Intellectual property rights, money, and infrastructural power in the modern American empire

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What infrastructural power does the American global empire possess? How does it operate? What are its dynamics and limits? Can it survive a Republican Party president and majority party that neither understands the historical and structural bases for US global dominance nor has any long-term perspective beyond the pursuit of tax cuts for the 1%? I answer these overly broad questions by focusing on two of the most critical and intersecting power dynamics affecting geo-economic power. These are the operation and stability of the international monetary system (IMS) and the profit concentrating effects of gradual extension of American law around intellectual property rights (IPRs) into international law through various multi- and bi-lateral trade treaties. US geo-economic dominance rests on routinized cooperation that produces compliance and resources for the US state and above average profits for a narrow slice of US firms through the operation of the IMS and secure IPRs. This does not necessarily redound to the benefit of the American population in an equitable fashion, but this is no different from any other empire. Similarly, the creation and maintenance of US infrastructural power is not free from contradictions and weaknesses, some of which are highlighted in the parallel paper by [author 2].

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1 It is also important to note that the specific modalities of resource extraction also have changed over time. This article concentrates on the most important contemporary ones.
To put the overall argument too briefly and simply: The American empire is an empire, that is, a polity whose military and economic control extends beyond its centralized and juridically defined territorial limits (Nexon and Wright 2007). As with all the generic empires Michael Mann (1986) limns in Sources of Social Power, the American empire confronts a set of practical problems of governance and survival. To function and persist, the American empire requires resources, legitimacy and compliance (Gilpin 1981; Turchin 2007). This creates two critical dilemmas. First, the relative balance of costs and benefits from running the empire needs to be positive over the long run. This implies supporting growth in the various peripheries the empire controls, rather than engaging in outright predation. The need for a positive balance and peripheral growth creates the second dilemma: differential growth in the periphery cannot be so rapid as to give peripheral actors reasons or resources that might lead them to detach themselves from compliance with the formal US state in the critical economic, military and ideological arenas (Gilpin 1976; Strange 1989, 1994; Nitzan 1998). Put simply the imperial core needs to grow as fast or faster than potential peer rivals. With more nuance: Firms controlled by or attached to the imperial core need to out-accumulate peripheral rivals.

This paper examines these dilemmas in the economic arena, to the extent that this can be separated from the others, not because it is logically prior to the others but rather to be able to say something meaningful in a limited space. (this is also why the delegitimizing effects of the Trump administration are not considered). Two factors matter for compliance with a dollar-centric IMS. First, foreign banks feel compelled to operate disproportionately in US dollars, while US banks natively operate in the international reserve currency. This makes non-US banks rely on the FED as the only actor capable of supplying outside money to the global banking system. This has two consequences. First, reliance on the FED produces the compulsory cooperation at the heart of Mann’s infrastructural power, as well as conformity with FED derived routines. Second, it allows US banks to differentially accumulate profit relative to other sectors and non-US banks.

Second, with respect to differential growth, monopolies constituted through adhesion to IPRs allow US firms to construct global (and local) commodity chains that also concentrate profits into the hands of a small number of US firms. Because economic activity is organized through capitalist markets, the critical issue for relative growth is always: “who gets the profits?” The extension of US IPR law through trade treaties (Drahos and Braithwaite 2002; Sell 2003) allows US firms to capture a disproportionate share of global profits. The IMS and IPR issues are linked through the symbiosis between the profits of key US financial firms and the profits of key US ‘IPR firms.’

As with all such systems of power, these structural strengths are also weaknesses, some of which are highlighted in the paper by [author 2]. This analysis thus suggests both more enduring strengths and also a different danger to US infrastructural power than the slow erosion of innovative capacity highlighted in the other paper. These strengths also endogenously produce income inequality among firms and people, which erodes compliance, potentially slows growth, and destabilizes the global financial system. Domestically, the trade deficits necessary for a dollar-centric IMS are also directly linked to the populist (nihilist) voting bloc that put Trump in office (Germain and Schwartz 2014). Empowered by a voting bloc damaged by the dollar’s role in the IMS and the concentration of profit via global commodity chains, and funded by a narrow base of billionaires, the Trump Administration and a Republican majority Congress are mismanaging science policy, weakening financial regulation, and exacerbating the income inequality that fuels their bases’ anger. All of this erodes global compliance around international use of the US dollar and with commodity chains dominated by high profit US firms, and the domestic base of support

\(^2\) I use ‘periphery’ in this article in Gilpin’s (1976; 1981) sense of organized states at a somewhat lower level of economic development, rather than trans-frontier disorganized states. Periphery thus encompasses potential rival core economies and World Systems Theory’s semi-peripheries.
for a dollar-centric IMS. This would not surprise Mann (1986, 166), who noted (albeit with some lack of clarity) that one salient threat to infrastructural power in traditional empires was that:

Increases in private property resources result largely from fragmentation of collective social organization. The dialectic between the two is not between two autonomous social spheres, ‘civil society’ and ‘the state.’ It is between the necessity for more and more collective organization of certain power resources and the logistical impossibility of maintaining collective control over them.

Or, put more specifically and more bluntly, the narrow slice of billionaires backing the Republican Party is happy to endanger funding for the sources of US imperial power in pursuit of lower marginal tax rates.

The paper thus has five sections corresponding to the issues: What is an empire, why call it an American empire and what is infrastructural power? Why the IMS? Why IPRs? What links the IMS and IPR firms? The conclusion considers some of the endogenous sources of decay.

1: Empire, American empire, and infrastructural power

Is America the center of an empire? Most contemporary international relations (IR) theory – especially American IR theory – gives states an ontologically primitive status. As constructivist critics point out, IR’s states exist before international society, construct that society, and act on the basis of self-interest(s) that are timeless, objectively ascertainable, prior to identity, and substantively rational (Wendt 1987).

Its extreme versions (Waltz 1979; Keohane 1984) thus resemble marginalist economics’ idealized picture of the market: a multitude of independent (socially disjoint) units, freely interacting, with perfect knowledge, in a social space that has neither hierarchy nor order. IR’s methodological nationalism (Wimmer and Glick-Schiller 2002; but the term seems to have originated with Gore 1996) corresponds to economics’ methodological individualism. Most of this IR theory posits a Westphalian caesura that birthed this flat social space, though a few also project these states back before 1648 (for a critical view: Teschke 2003). Westphalia thus marks a once only phase change from ancient empires to modern states. IR theory concedes that some empires persisted into the contemporary era, but sees these as lumbering dinosaurs inevitably falling prey to or evolving into their (faster, warm-blooded but cold-hearted) nation-state competitors (Spruyt 1996). These fossils aside, hierarchy is off with the dragons on IR’s conceptual map (but see Lake 1996).

It is more accurate to understand the geo-political and geo-economic relationships between the United States and the rest of the world as one of empire. We can go beyond Michael Doyle’s (1986, 75; see also Nexon and Wright 2007 but not Hardt and Negri 2001) definition, that “empire...is a relationship, formal or informal, in which one state controls the effective political sovereignty of another political society” to encompass a number of the features implicit or explicit in Mann’s (1986) descriptions of ancient empires. First, the political and economic centrality of the core’s organizations can be seen in a set of networks radiating outward from the core. The United States is central to the origins and operations of the various “G”s (G-2, G-3, G7, G20; and note the limited US control over, but also lack of effectiveness of, the G-77) and organizations like the WTO, IMF, and World Bank. The United States similarly is the central node in the operation of the global financial system in normal (Oatley et al. 2013; Fichtner 2016) and abnormal times (McDowell 2012). This parallels London’s central role in finance and commercial law, and Liverpool’s central position as a transportation node in the 19th century British Empire.

Second, a gradient of control, including a “rimless hub and spoke” system of military control, extends from core to various peripheries, with occasional and temporary forays into barbarian territory beyond the frontier (e.g. Afghanistan) and on-going confrontation, at the limit, with other imperial powers (China, Russia) (Cooley and Nexon 2013, 1035). Although direct control is rare today, this was also true of the British Empire at its height (and also true for the Roman empire until about 100BCE). Britain ruled
roughly half of greater India, for example, through pro-consuls. Moreover, the equally – perhaps more than equally – economically important British Dominions were self-governing, even if their militaries were subordinate. Direct control, as in late 19th century Africa, was rare and even there it largely meant control of a few key port cities and not much of the interior. Rule through intermediaries was the rule, not the exception (Darwin 2009). Finally, the British empire was marked by extensive use of native troops supervised by British professionals (Barkawi 2015), just as is the case in contemporary Europe and elsewhere (Cooley 2015). Consider the degree to which the US military supplies and controls the command and coordination, intelligence, and logistical capabilities of NATO, let alone militaries in the mid-east, or the roughly 100 countries where Special Forces troops were deployed in 2017. As with Britain in the 19th century, some dependencies are more equal than others, as the US-centered ‘Five eyes’ intelligence cooperation with Britain, Canada, Australia and New Zealand shows. Heterogeneity and ‘special deals’ characterize all hub and spoke relations in empires (Tilly 1997, 3). The GATT and WTO are perhaps the main – and significant – exception to this rule, but, first, even that institution is buttressed by a myriad of bilateral investment treaties, and, second, homogeneity there is functional for IPR protection.

Third, the United States, like all other empires, consciously cultivated a culturally cohesive set of elites to run those intermediary and dependent states (Costigliola 1984; van der Pijl 1984). These elites embodied Mann’s (1986, 167) ‘cohesive ruling class culture,’ limiting the need for compulsory cooperation. The broader financial community, encompassing banks and central banks, constitute two overlapping epistemic communities. The first one is centered on the FED, whose post-doctoral program employs about 200 economists at any given time, as well as MIT’s PhD program, which has had an outsized influence on central banking and the BIS. These post-docs help construct an epistemic community around financial economics as they flow out into the economics profession and financial institutions. The second community centers on the ‘graduates’ and current employees of the large investment bankers and their former colleagues in central banks. It is only a slight exaggeration to say that Goldman Sachs is the single greatest force for political integration, cultural conformity, and intellectual homogenization the world has ever seen. Goldman is the ideal typical case of “universalism, free floating resources, and the rationalization of the symbolic sphere” (Mann 1986, 171). But a host of other firms that cycle provincials through acculturating experiences and then return them to their homelands as ruling elites also flank Goldman Sachs, which should be viewed more as an ideal-type than the schwerpunkt of US ideological power. Additionally, and unlike 19th century empires, the color bar is significantly more permeable in the American empire, with, e.g. immigrant Indian-Americans currently or recently running Google (n.b. not the parent firm Alphabet), Microsoft, Pepsi, Adobe, MasterCard, Citibank, Cognizant, SanDisk, and Global Foundries (nee AMD). This permeability, which extends also to non-economic spheres, significantly promotes cultural cohesion among elites by raising the personal gains from conformity (Anderson 2006), even as it erodes the attachment of the empire’s original ethno-national base to the imperial project.

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3 In the 2011 war to remove Libya’s dictator Muammar Gaddafi, for example, European air forces ran out of munitions in about two weeks while fighting a third-rate power and flying only about 800 sorties. They had to be resupplied from and by US forces. US aviation assets, meanwhile, supplied coordination, jamming, and refueling, and US naval cruise missiles warships destroyed Libyan air defense systems prior to European air attacks. https://www.washingtonpost.com/world/nato-runs-short-on-some-munitions-in-libya/2011/04/15/AF307EID_story.html.

4 Central banker or Finance Minister MIT graduates in the recent past: Bernanke (FED), Draghi (ECB), Weidmann (Bundesbank), Fischer (RB of Israel and FED), Blanchard (IMF), Obstfeld (IMF), Videgaray (Mexico-FM), Papademos (CB of Greece), Orphanides (Cyprus), Subbarao (RB India), Bean (UK), Lowe, Debelle, and Kent (RB Australia senior leadership).
The American empire faces the two critical dilemmas all empires usually face. First, the relative balance of costs and benefits from running the empire needs to be positive over the long run. Second, differential growth in the periphery cannot be so rapid as to undermine the relative dominance of civil society actors who are in some way anchored to the formal US state (and thus loyal), in the critical economic, military and ideological arenas.

Imperialism might have atavistic (Schumpeter 1955), Olsonian public good (Hobson 1902), or psycho-sexual roots (Hyam 1990), but to be sustainable an empire has to generate net revenue for the core. In ancient empires, revenue extraction was overt, albeit inefficient. Tax farming, tribute, large-scale slave trading, and excises on goods provided via state monopolies (e.g. salt) were the usual tools (Scheidel 2014). Tax farming is of course inefficient due to corruption and, in Mann’s terms, its despotic nature. Slaving eventually hits natural and geographic barriers, as the Roman experience at Teutoburgerwald shows. On the other, more routinized side, most Chinese dynasties appear to have collected about 3% of agricultural output in the form of a poll tax keyed to that agricultural output, and which generated about 70% of total state revenue (Ma and Rubin 2016). Modern states have largely abandoned these older forms in favor of direct taxation. As Tilly (1992) argued, routinized extraction is more efficient. And routinized extraction is the essence of infrastructural power.

But in the absence of formal territorial control, how can the US empire generate revenue on a routine basis? Obviously, the United States has engaged in some overt extraction of resources (Zimmermann 2002; and the post-1990 Gulf War ‘contributions’) as well as more routinized burden sharing via NATO commitments to spend 2% of GDP on defense. But the larger part of routine extraction is done via politically structured markets that obscure the nature of revenue flows, and that rely on internalization of norms and routines producing day-to-day compliance with underlying structures favoring the United States. The two major sources of revenue flow indirectly from the central position of the US dollar in the IMS, and directly from trade agreements securing IPRs possessed by US firms. The dollar’s centrality allows the United States to import foreign capital (and by accounting definition this means foreign goods) on a net basis, and at relatively low rates of return, while exporting US-controlled capital back to the rest of the world at higher rates of return (Schwartz 2009). Kindleberger (1981) had already identified this apparent intermediation structure in the 1960s, which mirrored London’s role (and effects) in the 19th century (de Cecco 1974).

Simultaneously, the extension of US patent and IPR law through various trade deals has secured the lion’s share of global profits for a narrow slice of US firms. The 1062 different US firms populating the Forbes Global 2000 (FG2k hereafter) list from 2006 to 2017 captured 30.3% of the cumulative profits of 3523 different firms that appeared on that list. Profit share and population are thus in rough proportion, but they are each larger than the US share of global GDP on an exchange rate basis. More telling, the distribution of profits is highly unequal. The top 25 US firms in terms of aggregate profits, 2005-2016, accounted for 39.7% of the profits of all US firms in the FG2k, 14.1% of all firms in the FG2k, and roughly 4.5% of the total profits of the 28,000 firms with annual revenues over $200 million analyzed by McKinsey Global institute (Dobbs, et al. 2015). Fourteen of those firms rely heavily on IPRs for their profitability. Another five are financial firms, which have IPR-like characteristics (Schwartz 2017). In this sense, the analysis below amplifies Sean Starrs’ (2013) earlier analysis of US geo-economic power in International Studies Quarterly by providing more data on profits, locating the source of those profits, and setting his description on a theoretical foundation.

Is this combination of a dollar-centric IMS and the extension of IPR law infrastructural power? Mann’s definition of infrastructural power is somewhat slippery. Mann (1984; 1986, 170; see also Soifer 2008) defines infrastructural power as “the capacity to actually penetrate society and implement logistically political decisions.” The essence of infrastructural power is surely the combination of routinization and
caging described by Mann and Weber, legibility / transparency (Scott 1998), voluntary compliance and even better voluntary compliance that is self-organizing and self-powered (Foucault 1977). For Mann (1986), who primarily studied ancient empire, infrastructural power often literally meant the construction of physical infrastructure linking newly conquered city-states. But it also involved the creation, enforcement, and self-enforcement of routinized behaviors, standardization, and the cultivation of common languages and cultural practices. He often spoke of ‘compulsory cooperation.’ Both centrality in the IMS and compliance with IPR law are forms of infrastructural power that use compulsory cooperation to enable a relatively efficient resource extraction, as compared with despotic power. A core-periphery structure and intermediated rule could and, in this case, do imply a divide and rule strategy for empires rather than the balance of power politics characterizing mainstream IR. But intermediation, network centrality and the cultural cooptation and cohesion of an imperial (thus global) ruling class also highlight the importance of infrastructural power above and beyond simply playing somewhat hostile, if dependent, elites off one another.

The next two sections thus take up the question of how the IMS and IPRs operate to create infrastructural power around revenue extraction and differential growth. Both sections will draw out the degree to which the IMS and IPR phenomena reflect continuing infrastructural power.

2: The Dollar, the IMS, and the crucial role of outside money

Why does the IMS matter? Where is the infrastructural power? The US dollar, and thus the FED and key US firms, sit at the center of global financial markets (Oatley et al. 2013; Fichtner 2016). Moreover, the bulk of global cross border lending is in dollars, even when neither party is legally a US entity or resident. The dollar’s centrality exposes foreign banks, and thus foreign central banks, to a greater degree of risk than US banks face, all other things being equal. To do business globally, foreign banks generally will have to use the US dollar as a vehicle currency, which exposes them to dollar-denominated risks. If – and this is a big if, as the next section notes – the United States is growing relatively faster than other rich countries, foreign banks will also be tempted to invest in US dollar assets in order to retain global market share and profits.5 This also exposes them to US dollar risks, as the 2008 crisis showed (Schwartz 2009; McGuire and von Peter 2012). Put together, these three things reinforce dependence on the FED as the lender of last resort, and enmesh foreign banks in US regulatory and banking routines. Magnifying this dependence, most foreign financial systems tend to be bank dominated, with banks providing 80 to 90% of corporate funding versus 30 to 40% in the United States (Standard and Poor 2015; Detzer 2014). In a financial crisis, a capital market-based system, like the US one, is relatively more resilient than a bank-based system. Losses affect bondholders rather than impairing banks’ ability to continue lending.

Non-US banks, particularly European banks, tend to accumulate large US dollar positions on their balance sheets. This is in additional to transitory positions created by speculation in the foreign exchange market, where 99% of transactions by value now have nothing to do with trade. It is the long-term positions that matter (for the most part) for Minsky-type risk (Minsky 1977). In order to maintain global market share, non-US banks need to take up positions in the US market, and also to service non-US borrowers who want or need US dollar funding. Most developing country borrowers – who currently account for about 30% of all international borrowing – issue foreign currency debt in US dollars (ECB 2016), primarily because they also invoice exports in dollars. And even in Europe, just over 50% of all international loans are US dollar denominated, which helps explain the consistent 50 to 60% share of outstanding international loans denominated in dollars over the past fifteen years. On the other side of

5 Under Bretton Woods, foreign central banks had to hold their reserves mostly in dollars to preserve the fixed exchange rate. A slightly different dynamic but a similar one.
the balance sheet, these banks need funding in US dollars to match their assets (lending).6 Consequently, non-US banks find themselves with large US dollar denominated positions (He and McCauley 2012). Indeed, more than half of all euro-dollar positions have no US counterparty, partly because the absence of reserve requirements encouraged European banks to leverage up their balance sheets with Eurodollar lending (He and McCauley 2012). For their part, US banks also play in global markets. But they fund their operations in dollars and lend in dollars, and thus have relatively smaller currency risk. Their core deposit base is natively in dollars.

Figure 1 shows the relative currency share for cross-border bank liabilities. Liabilities matter more here, because they determine how much of a bank’s capital or reserves are at risk. US dollar denominated liabilities have never accounted for less than 49%, and currently account for 57% of all cross-border liabilities. The absolute magnitude of these liabilities has been rising. Figure 2 breaks down the aggregate data to show the degree to which European, Canadian and Japanese banks have cross border liabilities denominated in US dollars, and the share of those positions relative to their total local liabilities in the third quarter of 2016. Canada is fully integrated into the US economy, so Canadian banks unsurprisingly have large cross-border activity and dollar exposure. Japanese banks also largely deal in US dollars for their off-shore positions. The relatively large size of the Japanese economy makes these positions small relative to local lending. However, the size of the Japanese market means that this relatively small position still amounts to nearly $1T in dollar denominated liabilities (Borio et al. 2016, 57). European banks, including, importantly, German banks, also carry large US dollar denominated liabilities (and note that the Europe-8 aggregate excludes Swiss banks’ relatively large US dollar liabilities). By contrast, US banks carry relatively small euro risk and even smaller yen risk. The data for claims do not differ significantly.

Competitive dynamics drive non-US banks to accumulate large dollar positions, which in turn makes them dependent on the FED. Understanding why requires looking at how banks operate. Put as simply as possible, monetary systems generally are composed of both inside money and outside money. Banks endogenously create inside money, that is, credit to other private actors (see e.g. McLeay, Radia and Thomas 2014, but also Wray 1998 and 2004). In doing so, banks simultaneously create both assets and liabilities. The extension of credit creates a loan, which shows up as an asset for the bank; the deposit of loan funds into the borrower’s account creates a liability for the bank. New loans simultaneously create assets and liabilities, and thus in principle balance sheets that net out across the whole economy. But this private credit creation is inherently unstable. First, absent some mechanism for imposing collective discipline, private financial firms have an incentive to expand their balance sheets by creating excessive amounts of inside money (Minsky 1977; Polillo 2013). In principle, this behavior nets out, but in practice an asymmetry plagues this accounting balance. While asset values can – and do – change in response to behavior by market actors, liabilities in the form of debt have values that remain stable in nominal terms until a formal bankruptcy. If asset values fall (as they do when a panic or crisis starts), then banks can fail as their liabilities (deposits) remain unchanged while the collateral behind their assets collapses and takes down bank asset values.

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6 This demand is one reason for the breakdown of the covered interest parity in the past seven years, with demand for dollars exceeding the supply of banks willing to take on this additional risk (see Shin 2016).
Figure 1: Cross border banking liabilities by currency, USD billions

Source: BIS International Banking Statistics, bis.org

Figure 2: US$ share (%) of cross-border and local liabilities, 2016 Q3

Europe 8 = aggregation of absolute values for 8 EU countries here.

Source: author calculation from BIS data
If private actors were self-disciplining, the asymmetry (in terms of relative nominal stability) between assets and liabilities on banks’ balance sheets would matter less. But inter-bank competition creates a complicated collective action dilemma around credit creation. As Minsky (1977; see also Pettis 2001; Polillo 2013) argued, credit creation has a public good aspect in that net new loans stimulate the economy by increasing aggregate demand. By increasing aggregate demand, they validate earlier credit creation and raise the value of collateral for all banks, not just the one issuing new credit. Each new extension of credit thus encourages more lending by other banks by seemingly validating prior credit creation.

But banks’ greater tolerance for risk in an expanding economy, and the inevitable exhaustion of reasonable investment opportunities, means that lending shifts from what Minsky (1977) called *hedge finance*, in which prudent borrowers create new productive assets whose cash flow can cover their principal and interest payments, to *ponzi finance*, in which borrowers buy existing assets at prices too high for cash flow to cover either principal or interest payments. Ponzi borrowers inevitably must capitalize their interest payments into their loans, which means they need large capital gains in order to emerge with a profit. Yet anyone buying an asset at a price sufficient to award profits to the first ponzi buyer by definition finds themselves in an even worse position. With no new borrowers to validate asset prices, forced sales ensue as banks perceive the abyss and begin limiting credit to the weakest borrowers. At that point the collateral behind banks’ assets (loans) collapses, and with it the market value of those loans. In this ‘Minsky moment’ – an endogenous economic shock that reduces the value of assets across the economic system – only an authoritative, legitimate actor can rescue them from the overhang of liabilities: the state. In the quotidian routine, only the state can (try to) constrain private actors from this excess credit creation.

The state creates outside money. Unlike inside money, state created outside money does not simultaneously create an explicit financial liability, and thus outside money can be used to absorb the overhang of private liabilities revealed in a financial crash. The state’s ability to create outside credit money, and thus create assets unburdened by formal liabilities aside from the money itself, rests on its ability to tax the territorial economy it controls. The ability to tax in turn rests on the state’s internal infrastructural power. The greater a state’s infrastructural power, the greater its ability to efficiently tax its economy and thus validate new money. Money as a unit of account and a store of value is ultimately an enumerated claim on the future behavior of individuals located inside a legally defined territory within which a given state currency circulates. Absent sufficient social power, absent sufficient ‘caging,’ to compel or induce those future behaviors, state promises to redeem its own currency tokens are weak (Mann 1986, but of course somewhat different flavors of the same argument are in Bourdieu 1977; Foucault 1977; Nitzan and Bichler 2009). ‘Bankrupt’ states are failed states, that is, state with no social power and thus no ability to tax.

The great housing finance bubble of the 2000s illustrates the dynamics linking inside/outside money to reliance on dollar funding. European banks’ difficulties during that crises were merely an exaggerated version of their day-to-day, routinized enmeshment with the dollar, and thus their ultimate reliance on the FED. By 2008, European banks had purchased roughly $1.1 trillion in US dollar denominated assets, creating both a maturity and a currency mismatch (McGuire and von Peter 2012; Borio and Disyatat 2011). The US dollar, as the dominant reserve currency, facilitated this global expansion of credit

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7 The 2006-2008 housing bust in the United States is a clear example, with the house price-to-income ratio and the house cost-to-rental-cost ratio both rising to 160% of the historic average. House prices stopped rising in 2006 as the marginal home buyer returned to the rental market either voluntarily or by force of circumstance.
through rising exports of US dollar denominated and often US sourced financial assets. These assets naturally were matched by liabilities: for US investment banks, to the commercial money market in the form of asset backed commercial paper (ABCP); for northern European banks the same, but with liabilities denominated in dollars; for southern European banks, to northern European banks; for Chinese firms, to the giant state owned banks and the new wealth management trusts that constitute the Chinese shadow banking system.

When the Minsky moment came, only the US FED could step in and orchestrate the creation of outside money. The FED and, later, the European Central Bank (ECB), each used their outside money to buy up devalued assets at par and thus re-establish balance in the financial system (Schwartz 2009; McDowell 2012). Obviously, this had a domestic component. But the FED also created global outside money to rescue European and other banks in 2009 (McGuire and von Peter 2012). The FED provided roughly $600 billion in dollars to the ECB, Bank of England, and Bank of Switzerland for distribution to beleaguered European banks between March and October 2008. Altogether roughly $10 trillion in gross claims flowed through the swap channels from 2007 to 2010 (Tooze 2016). In this instance, not only was the ECB legally unable to bail out member banks, but it also was practically unable, given that their liabilities were US dollar denominated. The legitimacy of the FED’s intervention went unquestioned for three pragmatic and epistemic reasons. First, the ECB had no wish to see the European financial system collapse along with the US financial system. Second, probably more importantly, the US and European, and in particular the US and British banking systems were inextricably intertwined (Fichtner 2014, 2016). It was impossible to rescue one without also saving the other. Third, many of the actors had cycled through the same New York or London investment banks, and shared a common mindset and habitus. But the asymmetry here is clear: the US FED could bail out Europe, but Europe could not bail out the United States. Non-US banks’ dollar exposure and reliance on the FED is the source of compulsory cooperation.

The structure and operation of the IMS thus creates and reflects US infrastructural power. Internationalized banks are staffed by like-minded people following similar routines in normal times. They are relatively dependent on the FED to back them up in the event of a crisis. All these things keep the dollar central, which in turn allows actors in the US economy, including and especially the US state, to borrow money cheaply in global markets and recycle it at higher returns. Yet the dollar’s position, and thus the FED’s power and the centrality of US financial institutions, ultimately reflects whether the US real economy is growing above or below the OECD average and thus the dollar’s status in many ways proxies for the second issue, which is relative growth – differential growth – not absolute growth of the US economy. And the long run ability of the United States to generate differential growth is precisely the issue raised by (author 2). What are the sources of growth and accumulation?

**Section 3: IPRs and relative growth**

The dollar’s central position in the IMS is a reflects and produces infrastructural power. Yet it also generates what Michael Pettis (2011; see also Germain and Schwartz 2014) has called an exorbitant burden – chronic trade deficits. By definition current account deficits subtract from economic growth. Yet the corresponding inflow of capital (the current account by definition mirrors the capital account) also simultaneously helps resolve the second problem empiries face, namely the need to maintain the relative economic supremacy of the imperial core vis-à-vis potential peripheral challengers (Mann 1986). Here the argument shares facts with, but differs in interpretation from the paper by (author 2).

Robert Gilpin (1975; 1983) already noticed in the mid-1970s that the expansion of US multinational firms was already shrinking the economic gap between the United States and its European allies; he later elevated this re-working of Lenin’s combined and uneven development into a general principle of hegemonic decline. Current account deficits (i.e. net capital imports) should imply either or both of an
erosion of the tradables sector or slower growth in the United States. The soft arbitrage between low interest inward investment and higher returns on outward investment helps offset part of the economic cost of deficits by providing US based firms with additional, cheap capital.

An equally important part, though, is that the United States has successfully externalized much of its law protecting IPRs, and this allows predominantly US firms to capture a disproportionate part of the value created in global commodity chains (Drahos and Braithwaite 2002; Sell 2003). US firms capture a disproportionate share of global profits, ensuring that US firms – though not necessarily average incomes or even less so worker incomes – have differential growth relative to foreign competitors. Capitalism is ultimately about profits and the power created by the capitalization of expected profit into share market value.

Out of roughly 28,000 global firms with annual revenues over $200 million tabulated by McKinsey, roughly one-third of total profit accrues to the 2000 firms in the Forbes Global 2000, although these amount to only 7.1% of those 28,000 firms (Dobbs et al. 2015; Forbes [vd]). The FG2k are the 2000 largest firms in the world using an index combining sales, profits, market capitalization and assets. Using twelve years of FG2k data reduces distortions from the business cycle – most notably the 2010 Great Recession – and from random variation in a given firm’s annual profits. Among the FG2k, the top twenty-five U.S. firms – 0.01 percent of McKinsey’s 28,000 firms and 1.25% of the FG2k – account for 40.1% of all profits from 2005 to 2016 for the FG2k group, 39.7% of profits for the 1058 US firms ever appearing on the FG2k list, and roughly 4.5% of all profits for the 28,000 firms McKinsey analyzed. These top 25 firms are predominantly firms producing information based goods, like Pfizer, Google, and Apple, as well as the oil companies, who benefited from the historically high oil prices from 2005 to 2016. Table 1 shows the relative share of cumulative profits for all US, German and Japanese firms in the FG2k, as a share of all profits by the FG2k, 2005 to 2016. US firms’ profits are disproportionately large relative to the US share of the global economy.

<table>
<thead>
<tr>
<th>Table 1: Relative share of total profits by the Forbes Global 2000, 2006 to 2016</th>
</tr>
</thead>
<tbody>
<tr>
<td>Share of FG2k profits, 2005–2016, %</td>
</tr>
<tr>
<td>Germany</td>
</tr>
<tr>
<td>Japan</td>
</tr>
<tr>
<td>China (ex-Hong Kong)</td>
</tr>
<tr>
<td>China plus Hong Kong**</td>
</tr>
<tr>
<td>United States</td>
</tr>
</tbody>
</table>

* Most recent non-estimated data
** Not all HK domiciled firms are Chinese owned, so this row may overestimate share in column 1

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8 Forbes’ selection methodology is explained in Scott DeCarlo, “Methodology: How We Crunch the Numbers.” Forbes, 4/18/2012, p. 36.
Table 2 breaks down the aggregate data in Table 1 to show the share of total sectoral profits captured by German, Japanese, and US firms in different sectors (see also Starrs 2013). Table 2 assumes that we can reliably assign profits to firms that have diverse and multinational share ownership for three reasons. First, if Doremus, et al. (1998) are still correct, most MNCs are anchored in their home economy. Second, generally, on a net basis US entities own more foreign equities than foreign entities own US equities. Third, with specific reference to the FG2k data, as Starrs (2013) shows, passive US ownership of foreign firms in the FG2k generally exceeds foreign ownership of US firms in the FG2k.

Table 2 thus shows the degree to which high profit volumes and high rates of profit as a percentage of sales characterize US firms that rely on IPRs for profitability (primarily the firms in the tech categories). Non-US firms have robust shares of autos and other declining industries. But in both the hard (physical) and soft (intangible) parts of the new economy, US firms capture large shares of sectoral profits. New economy firms are what produce growth in the economy and thus differential growth for the United States as compared to its peer competitors. These firms are the ones that enable differential growth of the US economy. Their profitability is a function of US global infrastructural power, because that profitability rests on the extension of US IPR law to the rest of the world (Drahos and Braithwaite 2002; Sell 2003). Law is a primary tool for constructing infrastructural power, and compliance with law is a primary indicator of the existence of infrastructural power. The US state engineered the emergence of the vibrant economic actors that constitute the ‘information economy,’ or the latest Schumpeterian growth wave, by creating both the supply side of that economy and the legal infrastructure to make it profitable. Though space prevents a full consideration, Joseph Schumpeter’s (1934; see also Harvey 1982) arguments about the circular flow economy – in which profits merely cover capital costs, depreciation, and a managerial salary for owners – clearly apply to the bulk of firms in both the US and other economies. Only a handful of firms actually make substantial profits above and beyond depreciation. Gains in the stock market reflect this unevenness: a mere 4% of firms account for all gains in the US stock market since 1926, and barely half of all stocks returned more than the one-month Treasury bill rate (Bessembinder 2017).

With respect to the supply side, over the past 60 years the US state, largely through the national security state in its broadest guise, has nurtured more asset-specific human capital and forward looking research at the technology frontier (Hurt 2010; Weiss 2014). Immigration policy (via graduate student recruitment and H1b visas) supports this education policy. Pre-eminence requires both abundant revenues and the ability to maintain a technological edge versus a broad range of potential enemies. Revenues and a technological edge intersect in policies that develop new technology and disperse it among commercially viable US firms. This strategic orientation emerged around the time of World War II, but its tactical implementation has shifted over the years from large federally funded labs to smaller seed grants and support for emerging firms (Hurt 2010). The US state deliberately generates new technologies as a way to offset disadvantages in available manpower, numbers of weapons, sensitivity to casualties, and distance with speed, precision, technical surprise, and a faster tempo of operations. Indeed, the Carter-era Undersecretary of Defense for Research and Engineering (and later Secretary of Defense under Clinton) who articulated this policy labeled it the ‘offset strategy; the DoD is now officially pursuing Offset Strategy generation four (Weiss 2014, 36).

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9 Immigration policy, or perhaps its lack of enforcement, historically also facilitated an abundant supply of labor for those lower-skill, labor-intensive jobs that cannot be shipped offshore, like cleaning, cooking, and childcare. Whether this continues in the Trump administration is an open question.
Table 2: Share of total profits in the FG2k, 2006-2015, by country and sector*

<table>
<thead>
<tr>
<th>Old Economy</th>
<th>Auto &amp; truck parts + Auto manufacture</th>
<th>Oil &amp; gas operations</th>
<th>Non-commodity Chemicals**</th>
<th>Beverages (Branded)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Germany</td>
<td>32.6%</td>
<td>0.0%</td>
<td>18.6%</td>
<td>0.0%</td>
</tr>
<tr>
<td>Japan</td>
<td>11.3%</td>
<td>0.9%</td>
<td>7.8%</td>
<td>3.1%</td>
</tr>
<tr>
<td>USA</td>
<td>1.7%</td>
<td>27.4%</td>
<td>28.6%</td>
<td>43.9%</td>
</tr>
<tr>
<td>Sector share of all FG2k profits</td>
<td>3.5%</td>
<td>12.2%</td>
<td>2.6%</td>
<td>1.7%</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>New Economy - hardware</th>
<th>Computer Hardware</th>
<th>Electronics</th>
<th>Semi-conductors</th>
<th>Technology Hardware &amp; Equipment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Germany</td>
<td>0.0%</td>
<td>0.0%</td>
<td>-0.1%</td>
<td>0.0%</td>
</tr>
<tr>
<td>Japan</td>
<td>1.5%</td>
<td>23.4%</td>
<td>3.9%</td>
<td>15.6%</td>
</tr>
<tr>
<td>USA</td>
<td>91.8%</td>
<td>20.3%</td>
<td>48.3%</td>
<td>82.4%</td>
</tr>
<tr>
<td>Sector share of all FG2k profits</td>
<td>1.5%</td>
<td>0.5%</td>
<td>2.1%</td>
<td>1.2%</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>New Economy – software and similar</th>
<th>Computer services</th>
<th>Pharmaceutical + Biotech</th>
<th>Software + Software services</th>
<th>Branded Consumer goods</th>
</tr>
</thead>
<tbody>
<tr>
<td>Germany</td>
<td>0</td>
<td>2.2%</td>
<td>8.0%</td>
<td>7.7%</td>
</tr>
<tr>
<td>Japan</td>
<td>0</td>
<td>6.6%</td>
<td>0.4%</td>
<td>4.7%</td>
</tr>
<tr>
<td>USA</td>
<td>76.4%</td>
<td>56.4%</td>
<td>73.6%</td>
<td>62.4%</td>
</tr>
<tr>
<td>Sector share of all FG2k profits</td>
<td>0.8%</td>
<td>4.0%</td>
<td>1.9%</td>
<td>1.4%</td>
</tr>
</tbody>
</table>

* Sectors based on Forbes characterizations

** Sectors: Specialized Chemicals and Diversified Chemicals

Source: author calculations from Forbes, vd.

The archetypical material manifestations of this policy today are the dozens of venture capital funds run by various US government agencies. Thus the CIA runs venture capital firm In-Q-Tel to simultaneously create both the new technologies the CIA desires and a commercially viable base for producing those...
technologies (Weiss 2014) But this merely continues a parallel federal policy shift that started in the late 1970s and aimed to create commercially viable firms rather than just new technologies (Fong 1990). The state is demi-urge and not just handmaiden in the growth and transformation of the US economy. Building new technologies and new firms around those technologies builds civil society; it builds constituencies that support the continuation of those policies, and thus carry their routinization into society. And this routinization requires a legal foundation to secure profits for those firms and routinize compliance with the extraction of those profits. The US state also enacted domestic legislation securing IPRs and thus profitability for these firms (Boldrin and Levine 2008; Boyle 2008).

The US state has undertaken a concerted, 40-year campaign to extend US IPR law globally in order to secure revenue streams for the US firms that dominate the production of information rich goods (Drahos and Braithwaite 2002; Sell 2003; Hurt 2010). None of the new economy sectors noted above would be profitable in the absence of legislation and global treaties establishing IPRs. In the absence of patents, copyright and other forms of IPR protection, information rich goods would be public goods: non-rival in consumption and non-excludable. US trade deals thus typically emphasize two sets of interests. The first is financial firms’ access to other countries’ financial markets. The second is legal protection for IPRs. The proposed, now defunct, Trans-Pacific Partnership (TPP) and Transatlantic Trade and Investment Partnership (TTIP) were the most recent versions of trade deals strengthening investor protection mechanisms and patents and other IPRs. But as early as the Tokyo Round of GATT talks (1973-1979) the United States was trying to export its stronger IPR rules to the rest of the world. Since then, the United States has systematically tried to export its internal IPR regime to the rest of the world, strengthening IPRs in each successive trade round. IPRs are essential for firms’ profitability, the ability of US firms to construct and control global commodity chains, and for the plausibility that the US state controls a tax base that can validate its deficits.

This legal structure makes it possible for US firms to construct global commodity chains in which they operate the high profit, human capital intensive parts of the production chain, while delegating physical capital intensive production to mostly non-US rich country firms (which in turn absorb considerable capital into that immobile, asset specific, and thus vulnerable physical base) and delegating labor intensive assembly steps to developing Asia. As Albert Hirschman argued decades ago, this creates domestic constituencies for continued cooperation with the United States as those large fixed capital investments can only be validated through continued participation in those commodity chains. It also creates the risks analyzed by [author2]. This is the heart of the imperial dilemma the US faces with respect to maintaining geo-economic dominance.

4: Commensality between financial and IPR sectors in relation to US power

US firms’ disproportionate capture of value from global commodity chains partly explains the connection between the dollar-centric IMS and US differential growth, and connections verging on commensality between finance and IPR firms, and thus between these two legs of routinized resource extraction.

First, recall that prior to 2006 there was considerable concern that rising US net foreign debt would put pressure on the dominance of the US dollar in the IMS (Bergsten and Williamson 2004; Bergsten 2009). These concerns about foreign creditors fleeing the dollar made sense under two conditions: an inability to valorize US debt using dollars (i.e., a US inability to pay its debts using dollars) and an inability to generate enough income to pay the carrying cost for debt. But as is well known, US international capital income receipts still exceed payments by a considerable amount, despite a net foreign debt of roughly 41% of GDP in 2016. The bulk of US international income receipts, and the source of net income, come from FDI income and of that much is from IPR firms. Some of this income is undoubtedly a product of tax avoidance relocating domestic profits abroad. But the more general data on global profitability for
foreign firms in capital intensive businesses suggest that part of the disparity in profitability for foreign firms operating in the US and US firms operating abroad is a function of their differing ability to use IPRs to capture value.

Second, finance and tech, the IMS and IPRs, are commensal. Like industrial firms, IPR-based firms often need to make a large upfront investment to generate a product. Unlike industrial firms, these firms are largely investing in people’s time rather than in physical equipment. Labor time cannot be collateralized, and so these firms find it difficult to secure traditional loan or bond finance. Instead, they rely on venture capital and workers’ willingness to accept deferred wages in the form of share options (Lazonick 2009). The reliance on venture capital generates part of the commensality with Wall Street. Venture capital firms most obviously have a stake in the success of franchise-type firms, because venture capital firms cannot recoup their investment without doing an initial public stock offering (IPO). The major Wall Street investment banks share in the proceeds of that IPO both on a transactional basis and on their ability to allocate the first tranche of shares floated to favored customers. Finally, the surest way to retain a monopoly position is to pre-emptively buy up potential competitors, so franchise firms also generate considerable merger and acquisition activity for investment banks.

Post-IPO and merger, this commensality continues. Franchise firms generate monopoly profits but do not suffer from physical depreciation of their production apparatus. Consequently, they generate enormous volumes of liquid capital that flow through Wall Street. Among the top ten U.S. firms with the largest cash holdings of cash and cash equivalents at the end of 2014, the largest physical capital footprint is represented by three pharmaceutical firms (Schwartz 2017). These have considerably less of physical capital base than most industrial firms, and spend disproportionately on research (and marketing) rather than production. The top ten account for over a third of all cash holdings by U.S. firms. Among the fifteen firms with the largest cash holdings in 2014, only one, Exxon, is arguably a pure physical production, private goods type firm. The other fourteen are firms that rely on IPRs for their profitability. These offshore cash holdings comprise a major part of the eurodollar market, closing the loop between routinized use of the dollar in trade and credit creation and the capture of value from global commodity chains.

5: Conclusion

All empires face the dual problem of extracting sufficient resources to fund themselves while preventing the peripheries they dominate from developing relatively faster than the core, and thus displacing core elites or breaking away. Simply suppressing peripheries by stripping away resources using despotic power is both inefficient and likely to leave an empire vulnerable to better organized external rivals. Yet, while policies enabling peripheries to enrich themselves create a larger pool of resources for the center to extract, they also magnify the possibility that those peripheries will become rivals. Signally, both the German Third Reich and the USSR, which possessed considerable internal infrastructural power, failed partly because they had to resort to despotic power to control their external empires. The US empire, by contrast, appears to be organized largely on the basis of infrastructural power over the larger part of its empire. As Mann (1986) argued thirty years ago, infrastructural power is both efficient and effective. To be sure, infrastructural gives way as one moves closer to or into the zone populated by fragile or failed states, or competing empires. Otherwise the market for Predator drones would be much smaller. Yet like the British empire in the 19th century, the US empire attempts to balance the tension between harvestable resources and potential rivals by cultivating cultural cohesion and routines that check potential rivals’ temptation to defect, even as they magnify the resources available to those potential rivals.

The structure of the international monetary system and the expansion of US law around IPRs via a network of global trade treaties are an attempt to resolve both problems simultaneously in the
economic sphere. Dollar centrality in the IMS allows the US as an economy and more specifically US firms to escape constraints that the balance of payments would otherwise impose. Foreign financial firms face competitive pressures that enmesh them in a web of relations whose center is the FED and the New York-London group of banks. Exposing themselves to dollar denominated risks makes them ultimately reliant on the FED in the event of a crisis. Simultaneously, the transit of key personnel through the New York-London investment banks socializes the managerial strata into routines and world views, into habitus, that are the expression of US infrastructural power. Likewise, participation in global commodity chains organized by US firms makes participants’ survival and profitability dependent on the survival and profitability of those firms, and thus on maintenance or extension of IPR law. Indeed, generally non-US firms seek to challenge US firms in the IPR arena by adopting precisely the same organizational profile, and thus support robust IPRs. The Israeli generic drug firm Teva (c. $20b in revenues, 43,000 employees), for example, or the Indian generic firm Sun Pharmaceutical (c. $4b in revenue, 52,000 employees), both aim to move up-market into patented pharmaceuticals through internal R&D efforts. Yet this strategy is pointless in the absence of the global protection for IPRs that differentially favors US firms.

All that said, this US strategy does contain internal contradictions. The contradiction identified by [author 2] is real: breaking up global commodity chains and allowing peripheries to handle more of the capital-intensive parts of production risks losing the ability to generate new, patentable technologies. In this respect, modern empires perhaps decay more quickly than ancient ones. The relative ease of technology transfer and rising educational capacity in the periphery makes it easier for them to adopt and adapt the physical and organizational technologies that gave the imperial core its initial advantages (Spruyt 1996). Gilpin’s (1976) fears that US MNCs would enable the Japanese and German economies to master continuous flow production proved true. Yet the US government-funded shift to information technology and revenue capture through control over IPRs neutralized Euro-Japanese mastery, as the profit data above show. And it is profits that matter in a capitalist economy. Like the Red Queen, the core firms and state apparatus of the US empire thus cannot stand still.

The issue then, is precisely that ability to ‘keep moving’ in terms of the covert technology policy Weiss (2015) identified. This is a function of domestic politics more than foreign emulation. Here the contradictions are sharper, as the 2016 election showed. While the dollar’s centrality does remove the balance of payments constraint, the consequent perpetual trade deficits imply lost jobs, particularly in the low-value added parts of the manufacturing sector (See Helleiner 2017 for a survey of costs; Seabrooke 2006 for benefits). And the centrality of IPRs for profits turns more of the manufacturing sector into low-value added firms than might otherwise be the case, as it also shifts some capital-intensive production offshore. The magnification of finance via dollar centrality in the IMS and the reliance on IPRs for profit also tend to concentrate income into a small number of firms and employees. The consequent weak job markets and stagnant wages have undermined infrastructural power in the US domestic political arena. At the bottom, the bio-politically disciplines and routines that maintained a healthy ethno-national population core have given way to falling life expectancy, rising opioid use, and addiction to alternative facts. At the top, a significant portion of the haute bourgeoisie are willing to exchange lower tax rates trade for defunding of the sciences that might produce non-alternative facts, even though these sciences are the bread and butter of the IPR industries. This is their version of opioid addiction. Empires can lose peripheries and survive, but they cannot survive the collapse of the center. After the chaotic 1960s and an apparent defeat in Vietnam, there was much talk about American relative or indeed absolute decline. That talk proved unfounded. Likewise the industrial challenge from Germany and Japan in the 1980s. This time, most likely less so, though not so much for the reasons [author2] advances. Rather, decline is a product of political, not economic suicide.
References


