feature of the data are the discrepancies between host and origin reporting. In some cases, these result from sample differences. China and Singapore, for example, participated in the inward, but not the outward CDIS, while many important OJs (e.g. BVI,
Bermuda) participated in neither, meaning that only unidirectional host/origin counterparty data is available for these in each matrix. In many cases, however, governments report radically different figures for the same FDI position; while Ireland, for example, reports $19 billion of inward US FDI, the US reports a figure of $158 billion. These discrepancies appear to provide a window into the mechanics of offshore jurisdictional arbitrage, which largely rests on divergent definitions of nationality and residence.

Figure 1. FDI Stocks >$50 billion, YE-2010 (adapted from Haberly and Wójcik, 2013)

While the CDIS contains an unprecedented wealth of information on global offshore FDI, its analysis is hindered by the fact that FDI values only appear accurate to within perhaps an order of magnitude, as well as the sheer scale of the CDIS, with the host-reported matrix alone containing over 18,000 country pairs. What is needed is an analytical tool capable of extracting general patterns from this vast quantity of data, while abstracting from the somewhat dubious individual figures. Principal Component Analysis (PCA) is highly suitable in this respect. PCA is a statistical data compression technique, designed to represent the largest possible percentage of variance within a high-dimensional dataset, using the smallest possible number of new
dimensions (principal components). In the simplest example, most of the information within two highly correlated variables could be captured by a single component roughly following the trend line in a scatterplot of the two variables. In most cases, however, PCA is used to extract the core features of datasets with more dimensions than can be visualized. Its applications can be divided into two categories. The first is the extraction of common factors underlying a list of variables. Vyas and Kumaranayake (2006), for example, extract an underlying “socioeconomic status” dimension from a number of household lifestyle indicators. Meanwhile, in the second class of applications, PCA used to analyze the distribution of a single indicator within a matrix wherein one dimension (i.e. rows vs. columns) is classified for the purpose of analysis as variables, while another is classified as observations. This has proven effective as a tool for image analysis, particularly the spatio-temporal analysis of remotely sensed imagery (Eastman and Fulk 1993).

This study employs PCA in a novel manner, using it to reduce the complexity of a matrix of bilateral economic relationships—in this case offshore FDI. This usage falls broadly into the second class of applications discussed above. We apply PCA to bilateral FDI “anomaly” data derived from the CDIS. FDI anomalies are designed to capture the “offshoreness” of FDI linkages, in the absence of a clear distinction between onshore and offshore jurisdictions. Anomalies are defined as a multiple of the bilateral FDI expected based on a partial gravity function, in which global FDI is assumed to be allocated in proportion to the product of origin and host nominal GDP sizes. This transformation is founded on the IMF’s heuristic definition of an offshore center as “a country or jurisdiction that provides financial services to non-residents on a scale that is incommensurate with the size and financing of its domestic economy” (Zorome 2007, pp. 12-13). The association of total outward FDI anomalies (outward FDI stock/GDP) with tax haven status can be seen in Appendix 1, with log(outwardFDI/GDP) and tax haven
score (derived from table 1.4 in Palan et. al. 2010) having a correlation of 0.54 with one another. By examining bilateral rather than jurisdictional FDI anomalies, the analysis here refines the IMF rubric to reflect the relational nature of offshore finance. FDI anomalies are log-transformed\(^2\) to achieve a normal data distribution, a transformation which has the added benefit of rendering PCA results relatively robust to the large margin of error of the CDIS data.

The discrepancies between the CDIS inward and outward FDI matrices mean that there is no effective way to combine them. As such, we only use FDI-anomaly data constructed from the host-reported inward FDI matrix (see figure 2), which has superior coverage to the origin-reported outward FDI matrix. The latter excludes many important economies such as China, Singapore, Indonesia and Nigeria, and was considered to be insufficiently comprehensive. For the purposes of PCA, we classify hosts as “variables,” and origins as “observations,”\(^3\) following the division by Eastman and Fulk (1993) of the time and space dimensions of an NDVI data matrix into variables and observations. Several OECD hosts were found to share a correlated pattern of missing (“confidential”) influential values, which if uncorrected produced a spurious component. In most cases, these gaps could be filled with OECD data on the bilateral FDI of member states (which closely matches IMF data), in some cases using 2009 or 2011 data. It was impossible to adequately repair inward FDI data for Spain, Portugal, Switzerland, Luxembourg,

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\(^2\) Zero values present a challenge in this respect; we use an if-then statement to force zero values to zero in the log-transformed matrix. Maintaining zero values in this manner requires us to apply a large multiplier to all anomalies before log-transformation, to prevent anomalies smaller than 1 from assuming negative values.

\(^3\) The fact that the CDIS reports data on a larger number of origins than hosts means that the reverse assignment of variables/observations may produce poor PCA results (McCallum et. al. 1999).
Australia, Bosnia, and Bhutan, which had to be dropped as hosts. The KMO test of sampling adequacy for the 76 hosts retained is 0.94, indicating that the dataset is highly suitable for PCA.

Figure 2. Bilateral FDI stock anomalies, YE-2010 (source: IMF CDIS, inward FDI matrix)

Figure 2 shows the largest FDI anomalies in the CDIS inward FDI matrix. Dominating the center is what could be described as a Caribbean offshore financial “Bermuda Triangle” consisting of Bermuda, the Caymans, and BVI. Other major OJs, including Cyprus, Mauritius, and Luxembourg, also stand out prominently. The PCA results can be conceptualized as bundles of the (log-transformed) FDI anomalies visible in the figure, correlated across groups of hosts. Although the analysis is quantitative, the results should be seen as qualitative, providing a general map of offshore FDI network structures. While the use of FDI anomalies weights the analysis towards “offshore” structures, “real” FDI (to the extent that this is a meaningful

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4 This was decided on the basis of a host PCA suitability index calculated as the sum of total outward FDI anomalies (outward FDI/GDP) for each missing origin counterparty, divided by the sum of total FDI anomalies of all origins. Host economies with an index < 50% were retained; in only two retained cases was the index > 20%.
concept) is still incorporated into the analysis, allowing it to capture the relationship between onshore and offshore network elements. This information may also shed light on the nationality of investors using OJs, although the results primarily identify the major offshore “pipelines” channeling capital into economies, without definitively revealing the identity of this capital.

4. Mapping the global offshore FDI network

PCA involves two successive algorithms, extraction and rotation. Extraction entails a successive selection of components (dimensions) such that each explains the greatest possible remaining variance in a dataset. Next, rotation adjusts the loadings of variables (host economies) onto a selected number of components such that each is as closely associated as possible with a single component, facilitating the visualization of the data space defined through extraction.

![Figure 3. PCA results summary](image)

In order to gain the most exhaustive possible understanding of global FDI anomaly network structure, we employ a novel iterative rotation procedure. This incrementally increases the number of (varimax) rotated components, starting from the one-component solution generalizing network structure to the greatest extent possible, with each additional component allowing for the targeting of more specific network features. The addition of successive
components yields rapidly diminishing returns in terms of explained variance, with the first alone explaining nearly half (41%) of all variance in global FDI, and the next three together only explaining an additional 15% (see figure 3 left). Subsequent components have little or no more explanatory power than benchmark components generated from random data. As such, most of the variance within the global FDI anomaly matrix can be represented with four-to-five orthogonal dimensions. Given that each additional component adds little to total explained variance, each can be thought of as a sub-network predominantly nested inside of the networks identified using smaller numbers of components, as shown in the “tree” diagram in figure 3.

![Map of component loadings](image)

**Figure 4. “Global Finance”**

At the highest level of generalization, all components can be seen as primarily nested within the one-component solution. The strengths of correlation (loading) of hosts with this

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5 This is based on parallel analysis (see Hayton et. al. 2004). A fifth component was at or slightly above the break-even point in terms of meaningful explanatory power; we only show the 4-component solution, however, as the 5-component solution appears somewhat noisy visually, and conveys little additional information.
“Global Finance” network are indicated by the shading in figure 3, with the standardized “scores” of FDI sources indicated by circle icons. An examination of highly scoring sources suggests that the methodology here effectively targets offshore FDI. Scoring highest is BVI, followed by Luxembourg, the Caymans, Netherlands, Switzerland and the UK. Also scoring above 2 are Bermuda, Cyprus, France, Germany, Liechtenstein, the US and Denmark (an important shell company OJ). In all, this component indicates that the offshore FDI network is highly centralized at the supply-side in northwest Europe and the “Bermuda Triangle.” However, it is remarkably homogeneous at the demand side. All major economies have loadings of between 0.1 and 0.2, and most have loadings of between 0.15 and 0.2. This indicates that the offshore FDI network is at its heart truly global, with countries having relatively little differentiation in engagement with it based on development, proximity, history, or other factors.

The global offshore FDI network is not entirely homogeneous, however, and it is possible to dissect its structure by examining the lower tiers of the tree diagram in figure 3. New components tend to branch off of specific “parents” as the number of components increases, with others being retained in a mostly unchanged form. As such, only six distinct dimensions of network differentiation can be identified within the PCA tree; the four sub-networks identified in the four-component rotation—what we have deemed the “Eastern Block,” “Greater China,” “Pax Americana,” and “British Empire” components—and two “linking” networks into which these four merge at higher levels of generalization, referred to as the “Greater British Empire” and “Anglo Alliance.” In the following sections, we first examine each of the sub-networks identified by the four-component rotation, before turning to an analysis of the two linking sub-networks, and finally examining the relationships between all of these networks.
The first rotated component highlights the Russia-Cyprus-BVI round-trip FDI circuit identified in previous research, as well as the Gibraltar and Liechtenstein branches of this structure. The sub-network, however, is not uniquely Russian; Russia is the largest participant in a more widespread “Eastern Block” structure. To a striking extent this component appears to reflect what could be called a European geography of “poor governance,” with Belarus loading most strongly, followed by Ukraine, Montenegro, Bulgaria, Russia and Serbia. The list matches well with the list of FSU/Eastern European countries with the lowest scores on the World Governance Indicators “rule of law” index (World Bank 2012), on which Kyrgyzstan scores worst, followed by Belarus, Ukraine, Russia, Armenia, Albania, Serbia, Georgia, Bulgaria and Montenegro. This suggests that the first component is associated with some combination of organized crime activity, corruption, poorly managed privatization programs, and capital flight/round-tripping associated with political risk.
Among FDI sources, Cyprus and BVI score most highly, demonstrating the importance of the BVI-Cyprus offshore axis to Eastern Europe as a whole. Two particularly opaque secrecy jurisdictions specializing in trusts, Gibraltar and Liechtenstein, also score highly, along with Malta, seen as a sort of auxiliary Cyprus, and Austria, with its extensive network of Eastern European banking operations. Three globally oriented OJs, Luxembourg, Switzerland, and the Netherlands, also rank highly. Interestingly, the UK does not score highly as an FDI source, although it does load relatively strongly as a host, suggesting that The City’s recognized ties with Russia and Eastern Europe are mostly intermediated via the UK-linked OJs listed above.

Figure 6. “Greater China”

Just as the nucleus of component 1 is formed by the well-known Russia-Cyprus-BVI round trip FDI circuit, component 2 is centered on the even more important China-HK-BVI/CI circuit. As is the case for component 1, however, the PCA results indicate both that this is more of a regional than a country-specific structure, and that it contains a more complex array of OJ relationships than is widely recognized. Firstly, although the PRC, Hong Kong and Macao load
most strongly onto this component, Singapore, the Philippines, Thailand, Indonesia, Malaysia, and Bangladesh are also strongly associated with it. The first five of these are significant for having economies largely dominated by ethnic Chinese business networks (Weidenbaum and Hughes 1996; Yeung 1999), suggesting that this component is most accurately understood as a “Greater China” offshore FDI network. In fact, estimates by Kar and Freitas (2013) of the offshore holdings of Southeast Asian investors—presumably belonging largely to the Chinese commercial diaspora—rival those of PRC investors. This raises questions regarding theories linking PRC offshore activity to the institutional effects of CPC rule in that country specifically.

Dominating this component at the outgoing FDI end are the “Bermuda Triangle” jurisdictions of the Cayman Islands, BVI, and Bermuda. BVI and the Caymans, both recognized centers of Chinese offshore activity, have exceptionally high scores of more than 5. Scoring nearly as highly, however, is Bermuda, the significance of which as an OJ for Chinese investors is less widely recognized, despite it also being important as an incorporation jurisdiction for HK-listed units. Like the Caymans, Bermuda offers an unusually diversified array of offshore services capabilities, as well as an unusually strong legal and reputational environment for an island “booking center,” with the two OJs until recently being the only overseas jurisdictions approved for HK-listings (Greguras et. al. 2008). Within the Caribbean, Panama also scores highly, suggesting that it has stronger Asia-Pacific ties than is widely recognized. In addition to round-tripped investment, it is clear that large amounts of outside capital flow into “Greater China” through the Caribbean, although this is difficult to gauge precisely (Vlcek 2013).

Interestingly, the Greater China component is more strongly linked to UK colonial OJs than any of the others in the 4-component solution, with Singapore, Mauritius and the UK itself scoring highly as FDI sources, along with Hong Kong and the “Bermuda Triangle” OJs.
Ironically, the transfer of Hong Kong to Chinese control seems to have pulled China into the orbit of Britain’s financial “second empire.” At the same time, the UK itself loads more strongly as an FDI host on this component than the other three, suggesting that Chinese offshore capital has in turn begun to have a major influence on The City. According to Bloomberg, PRC, Hong Kong, Malaysian and Singaporean investors accounted for 51% of new home purchases in central London in 2011 (Spillane 2012), a type of investment associated with the use of London financial services by wealthy clients. As will be discussed, the “Greater China” component can be situated within a “Greater British Empire” network spanning most of Africa and Asia.

**Figure 7. “Pax Americana”**

In contrast to the previous two components, which are dominated by the round-trip FDI of emerging economies, the third clearly corresponds to the US and its economic and political sphere of influence in Latin America, Western Europe, and Asia. Countries in the Americas load uniformly highly onto this component as hosts, with Latin America (apart from Brazil) loading highest. Outside of the Americas, Japan and Sweden have loadings higher than 0.15, and are
more strongly associated with this component than any other. Meanwhile, Iceland, the Netherlands, Finland, Ireland, and Denmark have loadings of greater than 0.10. These countries are significant platforms for American “offshore FDI,” while Sweden possibly has links to American finance via its large private equity sector. Countries in Western Europe in general, along with the Philippines, Malaysia and South Africa, have moderate loadings greater than 0.05.

To a greater extent than for the first and second components, it is difficult to disentangle whether host loadings on this component primarily reflect round-trip capital flows via OJs, or inward OJ-mediated investment by foreign, particularly American capital. Indeed, component 3 seems to constitute a “Pax Americana” network transcending the identity of the capital flowing through it. To a large extent, the OJs scoring highly as FDI sources on it do correspond to the jurisdictions of choice of US multinationals. This is particularly true in the Caribbean, where Bermuda, the Cayman Islands, and Netherlands Antilles score highly. BVI does not appear, reinforcing the impression that this is mostly an Old World OJ. In general, however, FDI sources scoring highly on this component suggest more than a purely American driven pattern, with Luxembourg, the Netherlands and Switzerland scoring above 3, and the UK, France, Germany, Canada, and Sweden scoring above 2. This is a largely representative panel of OECD “midshore” jurisdictions for which offshore and real FDI are difficult to disentangle. Ireland is surprisingly absent, perhaps reflecting the data discrepancies discussed in section 3.

Latin American offshore activity appears to be difficult to disentangle from that of US and other OECD investors, with capital in the western hemisphere flowing between north and south through similar channels in both directions. Two of the OJs scoring highly, Panama and Spain, do appear to have characteristically Latin American fingerprints, however. Although Spain’s role as an OJ for Latin America is not widely recognized, the combination of the known
dominance of Santander and BBVA in regional banking (Guillen and Tschoegel 2000), with Spain’s #11 worldwide ranking as an OJ driven by the private banking activities of these same two banks (TJN 2012; Henry 2012b), suggest that this role is quite important.

![Figure 8. “British Empire”](image)

Although somewhat blurry, the outlines of the former British Empire clearly define the fourth component. Former UK colonies Botswana, Uganda, Malta, the Seychelles, South Africa, and Zambia all load strongly as hosts, with former colonies in South Asia and the Persian Gulf also loading relatively highly. While the association with UK colonization is strong overall, several countries without a UK colonial history also load strongly, notably Morocco and Iceland, as well as Austria, Japan, Finland and Kyrgyzstan. Morocco’s high loading raises the question of whether the boundary between British and French post-colonial spheres of influence is eroding. The high loadings of Iceland and Austria likely reflect ties as OJs to City-dominated financial networks. Europe, Canada, and Southeast Asia show moderate loadings generally.
Among FDI sources, Luxembourg scores most highly, followed by the UK, which scores much more highly on this component than any other. Two global offshore FDI hubs, the Netherlands and Switzerland, also score above 3, as do two Indian Ocean rim OJs, the UAE and Mauritius. Mauritius scores higher on this component than on the “Greater China” network, in line with its reputation for specializing in the Africa and South Asia regions. Among UK colonial OJs, BVI and Cyprus also score highly, emphasizing the latter’s importance as a financial center within the MENA region, in addition to Eastern Europe. Finally, the high scores of several major OECD economies—France, Germany, Italy, the United States and Denmark—likely reflect both “real” and offshore FDI links, and as for the host loadings perhaps a blurring with age of what are clearly still highly relevant former colonial spheres of financial influence.

**Figure 9. “Greater British Empire”**

A comparison of the second and fourth components indicates that the boundary between them is weakly defined, with South Asia in particular being a zone of overlap. In fact, these components effectively merge in the three-component solution (see figure 10). The merged
component is centered on the Indian Ocean core of the former British Empire, but also exerts an influence beyond former UK colonies to economies such as Indonesia and China. Regionally, the former UK colonial entrepots of Mauritius, the UAE, Hong Kong, and Singapore all score highly as FDI sources, as do the “Bermuda Triangle” jurisdictions, and several key offshore FDI hubs in Europe, including the UK itself. In all, the “Greater China” and “British Empire” networks appear to be most accurately described as gradations within an overarching “Greater British Empire” network, which intermediates a mixture of local and advanced economy capital.

**Figure 10. “Anglo Alliance”**

At the two component level of resolution, the “Greater British Empire” network in turn merges with the “Pax Americana” network into what can be described as an “Anglo Alliance” network. At the host end, this essentially comprises everything outside of the former communist Eastern Block, suggesting that the primary cleavage within the global offshore FDI network is between these countries and the rest of the world economy. Interestingly, at the FDI origin end, it comprises all of what Roberts (1994) described as the three major OJ clusters in the Caribbean,
Europe, and East Asia, indicating that all of these exercise a substantial influence on each other’s as opposed to simply within their own respective regional hinterlands.

**Figure 11: Global Offshore FDI Network Organization**

As was noted earlier, the purpose of PCA is to simplify complex datasets to reveal key relationships within them. Figure 8 shows the commonalities between FDI sources scoring highly on each of the four PCA components, and can be understood as a simplified version of the global FDI network anomaly map shown in figure 2. Three features, shown in the inset in stylized form, stand out prominently. Firstly, the Pax Americana and British Empire components exhibit the densest concentration of shared connections, being linked through the US, France and Germany, as well as the Netherlands, Luxembourg, UK and Switzerland. These are the leading OECD “midshore” jurisdictions, with each home to not only a large offshore financial sector, but a diversified array of multinational enterprises. There appears to be a direct correspondence
between this “Atlantic Axis” spanning the Pax Americana and British Empire components, and the situation of both within the overarching “Anglo-Alliance” component.

Lying mostly within the “Atlantic Axis” is a global “Network Core” of jurisdictions linked to at least three of the four components, consisting of the Netherlands, Luxembourg, UK, Switzerland, and BVI. The first four constitute the more “offshore” of the midshore economies within the Atlantic Axis, with BVI being something of an outlier insofar as it is a booking rather than functional financial center, and not part of the Atlantic Axis. Within the Network Core, the Netherlands is the only jurisdiction linked to all four components, underscoring its status as the global FDI network’s central hub. BVI is unusual, as it is relatively specialized towards a single component, Greater China, and only weakly connected to the Pax Americana component.

BVI in turn forms one vertex of the “Bermuda Triangle” dominating the Caribbean offshore financial sector, with the Caymans and Bermuda forming the other two. Presumably there are large FDI flows between these jurisdictions, but these are impossible to measure given that none of them participated in the CDIS. These jurisdictions serve as booking centers for enormous offshore capital flows, most importantly within and between the Pax Americana and Greater China components, with BVI also having strong connections to the Eastern Block and British Empire. Panama, which has strong ties to both the Americas and Greater China, can be seen as an extension of this structure.

Together, these three structures define the primary offshore “pipelines” within the global economy. Also standing out as important on the basis of the PCA analysis, however, are three secondary features. As has been noted, Cyprus is more important than has been generally appreciated during the Eurozone crisis, forming a key linkage between the British Empire, Eastern Block, and global Network Core. Another important network bridge is Mauritius, which
arguably plays an analogous role to Cyprus in linking the Greater China and British Empire components to one another and the Network Core. Two final jurisdictions deserving particular mention are Hong Kong and Singapore, which serve as the financial gateways to Greater China.

Figure 12. Geographic organization of global offshore FDI network

Figure 9 shows the rough geographic organization of the global offshore FDI network. As can be seen, it has a clear geographic center at the FDI-source side in Northwest Europe. This contains most of the “Network Core” and “Atlantic Axis” jurisdictions, which have highly globalized footprints of influence. Outside of Northwest Europe, two thirds of highly-scoring FDI sources are current or recent UK colonies, which with the exception of the “Bermuda Triangle” serve more regionally defined hinterlands. At the host economy side, an inspection of all four components suggests that the network’s structure is influenced by distance. Economies located near its geographic center in Northwest Europe tend to have ambiguous network affiliations, suggesting that they are mostly influenced by nearby Network Core jurisdictions scoring highly on all components. Meanwhile, hosts further from this center tend to be affiliated with a single network, suggesting that they are linked to nearby regional OJs. To test this, we
conducted a series of regressions with max host loading on any component as the dependent variable. We used log(distance to Netherlands) to measure distance from network center, adding log(GDP/cap.), rule of law (from World Bank 2012), and OECD membership as controls. We also included a dummy variable for the Eastern Block economies, and an interaction term of this with rule of law, to reflect the apparently divergent characteristics of this network.

Table 1. Determinants of host maximum component loading

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<th>Model 1</th>
<th>Model 2</th>
<th>Model 3</th>
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</thead>
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<tr>
<td>Adj. r²</td>
<td>0.29</td>
<td>0.36</td>
<td>0.38</td>
</tr>
<tr>
<td>log(Distance to NL)</td>
<td>0.453***</td>
<td>0.346***</td>
<td>0.328**</td>
</tr>
<tr>
<td>log(GDP/cap)</td>
<td>-0.192</td>
<td>-0.123</td>
<td>-0.036</td>
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<tr>
<td>Rule of Law</td>
<td>0.165</td>
<td>0.019</td>
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<tr>
<td>OECD</td>
<td>(0.407)***</td>
<td>0.459***</td>
<td></td>
</tr>
<tr>
<td>E. Block</td>
<td>-0.056</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Rule Law x E. Block</td>
<td>0.216*</td>
<td></td>
<td></td>
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</tbody>
</table>

*, **, *** indicate 5%, 1%, and 0.1% significance respectively. Standardized coefficients (Beta values) shown.

The regressions confirm that distance from the Netherlands predicts strength of sub-network affiliation, with this variable showing a high beta coefficient and significance level (see table 1). However, host OECD membership has an even higher effect size and significance level, indicating that the OECD has an influence on network structure not clearly visible in the maps. The negative sign suggests that members are disproportionately influenced by Network Core jurisdictions—most of which are OECD OJs—and more weakly linked to regionally specialized jurisdictions. This corroborates the OECD offshore “club” effect found by Haberly and Wójcik (2013). Host GDP/capita, rule of law, and the Eastern Block dummy variable were all found to be insignificant predictors of strength of sub-network affiliation. Found to be a significantly positive predictor, however, was the Eastern Block-rule of law interaction term, confirming that this sub-network has a unique association with poor governance.


The growing financialization of FDI underscores the importance of a GFN analytical approach which bridges the gap between the analysis of finance and production at the global
scale, and problematizes the relationships between productive territories, world cities, and offshore jurisdictions. This paper has made a significant contribution to this agenda, by constructing the first map of the global offshore FDI network. Keeping in mind the limitations of the CDIS, the network organization revealed by the PCA results sheds significant light on the drivers of its evolution. Firstly, we find limited evidence that it is strongly shaped by host institutional characteristics, or the regulatory initiatives of bodies such as the OECD or EU. We do find that the most prominent cleavage within the network lies between the majority of economies linked to the “Anglo-Alliance” sub-network, and a distinct “Eastern Block” sub-network linking former communist countries in Eastern Europe with weak rule of law to Cyprus, and secrecy havens such as Gibraltar or Liechtenstein. The Eastern Block is unusual in this respect, however, with the much larger Anglo-Alliance network, and its three constituent sub-networks, not exhibiting any clear differentiation on the basis of economic or institutional development or patterns of illicit activity (e.g. drug trafficking). This builds on the finding of Haberly and Wójcik (2013) that these variables have no discernible effect on the quantity of offshore FDI, suggesting that they also have a limited effect on qualitative offshore FDI patterns. Moreover, although we corroborate the finding of Haberly and Wójcik (2013) of an OECD “club” effect, this is apparently too subtle to be detected without regression analysis. Perhaps most strikingly, we find that the explanatory power of all of the components can be mostly reduced to a “Global Finance” dimension with a globally homogeneous influence, including in

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6 Most importantly, the CDIS 1) is an incomplete sample of economies, producing geographic coverage gaps in Africa and the Middle East, and constraining our ability to probe the structure of “real” economy-to-OJ, as opposed to OJ-to-real economy FDI, 2) does not disaggregate FDI by investor nationality or activity, and 3) is new, meaning that results shed light on network development only when examined through the lens of other historical research.
the former communist Eastern Block. In this sense, the offshore FDI network is remarkably “flat” at the demand-side, even while being highly centralized at the OJ supply-side.

Our results suggest that arguments linking economic and institutional development to offshore activity may have conflated three issues, namely the means through which wealth is obtained, the incentives for capital to be invested or raised overseas, and the incentives for using offshore IVs. In economies with weakly developed legal and financial institutions, there are likely to be both greater opportunities for wealth to be dishonestly obtained, and incentives for capital to be invested or raised in other economies with stronger institutional frameworks. This is not, however, necessarily related to the incentives to use offshore structures, which may reflect considerations of tax reduction, regulatory flexibility, capital mobility, and confidentiality shared by investors in all economies. As such, the geography of offshore finance may be shaped more by the role of the “ABS-offshore nexus” in making particular services available, than the determinants of demand for these services in various contexts.

The PCA results also shed light on the extent to which the geography of offshore activity is footloose and technology-driven, as opposed to having deep-seated historical and social roots, generally supporting the latter rather than the former understanding. Notwithstanding a widespread belief to the contrary (Roberts 1994), we find that time zone is not a decisive driver of offshore financial regionalization. The major Old World regional divide is between north (“Eastern Block”) and south (“Greater British Empire”), not between east and west. Moreover, the geographic reach of OJs is both heterogeneous—with some serving global more than regional hinterlands—and influenced more by physical than time zone distance (corroborating Haberly and Wójcik 2013). The latter suggests that face-to-face communication, enabled by travel, plays a significant role in mediating offshore financial relationships.
Indeed, clearly more important than physical distance per se in shaping the structure of the global offshore FDI network, is a historical layering of social and political ties. This can be mostly reduced to four key processes and events: the establishment of global cosmopolitan empires by European states, most importantly the UK, the shift in global economic and political hegemony from the UK to an Atlantic Axis of the US and its allies, the collapse of Soviet communism, and the rise of Chinese capitalism. With respect to the first, the metropolitan core of the former European imperial system remains, very clearly, the center of the offshore financial system. Moreover, the PCA results confirm the idea that Britain’s “second empire” is of singular importance as a post-colonial financial structure. Acting as the principal nodes within this are a network of formerly, and in some cases currently UK-controlled entrepot city-states ringing the world’s continents, typically established largely to control existing commercial networks—most importantly Arab, Indian and Chinese networks spanning the Indian Ocean and Southeast Asia. While a similar mixture of local capital has once again come to overshadow British and western capital within this region, the PCA results demonstrate that it continues to flow through the network of strongpoints established by Britain, within which the City still plays the role of central financial command center. Rather remarkably, this British financial empire does not seem to have displaced that of the previous economic hegemon, the Netherlands, but rather incorporated the latter as the central hub in the global offshore FDI network.

The second key historical influence on network organization was the shift during and after WWII of global economic and political hegemony from the UK to the US and its network of alliances, most importantly with the declining British Empire. While the PCA results show a general division between a US-dominated Western hemispheric offshore system, and a UK-colonial dominated Eastern hemispheric system, these share a broad “Atlantic Axis” composed
of the US and major Western European midshore economies, which roughly corresponds to the Cold War Western alliance and adjacent neutral OJs. Indeed, the “Pax Americana” and “British Empire” components do not represent a sharp divide, so much as two regionalized expressions of this axis—with “NY-LON” at its center—the global footprint of which is visible in the “Anglo-Alliance” component. Also serving as an important bridge between the US and UK-dominated components of the Anglo-Alliance network are the “Bermuda Triangle” OJs, reflecting their longstanding importance as offshore conduits within the NY-LON axis.

This narrative generally corroborates, while elaborating on, the historical-political accounts of Palan et al. (2010) and Shaxson (2011) of offshore financial network evolution. However, the first and second components reveal key structures within and processes shaping this network not hitherto recognized. While the activities of Russian investors in OJs such as Cyprus are well known, what has not been known is that Russia’s offshore activity follows a highly stereotyped Eastern European pattern, likely produced largely by chaotic privatization programs following the fall of communism. Meanwhile, the world’s other major communist state, China, is clearly the rising engine of global offshore finance. Mirroring the pattern for Russia, however, what has not been recognized to date is that the volume and pattern of PRC offshore FDI, passing in particular through the Caribbean, is part of a “Greater China” network encompassing regional overseas Chinese-dominated economies. This is a significant finding, as it suggests that attempts to explain Chinese offshore activity in terms of the specific environment of the PRC may be misdirected. The mainland, it seems, has become plugged into the offshore backbone of the regional “bamboo network” (Weidenbaum and Hughes 1996), with roots in 19th century colonial labor and commercial policies, and even older regional Chinese trading networks. Anchoring this, are the UK itself, its post-colonial outposts of Hong Kong, Singapore,
and Mauritius, and the “Bermuda Triangle” OJs still under its control. These results highlight the question of whether China or other emerging economies will supplant the US as the principal source and destination of capital circulating through the UK’s offshore archipelago; what does not seem to be in doubt, however, is the dominance of the archipelago itself.

In all, our results suggest a specific understanding of the role of the offshore world within the GFN. Rather than a faceless global electronic marketplace, the ABS-offshore nexus is best conceptualized as a legal-institutional infrastructure underpinning the global economy. This infrastructure embodies within its organization the conservative, accretive process whereby laws, practices and relationships have emerged and been reproduced over long periods of time by communities of experts and elites. It has a profoundly hegemonic quality in this respect, reflecting not only the economic, political, and ideological predominance of the current superpower, but incorporating a succession of past preeminent capitalist empires and institutions, and evidencing a potential to absorb and adapt itself to future hegemonic regimes.

Conceptually, this pattern suggests a potential for engagement between research on offshore finance, and theories of global capitalist evolution emphasizing the role of finance in mediating the relationships and transitions between successive hegemons (Arrighi 1994). From an empirical standpoint, an important question raised by such an engagement is whether offshore finance is an essentially novel development, and perhaps a harbinger of a shift in the nature of the interstate system (see Sassen 2006), or a quasi-cyclical “business as usual” component of global capitalism. To the extent that offshore finance, in some form, is an inherent product of the interaction of global capitalism with the sovereign state system, this would have implications for attempts to regulate offshore activity specifically, which have assumed that it can be decoupled from globalization generally. It is possible that the issues of tax and regulatory arbitrage are
largely intractable in the context of massive cross-border capital and trade flows. In the confident assessment of one offshore professional, “There will always be an offshore sector. We are the ball bearings in the machine of the world’s financial markets” (quoted in Rawlings 2005).

References


Vlcek, W. 2013. From Road Town to Shanghai: Situating the Caribbean in global capital flows to China. The British Journal of Politics & International Relations, 15.


### Appendix 1. Tax Haven status of leading OFDI/GDP jurisdictions

<table>
<thead>
<tr>
<th>Jurisdiction</th>
<th>World OFDI</th>
<th>OFDI GDP</th>
<th>Tax Haven Score</th>
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</thead>
<tbody>
<tr>
<td>British Virgin Islands</td>
<td>3.2</td>
<td>632.67</td>
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<tr>
<td>Cayman Islands</td>
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Sources: IMF (FDI, GDP data); Palan et. al. 2010 (Tax Haven Score).