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Finance, Intangible Assets and the Double Life of Capital in the Offshore World

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Capital Unchained:

Finance, Intangible Assets and the Double Life of Capital in the Offshore World

Dick Bryan*, Mike Rafferty* and Duncan Wigan**

Abstract

The growing production and sale of intangible commodities and services, along with their enabling intangible assets is one of the key historical developments of our epoch. Yet many current analyses of production and trade remain rooted in industrial modes of organisation. This paper builds an analysis of intangible assets that engages with the emergent Global Wealth Chains (GWCs) concept. The rise of intangible assets and other forms of abstract capital has been significant, but has occurred in ways that have confounded extant measures and regulatory concepts of accumulation and wealth. The expanded spatial and jurisdictional deployment of these forms of capital by multinational corporations in GWCs has been central to widespread recognition of a growing disjuncture between the locations of value creation and the spatial and jurisdictional appropriation of wealth. The unbundling of attributes of activity and value from corporations and nation-states has also been facilitated by innovations in finance and jurisdictional forms, coalescing notably in the rise of Offshore Financial Centres (OFCs). The offshore world has a history of pioneering new forms of economic and financial organisation, and changing political and regulatory spaces and temporalities. A large and growing proportion of the world's intangible capital now resides in or passes through OFCs. This article explores the longer-term implications of accumulation of internationalised capital in intangible and abstract forms, and the prominent role of finance and offshore finance in giving mobility and fluidity to these forms of capital. The analysis suggests that limited regulatory traction on the labour, environmental and fiscal activities occurring in Global Value Chains (GVCs) is not simply due to a lack of political will, but also a function of conceptual and regulatory ambiguity in the face of historic transformations in accumulation. While the GVC approach has helped us to better follow increasingly fragmented and fluid networks of commodity production, and distribution, there is also a need to better follow the global double life of internationalised abstract and intangible wealth, and the parallel way state forms are being reorganised in response to those transformations.

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Introduction¹

The growing spatial and temporal integration of production, logistics and trade, along with the blurring of organisational and national boundaries associated with those activities has stimulated a range of more open, fluid and eclectic approaches to international economic activity, and their political and regulatory dynamics. Analysis dealing specifically with the changing nature of production and exchange includes Global Value Chain (GVC) and Global Production Network (GPN) approaches, with chains and networks in differentiated jurisdictional spaces rather than simply large free standing MNCs operating in discrete national economies as the conceptual units of the modern global structure of production and trade (Bair 2005; Gerrefi 1994; Gerrefi et al. 2005; Kaplinsky 2010; Henderson 2002; Yeung 2009). These are significant analytical achievements, and have quickly become part of the mainstream across several social science disciplines. They have enabled researchers and policy makers not just to better study the changing institutions and spaces of production and trade, but to increasingly follow the social processes of value creation in and through the fluid networks engaged in that process. International Political Economy (IPE), and this journal in particular, has been at the forefront of these developments and this has helped to consolidate its claims to disciplinary importance, innovativeness and policy relevance (Gerrefi et al., 2005; Neilson et al., 2014). The dynamics of spatial, temporal and boundary reconfigurations driven within production, trade and logistics are now well known (see for instance Dicken 2015; Hirst and Thompson 1996; Bhagwati 2004; Stiglitz 2002). It is also now widely understood that analysing those developments has proved to be an imposing challenge for approaches based on the ontological primacy of national economies and/or corporations². Addressing those developments has stimulated a range of approaches to international economic activities and processes, and their geographical, political and regulatory dynamics (Walker 1989; Held et al. 1999; Ruggie 1993; Castells 1996; Sassen 1996; Luo et al. 2012). As a consequence, a substantial body of research now exists across several disciplines on the changing political and legal conception of the nation-state, territoriality, and borders required to address the changing spatio-temporal and national patterns of activity (Deleuze and Guattari 1980; Harvey 1982; Ruggie 1993; Palan 1998; Hudson 1998; Agnew 1999; Scott 1998; Cameron and Palan 2004; Wai 2002, 2008; Strandsbjerg 2010).

But these approaches are themselves evolving and incomplete analytical projects, partly because analysis is playing catch-up with ongoing developments, and partly also because conceptual and disciplinary debates remain open. For instance, questions of whether these eclectic network and chain approaches can drive an analysis of accumulation, as a *process in itself*, or develop their analysis of increasingly fluid processes through fixed systems or taxonomies of ownership,

¹ The authors wish to acknowledge financial support from (Norwegian Research Council TaxCapDev program (#212210/H30) and the Australian Research Council (Grants # FF110100043 and # DP120101437). Comments on earlier versions of this paper by participants at workshops held at universities at Oxford, UCLA and Thamassat are also gratefully acknowledged.

² To give one example, Nobel Laureate Paul Krugman posed the problem of nations as spatial economic units in this rather stark way 'Given that national boundaries no longer provide the natural unit of economic analysis, what could replace them?' (Fujita, Krugman and Mori 1999, 209). The earlier observation by the economic geographer, Richard Walker about the ontology of the corporate form as an organisational unit are worth noting here, because he both anticipates this dilemma a decade earlier but identifies its analytical origins: 'Capital circulates and accumulates behind the various forms of industrial organisation... It was unfortunate that the corporation was substituted for capital in the lexicon of economics and geography...(Capital) is not the same thing as the firm, corporate or otherwise, yet this error is commonly made...The firm is not the only 'container' for production...' (1989, 61).

control and power relations remain open. In other words the analytical problem of effectively converting enmeshed and fluid institutional arrangements that form an organic process back to relations of exchange between discrete organisations or agents remains open. And to paraphrase one critique of these approaches, the further challenge is also to avoid fetishizing commodity exchange relations (Bernstein and Campling 2006)³. One recent response to these challenges has been the introduction of the concept of Global Wealth Chains (GWCs) to IPE, which invites the figuring into this body work the critical role of finance in mobilising, giving liquidity to and commensurating value and wealth, something that has been largely been a black hole for GVC/GPN approaches⁴ with their focus on capital in its industrial and merchant forms.

This paper introduces two additional developments to this body of research. The first concerns the increasing global production of commodities and services with abstract, or to paraphrase Hardt and Negri 'immaterial', qualities, in which either the commodity form itself, and/or the capital understood to produce those commodities is inherently intangible. Second, the paper gives a focus to the growth of global financial capital flows, and outlines how the international movement of capital has developed its own momentums, and cannot simply be 'read off' from the production and movement of commodities. New forms, locations and institutions of capital are coming to the fore, intensifying existing spatial processes and (virtually and often actually) unbundling the activities and attributes of corporate activity and state sovereignty. Baldwin (2011) has referred to the recent phase of globalization as the second 'Great Unbundling'. His analysis centres on the changing spatial patterns of production and trade, but here we also seek to build in intangible commodities and assets as integral, if not leading parts of that process. Another link is the prominent role of the offshore world, the political economic expression of unbundled sovereignty and capital accumulation, as globally significant locations for the location or intermediation of intangible property. A further link between both is that they challenge not just extant conceptual approaches but present important measurement and methodological issues. The paper is developed around the proposition that in order for IPE to continue build its integrative project of following globalized production and value, it will also have to follow wealth (in both its monetary and abstract/intangible forms).

The remainder of the article is presented in three sections. The next section addresses the growth of intangible assets and how they have become amenable to both the unbundling of the contemporary multinational corporation (MNC), and also to asset and profit shifting. We explain the mechanics of this profit shifting and draw out implications for concepts of territoriality and mobility. The second section illustrates this via a brief exploration of the deployment of an unbundling strategy and the third, places the conceptual ambiguity attached to intangible assets in the dynamics between regulators, clients and suppliers which animate the GWC framework. The concluding section takes up the question of the conceptual challenge of building these developments into IPE and the project of GWCs.

³ Bernstein and Campling have further argued that this is partly due to the GVC/GPN focus on unequal relations of exchange and power (such as between small and large firms). Consequently, also the role of labour in GVC and GPN remain under researched (Bernstein and Campling 2006; see also Newsome et.al 2013).

⁴ Coe's recent contribution in this journal (2014) shifts the attention of these approaches in this direction, incorporating logistics providers such as financiers, standard setters and global professional services firms into what remains an ontology of discrete spheres of production trade and finance.

Intangible Assets, OFCs and Profit Shifting

"You can't pick up a factory and move it to the Cayman Islands...so most of the assets that are going to be relocated as part of a global repositioning are intellectual property. In today's economy that is where most of the profit is. "

Richard E. Anderson, international tax lawyer, (cited David Cay 2002)

The recent revelation of audacious tax planning by prominent global corporations, through Offshore Financial Centres (OFCs) has attracted considerable media and policy attention⁵. Estimates vary, but conservatively perhaps \$20 trillion in assets are domiciled in OFCs, and several tens of billions of dollars of fiscal revenue are avoided every year via these activities in OFCs (Gravelle 2013). While the political and economic history of offshore jurisdictions is integrally bound up with developments in finance, what became critical in the recent growth of asset and profit shifting through OFCs is the prominent role of non-financial firms, especially firms with significant intangible assets and/or international revenues. 'The role of R&D based intellectual property (in tax shifting) confirm the relationship between effective foreign tax rates and income shifting. The presence of parent-developed intellectual property both enables companies to achieve lower effective foreign tax rates and in turn magnifies the impact of tax differentials because it is so difficult to value accurately'. (Grubert 2003; Grubert 2012: 34). Before exploring their prominent role in the offshore world, it is useful to introduce what intangible assets are and how they have grown in importance.

Many of the world's largest corporations by value are now built around 'intangible capital' (including software, patents, trademarks and brand names)⁶. Intangible assets have been around for more than a century. But for most of the twentieth century, intangible assets remained a residual category in corporate finance and accounting (and generally incorporated under the rubric of goodwill). It took a new wave in the development of intangible property in the late twentieth century to push the question of intangible assets from the margins. For instance, from the mid-to late 1980s, the gap between the book value of corporations (accounted for by fixed and current assets) and the market value (the price at which firms trade on the stock exchange) of the top 100 US listed companies (which might be thought of as a goodwill or intangibles gap) grew from around a quarter of balance sheet valuation to almost two-thirds. For many high tech and pharmaceutical companies, this goodwill gap now represents well over 90 percent of corporate value (Corrado et.al. 2006).

This transformation has in part been driven by long-term changes in industrial structure and capital expenditure, and the associated changing terms of competition. By the late-1990s, for instance, the estimated annual investment in intangible assets in the United States exceeded

⁵ Audacious, both in the scale of tax minimisation, and the defiant stance of many companies engaged in the practices. For instance, Eric Schmidt, then Chairman of Google, responding to the claim that the company shifted nearly \$10 billion in revenues through a Bermudan subsidiary to avoid an estimated \$2b in global tax, said, "I am very proud of the (tax) structure that we set up... It's called capitalism. We are proudly capitalistic. I'm not confused about this" (cited in Kumar and Wright 2012).

⁶ Indeed, recognition of the industrial and financial importance of intangible property can be traced back to the late nineteenth century, notably to the American institutionalists Thorsten Veblen (1904) - who referred to intangible assets (then known in corporate finance and accounting as 'goodwill') as 'pecuniary' or 'vendible' capital and in so doing made the distinction between industry and business, and J.R. Commons (1924, 1934) - who took the issue further and suggested a unifying concept of capital defined in terms of exchange value and more particularly in terms of the future 'earning power' of the assets (which he called 'futura'), rather than in terms of those assets measured in terms of their (depreciated) historical cost.

investments in the tangible assets (in such things as buildings, plant and equipment) (Corrado 2009, 23). By 2006, the value of intangible assets in the US was estimated to have exceeded the value of tangible assets (Corrado et.al 2006; Nakamura 2008). While investment in intangible assets exceeds that in tangible assets in both the UK and US, not all countries have seen such a transformation. In the EU15, for instance it is estimated that around 6.6% of annual GDP is invested in intangibles compared to 10.6% invested tangible assets. This is, however, changing such that while between 1995 and 2007 EU15 investment in tangible assets as a share of GDP was flat, investment in intangibles rose by 20.8% (Corrado et al. 2012).

The growth of the intangible economy has presented a number of conceptual and measurement difficulties both for national and corporate accounting. The 'correct' valuation of intangible property is highly ambiguous due to the difficulty of calculating production costs, and the relationship, if any with the expected size, riskiness and pattern of future income streams. There are also similar problems with estimating the obsolescence period of intangible assets. How to isolate aspects of knowledge as assets and measure the role of these assets in firm value, therefore remains an on-going puzzle. As we discuss in more detail shortly, this measurement paradox not only threatens the integrity of financial and economic analysis it divides economic and accounting communities.

This measurement paradox is also recognised as quite acute in national accounting systems affecting the measures of national output, labour productivity and wealth (IMF 2005; OECD 2006; McCulla et al. 2013). Conventionally, national accounts measures investment in terms of tangible assets such as machinery or buildings. Investment in intangible assets has generally been treated as an expense (an intermediate cost of production), and thus deducted from performance measures. Revisions to the Systems of National Accounts (SNA) in 1993 and 2008 attempted to redress this anomaly and capitalise some intangible investment. For example, the 1993 revisions defined software expenditure and artwork as investment and the 2008 revisions counted some research and development (R&D) as investment. This partially resolved the paradox that patents were treated as assets while R&D - the activities that produced the patents - was treated as an expense and not an investment. However, the products of R&D consumed internally and hence not produced as transferable assets are not recognised by the SNA and assets such as organisational capital and brands remain outside the scope of the SNA (Uppenberg 2009; Aspden 2005). Also much of the intangible economy and its component parts, such as integrative competencies within and between firms (in various networks such as alliances, joint ventures and so on), cannot be readily incorporated in company accounts⁷.

The challenge posed by the rise of the intangible economy is however most acute for corporate accounting. For most of the post Second World War period, the contribution of goodwill to corporate value had remained fairly stable. From 1945 to 1990 book (historic cost) to market values in the main stock exchanges remained at rough parity. But from the mid-1980s this started

⁷ There are a growing range of corporate activities, including their more fluid organisational arrangements, that clearly affect performance but are confounding corporate accounting. Research by Bamford and Ernst (2002), for instance, found that most large firms have at least 30 alliances (arrangements that require a more porous concept of corporate borders), with some having more than 100 such arrangements. Yet very few systematically track the performance of those alliances, despite the considerable assets and revenue they involve.

to change, and since then the market value of firms has far outstripped book value reaching a ratio of 3 to 1 in the United States just prior to the dot.com crisis. The bursting of the dot.com bubble led to a reduction in this ratio, but it now stands at approximately 2 to 1 on the world's main exchanges and is rising again, suggesting a resumption of the longer term upward secular trend. What this suggests then is that in the wake of the growth of intangible assets in firm balance sheets, the ultimate measure of firm value, share prices, has become largely divorced from (historical) accounting measures. This has presented an intractable problem for accounting standard setters (Perry 2006: 574). In 2006, the OECD issued a report stating that, there 'was only limited opportunity to recognise intellectual capital in the financial accounts (of corporations)' and suggesting that intangible assets, 'best be dealt with through *narrative* financial reporting' (OECD 2006: 5, emphasis added). In 2007, after a long period of consultation and research, the International Accounting Standards Board and the US Financial Accounting Standards Board (FASB) halted their efforts at the inclusion of intangibles (IASB 2007)⁸. Since company accounts form the basis of national accounts, our understanding of the knowledge economy and assignment to it of preponderant significance currently rests on theoretical conjecture, and pragmatic adjustments rather than systematic and coherent measurement. As one accounting researcher concluded 'Much of what passes for measurement of the knowledge society is based not on a rigorous theory of the knowledge society, which determines what should be measured and how it should be measured, but more on whatever data is convenient and available' (Oxley et al. 2008: 47).

In this context, two points deserve emphasis. The capital assets of corporations are now often predominantly intangible, but they have transcended traditional measures of capital (based on a the depreciated historical cost of congealed physical property, or the capitalised value of clearly delineated future revenue streams). Second, the ambiguity of these assets has another dimension, the inherent abstraction and mobility of these assets means that nation state attempts to make fiscal claims against the revenues they generate or the stock of wealth they represent has become extraordinarily difficult.

As we have seen in the recent revelations of firms with significant intangible assets and their OFC activities, intangible assets render many extant fiscal tools for corporate taxation increasingly obsolete. The institutional architecture through which this plays out is generic to the tangible and intangible economy, but as we will show intangible capital is particularly suited to the abstract and liquid transformations of financial innovation. The spatial disaggregation and legal multiplication of the MNC, produces flows of costs, supplies, products, income and profits, which can transcend the capacity for measurement, national regulation and multilateral governance. Integrated production, distribution and sales processes across numerous corporate organisations and jurisdictions are mirrored by nationally circumscribed legislation. Each entity in an MNC corporate structure is, formally at least, governed discreetly in the jurisdiction of its incorporation so that legally components of an MNC retain a nationality, but as a unified international organisation the MNC does not exist in law (Picciotto 1992). Yet it has been

⁸ In 2008, Ron Bossio (FASB) warned that in the light of the accounting standards body's changed priorities, not to expect major improvements on accounting of intangibles to happen quickly (Mackie 2009).

estimated that 82 of the 100 largest publicly traded U.S. companies maintain 2686 ‘tax haven’ (or OFC) subsidiaries, where they keep more than \$1 trillion. Pfizer alone operates 174 ‘tax haven’ subsidiaries (U.S. PIRG 2013). Where the unitary conception of the MNC has been rendered increasingly obsolete by the unbundling of the assets and activities of firms this multiplication directly confronts the fiscal apparatus of the state.

Firms use networks of related entities, and a range of financial and legal services entities to allocate and re-allocate operations, costs, assets, revenues and liabilities, based on a range of strategic factors, including where they are taxed most favourably or afforded the greatest allowances. The consequence is that core fiscal concepts and tools have become increasingly inadequate. As Senator Carl Levin said when launching hearings into the use of OFCs by many intellectual property (IP) rich corporations; ‘High tech is probably the number one user of offshore entities. That’s because many of their assets are intangible intellectual property, which is hard to value and easy to move’ (cited in Lochhead 2012).

There is now widespread understanding of the growing international scope and scale of the operations of MNCs⁹, and that many of the most internationalised companies are also those with the largest intangible assets. The fiscal attributes (location of assets, costs and revenue streams) associated with intangible capital have proven very easy to shift across national and corporate borders. For instance, the percentage of receipts recorded by U.S. parent multinational corporations in OFCs was estimated to have grown from 13 percent in 1977 to 38 percent in 2005. Similarly, the proportion of U.S. direct investment in the same set of countries went from 19 percent in 1977 to 34 percent in 2005 (US National Academy of Sciences 2009: 63). Grubert (2003) estimated even in the 1990s, income associated with U.S. parent company R&D (IP, trademarks etc) accounted for about 50 percent of the income shifted through low tax jurisdictions. Recent research (Kaplinsky and Riedel 2012; Beer and Loeprie 2013) confirms that firms with a high proportion of intangible assets are much more likely to engage in profit and asset shifting through OFCs. The key point here is that MNCs now accumulate a large proportion of their assets in the form of intangible assets. It follows that they will seek to protect those assets by registering a trademark, copyright or patent and thus create a distinct asset as IP¹⁰.

Since the Global Financial Crisis (GFC) and in the context of subsequent widespread austerity policies, few of the firms that dominate today’s digital economy have escaped media and political scrutiny over their tax arrangements. During sustained austerity policies, public outrage at the seeming inequity of a situation where the most profitable segments of the corporate economy make little fiscal contribution to the societies in which they operate and from which their profits are drawn has been widespread (Seabrooke and Wigan, 2015). Considerable attention to these activities has ensued with high level hearings at the U.S. Senate, which placed Apple at the centre of the investigation into profit shifting by U.S. MNCs, and UK Public Accounts Committee, where Google, Amazon and Starbucks were accused by the Committee Chair, Margaret Hodge, of ‘being immoral’ (UK PAC 2012; U.S. PSI 2013). One theme is common across these debates

⁹ Grubert (2012) for instance estimates that aggregate pre-tax worldwide income earned abroad by multinational firms based in the U.S. increased from 37.1 percent in 1996 to 51.1 percent in 2004.

¹⁰ May (2010) outlines the conceptual difficulties for theories of property that arise in commodifying knowledge.

and inquiries; a generalised admission that capital is outgrowing the corporate form and the capacity of the state to successfully impose taxes on these corporations, their sales or their assets. This admission has generated substantive policy initiatives at the behest of the most powerful states, most notably in the form of the OECD's on-going Base Erosion and Profit Shifting (BEPS) project (OECD 2013; 2013a).

The first OECD BEPS report, 'Addressing Base Erosion and Profit Shifting', asserted that domestic rules and international standards, founded in an era of lower levels of economic integration, were struggling to keep up with a world 'characterised by the increasing importance of intellectual property as a value-driver and by constant developments of information and communication technologies' (OECD 2013: 5). The OECD report pointed to some 'fundamental questions as to how enterprises in the digital economy add value and make their profits, and how the digital economy relates to concepts of source and residence or the characterisation of income for tax purposes' (OECD 2013a: 10). The capacity of abstract commodity production and circulation to arbitrage national tax jurisdictions is illustrated by Robert Hatta, who helped oversee Apple's iTunes marketing and sales in Europe until 2007. As he observed, 'Downloads are different from tractors or steel because there's nothing you can touch, so it doesn't matter if your computer is in France or England. If you're buying from Luxembourg, it's a relationship with Luxembourg' (Duhigg and Kocieniewski 2012).

What the Apple example also illustrates is that it is increasingly possible to unbundle assets in terms of their legal protection, their tax jurisdiction and the location for revenue streams that they generate. Intellectual property and similarly abstract forms of *property right* are generally protected in and by the jurisdictions of major industrial countries like the United States, Britain and EU countries, but the jurisdiction of the asset for tax purposes and *rights to revenue streams* of IP are increasingly separated. In this way, OFCs give de facto mobility if not liquidity to IP, by unbundling important attributes of an asset. Here the rights to revenue streams from IP may be re-domiciled, without any necessary movement of the property right itself (for the legal protection of the IP rights). The 'duplicate' or unbundled IP attribute in the OFC is of course essentially a legal contrivance for channelling revenues in tax-advantaged forms. As such the rights to global revenue can be accumulated via a holding company and located in another (often offshore) jurisdiction. The offshore holding company, or special purpose entity (SPE) then receives the royalties on profits or license fees from the parts of the MNC that utilize the IP. This accumulation of cash and other liquid forms of capital has become globally significant, with one estimate suggesting there is somewhere approaching \$2.1 trillion in accumulated income being held by US headquartered firms in OFC entities. The 10 largest MNCs alone have an estimated \$681 billion held in offshore entities¹¹ (Rubin 2015; see also U.S. PIRG 2013).

This implies that the same property/capital can be thought of as being 'located' in many places simultaneously for different regulatory purposes, and we might therefore want to think of that unbundled capital as liquid and able to valorise locational ambiguity rather than just flowing from one location to another or existing within a network. One result of the locational arbitrage

¹¹ In comparison, the size of the global hedge fund industry is estimated at \$2.2 trillion (Chung 2012).

opportunities available to IP holders is that income accruing to the MNC's holding company is typically subject to very low or zero rates of tax in the place of the holding company domicile. In some ways this effectively 'capitalises' the revenue streams and the revenue/profits of this can then be redeployed to operational subsidiaries, other investments worldwide, repatriated on the occasion of a tax amnesty, or netted against losses somewhere else in the parent holding company. One generic IP tax structure that has become infamous, is the so-called 'Double Irish Dutch Sandwich' (DIDS). Used by a series of MNCs, this structure came to prominence in association with Google Inc., Microsoft, Adobe, Pfizer and Starbucks.

The typical DIDS structure employs two related but separate holding companies located in Ireland, one company which 'owns' the IP rights (typically under a cost-sharing arrangement) and one which is nominally the 'operating' company. It then employs a third company registered in the Netherlands. The 'ownership' holding company is a direct subsidiary of the U.S. parent and owns the operating company and the Dutch conduit entity, but the holding company is 'managed and controlled' through a Bermudan subsidiary and therefore treated as a Bermudan company by the Irish tax authorities. On the other hand, as U.S. rules base tax residency on place of incorporation, this company is treated as an Irish company by U.S. authorities. Consequently, the asset owning holding entity avoids taxation in the U.S. *and* Ireland and pays no corporate tax in Bermuda. The filling of the sandwich, the Dutch conduit, sits between the Irish holding company and the Bermudan entity. IP related royalties are channeled through the Dutch conduit as Ireland levies tax on royalties paid to Bermuda and no tax is levied on royalties exiting the Netherlands, widely known as a 'treaty haven'. Profits on worldwide sales are booked at the Irish operating company, but any tax due on those profits is reduced drastically since the tax base of the operating company reflects large royalty payments made to the IP holding company defined, before 2010, in the absence of Irish transfer pricing rules (Fuest et al 2013). Google, for instance, is estimated to have avoided approximately \$2 billion in worldwide income taxes in 2011 by shifting \$9.8 billion to Bermuda. The firm is said to have paid an effective tax rate of 3.2 percent tax on profit earned overseas (Drucker 2012), even though the majority of sales were in Europe where corporate income tax averages 22%.

Slicing the Apple

Following two years of billion dollar losses in 1996 and 1997 Apple underwent a major restructuring. Manufacturing was outsourced from Cork, Ireland and Colorado and California in the U.S. to third party manufacturers in Taiwan, China and other countries, while global treasury functions were concentrated in Ireland. This marked the onset of a strategy, which deployed global production networks, along with the inherent mobility and jurisdictional ambiguity of intangible assets and their revenue streams, to duplicate assets across legally differentiated space, and arbitrage loopholes in fiscal systems to maximize after tax profits. Bifurcation and replication are the operational principles here.

The May 2013 Hearing by the Senate's Permanent Subcommittee on Investigations sought to understand how Apple implemented a strategy that enabled the company to reduce its U.S. tax bill by around \$10 billion a year by shifting profits away from the U.S. and to Ireland. It turns out

that this strategy not only arbitrages the U.S. tax system, only 6% of Apple's pre-tax income is allocated to jurisdictions other than Ireland and the U.S. (U.S. PSI 2013). We have already noted the Double Irish Dutch sandwich template for tax arbitrage, but it is worth looking at Apple's particular corporate structure in more detail to bring out a couple of additional points. First established in 1977, Apple set up Apple Operations International (AOI) in Ireland to act as a group holding company as early as 1980. At the time Apple also conducted significant manufacturing activity in Ireland. To date AOI has not declared tax residency in any jurisdiction and despite an income of \$30 billion between 2009 and 2012 filed no corporate income tax returns and paid no taxes. Similarly, a second Irish affiliate, Apple Sales International (ASI) was established as the repository of Apples IP to manage sales to Europe and Asia and relations with Chinese third party manufacturers, particularly Hon Hai Precision (who operate in China under the name Foxconn, and are the key node in Apple's value chain). It is worth noting here that, in terms of the broader applicability of our argument, Hon Hai Precision is a Taiwanese firm, but registered in the Caymans; unbundling not only transcends borders, it dissolves the finance-industry divide.

First, Apple divides its global sales into two operations, one headquartered in the U.S. serving the Americas and one headquartered in Ireland serving the rest of the world. Apple's IP rights are similarly split between the U.S. and its Irish affiliate (where its DIDS strategy is deployed). This global division is in turn achieved through a second process of bifurcation. The legal ownership of Apple's IP remains in the U.S. where it benefits from strong protection, but AOI and ASI take economic ownership of a large share of Apple's IP via a cost sharing arrangement, wherein for a contribution towards the development of IP the purchaser gains economic rights accruing to that ownership worldwide. Even if the price paid to the parent is 'correct'¹² a cost sharing agreement, as opposed to a licensing agreement, transfers the economic rights to the IP to Ireland. A licensing agreement on the other hand means that the IP investment and return on investment remain in the U.S. (Sullivan 2013). Richard Harvey, former senior adviser to the U.S. Inland Revenue Service, explained in his testimony to the Apple hearing; 'Even if the payment from the tax haven affiliate to the U.S. parent is at true fair market value for the intangible assets transferred . . . the U.S. parent has effectively shifted income to the tax haven affiliate by virtue of the equity contribution' (Harvey 2013). Notably, AOI, the first amongst many offshore affiliates, is able to take advantage of the fact that Ireland establishes tax residency on the basis of the location of management and control while the U.S. bases determination of tax residency on place of incorporation. Hence, much like Google above, AOI is not tax resident anywhere. For the U.S. AOI is Irish, for the Irish on the other hand it is a U.S. entity.

Over the four years from 2009 to 2013, the Apple global sales affiliate ASI had an income of \$74 billion. ASI is also tax resident nowhere. The long-standing research and development cost-sharing agreement between Apple Inc. and ASI transfers the development rights to Apple products outside the Americas to the Irish subsidiary. In consequence 64% or \$22 billion of Apple's 2011 pre-tax income was booked in Ireland where 4% of the firms employees work, and 1% of its customers are located. The 2011 effective tax rate on all Apple's foreign earnings was

¹² The next section demonstrates that the notions of a 'correct' transfer price or its real value are oxymoronic concepts, with important regulatory implications.

2.5% and estimates of lost tax revenue range considerably, with some suggesting a figure of \$100 billion. In turn, along with strong global sales growth, Apple's profits increased from 20% in 2007 to 45% in 2011 (U.S. PSI 2013).

The profits of Apple's first tier electronics supplier, Hon Hai, have steadily declined over the same period. With Apple, unbundling and IP management is joined with 'enclave industrialization' (Baldwin 2011) wherein tier one suppliers in global commodity chains find little opportunity for upgrading, learning or value appropriation. Every iPhone and iPad sold in the United States increases the U.S. trade deficit with China by \$229 and \$275 respectively. However, only \$10 is captured in China for the assembly of these products (Kraemer et al. 2011). While this gap is partly a result of IP management, notably, 'The iPhone example also highlights that, beyond trade flows, more information on royalty payments and income flows is required to answer the question of who benefits from trade' (Miroudot and Yamana 2013). National accounts are in this way an artifact of company strategies, which isolate contract assemblers in extended, in this case largely Asian, supply chains. It has been estimated that Japan, Taiwan and South Korea capture only 10% of the value of an iPad (Kraemer et al. 2011). One of Apple's key suppliers is its main rival, Samsung. The relationship between the firms demonstrates the centrality of unbundling across corporate functions. Samsung supplies the flash memory, music and operating software, working memory and application processor for the iPhone, which account for 26% of all component costs (The Economist 2011). Simultaneously, Apple and Samsung have been in Asian, European and American courts fighting over intellectual property rights with both companies accusing the other of infringing core smartphone and tablet patents (Decker 2011; Reuters 2013). In the era of asset abstraction and the unbundled and decentered corporation it is perhaps not surprising that different aspects of the firm, in this case production and R&D, act in separate or non-contiguous fashions.

Apple is thus one of many large U.S. MNCs that hold a significant amount of their assets in OFCs, because any repatriation (outside of a tax repatriation amnesty) would trigger a large tax bill. Notably, at year-end 2010 between 76% and 100% of Apple's undistributed foreign earnings were held in U.S. bank accounts or U.S. investments (U.S. PSI 2014, 5). For fiscal purposes this capital is a relationship with an un-related offshore venture partner, but for financial and IP protection purposes it remains jurisdictionally in the U.S. Peter Oppenheimer, Apple's CFO, has cited U.S. tax laws and the fact that repatriating Apple's overseas cash would result in 'significant tax consequences' as reasons for this bifurcation (Jaworski 2012).

The problem presented by this growing offshore fund is how to reward Apple's investors in the major jurisdictional spaces. The solution, once again, was found in tying innovations in finance with IP. On March 19, 2012 Apple announced a \$10bn share repurchase programme and plans to begin a quarterly dividend at \$2.65 without repatriating any of the then estimated \$102bn the company held offshore back to the U.S. At the same time Apple announced a large \$17bn debt issuance to fund the share repurchase and dividend program. This capital raising was the largest corporate issuance on record, and at interest rates below most government bond rates, with maturities ranging from three years, yielding 0.45%, to thirty years, yielding 3.85%. Apple was able to satisfy investors by improving its return on assets and shareholders by returning a small

portion of profits. Apple can borrow in U.S. markets at rates below nation-rates, on the basis of global profits and assets, which are a function of successful unbundling and which under current laws cannot return to the U.S. without incurring a tax charge at a headline rate of 35%. While Apple is a borrower in the U.S. it is a creditor in the rest of the world. Legally Apple is its myriad separate entities. Economically, as reflected in its borrowing price, it is one (low-risk) economic entity.

This structure illuminates key aspects of the specificity of contemporary capital and its spatio-temporality. First, intangible property may be now exceeding David Harvey's (1982) notion that property is increasingly being treated *as if it were* a financial asset. What seems to be happening in the contemporary role of IP and OFCs is that intangible property is increasingly being produced, arranged and mobilised as an integrated industrial *and* financial asset¹³. This puts it at the leading edge of the financialisation of capital and wealth. Second, and in direct relation to this, offshore entities associated with MNCs have been accumulating not just IP assets but large cash reserves in OFCs. One example will serve to highlight this development. As of 2014 U.S. companies held \$2.1 trillion offshore, with 8 technology firms, including Google, Apple and Microsoft holding a combined \$210 billion, accounting for one fifth of the total and adding 20% to that stock over 2013-14 (Rubin 2015). This demonstrates that the link between corporate headquarters and the jurisdictional location and timing of asset, investment, ownership, and revenue extraction is being bifurcated. It also means that these offshore cash entities are increasingly akin to a sort of company-specific (tax) arbitrage hedge fund, because managing those global cash reserves is now increasingly a key to corporate success.

Here the function of the offshore entity as *de facto* hedge fund is to manage the wealth of the corporation in ways that leverage and arbitrage the spreads on tax and other costs between global operating subsidiaries and headquarters. To return to the Apple case study we have used to drive our analysis, the company has a U.S., Nevada listed subsidiary, Braeburn Capital, which manages Apple's estimated \$200 billion global investment portfolio. To put that into some perspective, Braeburn Capital therefore has more than \$30 billion more funds under management than Bridgewater Capital, the world's largest specialist hedge fund (Durden 2015).

What we used to think of as industrial MNCs have typically developed sophisticated and complex financing and tax minimisation strategies involving a range of corporate entities across several jurisdictions. Moreover, this multi-jurisdictional appearance of attributes of capital makes it difficult to determine where, what form and even in what direction 'capital' is flowing. Indeed, where capital is at any point can depend on who is measuring and for what purpose. Significantly, these cost and revenue spreads may not just permit forms of transfer pricing, they may also permit the indefinite non-taxation of corporate income - hence the rise of terms like 'double non-taxation' and 'ocean money' to describe this development¹⁴. Here we are seeking to highlight that capital flows can no longer be understood readily in terms of cartographic space, and perhaps also increasingly not in terms of Cartesian time-space principles.

¹³ Wayne Upton jnr (2001), a researcher with the accounting standards board in the US, defines an intangible asset as "...nonphysical sources of probable future economic benefits to an entity"

¹⁴ The parallels with the earlier development of Eurodollar markets are apparent here.

Third, and following the previous point, linear (and perhaps even network) concepts of commodity's and capital's spatiality, which have been read largely off an orthodox cartographic imaginary may no longer be adequate. What is increasingly apparent is that capital is organised and deployed through strategies of both movement and non-movement. Capital instead of just moving through space is also being duplicated and the relational attributes transformed across space and time. What animates this movement and non-movement is liquidity. Hence, Apple's IP exists in America as an industrial asset to be protected under U.S. law (with limited direct liquidity) but it also exists in Ireland as a financial asset ruled by Irish tax law (where it is much more liquid). The revenues and costs associated with those IP assets may in turn have different legal and financial journeys (and different forms of liquidity).

We have established that in the intangible economy this novel spatial and territorial development is most pronounced. But it is not limited to this sphere. Indeed, if there is a historic particularity to contemporary capital we would suggest it lies in the specificity of its abstraction and mobilities. But increasingly, we need to confront the fact that the legal and financial sale and transfer of commodities and assets does not have to parallel their journey through space, or time. It is this transformation that confronts the capacity of authorities to assert fiscal claims.

Regulating Conceptual Uncertainty

The GWC framework suggests a tri-polar relationship between asset suppliers, clients and regulators. Regulatory traction on an asset is conditioned by levels of chain complexity, the relative capacities of actors to innovate and collaborate and the position of the supplier and client in relation to the regulator, with for instance, the supplier in many cases shielding the client from regulator scrutiny (see Seabrooke and Wigan, this issue). We have suggested that some GWCs, particularly 'hierarchy', are characterised by high levels of conceptual ambiguity or uncertainty. In these cases, most pronounced in the immaterial economies of finance and the digital economy, regulatory traction is mitigated by the absence of a clear conceptual basis upon which to construct regulatory instruments. The work at the OECD between 2013 and 2015 on transfer pricing under the auspices of the Base Erosion and Profit Shifting initiative is instructive in this regard. While transfer pricing methodologies have consistently been subject to critical appraisal (Picciotto 1992; Avi-Yonah et al. 2009), in the face of the digital economy and rise of intangible assets their conceptual integrity has broken down.

Two principles are enshrined in the rules developed and promulgated by the OECD to govern transfer pricing; the Separate Entity Principle (SEP) and the Arm's Length Principle (ALP). The SEP stipulates that units within a multinational corporate structure be treated a distinct, despite that the formation of an MNC is motivated by the synergies and efficiencies generated by operating as an economic unity. As noted above, each legal entity is separately liable to fiscal claims in its jurisdictions of operation. The ALP, recognising this economic-legal bifurcation, stipulates that prices paid for transactions between related parties should mimic prices that would be paid between unrelated parties in a market transaction. The ALP is applied on the basis of a comparability analysis of the conditions in a controlled transaction with the conditions that would

have been had the parties been independent and undertaking a comparable transaction under comparable circumstances. This procedure may appear reasonable when applied to the pricing of commodities that have a readily observable market price. The requirement might also be compatible with a world of vertically integrated MNCs that build complete value chains in each jurisdiction of operation. However, the rationale for transacting within an MNC as opposed to on the market suggests MNC formation provides benefits for the firm, which cannot readily be market sourced. If there is by definition no market price a stipulation that intra-firm pricing should mirror market pricing, or the Comparable Uncontrolled Price (CUP), collapses under the weight of its own logical inconsistencies. MNCs orchestrate integrated transnational production. As such imputing the value embodied in a good or component of a good or service to a discrete entity within a MNC demands concerted construction.

Problems of transfer pricing in the intangible economy are more acute. Not only is pricing and its regulation constrained by valuation issues noted above, many intangible assets do not have a market price, readily observable or not. Locating a comparable for a unique asset is by definition impractical. Where there is no comparable the MNC is positioned to deploy its unique knowledge regarding the product development process, product content and ultimate commercial value of the asset in construing a comparable for transfer pricing purposes. An intangible asset may be transferred from a high tax to low tax jurisdiction prior to the commercial value of the asset being revealed on the market. The value of early development intangibles is best known to the owner. Characteristic of ‘hierarchy wealth chains’ (Seabrooke and Wigan, this issue), high information asymmetries here between the taxpayer and tax authorities mitigate against regulatory traction. This asymmetry is extenuated with regard to ‘hard-to-value-intangibles’¹⁵.

Work under Actions 8, 9, 10 and 13 of the OECD’s Base Erosion and Profit Shifting initiative targets transfer pricing outcomes that are misaligned with value creation (OECD 2013a)¹⁶. While the results represent substantive change, they are marked by conceptual ambiguity (OECD 2015). Despite explicit recognition that reference prices for a Comparable Uncontrolled Price are often not readily available and accurately forecasting the value of an intangible asset is fraught with difficulty the revised transfer pricing guidelines maintain a preference for the ALP. However,

¹⁵ The OECD defines ‘Hard-To-Value-Intangibles’ as: intangibles that are only partially developed at the time of the transfer; intangibles that are not anticipated to be exploited commercially until several years following the transaction; intangibles that separately are not HTVI but which are connected with the development or enhancement of other intangibles which fall within the category of HTVI; Intangibles that are anticipated to be exploited in a manner that is novel at the time of the transfer. The 2014 Discussion Draft on transfer pricing guidelines for intangibles goes on, ‘For such intangibles, information asymmetry between taxpayer and tax administrations may be acute and may exacerbate the difficulty encountered by tax administrations in verifying the arm’s length basis on which pricing was determined. As a result, it will prove difficult for a tax administration to perform a risk assessment for transfer pricing purposes, to evaluate the reliability of the information on which pricing has been based by the taxpayer, or to consider whether the intangible or rights in intangibles have been transferred at undervalue or overvalue compared to the arm’s length price, until ex post outcomes are known in years subsequent to the transfer.’ (OECD 2014: 5)

¹⁶ Actions 8 to 10 update the OECD’s transfer pricing rules and have been amalgamated as, ‘Aligning Transfer Pricing Outcomes with Value Creation’ and Action 13, ‘Transfer Pricing Documentation and Country-by-Country Reporting’ contains revised standards for transfer pricing documentation incorporating a master file, local file, and a template for country-by-country reporting of revenues, profits, taxes paid and certain measures of economic activity. The revised approach requires taxpayers to articulate consistent transfer pricing positions and promises to provide tax administrations with useful information to assess transfer pricing and other BEPS risks.

where an arm's length price cannot be construed the guidelines allow for the use of a profit split method, first introduced as a method of last resort in the 1995 revisions at the insistence of the U.S. Profit split transfer pricing methods do away with the fiction of forecasted prices, instead allowing for retrospective allocation of profits between related entities on the basis of the commercial performance of the asset. A shift from profit splits being a method of last resort to a recognition that the number of occasions where profit splits are the only resort implies a recognition that the rise of the intangible economy has revealed the ALP as anomalous. Country-by-Country Reporting (CBCR) mandated under Action 13 extenuates this conceptual ambiguity. CBCR directly confronts the SEP and potentially eliminates opportunities for profit shifting through corporate transfer pricing. While the OECD has made explicit that CBCR should not be used for transfer pricing purposes, separate financial reports for each operational jurisdiction provide revenue authorities with a risk assessment tool to evaluate transfer prices. CBCR provides a direct measure of economic substance, the concrete presence and activities of MNCs jurisdiction by jurisdiction. As such, the CBCR report provides revenue authorities a gauge of feasibility in regard to the prices attached to internal asset transfers. Where sales, revenues, payroll, assets and risk assumed are revealed in each jurisdiction and transfer pricing allocates disproportionate value to a unit of the MNC that makes little discernible contribution to asset production and development revenue authorities are empowered to revisit the transaction and impose a profit split.

In combination, CBCR and profits splits place the OECD's transfer pricing guidelines in a curious bind. At the same time as the guidelines assert the primacy and superiority of arm's length transfer pricing they recognise that the development of the MNC and the rise of the immaterial economy has rendered the ALP and SEP practically defunct. In consequence the guidelines support transfer pricing methodologies built on mutually exclusive conceptual foundations. With CBCR and the profit split it is recognised that market pricing within integrated MNCs is often not feasible and forward looking estimates of asset value impractical. The dominant transfer pricing methodologies based on construing a market price for a non-market exchange have constituted the basis of a conceptual arbitrage where firms with large portfolios of intangible assets have used regulatory stipulations designed for a different era, different forms of capital and a different accumulation process to strategically manage fiscal exposure. The global value chains approach sought to remedy issues of unequal exchange in dispersed production processes. The GWC approach not only adds to the GVC approach issues of finance, law, taxation and accounting, it extends the agenda of remedying loss and exploitation. The GWC approach also draws focus on the frontiers of experimentation and innovation in accumulation where capital is transcending earlier regulatory and jurisdictional orders. In this case, the legal idealism of the ALP and SEP have been historically transcended by the proliferation of more abstract forms of capital and fluid processes of accumulation.

Conclusion

The paper has explored some important developments in IPE. In particular, it has built on the analysis of the growing fluidity of production and trade that has characterised GVC and GPN analysis with the emerging growth of intangible assets and global finance, and that has allowed

us to introduce the increasing bifurcation of state jurisdictional space. In coming to terms with the growth of OFCs, as well as the related growth of enclaves, free trade zones and so on IPE scholars have alerted us to the unbundling of sovereignty, or as Palan (1988, 626) put it a 'bifurcation of the sovereign space into relative realms distinguished by degrees of regulation'. In the case of OFCs for instance, sovereignty is being unbundled into legal and fiscal sovereignty domains, permitting some zones or spaces to be treated differently in terms of taxation or regulatory demands, than other spaces. But, more broadly, offshore finance, '...links a seemingly abstract and uncontrollable space of flows with the productive economy and the space of politics' (Hudson 2000, 5). These new forms of abstract capital which are being mobilised through OFCs along with distributed sovereignty are at the forefront of global accumulation and geo-regulatory change, and are thus 'a key moment in the transition from a modern to a post-modern geo-political economy' (Hudson 2000), and responding to those changes points to new horizons for many of IPEs core geographic and jurisdictional concepts (Agnew 1994; Parker 2009). It is significant that IPE scholars have been at the forefront of both these strands of inquiry. What these often otherwise conflicting approaches share in common is the search for more open and fluid categories of production, trade and nation-state, better suited to the more open and fluid nature of contemporary global patterns of global commerce.

This work has pointed to the decreasing salience of a legally unified, territorially bound spatio-political imaginary, and posed a range of alternatives, beyond ontologically rarified state and corporate boundaries (Agnew 1999). The current paper built on that literature by developing the argument that if we wish to understand (and deconstruct) global value and wealth chains and how these condition conceptions of the nation state and its place in international political economic relations, we also need to open up the concept of capital within IPE. We develop the proposition that in re-considering the spatial and temporal dimensions of capital and understanding of developments like financial derivatives and intangible property is crucial to understanding the geography of contemporary capital, and in turn the most complex and difficult to regulate wealth chains.

One proposition that emerges from this paper is that a necessary counterpart to the re-conceptualisation of territoriality (critical border studies, targeted touch down, unbundled sovereignty, de- and re-territorialisation, bifurcation of state regulatory spaces and relationships etc), is to recognise the need to develop an adequate conceptualisation of the changing spatial and temporal scales and logics of accumulation. To date, this has occurred mainly in terms of a focus on changing global production and commodity flows and the development of suite of new conceptual approaches, notably GVC and GPN.

In developing its analysis this article focussed on two important and contiguous developments in the nature of global accumulation: changes in the nature of the industrial corporation (the growth of intangible assets) and of financial technology and institutions. The paper has shown that each are expressions of greater abstraction in the form of property, and the new spatial and temporal liquidity they provide to capital. In the case of intangible property, we charted the growth of intellectual property (IP) rights as proportion of corporate assets, and note that these property rights represent an inherently abstract and financialised form of capital. They are inherently

mobile forms of capital, but have developed in paradoxical ways, in that the property rights can be duplicated and in this way can exist in different forms and in more than one place at the same time. Understanding the spatial and temporal aspects of these now dominant forms of hybrid industrial/financial capital is a key analytical challenge for IPE and a range of other discipline areas.

The editors of this special issue propose the concept of Global Wealth Chains as a way of capturing the new forms of property and new forms of financial security that are being produced and circulated globally, and how they require a new focus not currently evident in GVC and GPN approaches. How we integrate the patterns of intangible asset accumulation and financial innovation in and through MNCs (and their integration into global arbitrage strategies) represents an important future issue. It may be then that IPE will increasingly need to accommodate the leading role of intangible capital and abstract finance both as a form of global accumulation, and as the leading forms in which the state itself is being re-organised. While IPE may still need to attempt to 'see like a state', in developing a concept of capital adequate to that project it may increasingly also need to think like a hedge fund.

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