Seeing Like a State - Thinking like a Hedge Fund:

Intangible Assets, Financial Derivatives and Unbundling the State and the Corporation

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

Abstract

The current debate about international taxation is guided by a generalised admission that the international regulatory structure is out of date and unfit for purpose. This has led to concerted efforts to upgrade regulation and ameliorate the fiscally deleterious effects of processes unfolding through global wealth chains. This article argues that the challenges facing regulators go beyond jurisdictional competence and persistent collective action problems. Regulators are confronting changes in the form of capital itself. Developments of ownership in intellectual property and financial derivatives permit the disaggregation and unbundling of aspects of the firm and capital across space and time. In focusing on developments in derivatives finance and corporate intangible property, this article suggests that if we wish to deconstruct ‘global wealth chains’ we also need to open up the concept of capital and think about capital in more fluid and relational ways. The increasing prevalence of forms of capital that are inherently abstract and stretch across as well as compress space and time mark a structural disjunction between on one hand the state and globalizing capital and the other value and wealth distribution.

* University of Sydney
** Copenhagen Business School

Introduction

The scale and fiscal implications of global wealth chains have recently become the subject of global media and policy attention in large part because of the revelations of audacious tax planning by prominent global corporations through offshore financial centres (OFCs). Estimates vary, but conservatively there are several tens of billions of dollars of fiscal revenue avoided every year via activities in wealth chains. At the forefront of the controversy about the growth in base erosion and profit shifting through OFCs has been the rise to prominence, and increasing mobility, of intangible corporate assets like intellectual property (IP), trademarks and franchise rights. These abstract forms of capital have proven easy to ‘unbundle’ from the corporation and shift across corporate and national borders. We locate a similar process of unbundling of attributes of capital in the spectacular growth of, and innovations in, financial markets. In particular, the ability of financial innovation to help change asset forms, unbundle asset attributes and price and trade them separately has been critical. This is most clearly evident in the development of financial derivatives, which have grown from the sleepy realm of storable agricultural commodities to become the largest set of financial transactions in the world. Derivatives are a form of abstract capital that permits the transformation of the spatiality, temporality, ownership and identity of attributes of capital. Importantly, financial derivatives can

1 Audacious both in the scale of tax minimization and the defiant stance of many companies. Eric Schmidt, the 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).
also alter where, when and on what definitional basis capital is subjected to state regulation and accounting – including state fiscal claims.

There is already a significant and growing body of research across several disciplines on the political and legal conception of the nation-state, territoriality, and borders required to address the changing spatial and national patterns of accumulation, including the growth of the ‘offshore’ world (see for instance Deleuze and Guattari 1980; Ruggie 1993; Agnew 1999; Scott 2001; Cameron and Palan 2004; Wai 2002, 2008). This paper builds on that growing literature by developing the argument that if we wish to understand (and deconstruct) global wealth chains and how these condition conceptions of the nation state and its place in international economic and political relations, we also need to open up the concept of capital. This paper begins that research strategy by examining two separate but contiguous developments – the changing nature of the industrial firm and the development of forms of abstract finance. We develop the proposition that understanding these two developments is crucial to understanding the most complex and difficult to regulate wealth chains.

The editors of this special issue nominate five types of wealth chain from market to hierarchy with complexity increasing and regulatory liability decreasing in line with progression through the forms. IP and financial innovation based tax strategies largely occupy captive and hierarchical chains. Here products are made either in-house or in close relationships between supplier and client. The ability to gain regulatory traction on these chains is severely circumscribed by product complexity, flexibility via the iterative re-design of products and low information asymmetry between client and supplier. Levels of coordination are high. We suggest that regulatory liability is lowest in these chains as the high levels of capacity between the supplier and client ensure regulators and revenue authorities are in a constant game of cat and mouse. More systemically, the abstract nature of the products here and the capacity this abstraction provides for identity and jurisdictional arbitrage mean that these chains not only outrun regulatory capacity but transcend the conceptual apparatus through which this capacity is exercised. It is for this reason, for instance, that the OECD’s Base Erosion and Profit Shifting initiative (OECD 2013) is stalled on Action 1 ‘Addressing the Tax Challenges of the Digital Economy’ and financial innovation is only addressed under the rubric of Action 2, ‘Hybrid Mismatches’. The wealth chains framework provides traction here, focusing on process and allowing for the identification of forms of capital and capital mutation as well as breaking down what the literature often treats as aggregates into a chain of transactions generated between regulators, suppliers and clients.

The article is presented in four sections. The first briefly contextualizes international capital movement in the study of IPE to highlight the conceptual ambiguity upon which captive and hierarchical wealth chains thrive and of which abstract forms of capital are constitutive. The section maps contemporary capital flows and identifies the central role of offshore jurisdictions in channeling and defining these flows. A second section addresses profit shifting in the digital economy and the unbundling of the contemporary multinational corporation (MNC). We explain the mechanics of this profit shifting and draw out implications for concepts of territory and mobility. A third section turns to the changing forms of finance, especially the growth of financial derivatives and their capacity to unbundle attributes of capital, and provide them with liquidity and mobility. The concluding section takes up the question of the concept of capital. Here we contrast proximate and underlying causation to suggest that the developments analyzed in the digital economy and in financial derivatives have broader implications in terms of the historical

---

2 Hybrid mismatch arrangements exploit differences in the characterization of an entity or arrangement under the laws of two or more tax jurisdictions to produce a mismatch in tax outcomes.
evolution of the material forms of capital and relationship between these and abstraction. In turn
complexity, abstraction and close coordination between supplier and client mitigate regulatory
intervention.

The Spatiality of States and Capital – Offshore beyond national accounting

It is worth recounting some of the challenges posed to traditional conceptions and measures of
balance of payments by developments of the past two decades. These developments imply capital
flows have become the driving force of internationalization, financial flows cannot be resolved to
commodity flows, price changes are derivative of stock measures and the national accounts
have been overwhelmed by that which they cannot recognise. The importance of global wealth
chains here is clear. Much of global capital now flows through, or is booked in OFCs, confirming
the productivist bias of balance of payments measures and the global value chains perspective in
so far as this does not account for finance, accounting and law. Global wealth chains obscure,
hide, disaggregate and transform capital movement (and ‘non-movement’) and provide an
important part of filling in what is now a conceptual void. In so far as balance of payments
uncertainties and puzzles are proxies for the value-wealth disjuncture highlighted by the
framework for this special issue they open up the question of contemporary transformations of
capital. Using the traditional balance of payments taxonomy, how do we make sense of the
contemporary international mobility of investment and finance? Five points stand out.

First, the rapid growth of cross-border transactions in finance and investment make commodity
trade appear as an increasingly minor category, despite the retrenchment in cross border flows
since the crisis (MGI 2013). Whilst many are inclined to apply terms like ‘speculation’ and ‘hot
money’ to this growth, the shift in meaning for national accounts is profound. While the balance
of payments measures changes in the stock of ‘foreign’ finance and investment within a nation
over a given period (a year) this change in stock is now the net figure of rapidly growing inflows
and outflows. Second, whilst balance of payments has been framed in terms of the aggregation of
country-to-country transactions, with trade as the expected dominant form of transactional
interaction (and capital flows as more or less the ‘adjustment’ mechanism), we now understand
that the processes are more complex, with among other developments, capital flows perhaps
determinant. As the Bank of England’s post crisis research shows there has been both a widening
and deepening in the nature of international capital flows. One effect of that transformation has
been to create vulnerabilities to both the directions and liquidity of those capital flows – a
development Andrew Haldane has termed “the big fish small pond problem” (Haldane 2011). The
key point for our analysis is that whereas once capital flows were thought of as minor adjustment
processes for national balance of payments, they have increasingly become the driving force in
both short and medium term balance of payments processes.

Third, the net international investment position shown in the balance of payments measures both
flows and changes in the valuation of foreign assets (due to exchange rate changes and mark-to-
market computations of asset values). As exchange rates and stock prices have become more
volatile in the last decade, this flows through to increasing volatility in capital account valuations.
Chart 1 (following Bertaut 2006) shows the international investment position for the United
States, broken down into new flows (transactions) and exchange rate and price valuation changes.
What we can take from the disaggregation is that some ‘flows’ recorded in Balance of Payments
are actually statistical artefacts of accounting conventions.
Fourth, the inability of balance of payments data to accommodate current global financial and investment transactions is indicated in aggregate global data showing that the world is running a rapidly-increasing financial account deficit (exports of capital are greater than imports). This incoherence points to the importance of OFCs and tax arbitrage, because one of the key roles of OFCs is to provide ways of disguising capital from national tax (and therefore statistical) authorities.

Chart 2 - Global Balances on Capital and Financial Accounts -1988-2010
Fifth, Offshore Financial Centres (OFCs) have not only grown in numbers, they are now so ‘entangled’ with the onshore world that it is difficult and less and meaningful to draw distinct lines between on and offshore. Given the integral role of OFCs in global capital flows, more in-depth analyses of these data could be useful. For example, by searching through the IMF Coordinated Direct Investment Survey (CDIS), it emerges that in 2010 Barbados, Bermuda and the British Virgin Islands are recorded as receiving more FDI (combined 5.11% of global FDI) than Germany (4.77%) or Japan (3.76%). During the same year, these three jurisdictions also accounted for more investments into the world (combined 4.54%) than Germany (4.28%). On a country-by-country position, in 2010 the British Virgin Islands was the second largest recorded investing country into China (14%) after Hong Kong (45%) and before the United States (4%). For the same year, Bermuda appears as the third largest investor in Chile (10%). Similar data exists in relation to other countries, for example Mauritius is the top investor country into India (28%), the British Virgin Islands (12%), Bermuda (7%) and the Bahamas (6%) are among the top five investors into Russia (OECD 2012: 17).

Also, while there is substantial evidence of capital passing through OFCS, the pass through is not simple. The relations between OFCs are quite extensive.

Source: IMF Balance of Payments Committee, 2011
A common theme to emerge from this discussion is that concepts of money and capital based on certain assumptions about their spatial or territorial fixity, and of course a related nationality of capital, which were themselves in part a product of the particular historical developments and regulatory arrangements (fixed exchange rates, capital controls, national and corporate accounting conventions and so on) have been breaking down. Indeed, many innovations in finance as well as corporate organization have occurred initially at least as ways of giving greater fluidity and abstraction to capital in order to bypass those regulatory arrangements. For instance, Burn (1999) suggests somewhat dichotomously the 1957 emergence of the Euromarkets in London marked a shift from financial markets directed to distinct ‘national’ regimes of accumulation to unregulated markets orientated towards global speculation. Regulatory arrangements have been increasingly transcended by the evolution in capital, and one effect of this has been that developments in capital have iteratively undermined earlier regulations and concepts. This is particularly apparent in the global wealth chains where the fluidity, abstraction and mobility of contemporary forms of capital have outrun fiscal systems founded on a conception of capital as relatively fixed and predominantly physical.

**Intangible Assets 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."


It is worth noting at the outset that intangible property is not new. 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 (who referred to intangible assets as ‘pecuniary’ or ‘vendible’ capital and in so doing made the distinction between industry and business), and J.R. Commons (who took the issue further and suggested a unifying concept of capital defined in terms of exchange value and more particularly not in terms of its thingness and history, but in terms of futurity and its ‘earning power’). Commons (1911; 1934) proposed that every transaction manifests in an economic form and a legal form, with its legal manifestation determining distribution. While this tradition nominated intangible assets as definitive of competition and accumulation, for most of the twentieth century, other issues about the corporation including the nature of ownership and control, the mass labor process and the conglomerate form took precedence. Intangible property remained a largely residual category in corporate accounting (forming part of ‘goodwill’), and was accorded a second order status in analysis.

It took a new wave in the development of intangible property itself in the late twentieth century to undermine this residual position in corporate affairs. Between 1984 and 2004, for instance, the intangible assets of the top 100 US listed companies grew from around a quarter of balance sheet valuation to almost two-thirds. This is also reflected in changes in corporate capital expenditure, such that by the mid-2000s investment in intangible assets in the United States accounted for about 11 percent of GDP (about $3.1 trillion), exceeding investment in tangible property, such as plant and equipment (Corrado et al. 2006; Nakamura 2001). The spatial and conceptual implications of such abstract (and inherently mobile) forms of capital are becoming a frontier issue for a range of disciplines, including economic and financial geography.

Conceptual difficulties arising from the growth of the intangible economy abound. The ‘correct’ valuation of intangible property is highly ambiguous due to the difficulty of calculating production costs, expected income and the obsolescence period of the asset. These difficulties point to the potentially unique nature of the asset. How to isolate aspects of knowledge as assets and measure the role of these assets in firm value, economic growth and national accounts remains an on-going puzzle. This persistent uncertainty is indicative of a fundamental paradox. Even as the knowledge economy in advanced economies is perceived to be the key driver of growth and competitive position, concepts of capital deployed in economics, accounting and taxation are inadequate when faced with the task of capturing or analysing knowledge in economic life. A measurement paradox not only threatens the integrity of economic analysis, but impacts upon the efficacy of fiscal systems and the relations between them.

The paradox is acute in national accounting systems. Conventionally, measures of investment in national accounts are comprised of tangible assets such as machinery or buildings. Investment in intangible assets has been treated as an expense, and thus has detracted 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 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 recognised as an expense. 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). In a context where much of the intangible economy and its component parts, such as integrative competencies across a firm (know how), cannot be incorporated in company accounts, and company accounts form the

1 For many high tech and pharmaceutical companies, intangible assets constitute well over 90 percent of corporate value.
basis of national accounts, our imagination of a knowledge economy and assignment to it of preponderant significance rests on theoretical conjecture and pragmatic adjustments. ‘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).

The challenge generated by the intangible economy to national accounting is mirrored at the level of the firm. The difference between how much is paid to buy a firm and a firm’s book value is nominated as goodwill, which is treated as an intangible asset for accounting purposes. The contribution of goodwill to corporate value from 1945 to 1990 remained relatively steady with book (historic cost) to market values in the main stock exchanges at rough parity. Since the advent of the ‘new economy’ the market value of firms has far outstripped book value reaching in the United States just prior to the dot.com debacle a ratio of 3 to 1. The bursting of the dot.com bubble led to a reduction in this ratio, which now stands at approximately 2 to 1 on the world’s main exchanges. This reduction should not distract from the secular trend. The ultimate measure of firm value, share prices, has become largely divorced from accounting measures. The ‘goodwill gap’ has not gone unnoticed by accounting standard setters who engaged in a prolonged process of searching for intangible assets that can fill it (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’ and suggesting that intangible assets ‘best be dealt with through narrative financial reporting (OECD 2006: 5). In 2007, after a long period of searching, the International Accounting Standards Board and the US Financial accounting Standards Board gave up trying (IASB 2007). The point here is not only that goodwill challenges accounting concepts and hence concepts of capital and that an increasing proportion of corporate value is embodied in goodwill. In this context, two points deserve emphasis. Capital is now predominantly intangible and at the same time intangible assets have transcended traditional measures of capital. Second, where components of the intangible economy and goodwill can be isolated as assets such as an intellectual property right, the confrontation between on one side capital’s abstraction and inherent mobility and the other, states with claims against it becomes acute.

The knowledge economy and intangible assets render extant fiscal tools for corporate taxation increasingly defunct. The institutional architecture through which this plays out is generic to the tangible and intangible economy. The spatial disaggregation and legal duplication of the MNC, or aspects of the MNC, produce 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 jurisdictions are mirrored by nationally circumscribed legislation and the multiplicity of the firms legal identities; the MNC does not exist in law (Picciotto 1992). 82 of the 100 largest publicly traded U.S. companies maintain 2686 ‘tax haven’ subsidiaries, where they keep more than $1 trillion. Pfizer 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 that constitute the firm this multiplication blunts the purchase of the fiscal apparatus of the state.

Firms use networks of related entities to reallocate operations, assets, revenues and liabilities to where they are taxed least or afforded the greatest allowances. The consequence is that core fiscal

---

4 In accounting the ‘goodwill gap’ is a measure of the unidentified difference between the book value of a firm calculated by adding together all the firm’s balance sheet assets and the stock market value of a firm calculated on the basis of future income streams discounted to present value. The rise of financial derivatives markets was central to the desire to shift from a historic cost to a fair value, or market price (incorporating goodwill), accounting paradigm. Derivatives valuation could simply not proceed on the basis of historic cost.
concepts and tools are inadequate. For instance, the concept of permanent establishment is used to determine when a non-resident firm may be subject to taxation at source, or where the value is created. However, criteria for making this determination may differ from country to country creating opportunities for fiscal shopping. While the permanent establishment concept mainly relies upon substantive physical presence, a situation where a dependent agent carries out business for a non-resident may also trigger a fiscal claim. However, in some jurisdictions where a sales or distribution agent does not take ownership of inventory, a ‘commissionaire’ rather than a ‘dependent agent’, this can be avoided. Further, when it is established that a share of a firm’s profit originates from a country and that country has a fiscal claim on those profits, it must be determined what proportion of global profits should be subject to that claim. This determination is construed via transfer pricing rules, deploying the Arms Length Principle (ALP).

The ALP requires that prices established for transactions between related parties must reflect prices that would prevail in a market transaction. The ‘market transaction’ establishes an equivalent price for the internal transaction, at least in principle. The ALP is based on significant activities, assets used and risk assumed, but establishing these is more art than science, leaving ample room for firms to over price imports and under-price exports in a higher tax jurisdiction. Where assets are intangible the challenge of establishing prices and fiscal presence is extenuated. Intangible assets increase both the volume of assets available for profit shifting and the uncertainty surrounding ALP based pricing. There is no simple recipe for valuing intellectual property embedded in unique proprietary technology. As Senator Carl Levin said, launching hearings into the use of offshore financial centres by many 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).

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 of their tax arrangements. Stories about the tax planning strategies of firms such as Google, Amazon, Apple, Microsoft and IBM have been a mainstay of the print media (Drucker 2010; Gongloff 2012; Goodley and Milmo 2011; Norris 2013). 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. Considerable impairment of these firms’ reputational capital 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 omnipresent across these debates and inquiries; a generalised admission that the corporation has outgrown the capacity of the state to successfully impose taxes. This admission has generated substantive policy initiatives at the behest of the most powerful states (G20 2009; G8 2013; G20 2013), most notably in the form of the OECD’s now on-going Base Erosion and Profit Shifting (BEPS) project (OECD 2013; 2013a).

The first OECD BEPS report, ‘Addressing Base Erosion and Profit Shifting’, was premised on the problem of domestic rules and international standards grounded in an environment characterised by lower levels of economic integration as opposed to one ‘of global tax payers,

---

5 Perhaps extreme, perhaps unsubtle, examples include UK firms importing toilet paper for £4,121.81 a kilo and exporting missile and rocket launchers to Israel for £52.03 (Sikka 2003).
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 subsequent ‘Action Plan on Base Erosion and Profit Shifting’ emphasised the challenges posed by the digital economy in terms of the increasing importance of intangible assets, difficulties in tracking and measuring value creation and barriers to determining the jurisdiction where value creation takes place, asserting, ‘This raises 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). For instance, Robert Hatta, who helped oversee Apple’s iTunes marketing and sales in Europe until 2007 explained in the New York Times, ‘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’ (Calvert 2012).

We are all aware of the growing international scope and scale of the operations of MNCs, and in that development many of the most internationalised companies are also companies 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 offshore jurisdictions 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 (Karlinsky and Riedel 2012; Beer and Loeprich 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 intellectual property (IP).

While these forms of property rights are generally protected in and by the jurisdictions of major industrial countries like the United States and Britain, the rights to revenue streams of IP are increasingly internationalised, as rights to revenue streams from IP may be re-domiciled, but the IP itself (if we can speak of it as a thing), will often not be held at the offshore holding company (for the legal protection of the IP rights). The ‘duplicate’ IP in the offshore jurisdiction is 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 significant, with one estimate suggesting there is somewhere approaching $1.5 trillion in accumulated income being held by US headquartered firms in OFC entities. The15 largest alone have around $800 million held in offshore entities (Smith 2013; U.S. PIRG 2013).

---

6 Grubert (2011) 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.
7 May (2004) outlines the conceptual difficulties for theories of property that arise in commodifying knowledge.
8 In comparison, the size of the global hedge fund industry is estimated at $2.2 trillion (Chung 2012).
This implies that the same property/capital can be thought of as being ‘located’ in many places simultaneously. We will develop some of the implications of this locational ambiguity in the next section on the unbundling capacity of finance. The end result of the locational arbitrage 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. This essentially ‘capitalises’ the revenue streams and the revenue/profits can then be redeployed to operational subsidiaries worldwide, repatriated on the occasion of a tax amnesty, or netted against losses somewhere else in the parent holding company. One IP tax structure that has become infamous, is the so-called ‘Double Irish Dutch Sandwich’ (DIDS). Used by a series of MNCs, the structure came to prominence in association with Google Inc., Microsoft, Adobe, Pfizer and Starbucks.

In brief, the typical DIDS structure employs two holding companies located in Ireland, one company which ‘owns’ the IP rights (typically under a cost-sharing arrangement) and one which is the operating company. It then employs a third conduit entity registered in the Netherlands. The 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’ in Bermuda and therefore treated as a Bermudan company by the Irish tax authorities. As U.S. rules base tax residency on place of incorporation, it is treated as an Irish company by U.S. authorities. Consequently, the asset 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 funneled through the Dutch conduit as Ireland levies tax on royalties paid to Bermuda and no tax is levied on royalties exiting the Netherlands, now 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 on profit earned overseas (Drucker 2012), even though the majority of sales were in Europe where corporate income tax averages 22%, a figure much reduced by enlargement.

This structure illuminates key aspects of the specificity of contemporary capital and its spatiality. First, intangible property may now be 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 asset. This puts it at the leading edge of the financialisation of property. Second, and in direct relation to this, offshore entities attached to the MNC are akin to a sort of company-specific (tax) arbitrage hedge fund. Here the function of the offshore entity as de facto hedge fund is to manage the wealth of the corporation in ways that leverage the spreads on tax and other costs between global operating subsidiaries and headquarters. Significantly, these spreads may not just permit forms of transfer pricing, they may also permit the indefinite non-taxation of corporate income - hence the terms ‘double non-taxation’ and ‘ocean money’. Third, linear concepts of capital’s spatiality which have been read off an orthodox cartographic imaginary are no longer adequate. What is increasingly apparent is capital is organised and deployed through strategies of movement and non-movement. Capital instead of moving through space is being duplicated and transformed across space. Hence,

---

9 Take for instance the definition of intangible assets by, Wayne Upton jnr (2001) a researcher with the accounting standards board in the U.S. Echoing Veblen and Commons, he defines intangible asset as “…nonphysical sources of probable future economic benefits to an entity…”
Apple’s IP is in America as an industrial asset to be protected under U.S. law but it is also in Ireland as a financial asset ruled by Irish law. The legal transfer of commodities does not parallel their journey through space.

While in the intangible economy this novel spatiality is pronounced, 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. Recent financial innovations reveal this starkly. We therefore now turn to an analysis of financial innovation to suggest that capital in its universal form, the derivative, reveals the contemporary specificity of abstraction and mobility. Derivatives permit the unbundling of assets into constituent elements or the isolation of ‘attributes of assets’ (Das 2005). In so doing, derivatives transform the space, temporality, identity and ownership of assets without physical movement.

**Finance and abstract capital**

“Incentives are created to transform high taxed forms of capital income such as interest or dividends into lower tax capital gains. And since the distinctions among these forms are matters of legal and accounting definitions rather than of economic fundamentals, such transformations can be confidently expected. The corporate business form is a particularly efficient engine for these and related transformations…” (Merton Miller 1991, 272)

The spectacular growth of financial derivatives in the last thirty years represents one of the most significant expressions of the global scope of financial innovation. Derivatives are now by far the largest set of financial transactions in the world. But the size of derivatives transactions alone is not the key reason for our focus. We argue that financial derivatives are not important just because they have become big, but have become big because they are central to the circulation of money, finance and wealth. A key feature of financial derivatives is they involve deconstructing a ‘thing’ into a set of constituent elements or attributes, and then configures those attributes as themselves quantifiable or tradeable (Bryan and Rafferty 2006, 2009). These attributes can then be re-framed as quantified risk and risk trading transactions in a way that the underlying, original ‘thing’ cannot. With derivatives one trades in the performance (shift in the measure) of an attribute of a thing, but without necessarily owning, possessing, or trading in the ‘thing’ itself. In this sense derivatives are pure risk contracts and no underlying asset gets traded. The classic and still important example here is the relative prices of different national currencies. *Contra* Friedman, floating exchange rates turned out to produce quite volatile and unpredictable price movements in national currencies. Currency derivatives enable firms to manage the risks of exchange rates moving in the wrong direction during say a contract to produce and deliver an export order, by producing an inter-temporal hedge facility.

While most derivatives trade aspects of price risk (interest rates, exchange rates, stock prices etc), there are also many types of derivatives, which, while measured in money as a unit of account, trade some other attributes of ‘things’. A conspicuous risk traded in financial markets is the weather, where the weather is decomposed into attributes (probability of outcomes like temperature, rainfall, frosts, snow, etc.). Here, we see the aspects of an emerging broader logic of derivatives. The economic (and social) world, as we can increasingly see it, is made up of so many interacting ‘things’, but these ‘things’ are to be seen not as primary entities, but as the bearers of a spectrum of attributes. The imagination of derivatives inventors is to decompose ‘things’ down into more and more attributes.
We have seen that with GVC and GPN there has been an attempt to capture the growth of globalised commodity production, through loosening up concepts of capital and states. GVC and GPN help us see how time speeds up and space expands/compresses. But both GVC and GPN remain within a Cartesian spatial and temporal concept of linear forward movement and two dimensional growth or expansion. While the derivative form helps us to extend that imaginary of accumulation (as we show below in terms of the unbundling of the MNC), it also departs from it in important respects. Elsewhere we have shown that the ontology of capital that the derivative form gives us is not only of future and the present being brought closer, and spatial and territorial distance eroded, but also of a blurring of categories. We have already noted that one aspect of the growth of international capital has been the spatial 'de-centring’ of aspects of corporate activity with key headquarter functions (finance, patent ownership and legal headquarters) becoming much more spatially (or jurisdictionally) mobile as separate units (Desai 2009). We would describe to that de-centring a certain ‘derivatives logic’ in that attributes of the firm can be separated out from others and relocated. Indeed, this de-centring has raised a number of questions about the corporate form and assumptions about ownership control and corporate residency and nationality that is coming with the financialization of the corporation. This brings us again to the way finance is not merely a large industry, but is internal to the corporation, and a key way that the corporation is being restructured.

**Unbundling Corporate Headquarter Functions**

This spatial and functional unbundling of the firm has been a critical dimension of the growth of offshore finance, enabling firms to locate financing activities closer to capital markets, in jurisdictions with lower reporting requirements, and/or at ‘a distance’ from higher tax jurisdictions. This is most clearly expressed in the historical evolution of more complex global corporate structures, especially around their financial activities. Peter Garber suggests several ways that financial derivatives have been critical to this process. As he noted in terms of the direct use of derivatives in corporate activity and international transactions, derivatives have been and remain a frontier development. Financial derivatives provide firms with an, “…increased
ability to separate and market risks… Coupled with the existence of weak financial systems and the inherent opaqueness of derivative positions due to obsolete accounting systems…derivatives can be used to leverage financial safety nets… Often, such activity must move offshore to evade detection and naturally generates a gross international capital flow. Moreover, derivatives can be used readily to evade onshore prudential regulation and capital and exchange control, thereby generating yet more measured capital flows…” Garber (1998)

Garber provides several examples how capital flows that appear to be cross border flows of debt, can with the use of accompanying derivative transactions, actually be more akin to equity, how what appears as a portfolio flow is probably more like a direct investment and so on. A key feature of derivatives therefore is that by extracting attributes from one form of capital the former boundaries between debt and equity, long and short term, and between ownership and control have been blurring. Indeed, in terms of the capital account categories in Balance of Payments accounting Garber concludes that, ‘Sub-account data, such as portfolio investment, equity investment, foreign direct investment, or long or short maturity fixed interest rate lending, are illusory in the presence of substantial volumes of derivatives’ (Garber 1998)10.

Indeed, financial derivatives, along with a range of complex internationally co-ordinated corporate financial structures, are the leading expressions of capital’s internationality. MNCs now typically work through a myriad of financial entities, with indirect relationships such as Special Purpose Entities (SPEs) located in several national jurisdictions, which have different regulatory or tax treatments for different financial activities. These entities may have no or very few employees, but act as a significant repository or staging point for key corporate assets or financing structures. These intermediate firms have become key conduits, assembly points and transfer stations for capital within MNC networks.

A further problem for understanding and measuring the spatiality of capital is that a guiding concept underpinning the cross border growth of firms in Balance of Payments is of bilateral relationships (originally equity, but gradually including debt and other hybrid forms of capital) between the headquarter company and a subsidiary firm. But that institutional form has been superseded, as MNCs have developed sophisticated and complex financing and tax minimisation strategies across several jurisdictions. Moreover, this multi-jurisdictional appearance of attributes of capital makes it difficult to determine where, what form and in what direction ‘capital’ is flowing, because where capital is at any point can depend on who is measuring and for what purpose. 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.

MNCs as Hedge Fund –
US listed companies with more than $10billion in overseas held cash balances (US$ billion)

10 Van Dool (2006) in an analysis of what he terms ‘pass through’ capital concludes “FDI figures may have nothing to do with the reporting economy”
In this way also, and as pointed out in the previous section, the financialisation of the MNC has also seen a blurring of boundaries between industry and finance, and between production and circulation. These financial processes at the heart of the MNC mean that in some ways all MNCs are increasingly being financialised. They are for instance using the calculative logic of derivatives, and becoming their own hedge fund.

In 2013 the Group Chief Executive of the UK bank Barclays, Anthony Jenkins stated: “There are some areas that relied on sophisticated and complex structures, where transactions were carried out primarily to access the tax benefits. Although this was legal, going forward such activity is incompatible with our purpose. We will not engage in it again” (Barclays 2013). The Structured Capital Markets division reportedly contributed as much as £1bn a year to Barclays’ profits by selling complex structured products which had the effect of reducing tax charges or providing artificial deductions – accounting items that can be set against taxes due (Lawrence 2012). A review of the use of derivatives in tax planning concludes that ‘derivatives are appealing because they can replicate financial positions, blur economic substance, and introduce considerable ambiguity in tax reports’ and refers to an annual $100bn lost to the U.S. Inland Revenue Service due to corporate use of derivatives in tax planning (Donohue 2012).

A core fiscal principle is the determination of when an item of income or expense becomes subject to tax. This matters because of the time value of money. A taxpayer is likely to prefer to pay €100 in two years than pay €100 tomorrow. In a situation where a tax charge arises on the

1) Apple Inc. (APPL) – $47.6B
2) Microsoft Corporation (MSFT) – $45.0B
3) Cisco Systems, Inc (CSCO) – $38.8B
4) Oracle Corporation (ORCL) – $20.4B
5) Google Inc. (GOOG) – $18.8B
6) Amgen Inc. (AMGN) – $15.3B
7) QUALCOMM Inc. (QCOM) – $14.6B
8) Dell Inc. (DELL) – $12.9B
9) Hewlett-Packard Company (HPQ) – $12.7B
10) General Electric Co. (GE) – $12.0B
11) Merck & Co. Inc. (MRK) – $11.2B

Source: JP Morgan 2011
basis of a triggering event such as an asset sale, it is possible via a derivative structure to replicate the payoff from the asset sale without making the sale. In effect, income can be realized but tax will not be. This is a function of constructing a sale of some attributes of an asset and postponing a transfer of direct ownership, perhaps almost indefinitely. An investor who holds shares the price of which has increased may wish to realize that profit. If the investor sells the shares a capital gains tax will be imposed. On the other hand, an investor could, where legally admissible, buy a put option on the equity from a bank with a strike price of 100 that matures in two years. The current share price is 100. The investor then sells a call option with the same strike price and maturity. Simultaneously, the investor borrows from the counterparty the full value of all the shares owned using the shares as collateral for the loan. The end effect is stark. The investor realizes gains in the present, but owes no tax now. Further due to the options the investor is no longer exposed to changes in share value. If the share price is higher that 100 when the option matures, the loss on the call offsets this gain. If the share price is lower than 100, the gain on the put option offsets this loss (Martin and Zailer 2001). Eventually the loan will have to repaid, but the contract could be renewed nearing maturity.

The transformation of source rules follows similar principles. A foreign investor in equities subject to withholding tax on the sale of the equities may turn to an equity swap to alter where the income is sourced for tax purposes. For instance, returns from an investor in U.S. equity by a foreigner will usually be subject to a withholding tax of 30%. However, the investor can receive the same returns through an equity swap in which she receives payments from a counterparty if the value of the equity increases or dividends are paid and makes payments to that counterparty on the basis of interest on the value of equity referenced in the swap and in the event that the value of the equity declines. The source of the income in a swap is based on the residence of the investor, while a direct purchase of equity is sourced where that purchase is made. If that investor is resident, or registered, in an offshore jurisdiction, income from the swap may be subject to no tax at all (Levin 2012: 5-6). By artificially replicating a desired equity position a foreign investor can receive the economic benefits of direct ownership without the fiscal obligations attached to it.

Central to fiscal systems and the character of assets for tax purposes is the distinction between income and capital, with income usually taxed at a higher rate than capital gains. Derivatives transform ownership of an asset from one to the other. The basis of modern finance theory is that any asset can be replicated with a combination of put and call options on another asset or assets (Scholes 2004). When assets with fixed returns, like a bond, are taxed as income but those with a contingent return, such as a share, are taxed as capital, an investor may prefer to replicate the position on a bond via a position in equity combined with put and call options (Warren 1993). The investor produces a synthetic zero coupon bond (a bond that pays yield only on maturity), which pays £110 in 2 years. To replicate this position in assets with contingent returns, returns that will be taxed at the lower income tax rate, the investor buys a share of the same value and two options, enacting what is termed ‘put-call parity’. The first option is a put, a right to sell a share at a specified time, 2 years, for a specific price, £110. The second option is a call, obliging the investor to sell a share at a specified time, 2 years, for a specific price, £110. If the share price is below £110 in 2 years the investor will exercise the put and ‘put’ the shares to the market at £110. If the share price is above £110 in 2 years, the holder of the call option will exercise that option and pay the investor £110. The investor has thus replicated a risk free position in a bond. As such the investor will be taxed on these assets as capital rather than income. A tax inspector would need to combine the three separate contracts to recognize this equivalence.

Hybrid instruments blend features of debt and equity, as well as blend asset and derivative elements. Different jurisdictions will treat an instrument as debt or equity depending on local
rules for doing so. Firms that make cross border investments can take advantage of this identity based differential tax treatment. For example, a U.S. firm may make an investment in a subsidiary that issues a hybrid instrument from Luxembourg. That subsidiary will make payments to the U.S. based parent. In Luxembourg, since the hybrid instrument is characterized as debt, the subsidiary will be afforded tax deductions on the interest it pays for the debt and no withholding tax will be levied on those payments as they exit the jurisdiction. However, in the U.S. that payment is not recorded as interest income, but as dividend income, which is subject to less tax (JCT 2011; Johannesen 2012). In the example of a convertible bond, an issuer may sell a bond with an in-built trigger dictating that when the issuer’s share price reaches a certain level, the bond is converted into a certain number of shares. This raises the issue of whether the instrument should be characterized as debt or equity for tax purposes. The instrument provides the issuer with deductions on interest paid, while reducing the level of that interest on the basis of the value imputed to the contingent position on the stock. That the same instrument in another jurisdiction may be treated as equity implies that interest that is deductible in the offshore jurisdiction will not lead to taxable interest income in the second jurisdiction where the instrument is treated as equity. This is a case of ‘double non-taxation’.

A key conclusion to emerge here is that the derivative form has been an emerging process of ‘deconstruction and reconstruction’ of capital, which enables the spatial and temporal attributes of capital to be changed in fluid ways and on a large scale. An important implication of this process, is that in this way financial derivatives are contributing to a further de-centering of the corporation (at least as we thought we knew it) as the institutional subject of capital. Indeed, in a world of derivatives, the hedge fund as much as the industrial corporation stand as the institutional subjects of capital.

**Conclusion**

“The income tax system of virtually every country that is advanced enough to have one seeks to maintain... different rates of tax for different sources of income – between income from capital and income from labor; between interest and dividends; between dividends and capital gains; between personal and corporate income; between business income paid out and business income retained between income earned at home and abroad; and so on. At the same time... securities can be used to transmute one form of income into another – in particular, higher taxed forms to lower taxed ones... Although I have chosen to emphasise tax changes as an initiating force in financial innovation, the same process can be seen to world in any financial area subject to state regulation, which is to say, virtually everyone.”


The paper began with the recognition of important developments in IPE, in response to the changing patterns and processes of economic activity. We explored how those processes have challenged existing categories of understanding, including the concept of the nation-state as a unit of economic analysis\(^\text{11}\). In coming to terms with the growth of OFCs, as well as the related

\(^\text{11}\) We note similar processes of re-evaluation in other disciplines, notably economics, geography, and law. Take for example the following quote about economic geography. “Given that national boundaries no longer provide the most natural unit of economic analysis, what should replace them?” Fujita, Krugman and Mori (1999)
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 unbundled into legal and fiscal sovereignty, permitting some zones or spaces to be treated differently in terms of taxation or regulatory demands, than other spaces. These new forms of distributed sovereignty are at the forefront of geo-regulatory change (Hudson 2000), and responding to those changes points to a review and transcendence of many of IPEs core geographic and territorial assumptions (Agnew 1994; Parker 2009)

The proposition developed in 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 GVC, GPN etc (Gerefi, Kaplinsky, Dicken).

We have sought to challenge the generality of these approaches, on the basis that they tend to neglect both finance and the development of intangible capital, or seek to make them compatible with their general productivist agenda. In developing that argument 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 derivatives. We showed that each are expressions of greater abstraction in the form of property, and giving new spatial and temporal liquidity 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 property rights represent an inherently abstract and financialised form of capital. We showed also that they are inherently mobile, but 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 new dominant forms of industrial capital is a key analytical challenge for IPE and a range of other discipline areas.

In the case of financial derivatives, we developed the case that derivatives permit attributes of capital to be separated, and these unbundled attributes are created as tradeable instruments in their own right. One direct implication of the rise of derivative finance for a concept of capital is clear. Capital in the industrial and commodity form seems to be about bringing processes and commodities together across space and time and concentrating them in order to produce commodities. Finance and derivatives in particular, on the other hand, disassemble and unbundle attributes of capital and this allows them to be dispersed. Moreover, these attributes mean that capital can exist in more than regulatory space and in one or more forms at the same time.

Thus, in analysing finance and the growth of IP, the industrial, commodity producing machine metaphor of international capital may be increasingly obsolete. We need to ask what sort of analytical agenda might stand for a world of intangible assets and derivatives. One implication for future research we would want to draw out is the that many ways of understanding the mobility of capital - MNCs, commodity chains, even 'off-shoreness’ are put in a different relief in addressing the growth of these abstract and financialized forms of capital. The property being mobilised, can via territorial/spatial mobility change its 'appearance', and forms, including its identified 'locational’ and temporal attributes and fiscal liability.
Our findings suggest that, following Massey and Harvey, we need to think about a concept of capital that:

1. has no single identity (but many attributes)
2. is not frozen in time (but is fluid and relational)
3. doesn't have clearly defined boundaries (institutionally open)

It may be then that IPE research into relations between states and between states and MNCs, it will increasingly need to accommodate the leading role of finance both as a form of global accumulation, and as the leading form in which the state itself is being re-organised. While IPE may still need to attempt to ‘see like a state’, in deploying a concept of capital it may increasingly need to think like a hedge fund.

References


Commons, John (1934), Institutional Economics: Its Place in Political Economy, Madison: University of Wisconsin Press.


