

## Four Galtons and a Minsky: Growth Models from an IPE Perspective

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### Abstract:

This chapter provides the global setting for the discrete growth models analyzed in the chapters on specific countries, and for the system level chapters on FDI, global supply chains, and the knowledge economy. In essence it focusses on the relationship between the global economic system and the units embedded in that system. The critical issue is the degree to which the global system conditions unit level growth models, or, conversely the degree of independence those models exhibit in terms of their domestic growth dynamics. We lay out four approaches with increasing system level causal effects. The first approach, which characterizes most of CPE, treats units (countries) in isolation, positing that independent unit-level responses to common functional problems, such as managing inflation stemming from the wage-led growth model, lead to a shift in the system overall, for example, towards open capital flows. Here the system is the sum of its parts. The second approach also starts at the unit level but focuses upon fallacies of composition at a higher, usually global level of aggregation, such that common responses produce a global outcome that differs from those at which individual strategies aimed. For example, with relatively closed economies, any one country could rely on the cheap, stable inputs that made Fordist production possible, but once multiple economies did that, such stable inputs – like oil – could not be produced in sufficient quantities. Here simple aggregation destabilizes the system, and reveals both that not everyone can have an export-led growth strategy, and that export-led strategies are co-constitutive with consumption and debt led strategies.

The third approach introduces the question of asymmetric power at the system level, positing that the differential capacity of units allows one or more units to dictate the structure and payoffs to the system overall. Such a perspective invites us to consider how international institutions, for example, the US patent regime and its instantiation in the TRIPS agreement benefit the growth models of some countries more than the growth models of other countries. This approach also draws our attention to how some growth models are disabled by their insertion into wider systemic relations, such as the pre-1990 Italian wage-led growth model into the EU, and how some are enabled, such as the insertion of East European states into the German export complex. Analysis at this level uncovers how one can see the global economy as a single but highly asymmetric field of power where differentially placed states and global firms' investment and supply chain activities massively impact unit-level growth models, parceling out position in the three level structure that the knowledge economy chapter details. Here the system conditions units and is more than the sum of its parts. The fourth approach adds a path dependency to the third approach, positing that the timing and insertion of unit-level growth models into the global economy matters hugely. For example, Germany can arguably 'do more exports' to get out of crises precisely because export-led growth was written into its developmental model from its inception in the 1870s in the form of repressed consumption and excess production. Here the system not only conditions units, and in the strongest form of the approach is causal for unit level growth models.

Finally the chapter considers the degree to which the global economy exhibits financial Minsky cycles akin to those at the national level. This helps us assess which of the four approaches captures the system and unit level dynamic most accurately. It also complements the chapter on financialization.

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## Introduction

As the first chapter noted, the Growth Models (GM) research program attempts to provide scholars with three new tools. First, a conceptual vocabulary that breaks with equilibrium assumptions and typologies, aiming for a more dynamic and political account of different *national* growth trajectories and possibilities. Second, a set of techniques for more accurately measuring how different *national* models grow or not. Third, a focus on demand at the *national* level in terms of national productivity and profit regimes, and how such factors shape *national* growth dynamics.

The word ‘national’ stands out both in such accounts and by design in the opening paragraph. In a world of nation states that exhibit increasingly nationalist politics and policies, such a stance is far from unreasonable. However, an ontological nationalism, *the fact of nations*, should not by default determine a methodological nationalism, *the assumption that the national level is the sole locus of growth dynamics*. In contrast to the Comparative Political Economy (CPE) model outlined in the first chapter, this chapter argues for an International Political Economy (IPE) account of growth and growth outcomes in which the causes are not confined to the unit level. This chapter examines the consequences of taking this insight seriously for developing a more robust and usable body of GM theory. In doing so we invite scholars to incorporate both sets of insights into their analyses.

The difference between the IPE and Comparative Political Economy (CPE) lens lies in a concern with exogenous sources of growth and scale effects beyond the unit level. We view IPE as complementing and augmenting CPE approaches rather than competing with them. It complements, because extant CPE and IPE approaches have natural affinities already that simply need to be made stronger. But we also hope an IPE approach augments GM theory as a whole, making it more useful.

We develop two arguments to make this case. First, while CPE traditionally has a developed with an OECD country-level bias, which makes the national level the appropriate – or at least traditional – focus of study, the gains from this methodological contrivance are attenuated when the scale of economic activity becomes continental and/or global. For example, a variety of national growth models exist within the European Union (EU), but can we, or should we, conceive of the EU itself as constituting a GM? If not, how do its institutions, and the requirements of membership constrain or enable, advantage or disadvantage, different national growth models?

As the chapter on the EU by Johnson and Matthijs in this volume demonstrates, FDI into Eastern Europe before the crisis of 2008 combined with post-crisis reforms to the EU’s fiscal institutions post crisis to privilege export-led growth models over consumption-led models in the EU, in large degree. There is then, in the EU, a selection effect at the level above the national economy acting upon unit level GMs.

Baccaro’s chapter on Italy provides another example. Italy was (excluding Japan) the fastest growing OECD economy from 1960 to 1990, and then it basically stopped growing. Many (perhaps too many) plausible causes can be found at the unit level, ranging from dysfunctional politics to demographics. But equally so, it is rather obvious that an economy with the largest proportion of small firms of any rich OECD economy that embraces a supra-national currency that limits devaluation as a rebalancing strategy might run into trouble in the face of increasing competition with German and then Chinese firms. Again, combining factors beyond the unit level with unit level factors gives a more complete account.

China exhibits these dynamics further. With 1.4 billion people and the world’s fastest growing large economy should we consider China as a single national growth model? The chapter on China by Tan in this volume rather sees China as a collection of quite different and regionally distinct GMs (private sector, state owned enterprises, exports) pressed into service at different moments by a state

that takes a long view on investment and growth. Likewise, should Latin American economies be understood wholly at the unit level when, as Sierra shows in her chapter, despite being quite different along many measures, they are all primarily commodity exporters with similar boom and bust cycles driven by external demand shocks? In short, something is missing from unit level accounts of GMs that a focus on higher levels of analysis can augment in more than simply an additive way. This brings us to our second argument.

The choice facing GM scholars is how to weight and prioritize unit level versus system level factors in their own particular research. While it would be nice to simply compute the domestic level growth accounting from GDP decompositions and assume that scale drives such a choice - that is, the larger the unit the less 'system' as opposed to 'unit-level' factors should be weighted - reality often runs in a more complex direction. The United States, as Schwartz (2017, 2019) has shown, indeed has a GM. And the sustainability of that GM is contingent upon the rest of the world tolerating US current account deficits while holding and using US dollars, which implies a global growth dynamic is relevant for even the largest economies. But at the other end of the scale, the GMs of microstates such as Luxembourg, or even individual US states such as Nevada, likewise depend upon global dynamics – in these cases the desire to avoid paying taxes – creating niches which they can occupy.

In what follows we provide five guideposts – 'Four Galtons and a Minsky' – for scholars thinking about how to balance unit and systemic effects in their accounts. The four Galtons are analytic cuts at where growth lies and how it is produced based upon the notion of the fallacy of composition (that what is true at the unit level will be aggregately true at the system level as well). The 'Minsky' in contrast complements the chapter by Ban and Helgadottir in this volume that sees financialization as a process cutting across, and common to, all growth models. Our Minsky however goes one step further than these authors by reminding us that credit cycles, which are integral to both growth and recession, are no longer purely or mostly unit level phenomena but rather deeply related to the interaction of different growth models. As such, global finance increasingly matters for local growth despite claims by nationalist and anti-system parties that local GMs can be isolated or insulated from the global economic system.

### **Going Galton: Thinking about Systems and Units**

What is the relationship between system and units? The methodological issue that we explore here parallels Francis Galton's critique of Edward Burnett Tylor's explanation for the presence of similar sets of cultural practices in Pacific Island societies (Hamel, 1980). Tylor argued that similar practices represented functional responses to similar problems in all these societies, and so for statistical purposes they could be considered independent events. Galton, in contrast, argued that rather than springing up independently, these sets of practices had originated in a single spot and then diffused mimetically to all the other societies. Galton argued that Occam's razor favored external causality as the odds of independent similar emergence were low.<sup>1</sup> These cases were not independent.

Given Galton's insight, how should we think about GM units and growth in today's global system, given an increasingly complex global division of labor replete with transnational firms organizing flows of physical goods, data, financial instruments, people and culture? For example, in the Baccaro and Pontusson (2016) version of GMs, most countries initially exhibited wage-led growth but diverged

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<sup>1</sup> To this we add a third possibility, namely imposition by an external power, rather than pure mimesis. In turn this suggests that looking at polities rather than specific global firms (or global networks of firms) as the units in a system may understate how power actually works in that system.

after the 1970s. This raises two Galtonian questions: why the similarities before 1970-80 and why the divergence afterward? Did unit-level or system-level factors drive similarity and then diversity?

This debate has any number of classic formulations, but a key touch point is the debate between Robert Brenner (1977) and Immanuel Wallerstein (1974) over the causes for the rise of a world-economy differentiated into distinct production zones. Brenner argued a unit level account where local class struggles produced specific production and class configurations that then aggregated to produce a world economy in which trade occurred. Wallerstein, by contrast, argued systemically – that an expanding global division of labor automatically called into existence the appropriate – and different – forms of production and state structure needed in any given locale.

Wallerstein drew heavily on the French *Annales* school's studies of European agricultural zones, which in turn, rested on the first serious work of economic geography, Johann Heinrich von Thünen's *Der isolierte Staat* (1826). Thünen's abstract model posited a market-based economy in which farmers located on a plain with uniform fertility and monotonically increasing transportation costs responded to the food demands of a central town. He showed that market forces would produce zones differentiated not only by their products but also – *and here is the really important part* – their production methods, including the degree of capital and labor intensity.<sup>2</sup> In Thünen's model (and other economic geography models, like Krugman and Venables, 1995), the market eliminates actors who choose the wrong product or production technique, producing relative local homogeneity – in a word growth models – but system level diversity.

Returning to Galton, the point here is that what looks like a functional complementarity between, for example, export-led GMs and consumption-led (or, if you will, capital import-led) GMs does not arise from unit level characteristics *per se*. Rather, given demand on scale A, the market will create spaces for products X, Y, and Z, and someone/someplace will emerge to serve that demand. Local characteristics may determine which of several potential producers becomes a dominant producer (Germany over France in the Eurozone, for example), but that determinant would be idiosyncratic.

The point, we stress again, is not that unit level variables lack importance or causal significance, but rather that unit-level variables may well be brought into play and activated by system-level mechanisms. As such, they should not be understood in isolation from systemic mechanisms. To take one obvious example, export specialization requires a division of labor large enough to sustain that specialization. That is why export-led economies can only be export-led to a significant degree if there are import-surplus economies out there. It's minimally a question of scale and maximally a question about the location of causality rather than one about matching balance sheets or accounting identities. Those import-surplus economies have to pay for imports somehow, which raises the issue of the degree to which the global structure of power generates the observed outcomes, what we will call Galton 3. Before doing that, though, we relate the specific arguments in CPE GMs to the more minimalist Galton 1 and 2 arguments about IPE or system-level causes.

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<sup>2</sup> Schwartz (2007) has a full description of the Thünen model that also includes a consideration of manufacturing and unit-system dynamics. Note that openly resting his argument on Thünen would put Wallerstein into a *zugzwang*: to evoke Thünen was to confirm Brenner's criticism of world system theory as a form of neo-smithian Marxism in which the market did all the work and in which exploitation disappeared since prices plausibly reflected productivity at the margin. Arguing that exploitation was central and that the market did not arise spontaneously, by contrast, would raise the significance of Weberian arguments about the centrality of violence in state formation, suggesting that world economies were simply in transition towards world empire and that exploitation had no economic basis. Far better then, to bury Thünen under a blizzard of citations to work that had used his model.

### Galton Type 1 and 2: IPE meets CPE's Growth Models

CPE GM models bring three useful insights to the table that are compatible with existing work in IPE. First, per Keynes, Kaldor, and the post-Keynesian models elaborated by Stockhammer and Onaran in this volume, Say's law is backwards. Rather supply creating its own demand, demand induces expansion of supply as firms opt to invest when excess capacity is absorbed (Baccaro and Pontusson 2016). Second, per Keynes, the income distribution matters since the marginal propensity to consume declines with rising income. Third, per both Hayek and the post-Keynesians, apparent institutional stability conceals the likelihood that economies can be in permanent disequilibrium because growth changes the availability of the different material and social resources powering those economies (Schwartz and Tranøy 2019), and also because capitalism is inherently conflictual across both classes and countries. In sum, demand drives supply due to differences in the ability and propensity to consume, and the more skewed the income distribution, particularly in moments of heightened investment uncertainty or class conflict, the weaker the domestic growth impulse.<sup>3</sup>

Given this understanding, the first and most obvious point of contact for the CPE version of GMs with IPE was the invention of 'macroeconomic regimes' (Blyth and Matthijs 2017; Blyth 2016) as a concept that sought to explain the transition from the post-war fordist growth models theorized by Boyer and Saillard (1981), to the more variegated Varieties of Capitalism (VoC) models of today (Hall and Soskice 2001, Hanke 2007). This literature argues that this transition emerged from a Kaleckian stand-off between investors and workers over the effects of inflation on profits and on future investment at the level of the system as a whole.

In particular, those Kaleckian stand-offs in the 1960s and 1970s exacerbated the pre-existing but mild global inflationary pressures that eventually motivated oil exporters to raise prices and thus trigger what looked like uncontrollable inflation. Blyth and Matthijs (2017) argued that this stand-off generated the shift from what CPE theorists would see as relatively homologous, fordist wage-led regimes – where the policy target was full-employment – to a set of more heterogeneous and specialized profit-led regimes – where price-stability became the key policy target and the restoration of profits became the key concern of elites.

The similarities between this particular IPE approach to understanding change over time and the CPE version of GM theory rests upon its purported causal mechanisms for the shift away from the post-war full-employment regime. Both the CPE version in Baccaro and Pontusson (2016) and the IPE version in Blyth and Matthijs (2017) settle on different Kaleckian mechanisms driving what the former call the shift from wage-led to profit-led regime and the latter a shift to a neo-liberal regime. Where the CPE version rests upon the insights of Post-Keynesian/Neo-Kaleckian macroeconomics regarding variation in wage shares and thus demand in unit level economies, the IPE version rests upon a breakdown in the capital-labor productivity bargain underlying the regime at the level of critical components at the global level (but not the system as such). Both of these two versions of GM theory, the CPE and the IPE, are consistent with what we term a 'Galton 1' scenario of independent responses to the functional problems of managing mass production, which in turn independently produced the inflation 'bug' that crashed different national systems.

Building upon this, but moving up the system further to a 'Galton 2' perspective, reveals that homogenous national growth models at the micro level generated endogenous decay because of two

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<sup>3</sup> Lavoie and Stockhammer's (2013) work underpins these insights, parsing the differences between profit-led and wage-led demand regimes.

emergent fallacies of composition at the macro (global system) level.<sup>4</sup> This account stresses how Fordist domestic growth in most OECD economies rested on a tightly coupled material production system (Piore and Sabel 1984; Chandler 1977). Tight coupling could only work in the presence of stable prices, stable access to labor power, stable consumption, and stable inputs. Fordist *domestic* stability therefore relied on a stable class compromise or incomes policy in which wages grew with productivity (and sometimes inflation). But *globally* – and here is where the fallacy of composition crops up – Fordist growth relied on equivalent compromises securing a stable and predictable supply of raw materials, particularly oil.

The dual political compromises around this supply involved the US and ex-imperial European states propping up governments in recently decolonized polities in exchange for a ceiling on prices on the one hand, and major oil or resource firms restraining output to set a price floor on the other hand.<sup>5</sup> At the beginning of the 1960s the problem was largely one of preventing price declines. But as Fordist production practices and consumption norms spread to Europe and Japan in this period, the demand for oil for transport and plastics began to exceed supply, shifting the problem to one of preventing price increases that might trigger global inflation.

Put differently, institutional mimesis around the fordist growth model could occur at a national level in the 1950s to 1970 because economies were relatively closed for historical reasons, and because economies of scale in critical industries like transportation equipment were low enough to be satisfied in a national (or near national – consider Scandinavia) market. Any one economy could plausibly have succeeded at fordist production of transport equipment without stressing oil supplies. But if all rich countries attempted a fordist model, then cheap oil at predictable prices would disappear, producing a shock to those tightly coupled production systems. As such, what happens at the system level and the unit level differs in kind even if each is deeply causally imbricated with the other. The causal account differs depending on the Galton level invoked. In a level 2 Galton no central power directs the adoption of Fordism. The degree to which Fordist GMs are adopted is a function of local conditions. Crisis emerges endogenously from simple aggregation.

### **Galton 3: GM Theory and the Issue of Asymmetric Power**

The prior section dealt with Galton types 1 and 2, where the fallacy of composition generates an unexpected or unintended outcome from individually rational and independent national choices about GMs. But the world is not composed of the equal sized units with equal power and resources. This brings us to ‘Galton 3,’ and the issue of whether some dominant actor(s) attempts to impose a preferred growth model, or to control and (re)-shape the market signals that drive actors’ behavior in their local economy.

A version of this argument is found in Farrell and Newman’s (2014, 2016, 2019) New Interdependence Approach and its related argument about “weaponized interdependence,” which

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<sup>4</sup> See Schwartz and Tranøy 2019 for a discussion of endogenous decay as a causal factor (or not) in CPE analytic models.

<sup>5</sup> As Maurice Bridgeman, put it in a speech to the API in November 1963, “The problem facing each responsible company with shut-in production...is therefore this: How much oil can we sell annually without contributing to a fall in prices which would not only render many of our own operations unprofitable, but – which is even more important – reduce the revenue of many of the principal exporting countries to a point which is politically unsupportable?” Quoted in Francisco Parra, *Oil Politics*, p. 39. Shut in production is capped oil wells whose output could be increased. Note that from 1950 to 1980 US oil firms in the top 100 firms by cumulative gross profit for all publicly listed US firms captured 10.5% of all gross profits, more than the manufacturing firms (including automobile firms) in the top 100.

eschews unit level explanations of international outcomes in favor of “a systemic account of world politics...where overlapping jurisdictions...emerge from [rule] overlap [to] create new opportunity structures for actors” (Farrell and Newman 2016: 716).

Farrell and Newman argue that globalization created a world of overlapping rules and novel jurisdictions where policy is no longer bound by the nation state, in areas as diverse as financial affairs, digital privacy, and environmental regulation. In these contested areas, ‘rule overlap’ empowers agents beyond the state to engage in bargaining, which leads to new political cleavages at a system level. Following this logic, Farrell and Newman (2016) suggest that control of key institutions at the level of the system is a key source of asymmetric power among states that is not reducible to the unit level.

Their most recent update to this approach, termed ‘weaponized interdependence,’ is deeply relevant for the concerns of GM theory (Farrell and Newman 2019). It takes this insight into the generation of asymmetric power further by developing a network analytic approach to understanding power at the level of the system. This version of the argument stresses that rather than globalization creating rule overlap, it creates critical nodes in the global network-architecture of regulation and access to flows (financial and informational) that comprise the system. Control of this architecture gives some states asymmetric power over others.

Seeing the system as a multi-layered set of discrete network flows around finance, trade, information, etc. allows Farrell and Newman to explain how centrality in such networks, and the increasing returns from centrality, create what they term ‘panopticon’ and ‘chokepoint’ effects that differentially empower the US. For example, the ability to monitor almost all internet traffic due to so much of it being routed through northern Virginia (conveniently close to the US National Security Agency), or the ability to exclude third parties from the SWIFT payment settlement system (despite it being based in Brussels), strongly suggests power lies at the level of the system and is constituted by networks made possible by globalization.

A Galton 3 perspective thus draws our attention to the issue of asymmetric power between states, as well as social bloc politics reaching across states. Both things are bracketed in the CPE literature. Systems are not level playing fields. Rather, as Farrell and Newman suggest, they are highly asymmetric, and they generate differential rates of return for those most central to the network. As such, the specific local growth model that a state happens to have is not just embedded in a wider ‘macroeconomic regime’ as Blyth and Matthijs (2017) suggest. Rather, it is embedded in relationships of hierarchy and advantage that clearly structure the dynamics of growth at the unit level.<sup>6</sup>

Consider Eastern Europe in relation to Germany, or the pre-2008 British GM. The Eastern European FDI-led and (largely) export dependent growth model is only possible because of its embeddedness in the wider EU level macroeconomic regime (pace Blyth and Matthijs 2017). The Eastern European GMs simply could not exist as viable growth models without a link via German supply chains to the Greater European Export Complex (Blyth 2016). Farrell and Newman’s perspective thus encourages us to focus our attention on the asymmetric nature of this system and the outsized rents generated by Germany via-a-vis the FDI dependent states. These differential returns stem from differential power, which is a systemic as well as a unit level property.

Second, consider the UK’s pre-2008 growth model, which Bacarro and Pontusson identify as an unbalanced consumption-led model driven by financialization and ‘the inflow of capital from abroad’

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<sup>6</sup> Given that about two-thirds of total global trade in 2014 involved production that crossed national borders at least twice before reaching end users, this kind of interdependence matters for all growth models (Constantinescu et al. 2018; World Bank 2017).

(2016: 186). This is indeed a reasonable characterization of the UK seen as a single unit level economy. But that view also omits another core component of the UK's GM. The UK is a central hub in the greater 'Anglosphere,' a globally interconnected network where the vast majority of global financial flows earn differential rents, part of which are spun off into the greater British (albeit mostly southeast) economy (Fichtner 2016; Winecoff 2017). Seen in this way, British growth is once again not simply a function of the UK's unit level characteristics. Instead, the UK's position in the system, in terms of both centrality and hierarchy, matters for a fuller accounting of growth.

Indeed, we can imagine a stronger version of a Galton 3 explanation that would examine networks of firms and their embeddedness and differential profitability in global value chains in order to understand which firms capture value from those production chains and how. Similarly, we could imagine a version in which a dominant state consciously tries to reshape other countries' domestic political economies much as the United States, for example, has been doing since the 1920s (Costigliola 1984, Sørensen 2001, Maier 2015), and as Hirschman (1945) argued the German state did in Eastern Europe in the 1930s. This version of Galton 3 would argue that the world economy constitutes a single field of power in which firms as well as states operate, and in which firms and associations of firms provide the relevant social bloc at a global scale, motivating much state behavior. Thinking about the relationship between the system and the units in this way resolves two major puzzles for the CPE GM literature, and one for the IPE literature that has to do with the mutual dependencies of exporters and consumption led economies.

First, given that substantial net exports should generate extra growth, why do almost all export-led GMs have lower rates of growth than the consumption-led GMs? CPE GM approaches try to answer this by asserting that consumption-led economies have excessive, debt-financed growth, implying that the normal state of affairs is low rates of growth, and counterfactually, lower levels of consumption absent such financialization. But this only highlights the second problem. By definition, any GM with significant net exports will accrue external assets. The second question then arises. Why would export-led polities continue to accept this debt, knowing that consumption-led economies did not generate enough tradeables to make good on those debts?

There is clearly more than just balance sheets going on here. This question is even more pressing once we realize that the major surplus economies receive sub-par returns on the assets they accrue from export surpluses. This is obvious in the case of most Asian exporters, whose portfolios disproportionately hold US Treasury debt, which returns much less than corporate debt, equities, or FDI. But it is even more puzzling with respect to advanced economies like Germany, who seem to earn US dollars abroad only to use them to buy foreign assets that earn less than they would if they were simply invested at home (Hünnekes et al., 2019).<sup>7</sup>

Relatedly, IPE has its own version of this puzzle concerning growth and imbalances. The distribution of import and export surpluses is not random. From 1992 to 2017, the United States accounted for 50.6 percent of global current account deficits. On the other side, Germany, Japan and China accounted for 43.3 percent of global surpluses, equivalent to 95 percent of the US deficit (Schwartz 2019: 495). Chronic US current account deficits should call into question not only the viability

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<sup>7</sup> Hünnekes et al. (2019: 4-5) show that Germany's annual returns on its external investments are have been between 2 to 5 percentage points lower than returns for comparable rich countries, and lowest among the G7 countries. Put differently, subpar investment performance left German firms and households €3 trillion poorer than they would have been had they achieved returns similar to Canadian offshore investors over the decade after 2008. Nearly a year's GDP! Furthermore, German domestic assets also outperformed overseas assets, suggesting a serious misallocation.

of their associated global liabilities, but also the currency in which they are expressed. Yet the dollar seems more dominant than ever. And clearly that has something important to do with global growth since the holders of those dollars are export surplus economies who lose money doing so – and yet the system continues.

#### **Galton 4: History Matters Because It Persists**

Moving up to a fully system level account may not be necessary, or even desirable for CPE GM theorists, since it makes the unit level all product and not at all productive. Yet such an approach, a ‘Galton 4,’ does contain some important insights that have to figure into unit level explanations as Stinchcombe-ian historical causes that can usefully merge CPE’s insights about the internal logic of local economies with IPE’s insights about how those economies articulate with each other. The baseline consideration is this: the export-led economies are all successful late developers (Schwartz 2019 has an extended discussion) and that matters for explaining patterns of growth across *all* cases.

As Gerschenkron (1962), Streeck and Yamamura (2001), and the subsequent developmental state literature argued, successful late developers generally mobilize capital for development by suppressing domestic demand. That capital is channeled into successively ‘heavier’ industries, which tends to starve agriculture, light industry, small- and medium-sized enterprises, and the service sector of investment capital. While policy-driven mobilization of domestic resources often creates viable, globally competitive firms at the technological frontier, it also leaves behind the scar of permanently deficient domestic demand, which causes output to flow overseas.<sup>8</sup> Germany may have become the export economy *par excellence*, but that move was embedded in its industrial founding, as it was in the foundings of all the other export-led states.

Relatively low household consumption in the late developers therefore forces firms to look outward for markets, which they find in the Anglo economies, and in high growth developing economies. As an outcome of late development this is a structural and systemic factor more so than an expression of independent local choices. Germany can choose today to ‘do more exports’ in response to a financial shock, but that is possible precisely because it has never done ‘more consumption.’

This institutional lock-in around reduced consumption also tends to make financial systems in late developers relatively more bank oriented rather than capital market oriented. Although financial systems everywhere have been shifting away from traditional lend and hold models (Hardie et al., 2013; Deeg and Hardie, 2016), a huge disparity in the degree to which securities market as opposed to bank lending dominates still persists between the United States and other economies.<sup>9</sup>

Export-led GMs must recycle their surpluses in order to maintain their undervaluation regimes, *but they can only recycle their surpluses if there is an acceptable asset in which to deposit those surpluses*. And that asset is the US dollar. Current account surpluses put a large pool of dollars into exporters’ hands. Exporters then channel their dollars through their local banking system. Local banks thus have growing US dollar-denominated liabilities (deposits), which in turn compel those banks to

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<sup>8</sup> Thus Höpner (2018) argues that even Germany, the most advanced of the surplus economies and one with a relatively robust welfare state, has operated a pro-export undervaluation regime since 1950; barriers to mortgage credit likewise suppress German domestic demand.

<sup>9</sup> In 2013 (the most recent data) the ratio between securitized debt plus bond debt versus unsecuritized bank loans was roughly 2.2::1 for the US market, while the ratio for Japan was 1::1, and the eurozone and EU was only 0.62::1 (IMF, 2015). Financial systems in most export-led economies continue to be bank dominated, with banks providing 80 to 90 percent of corporate funding in Europe versus 30 to 40 percent in the United States (Standard and Poor’s, 2015; Detzer et al., 2014).

relend those dollars in global markets in order to have a corresponding asset. The dollar share of liabilities (deposits) and assets (loans) on the bank balance sheets of export-led economies thus grows, supporting US deficits.

Non-US banks' US dollar denominated liabilities – that is, deposits – typically accounted for more than 49% of all cross-border liabilities, 1992-2017, and accounted for 57 percent in 2017. Indeed, non-US banks recycling trade surpluses as well as endogenously creating credit are the major source of dollar denominated lending in global markets. Non-US banks generated 80 to 85% of offshore dollar lending, with virtually all of that funded from US dollars supplied by non-US entities (McCauley, McGuire, Shushko, 2015; Aldasoro et al., 2017; IMF, 2018: figure 1-23). This recycling of export surpluses also sustains the growth differential between the US (and other Anglo- and consumption-led GMs) vis-à-vis the export-led models, even if this growth is based on consumption.<sup>10</sup>

Surplus economies' reliance on exports for growth and banks for intermediation thus pushes them into accepting and recycling US dollars, and thus maintaining the US dollar as the dominant global currency. In turn, the dollar's pre-eminence supports US preeminence in the global power hierarchy. This mechanism allows us to resolve the IPE and CPE puzzles noted above. It combines the different levels of analysis in those approaches by linking undervaluation regimes to the dominant global currency.

Thus, from a 'Galton 4' perspective, the relationship between export-led and consumption led-economies is more than a simple mechanical one emerging from local choices independent of the system *a la* Brenner. Rather, export-led GMs have their origins in a Stinchcombe-ian historical cause, namely late development efforts triggered by the power imbalance between first Britain and the world, and subsequently the United States and the world. They have a Stinchcombe-ian continuing cause in the local structure of power, namely (excess) production and (suppressed) consumption built into firms and a local institutional environment shaped by late development and reinforced by the outcomes of two world wars.

These GMs make sense – that is, they can survive and prosper – economically only because a global hegemon generates new demand (via new, globally acceptable debt) that validates the excess investment in export-led economies. The global structure of power makes that demand acceptable to export-led GMs by validating the future utility of US dollar denominated debts, even though, as noted above, some export-led GMs seem to be bad global investors.

This Galton 4 type explanation is no different from Polanyi's characterization of Britain's role in the global economy of the 19<sup>th</sup> Century. Today, the US current account deficit performs the same role and it is a feature, not a bug. It provided a non-trivial 0.8 percent of global GDP (about \$380 billion) *annual* stimulus to the global economy, 1992-2017. The counterfactual world in which the United States balances its external accounts by pushing the current account deficit under 0.5 percent of its GDP would see a parallel collapse of growth in the export-led GMs. That counterfactual world is one in which exporters stop accepting US Dollars and allow their own currency to appreciate, or a world in which exporters translate surpluses into import substitution industry in the United States. In either scenario the export-led GM would disappear. So too would the financialized GMs, as the supply of new money dried up. In sum, from a Galton 4 point of view GMs are deeply interdependent at the global systemic level, and growth is a property of both the unit and the system.

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<sup>10</sup> Market actors react to the social fact of GDP growth, more so than worries about the sustainability of debt (until it is too late).

### **And a Minsky Atop It All**

If much of CPE focuses on nation-level institutional (and especially wage-bargaining) dynamics, much of IPE focuses on money and financial dynamics. IPE particularly focuses on the US Dollar's role as the 'top' currency (Cohen 1996), and to a lesser extent as the vehicle tying growth at the global level to the unit level. CPE accounts increasingly recognize these dynamics by incorporating financialization as a component into their models, and by viewing it as a phenomenon that cuts across models (pace Helgadottir and Ban in this volume). IPE accounts agree with this stance, but once again IPE would push it in a different direction to highlight equally important, but less recognized, growth dynamics.

As noted above, CPE accounts tend to view finance as a 'fix' that ameliorates insufficient aggregate demand in national economies that have shifted from wage-led to profit-led regimes of growth (Baccaro and Pontusson 2016). Some CPE GM's are seen to rely excessively on finance for growth (although as noted above such models nonetheless seem to grow faster than the less financialized) while some are seen as more 'balanced.' IPE, by contrast, views finance as much more than an increment to aggregate demand at a domestic level in three ways, two of which we have covered already. But all three involve the fallacy of composition and endogenous decay.

First, exporters can only be exporters if there is a global currency to provide liquidity countering the deflationary dynamics that export-centered GMs produce. Specifically, if national level competitiveness determines export share, and exporters are historically consumption constrained, then a rising share of export-led regimes in a system will endogenously depress global aggregate demand. The fallacy of composition means they cannot all remain successful net exporters. Keynes recognized this dynamic in 1944 and sought to supply a global currency – exogenous 'outside' money – called the Bancor to offset these dynamics. The Bretton Woods arrangements failed to supply such a currency, and the US Dollar instead provided a second-best, but vastly inferior solution.

Second, exporters in particular – and investors in general – need a global safe asset in which to park their earnings. Again, the US dollar and dollar denominated assets play that role, mainly because there are no credible alternatives and because the US still exhibits better growth dynamics than the alternatives, thus valorizing the debt it issues. But in a modern version of the Triffin Dilemma, a rising tide of export-led GMs would erode both US credibility and growth if the United States tried to accommodate all of their surpluses.

Third, these two factors have combined with the globalization and integration of financial markets we have seen over the past thirty years to produce global credit cycles – as clearly seen in the 2008 crisis – that can both augment domestic growth (Seabrooke 2006, Schwartz 2009) and severely damage it when it goes awry (Blyth 2013, Tooze 2018).

CPE accounts, to the extent that they paid attention to finance prior to 2008, tended to analyze it as a problem of how national level firms acquired capital (Hall and Soskice 2001). Post crisis, finance had to be rethought in both CPE and IPE. Both disciplines rediscovered Hyman Minsky (1986), whose notion that endogenous credit cycles were both integral to and disruptive of growth provided a reasonable starting point. Minsky posited that after a financial crisis, regulators clamp down on what is permissible, producing an extended period of financial stability. As Minsky notes however, 'stability breeds instability' over the long run. Actors mistake the lack of volatility as evidence of 'financial repression' and their own ability to successfully manage risk. Consequently, they lobby to remove constraints.

As actors succeed in liberalizing the supply of finance in a credit constrained world, they initially reap high profits while boosting asset prices. This incentivizes the further expansion of banks' balance

sheets to take advantage of these rising prices, moving the system from its ‘hedge’ phase to its ‘Speculative’ phase. This second wave of credit expansion is however inherently unstable. It is itself predicated on realizing capital gains from rising asset prices that are in turn financed out of that credit expansion. Meanwhile, the ever increasing demand for these assets leads to the entrance of new ‘less sophisticated’ investors, which juices demand, and further masks risk. At this point, what Minsky calls ‘overtrading’ occurs, and the ‘Ponzi’ stage of the cycle becomes endogenously unstable as the returns on these hyper-inflated assets can no longer support their valuation. ‘Revulsion’ then occurs as market actors all try to flee these same positions at the top of the market, causing the collapse in values each of them are individually trying to avoid. Minsky’s argument thus rests on the fallacy of composition and endogenous decay.

As far as generic accounts of financial cycles, credit expansion, and deleveraging go, this is a pretty good basic model. IPE scholars would differ from the CPE renditions of Minsky by arguing Minsky cycles have become global, not local, events, plausibly since the 1982 Latin American debt crisis and certainly since the 1997 East Asian financial crisis. System level crisis dynamics compromise the stability and survivability of national growth models.

As noted above, if exporters earn dollars and bank in dollars, then they must also be lending out those dollars to transform bank liabilities into assets. This creates a global network of lending and borrowing obligations that ties domestic credit cycles together as investors chase yield at a global level. In such a world banks at a domestic level can create ‘inside’ money in the form of loans that make deposits to chase this yield. But if those loans are made in US dollars – non-US banks originated 80 to 85 % of cross-border dollar-denominated lending in recent years – and the collateral values that are the counterparty to those loans fall in value, then these national level banks doing the lending are suddenly short US dollars. By definition their own central banks cannot create dollars to bail banks out of their Minsky moment. This makes the entire global network dependent upon the US Fed as the global lender of last resort, which not only highlights the Galton 3 dynamics noted above, but also strongly suggests that credit cycles cannot be treated as local events. As such, when we talk about financialization at the unit level we would do well to remember that, particularly for dollar-long exporters, credit booms and busts lie just as much at the global as the local level (Schwartz 2019).

### **Conclusions: IPE and GM Theory**

An IPE perspective on GMs basically argues that unit level GMs do not exist independent of the IPE, whether we regard that IPE as simply a set of market forces that create structural spaces for specific kinds of products and production processes (Galton 1 and 2), or as a hierarchical, power-driven system in which a dominant power with global Lender of Last Resort capacities passively or actively shapes everyone else’s choices (Galton 3 and 4). IPE and systemic approaches in general highlight how the fallacy of composition at all levels creates endogenous dynamics that cause models at the unit level to change, whether by choice or market coercion or (something all growth model approaches elide) overt political intervention. As such, IPE and its CPE GMs should be seen as co-constitutive.

Saying that always sounds nice, but what does it actually mean? We think it means four things.<sup>11</sup> First, that all GM scholars should recognize that systems not only differ in character from their component units, but also have dynamics that can significantly advantage or disadvantage unit level GMs. For example, the crisis of Fordism opened a space for countries that had only incompletely

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<sup>11</sup> Also, both IPE and CPE GMs contain a useful shift away from the micro-economic and supply side concerns that marked CPE after the mid-1980s (Schwartz and Tranøy 2019).

adopted fordist production techniques, like Italy, Denmark and, to a lesser extent, Germany. Future research could usefully build upon this insight, exploring why various countries did or did not capitalize fully on this opening.

Second, power, in the form of hierarchy, centrality, and the provision of global liquidity, matters. Systems are much more than the sum of the units that constitute them. One unit may have a privileged position in the system that allows it to generate exogenous demand or the use of actual and symbolic violence to re-write the terms of trade or financial regulation. If capitalism tendentially trends towards deflation – something both Veblen and Schumpeter thought inevitable – then the power to issue money that everyone will accept is a major source of power that is exogenous to units and pertains to a specific unit's position in the system. Effects will vary across other units based on their own position in the system.

Third, history matters in the formation and maintenance of specific GMs. A polity's timing and manner of insertion into the global economy conditions local production and political structures to this day. While this conditioning is never as strict as path dependency arguments might have it, the global market does exert considerable pressure on actors to shape their behavior in ways that perpetuate their current growth model and thus the system structure. Today's export GMs didn't just decide to 'go for exports' randomly. They were selected for it, and that historical selection has contemporary salience. For example, Chancellor Merkel's 2020 decision to allow Chinese telecoms firm Huawei access to Germany's 5G network, despite US opposition, was heavily conditioned by Germany's continuing export dependence on China via its auto sector. As such, the ability of such states to wean themselves of exports towards less beggar-thy-neighbor forms of growth should be treated as an open question.

Finally and empirically, we hope that these 'four Galtons and a Minsky' provide scholars with a set of parameters for judging not only 'how much system and how much unit' they should stress in their accounts, but also how systems shape units. As suggested above, while it's not as simple as 'the bigger the scale the more system matters,' we should nonetheless be attentive to those scale effects and network effects that are increasingly important drivers of growth for all GMs.

Luxemburg is a unit level GM (and a parasitic one at that). But it only exists as Luxemburg precisely because everyone else is 'not Luxemburg.' Niches matter because the system – minimally via a global division of labor – generates them. Likewise China may not be a single unit level GM so much as a concatenation of different GMs, evolving together over time. But China is a unit level actor in the global economy, and that matters for all the other GMs out there. In sum, the system matters, and the only questions are 'how' and 'how much' given the research question at hand? Both IPE and CPE need to embed their analyses in that simple but powerful fact. Choice of weight in analysis is perhaps then the weightiest choice GM scholars need to make.

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