

In Search of Varieties of Capitalism: Hardy Perennial or Troublesome Weed?

Mark Blyth

Watson Institute for International and Public Affairs
Brown University
Providence RI 02912
Mark_Blyth@brown.edu

Herman Mark Schwartz
Politics Department
University of Virginia
PO Box 400787
Charlottesville VA 22904-4787 USA
+1 434 924 7818
schwartz@virginia.edu
<https://uva.theopenscholar.com/hermanschwartz>
<http://orcid.org/0000-0002-5571-3644>

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Review of Keynesian Economics Special Issue of Varieties of Capitalism

Introduction

The discipline of political science tends to push political economists who end up working there rather than economics or sociology into one of two subfield identities early in their careers: ‘comparative politics,’ or ‘international relations.’ Choosing comparative politics incentivizes them to engage with a subfield called ‘comparative political economy’ (CPE), where one of the largest research programs over the past 40 years involves sorting capitalist states into different functional types or varieties. By contrast, choosing ‘international relations’ initially groups them with colleagues who tend to see states as behaviorally similar and differentiated only by the ‘distribution of capabilities’ in the system (Waltz 1979). This reductionism incentivizes them to join a subfield called ‘international political economy’ (IPE), where varieties also exist (core vs periphery, revisionist vs status quo, for example) but are of an altogether different kind from CPE’s varieties.

Where CPE’s varieties are largely complementary and arise from functional specialization, IPE’s varieties arise from differences in relative power manifested through hierarchy in the global system. Consequently, these two approaches tend to produce quite different answers about why, for example, German capitalism differs from American capitalism (e.g., Katzenstein [2005] versus Hall and Soskice [2001]). This article tries to strengthen how we think about variety, be clearer about what is at stake when we posit varieties or types, and thus partially remedy or reduce this analytic tension between CPE and IPE.

The first part of this essay considers whether sorting different capitalist economies into different types is useful. We concur with Hay (2020) that while one can undoubtedly scatter-plot or cluster capitalist economies using numerous vectors (the degree of economic efficiency versus the degree of inequality, for example, in Hopkin and Blyth [2011]), we should be wary about declaring clusters as distinct ‘varieties’ or types. Varieties implies similarity in genetic origins and internal functional feedback loops that sustain differences. The search for varieties encourages us to impute rather than directly observe those equilibrium mechanisms. But as convergent evolution – e.g., ‘carcinization’¹ – demonstrates, superficial morphological similarities can arise from diverse genetic origins and be maintained through external selective pressure rather than internal feedback.²

The second part of this essay builds on this discussion to examine how CPE cultivates varieties. We contrast the canonical Varieties of Capitalism (VoC) approach (Hall and Soskice 2001) with the more recent ‘Growth Models’ (GM) research program (Baccaro, Blyth and Pontusson 2022). We argue that while the GM approach better avoids misidentification of types and mechanisms, it does not go far enough in integrating insights from IPE. The third part of the essay discusses those insights in the form of five conditions that shape how we should think about variety. Drawing on Schwartz and Blyth (2022), we use ‘four Galtons’ and a ‘Minsky’ to elaborate how to think about variety.

The Galtons specify four different ways to think about the nature of interaction effects among national capitalisms, and thus where to locate the causal origins of variety in specific cases as well as in general. As we shall demonstrate, most views of variety in CPE, and even more so in economics, tend to ignore what we will call the third and fourth type of Galtonian interdependency. They similarly downplay Minsky-ian dynamics around the interpenetration of local and global credit cycles, and how that differentially shapes national capitalisms over time. We conclude by suggesting where these insights can be best integrated into existing models of variety without succumbing to the temptation to see real, useful, and hardy perennial types where there are in fact only deductively derived, chimerical types that weed-like choke the garden of CPE.

Types, clusters and varieties

Hay (2020) profoundly challenges the notion that different national capitalisms constitute necessarily distinct and stable varieties. He argues that a pre-commitment to the idea that varieties exist, and thus should be discerned, confuses ideal and real types. This leads analysts to deductively impute a common but potentially chimerical set of causally important institutions to any cluster of countries with some discernible shared statistical characteristics. A brief precis of Hay’s critique helps us more accurately frame what we should be looking for when we posit varieties of national capitalisms.

Hay elaborates three analytic constructs for recognizing variety: Max Weber’s two ‘ideal’ types and one ‘real’ type. Hay notes that Weberian ideal types can be agential (micro) or structural (macro). ‘Homo economicus’ exemplifies the micro or agential type of analytic abstraction. Chicago School economists aside, no one thinks that such people exist, but the theoretical construct provides a benchmark against which real behavior can be compared. The ‘market economy’ exemplifies the pure macro type, where

¹ Carcinization is the tendency of non-crab-like crustacea to evolve into crab-like forms through convergent evolution.

² That said, we by no means want to argue that reifications like ‘globalization’ or ‘neoliberalism’ ineluctably lead to morphological convergence in capitalist economies.

"the analyst seeks to capture...through abstraction certain features of the whole to which attention is being drawn in a pure...way" (Hay 2020: 306). Finally, Hay draws attention to 'real types.' These are arrived at inductively, "from the patterned dispersion...of actually existing cases... [and are] ... invariably...a statistical archetype." (Ibid.)

Hay argues that conceptual slippage across these analytics arises precisely when we start looking for varieties. Starting with *Homo-Economicus* can get you to an idealized market economy and vice versa. You can imagine such an agent, and then deduce what type of world they must live in. But doing so does not mean that in building the former construct you can logically infer the existence of any 'real type' that corresponds to the latter. If an ideal type is "at best, a stylized extrapolation from processes...present in real cases," one cannot backwardly induce that real cases are only 'real' – and therefore worthy of investigation – if they correspond to these extrapolations (Hay 2020: 308). If we do so we run into trouble insofar as, to paraphrase Bellow's Ravelstein, 'a thing is not a thing until it corresponds to the ideal type.'

CPE and variety

Hay's critique of 'variety hunting' offers an interesting vantage on how CPE views variety and why it has difficulty incorporating the type of scale and system effects IPE scholars tend to frontload in their work. For example, much of the early CPE literature sought to delineate national models of capitalism based on the different roles played by government, business, and organized labour in different economies (Schwartz and Tranøy 2019). Shonfield (1965), for example, developed the idea that the structure of interest groups and institutionalized relations among unions, employers, and the state differed across capitalist economies in ways that mattered for macro-economic growth outcomes. The subsequent literature shared a broad consensus on a three-fold typology of liberal, statist, and corporatist advanced capitalist political economies (Hall 1986, Katzenstein 1985, Zysman 1983).

These typological exercises reached their most advanced form in Hall and Soskice's canonical *Varieties of Capitalism* (2001), which integrated prior insights into a single analytical model. While implicitly founded on Weberian agential ideal types – firms, not states, are the unit of analysis – it produced two structural ideal types: Liberal Market Economies (LMEs) and Coordinated Market Economies (CMEs). To produce those types, Hall and Soskice contend that firms confront five key coordination problems: eliciting cooperation from employees while securing wage restraint, securing a supply of workers with the relevant skills, financing investment, managing relations with owners and, finally, managing relations with subcontractors and competitors. Firms' divergent solutions to these coordination problems generate their two ideal types of capitalism.

LMEs solve these problems through markets. CMEs solve them through institutionalized strategic coordination among labour and product market partners. These institutional arrangements become self-reinforcing equilibria. If some firms generate solutions that constitute a Pareto improvement over the initial position of all agents, all agents will eventually adopt those solutions. Iteration produces self-reinforcing institutional complementarities through increasing returns and lock-in through feedback. In short, decisions taken by firms in, for example, an LME, *precisely because it is an LME*, reinforce the selection of specific LME strategies over time, resulting in distinct and diverging institutional clusters of LMEs versus CMEs locked into path dependent trajectories (Pierson 2000) that emerge endogenously from local conditions.

Hall and Soskice (2001) therefore did not simply describe particular varieties, as previous CPE scholars had done, but also sought to explain how these clusters emerge and reproduce themselves through self-selection. The concepts of “institutional complementarities,” whereby homeostatic feedback mechanisms tightly bind institutions and their outputs in equilibrium, and “comparative institutional advantage,” whereby such institutional clusters allow variation across the two main possible types of CME and LME, drove their explanatory framework. Consequently, institutional solutions to key coordination problems explained discrete institutional outcomes, such as firms’ innovation strategies, or the choice of social and public policies favored in a particular state.

VoC’s two ‘varieties’ of capitalism thus also diverge in terms of the economic activities that generate growth. The LME institutional framework favors the expansion of low-wage services and high-tech sectors engaged in radical product innovation; the CME institutional framework favors incremental process-focused innovation in manufacturing. Perhaps most importantly, VoC strongly implies that increased international competition leads to a crystallization of LME-CME differences, as firms double down on economic activities and production profiles that mesh with existing institutions. VoC thus implies that governments should promote growth by engaging in reforms that render their institutional frameworks more coherent, thereby enhancing existing institutional complementarities.³ Growing grapes that don’t fit the *terroir* will lead to mediocre wines.

Beyond VoC: Growth Models (GMs) and Variety

The emerging literature on Growth Models (GMs) (Baccaro and Pontusson 2016) precisely targets VoC’s reliance on a supply-side/neoclassical understanding of the overall macroeconomy, its assumption of equilibrium outcomes, and its conclusion that comparative institutional advantage is the source of national competitiveness. The GM literature instead uses post-Keynesian economics to generate varieties of national growth models that are demand-driven and in dis-equilibrium. The GM literature begins with the breakdown of the wage-led Fordist political economies in the 1970s and 1980s (Bhaduri and Marglin 1990) – effectively the same territory as the neo-corporatist literature mentioned above – but draws rather different inferences from these cases.

As a declining wage share of GDP led to lower growth and greater inequality across the OECD, the collapse of demand-driven growth caused Shonfield’s relatively homogenous wage-led Fordist economies to mutate into a ‘variety’ of different national growth models by the 1990s. Those vary from debt-financed consumption-led Britain and America, FDI-led Hungary and Ireland, export-led Germany and Eastern Europe, the occasionally ‘balanced’ Sweden, and on to cases with no discernable coherent growth model such as Italy or Greece (Baccaro, Blyth and Pontusson 2022).

The GM approach eschews the idea that complementary institutions in equilibrium drive divergence between VoC’s two varieties. The GM approach instead identifies Hay-sian (2020) *real types* by asking what sectors of a given economy generate value added, and what coalitions support the interests of these sectors in public policy and politics. Thus Baccaro (2022) decomposes national accounting GDP data to identify the demand drivers in an economy and its dominant growth coalition. Here an understanding of the different types of GM emerge inductively rather than deductively as in VoC.

³ Soskice (1999) supports this general line of argument by suggesting that multinational corporations engage in “institutional arbitrage,” locating different activities in countries with different institutional configurations.

This move partially enables the GM approach to avoid methodological nationalism in its conception of variety. For example, it can identify regional level GMs, such as China's twin GMs (FDI and State led investment) (Tan and Conran 2022) and it can identify the huge reliance on externally generated demand for commodities for most of Latin America (Sierra 2022). Nonetheless, Hay's critique about 'variety hunting' pertains as much to the GM approach as to VoC, albeit in a different way. Where VoC conflates agential and structural ideal types, the GM approach is vulnerable to the claim that the morphological similarities of its various real types emerge from an overly strong bias towards unit-level causal factors. It is precisely here that IPE scholarship can potentially supply a cure for the issue of why and how varieties emerge.

What's at stake in different forms of 'variety hunting'?

The VoC approach implicitly assumes that distinct varieties are there waiting to be found. Yet what it finds are not 'real types' discovered via statistical analysis. Rather, what VoC posits and discovers is a micro ideal type in the form of firms whose decisions scale up without any fallacy of composition to form a distinct capitalist variety, and a macro 'ideal type' in the form of a set of institutional complementarities that determine the persistence and growth of that variety.

Hay's critique supplies a covering analysis for the many empirical studies showing that many, if not most, actual capitalist economies fit neither VoC ideal type (see, e.g., Campbell and Pedersen, 2007). First, as Hay notes, fitting things into ideal types risks confusing the real and the ideal. Second, the focus on firms obscures the role of other actors (the state, the electoral system, the financial system, etc.) that might equally well explain the real types of national models and growth trajectories.

GM theory attempts to solve this problem by ignoring it and/or bypassing it. Rather than producing ideal types, the framework generates its *real types* through GDP decomposition and comparative historical analysis. These data then score country Y or Z by how much it resembles the real type of GM X (say, export-led growth). While GM analysts try to find broad categories of growth drivers and then group states with reference to those drivers, there is no *a priori* attempt to find ideal forms of varieties that may not exist. Here, things can be things without fitting into types, and types do not necessarily generate things.

The move to GM analysis from VoC therefore constitutes a progressive extension of CPE's comparative capitalism research program, but with one crucial limit. States are neither hermetically sealed units with discrete national economies, nor are they similarly endowed actors who interact on a neutral playing field. The GM approach is more attuned to questions of power than the VoC approach, but still has trouble dealing with scale effects, hierarchy and power, and how the drivers of demand shift over time. For example, whatever drives changes in gross value added in the Latvian economy is probably not relevant for changes in US gross value added, but the reverse is probably not true. To incorporate those factors, we turn from a CPE to an IPE perspective.

Going Galton: Thinking about systems and units

The IPE approach primarily differs from CPE, and especially VoC, by asking about the sources of demand rather than of supply, asking about sources of growth exogenous to countries (units), and, in some cases, by examining system level constitutive effects. These are all questions about how to weight and

prioritize unit level versus system level factors in a GM framework. We provide five possible pathways – ‘Four Galtons and a Minsky’ – for doing so.

The four Galtons we set out here recast sources of growth and the causes of unit level variation with increasingly stronger system level effects, so as to avoid fallacies of composition.⁴ Our ‘Minsky’ provides a similar but finance-oriented system-level approach because the credit cycles integral to both expansion and recession are no longer purely or mostly unit level phenomena, and arguably were not unit level phenomena in the nineteenth century (Jordà et al., 2019). Rather, system-level credit cycles deeply affect which and why different growth models experience growth at different historical moments. The strongest version of ‘Galton’ – a Galton 4 – reverses relationship between system and unit level found in VoC: varieties are simply expressions of a global division of labour that defines the available set of production niches, and plausibly dictates much of how production occurs in those niches. In the conclusion, we suggest which Galtons are most directly applicable to any study of real varieties.

Geography lessons for variety cultivators

The methodological issue at the heart of our discussion parallels Francis Galton’s critique of Edward Burnett Tylor’s explanation for the presence of similar sets of cultural practices in Pacific Island societies (Hammel, 1980). Like VoC, Tylor argued that similar practices represented functional, complementary responses (“adhesions”) 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 or by imposition. Galton argued that Occam’s razor favored external causality, as the odds of independent similar emergence were low. Units were not independent.

Galton’s critique can be extended to understand GM’s units and growth in today’s increasingly complex global division of labor. For example, in the Baccaro and Pontusson (2016) version of GMs, most countries initially exhibited wage-led growth but diverged after the 1970s. But did unit-level or system-level factors drive similarity before 1970-80 and then diversity afterward? 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, like VoC, generated a unit-level account where local class struggles produced specific production and class configurations that then aggregated to produce a world economy characterized by trade. Wallerstein, by contrast, generated a system level account in which an expanding global division of labour automatically called into existence the appropriate – and different – forms of production and state structure needed in any given locale. Wallerstein never really specified the mechanism by which the system generated units, but his analysis drew heavily on the French *Annales* school’s studies of European agricultural zones, which in turn, rested on von Thünen’s *Der isolierte Staat* (1826/1966), the *ur-text* of economic geography.

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

⁴ Specifically, that what is true at the unit level will be aggregately true at the system level as well.

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 labour intensity (Schwartz 2007). In Thünen's model (see also Krugman and Venables, 1995), the market eliminates actors who choose the wrong product or production technique. This generates production profile homogeneity – what we might call unit-level growth models – but system-level diversity. Given demand on scale A, the market will create niches for products X, Y, and Z, and someone/someplace will emerge to serve that demand. Idiosyncratic local factors might determine which of several potential producers became a dominant producer, but it was the fact that the system generated the niche for that producer that is analytically key.

This is not to say that unit level variables lack any causal significance, but rather that unit-level variables are brought into play and activated by system-level mechanisms. As such, they should not be understood in isolation from systemic mechanisms. To take two obvious examples, export specialization requires a division of labour large enough to sustain that specialization. Export-led economies can only be export-led to a significant degree if there are import-surplus economies out there, which immediately implicates a global financial system, and perhaps a dominant currency. The next section casts the specific arguments in CPE GMs as the more minimalist Galton 1 and 2 arguments before turning to the more system-oriented, maximalist Galton 3 and 4.

Galton types 1 and 2: From unit causes to system causes

Galton types 1 and 2 are essentially Tylor's and Galton's positions respectively, with VoC closer to type 1 and GM closer to type 2. This can be seen in the differing ways that VoC and GM deal with the origins of the plausibly uniform post-war fordist growth models theorized by Boyer and Saillard (1981; Bhaduri and Marglin 1990) and the transition to today's more variegated models.

CPE's GM theory brings three useful insights ultimately compatible with existing work in IPE. First, per Keynes, Kaldor, and post-Keynesian models, Say's law is backwards. Rather than supply creating its own demand, demand induces the 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, and because capitalism is inherently conflictual (Schwartz and Tranøy 2019). 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 (Lavoie and Stockhammer 2013). All of these plausibly operate at either a global or unit level.

But both the VOC and, to a lesser extent, the GM approaches retain a strong unit-level starting point. Consider their explanations for the transition from what they see as relatively homogenous Fordist political economies to the current variegated post-Fordist political economies. The GM literature, drawing on Blyth and Matthijs (2017), 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. 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. This shifted what CPE theorists would see as relatively homogenous, 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.

Nearly similar Kaleckian causal mechanisms drive the GM (Baccaro and Pontusson 2016) and IPE (Blyth and Matthejs 2017) versions of the shift away respectively from a wage-led to a profit-led regime and from the post-war full-employment regime to a neo-liberal regime. 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-labour productivity bargain underlying the regime at the level of critical components at the global level (but not the system as such). Both versions thus present a ‘Galton 1’ scenario of independent, local responses to the functional problems of managing mass production, that in turn produced the inflation ‘bug’ that crashed discrete national systems.

But a plausible ‘Galton 2’ understanding would focus instead on a global level fallacy of composition that these homogenous unit level national growth models generated endogenously (Schwartz and Tranøy 2019). Fordist domestic growth in most OECD economies rested on tightly coupled material production systems (Piore and Sabel 1984). Tight coupling could only work in the presence of stable prices, stable access to labour 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), as Galton 1 stresses. But Fordist growth relied on equivalent *global* compromises securing a stable and predictable supply of raw materials, particularly oil. Here the fallacy of composition emerges.

The dual political compromises around materials supply involved the US and ex-imperial European states supporting governments in recently decolonized polities in exchange for a ceiling on prices on the one hand, and major resource firms restraining output to set a floor on the other hand (Parra 2004: 39). 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, 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 adopted a Fordist model, then oil at cheap predictable prices would disappear, shocking tightly coupled production systems. Thus in Galton 2 a crisis emerges endogenously from simple aggregation, but the causal driver is no longer purely local. In Galton 2 (as in Galton 1) no central power directs the adoption of Fordism, yet local growth models cannot operate disconnected from global outcomes. Nonetheless, in Galton 2 the system is still largely the tail on the causal dog.

Galton 3: Asymmetric power and hierarchy

In Galton 2, the fallacy of composition generates an unexpected or unintended outcome from individually rational and independent unit-level choices about GMs. But as IR scholars will tell you, the

world is not composed of units of equal size, power, and resources. Thus ‘Galton 3’ shifts the source of diversity or homogeneity from mimesis to imposition. In Galton 3 a dominant actor(s) attempts to impose its preferred growth model on other units, or to control and (re)-shape the market signals driving actors’ behavior in their local economy. Galton 3 comes in instrumental and structural versions. Both imply that complementary local institutions in some equilibrium matter less than system-level forces in shaping production profiles.

Farrell and Newman’s (2016, 2018) New Interdependence Approach and particularly its related argument about ‘weaponized interdependence’ exemplify the instrumental version of Galton 3. Farrell and Newman argue that globalization created a world of overlapping rules and novel jurisdictions where policy in areas as diverse as financial affairs, digital privacy, and environmental regulation is no longer bound by the nation state. In these contested areas, ‘rule overlap’ empowers agents beyond the state as diverse as financial regulators, veterinarian scientists, and electric plug standard setters to engage in bargaining, which leads to new political and distributional cleavages at a system level. Given this, Farrell and Newman (2016, 2018) suggest that control of key institutions at the system level is a key source of asymmetric power among states that is not reducible to the unit level. Powerful states can use this power instrumentally if they can control critical nodes in the various networks linking otherwise discrete flows of finance, trade, and information.

These critical nodes function as what Farrell and Newman call ‘chokepoints’ or ‘panopticons.’ This privileges the United States, which controls many critical nodes, albeit not without some contestation. For example, the ability to monitor almost all internet traffic due to so much of it being routed through northern Virginia (conveniently close to US intelligence agencies), 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 system level in networks made possible by globalization. More subtly, the fact that about two-thirds of total global trade lately involves goods that cross national borders at least twice before reaching end users subjects all growth models to this kind of interdependence (Constantinescu et al. 2018), while privileging the handful of countries that headquarter the transnational firms dominating that trade. Here system-level control shapes unit-level behaviors.

Similarly, Lloyd Gruber’s (2000) analysis of trade negotiations sits intermediate between an instrumental and a structural version of Galton 3. Gruber shows that the United States and the European Union constructed institutions regulating global trade and then offered everyone else ‘take it or leave it’ access to those institutions. Participation in those institutions exposed third parties to market forces that reshaped their domestic production profiles. Here the system re-shapes VoC’s domestic institutions.

Consider Eastern Europe in relation to Germany. 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 Matthejs 2017). German firms deliberately constructed the Eastern European GMIs, linking them to the Greater European Export Complex (Blyth 2016; see also Hirschman 1945). These commodity chains disproportionately return value to Germany rather than Eastern Europe.

The strongest structural version of Galton 3 implies that one powerful actor actually constructs the institutional equilibria in other societies, rather than those equilibria emerging endogenously, as VoC would have it. The United States, for example, has been consciously trying to reshape other countries’ domestic political economies since the 1920s (Costigliola 1984, Sørensen 2001, Wade 2003, Maier 2015). Those efforts involved enforcing class compromise on societies then known for highly conflictual

labour relations rather than VoC's cooperation. The United States also tried to reshape European and Japanese production along Fordist lines (Zeitlin and Herrigel, 2000).

This version of Galton 3 would suggest that the world economy constitutes a single field of power shaped by a hegemonic actor. Both firms and states operate in this field of power, and the firms and associations of firms that provide both VoC's and GM's local social blocs are inseparable from an overarching global social bloc. On this view, the complementarity between GM's consumption/debt-led and export-led economies, or VoC's CMEs and LMEs arises not from simple aggregation of units whose shape was determined by local forces alone. Rather, the strongest version of Galton 3 would argue that a single powerful actor shaped unit-level growth dynamics using control over the global trade and financial system. Complementarity is constructed not emergent. CPE brackets this asymmetric power among states.

Galton 4: A global division of labour creates production niches

Galton 4 presents an even stronger version of a system level argument, abandoning the residual methodological nationalism in Galton 3 and perforce VoC's Galton 1 understanding of states, and to a lesser degree national economies, as discrete units. Here the Weberian macro-structural ideal type is close to that posed by Thünen and other economic geographers. Galton 4 posits an overarching global economy with a complex division of labor. The increasing depth of that division of labour generates ever more distinct potential economic niches. But the timing and nature of a given region's incorporation into that division of labour creates relatively durable social groups, dominant social blocs, and thus institutional complexes that shape its long run production profile. Here the system constitutes units and complementarity among units reflects system-level political and market pressures and system-level solutions to the problems of adequate aggregate demand.

Where VoC sees history as an iterated game causing convergence towards complementary institutions, Galton 4 sees history as an evolutionary process in which fitness at any given time implies neither efficiency nor equilibrium. Where VoC sees excess LME consumption as a consequence of local institutions, Galton 4 sees a global hierarchy of currencies that allows a key country to exogenously generate extra global demand.⁵ Examining the relationship between VoC's CMEs and its LMEs, and the nearly similar GM export-led and consumption/debt-led economies shows this clearly.⁶

By definition, export-led economies must generate substantial net exports, while consumption/debt-led economies must generate – and pay for – substantial net imports corresponding to those exports. But this is not just by definition. From 1992 to 2017, the United States accounted for 50.6 percent of global current account deficits, while Germany, Japan and China accounted for 43.3 percent of global surpluses, roughly equal to the US deficit (Schwartz 2019: 495). Normally, large export surpluses would produce a substantial growth impulse. But putting China aside (as VoC does with all developing economies), export-led economies generally exhibit lower rates of growth than consumption-led GMs. CPE's GM approaches try to accommodate this by asserting that consumption-led economies have excessive, debt-financed growth, implying that the normal state of affairs is low rates of growth, perhaps exacerbated by debt overhangs, and counterfactually, lower levels of consumption absent such

⁵ Here the core GM theorists (Baccaro and Pontusson, 2022) partly recognize how reserve currencies matter for global aggregate demand.

⁶ Conveniently, but not coincidentally, this directly connects to the subsequent section on Minsky.

financialization. This is perfectly plausible given that continual productivity growth means that deflation is the natural state in capitalism.

But this escape hatch leads VoC and GM into a different peril. Any GM with significant net exports necessarily accrues external assets. If they sell payments made in importers' currency to buy assets denominated in their own currency, they most likely drive up the exchange rate for their currency, thus pricing themselves out of the market while also transforming themselves into a financialized, consumption-led economy. Conveniently, developed country importers offer assets in their currency (as the numbers above show). But why would export-led polities continue to accept this debt, knowing that consumption-led economies do not generate enough tradeables to make good on those debts?

Indeed, this pain is real, not potential. As Hünnekes et al. (2019) show, foreign investment by Germany and other export-led economies in their 13-country dataset not only underperforms that by consumption-led economies, particularly the United States, but often even underperforms local assets. Beck (2021) similarly shows that European banks must create balance sheets with considerable US dollar assets and liabilities in order to be globally competitive. Non-US banks' US dollar denominated liabilities – i.e. deposits – accounted for more than 49% of all cross-border liabilities on average, between 1992–2017 (Schwartz 2019: 500).

In short, export-led economies can only exist in a world characterized not only by some globally acceptable currency, but one which is issued by a hegemonic polity with a credible claim to back that currency with future production and present power. The US majority share of cumulative current account deficits demonstrates this. If this were not the case, chronic US current account deficits would call into question both the viability of their associated global liabilities and the US dollar. The financialization of the US economy is thus not simply a mechanical counterpart to export-led growth elsewhere. Rather, it reflects a global political and monetary hierarchy in which US administrations and firms have consciously shaped a specific kind of integrated global economy – at a minimum a Galton 3 story – where hierarchy and power matters. Similarly, without dollar credibility and the non-trivial 0.8 percent of global GDP (about \$380 billion) *annual* stimulus to the global economy between 1992–2017 that the US current account deficit provided, export-led growth would be difficult if not impossible – a Galton 4 story. This extra demand matters, because the constant productivity growth characteristic of capitalism expands supply faster than demand (Erten and Ocampo 2013; Grilli and Yang, 1988), and as Keynes argued, Say's law does not operate: supply will not create its own demand.

Galton 3 and 4: Bringing History (and Colonialism) Back in

The origins of VoC's LMEs and CMEs also show system-level constitutive effects of both the Galton 3 and 4 type. The LMEs are all products of Britain's colonization of and near genocide in thinly settled temperate zone areas. In C19, the 'mortgage revolution' that accompanied British expansion created billions of pounds worth of new aggregate demand on the basis of endogenous lending against the collateral of newly settled and productive agricultural land (Schwartz, 2020). LMEs were born 'financialized,' and these new debts financed British industrial exports. This pattern has continued into the present. The US housing finance system was a critical source of global demand in the 2000s (Schwartz 2009).

Conversely, the export-led economies are all successful late developers who occupied niches that emerged as first Britain and then the United States pumped new demand into the global economy. 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 can create viable, globally competitive firms at the technological frontier, it also leaves behind the scar of permanently deficient domestic demand (Höpner 2018). Relatively low household consumption in the late developers therefore forces firms to look outward for markets, which they find in the Anglo-LME 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 the political and economic institutions that generated successful late development have never supported ‘more consumption’. 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 first between 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 export-led 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. In sum, from a Galton 4 point of view, GMs are not simply deeply interdependent, but rather constituted by a global division of labour managed by a hegemonic power whose assets provide the additional aggregate demand needed to offset the chronic deflation characterizing capitalist economies.

Turning to the next section, the salience of financialization in generating extra aggregate demand points us towards Minsky’s (1986) analysis of the dynamic nature of finance. CPE certainly does not ignore finance and debt, a crucial growth driver in the GM ‘consumption/debt-led’ type. But 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; Streeck 2014), or, in VoC, as simply a corporate governance problem around how firms find capital (Hall and Soskice 2001). By contrast, Minsky allows us to understand the fallacy of composition around credit creation, why credit creation is a system level phenomenon, and why credit creation tends towards endogenous crisis rather than towards VoC’s institutional equilibria.

Minsky and the global dynamics of growth

Minsky (1986) argued that endogenous credit cycles were both integral to and disruptive of growth, noting that ‘stability breeds instability’ over the long run. Financial crises typically caused regulators to drastically restrain permissible financial instruments and actions, producing extended periods of financial stability. Subsequently, actors mistake the lack of volatility as evidence of their own ability to successfully manage risk, and lobby to remove constraints. At the same time, stability encourages further expansion of the credit that Minsky terms hedge finance. In hedge finance, actors borrow in the expectation that cash flow will cover both interest and principal repayment.

A more liberal regulatory regime and credit expansion creates a temporarily stable economy, with higher profits for finance and rising asset prices. New credit is a form of public good. It increases returns to existing investment, thus boosting its collateral value, and thus encourages and enables further credit emission. In turn, this encourages financial actors to begin speculative finance, where cash flow covers interest but not principal repayment. This second wave of credit expansion is however inherently unstable. It is itself predicated on realizing capital gains from rising asset prices that are financed out of new credit expansion so that principal repayment can occur.

In the last phase of the Minsky cycle – Ponzi finance – less sophisticated investors ('greater fools') and highly risk accepting investors begin borrowing in the hope that capital gains will cover both principal repayment and accrued interest. In the Ponzi stage, the cycle becomes endogenously unstable. Returns on these hyper-inflated assets can no longer support their valuation, producing 'Revulsion' – a crisis – as market actors all try to sell off assets at the top of the market. Minsky thus combines the fallacy of composition and endogenous decay.

Minsky analyzed the US market, but as many IPE scholars have noted the same process characterizes various global crises as far back as the 1830s, and more obviously the 1982 Latin American debt crisis, the 1997 East Asian financial crisis, and the 2008–2010 global financial crisis. This is not a new insight. Schumpeter (1934: 86–9, 134–137, 152–153, 208) argued that new growth waves rely on exogenous credit creation. Minimally, then, Galton 3 type system-level credit dynamics cannot be ignored, because only a hegemonic actor can act as a global lender of last resort and bail out other actors with foreign currency liabilities as the US Federal Reserve's \$5 trillion in loans and guarantees to non-US banks showed clearly in 2008–2010 (Tooze, 2018). Maximally, Galton 4 suggests that system-level credit creation (by a debt-led hegemonic actor and through endogenous credit creation in the hegemon's currency by other country financial actors) initiates and reinforces an export-led orientation in CMEs and/or export-led economies, rather than purely internal dynamics as VoC would have it.

Conclusion

Hay (2020) criticized VoC for deductively creating two ideal types of unit-level capitalist economies and then forcing real types into its ideal types. The GM approach partially remedied that with an inductive assessment of the sources of growth, albeit still at the unit level. We built on Hay's critique, and GM's modification of VoC, by introducing system-level causes for the unit-level growth orientations and unit-level institutions observed in real types. Galton 1 and 2 understandings of the world each accommodate the unit-level causal focus in VoC and GMs. Specifically, VoC exemplifies a Galton 1 approach while the GM school incorporates both Galton 1 and Galton 2 processes and effects. Unit-level institutional configurations could result from internal processes involving either functional or mimetic responses to the emergence of new technological opportunities or social challenges. These plausibly aggregate into the pattern of current account and growth outcomes we can observe. We then introduced Galton 3 and 4, as well as Minsky, to provide system-level IPE based accounts that supplement (or supplant) the unit-level causal stories central to the VoC and GM approaches.

Galton 3 and 4 locate the origins of VoC's LME and CME types, and of GM's various types, in an expanding global division of labour fueled by system-level credit, usually created by a hegemonic polity that also might be actively selecting who benefits from that division of labor. That global division of labour creates various productive niches for different kinds of goods, but, consistent with Thünen and

other economic geographers, rewards (punishes) firm-level actors who respectively adopt the appropriate (inappropriate) good and production process when they fill that niche.⁷

While these market pressures do not dictate a specific production profile on a one-for-one basis, they do limit the number of potential producers, and the range of potential production formats. Because the global division of labour expands secularly (so far), the origins of local economic institutions are therefore a function of incorporation into that global division of labour as much, if not more, than they are due to endogenously determined growth drivers. The fact that Latin America as a whole has had a commodity driven GM despite multiple national variations and 250 years of evolution and revolution speaks exactly to this point (Sierra 2022). Furthermore, the persistence of any given production complex and process cannot be taken for granted as new niches emerge and old niches become increasingly specialized. The institutional complexes in VoC and the growth drivers in GM are necessarily linked to events at the system level.

Minsky likewise shows that the unit-level institutional equilibria central to both approaches are vulnerable to financial cycles generated at the system level. These financial cycles do not settle into any equilibrium that might leave institutional complexes reliant on credit unscathed – and almost all capitalist processes require credit. The hegemonic powers generating new credit impulses are the functional link between Galton 3 or 4 and Minsky. Export-led economies in the aggregate necessarily accumulate foreign currency assets. Because those in turn will largely come from the hegemonic power, there is nothing inevitable or permanent about export-led growth. All that said, we cannot hope to resolve the long-standing debate about the relationship between actors and structure (units and system). Rather, we hope we have shown why both VoC and GM as approaches need to take system-level causal factors and dynamic processes much more seriously, even if this means abandoning some of their core assumptions. As for the wider project of varieties and variety hunting? Let's just say that some weeds are harder than others.

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⁷ That said, a focus on the global division of labour (or Marxist uneven and combined development arguments) immediately suggests that “globalization = convergence” arguments are almost certainly incorrect except when cast as institutional mimesis arguments.

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