

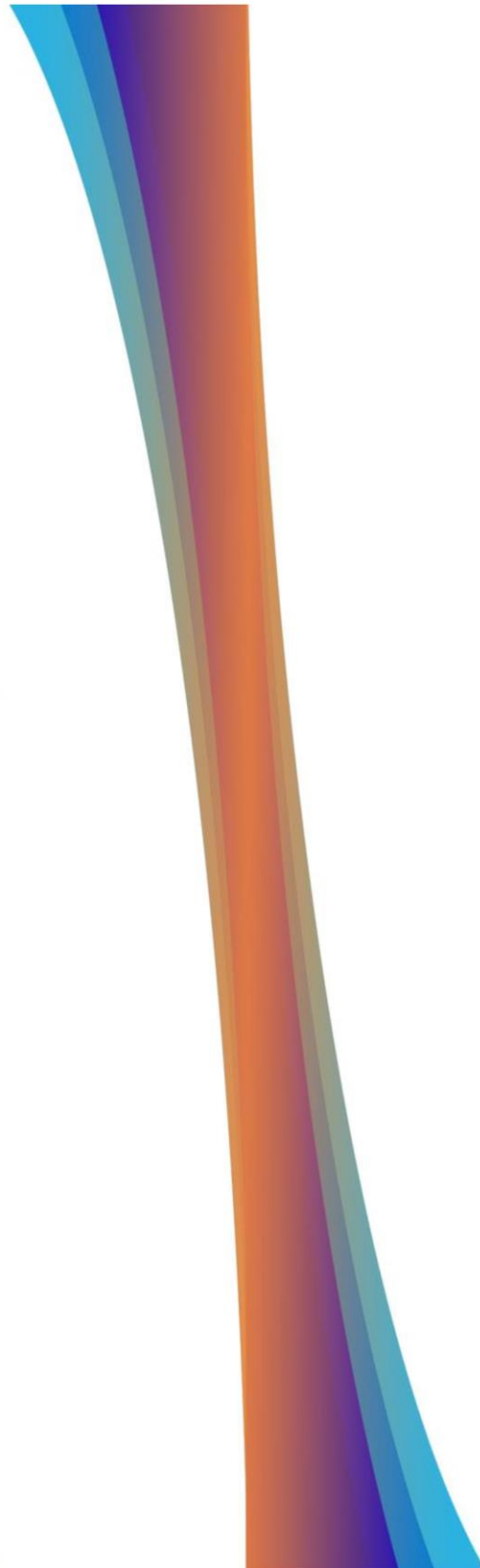
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Discussion Paper

Is There an Economically and Socially Sustainable Solution Space for the 21st Century Economy?

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Is There an Economically and Socially Sustainable Solution Space for the 21st Century Economy?

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Abstract: The consensus economic policy framework that evolved in the post-Bretton Woods era and the model of globalization to which it gave rise are in crisis due to political blowback. The framework has guided the system into a solution space that features stagnant growth and persistent deflationary pressures (stag-deflation), financial excess and fragility, and waning business dynamism. Perhaps of most immediate importance for the framework’s own viability, it has caused or enabled a massive widening of income and wealth disparities (more so in some countries than in others). As a result, we have witnessed the erosion of the social contract that implicitly (a) offers individuals fair prospects for sharing the benefits that the framework generates in return for political and social buy-in and (b) provides for a fair sharing of the tax burden of providing the public goods that underpin the system. From a longer-term perspective, the model also failed to generate the collective action needed to arrest climate change and the mass extinction event that human industrialization has triggered, which is polarizing politics in a second dimension. The result is disruptive political change, a reaction against the technocratic “elites” who manage the framework, and a burgeoning crisis of sustainability. This paper explores the extent to which responsibility can be attributed to a failure to manage the impacts of trade and technological change and whether globalization has to be “dialled back” in some respects to enable a managed transition to an economically and socially sustainable solution space at minimum cost.

Key Words: globalization, economic policy, social contract, technological change

JEL Codes: F15, F16, F18, F21, F22, F23, F36, F42, F60

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1 INTRODUCTION

The modern version of globalization, sometimes referred to as Globalization 2.0 to distinguish it from the highly internationalized economy of the pre-WW1 era, emerged from the progressive reach of international trade into previously national systems of production and from the development of international frameworks of rules to facilitate the new forms of commercial arrangements that flowered as a result. Originally, traded products mainly consisted of final goods and basic raw materials. Since about the mid-1980s, the unbundling of previously vertically integrated production enabled a new surge of trade in intermediate products, which resulted in the rise of global value chains (GVCs). More recently, we have seen a second great unbundling (Baldwin, 2011), as previously non-traded services sectors were exposed to international competition through trade in tasks.

Both unbundlings generated considerable creative destruction in established production frameworks; both were enabled by technological change; and both created “winners” and “losers” – and not just in terms of differential impacts across expanding sectors and declining sectors, but also pervasively throughout the economy, across skilled versus skilled workers, across genders, across socio-economic groups, across regions within countries, and across consumers with different preferences. For many, these effects turned out to be permanent losses of cumulative income over the life cycle; see, for example, Ciuriak (2010) for a review of the complex distributional impacts on Canada of the Canada-US FTA (CUSFTA) and North American Free Trade Agreement (NAFTA).

However, the key point is not that there were losers, as is often emphasized, but that there were winners – and the wins were generally broadly based, at least in some economies. Returning to the Canadian experience post-CUSFTA/NAFTA, notwithstanding the permanent effects of this highly disruptive trade liberalization episode on many individual Canadians, Canada’s Gini coefficient (which measures inequality) for overall national income distribution did not rise during the period of adjustment to the CUSFTA/NAFTA and, following the full adjustment to more or less free trade in North America, popular opinion on trade remained positive, something which has persisted over the years. For example, in a 2015 poll on Canadian attitudes to the Trans-Pacific Partnership (TPP) then under negotiation, 65% supported signing free trade agreements (FTAs) with other countries and 77% supported free trade with the United States, although support for the TPP itself (which was controversial in Canada primarily for its non-trade components) was soft, with only a slim margin (33% to 31%) in favour.¹

By contrast, in the United Kingdom and the United States, both of which featured a supercharged application of market principles following the Thatcher and Reagan revolutions respectively and a coincidental or endogenous exceptional rise in income inequality (as documented in Dorley, 2015, and Atkinson et al., 2011), support for each country’s model of globalization – membership in the European Union for the former and simply participation in the multilateral rules-based system for the latter – eroded to the point of rupture. The prime scapegoat in each case was immigration, but the subtext was loss of “good jobs”, which equates with relative income and wealth erosion, with consequent linkages to trade and global economic integration more generally.

¹ See APFC (2015).

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These observations suggest that, in countries where trade broadcasts the benefits and narrowcasts the losses, support for globalization remained firm; in countries where the benefits were narrowcast and the losses broadcast, support for globalization dropped and led to disruptive political change. In turn, this points us to factors other than the basic model of globalization as the sole or even necessarily primary cause of the discontent.

Looking at factors that impacted the distribution of benefits in addition to the globalization of production, several other developments immediately suggest themselves as candidates for this role:

- Policy-induced capital deepening through the effective subsidization of capital, which is held disproportionately by the higher income classes, and the taxation of labour.
- The emergence of the knowledge-based economy (KBE), which can be linked to the rise in the concentration of income and wealth as it spurred protection for the value of assets, whose ownership is highly skewed.
- The intensified concentration of income and wealth – and hence of political and social power – were reinforced through positive feedback, which has been described as the Matthew Effect of cumulative advantage (Merton, 1968). Several sources of feedback appear to have had particularly powerful effects; these can be grouped under the general rubric of “kleptonomics” – various ways in which regulatory action or forbearance enabled the appropriation of wealth by the few.

To understand how these developments drive disruption, it is useful to think in modelling terms. Economic models are closed in the sense that they must satisfy basic accounting identities or similar constraints: the balance of payments must balance, savings must equal investment, and so forth. However, there are no similar constraints for distributional parameters that underpin political bargains and social contracts: if the distribution breaks down (e.g., if incomes are driven down to or below subsistence levels), the bargains break down.

If we think about mathematical articulations of these models, we can vary the parameters that define the models to describe technically feasible “solution spaces”. Projecting these solution spaces onto the real world, sustainable configurations exist in their intersection. By the same token, if we go outside the intersection, the system starts to break down.

Thinking in these terms, the current model of globalization, given the current institutional setting, is arguably pushing us outside of a sustainable solution space. The question is how to guide the system back into the sustainable space? And, from an analytical perspective, how can these policy reforms be supported through quantitative analysis?

The rest of this note is organized as follows. Section 2 provides a brief elaboration of the factors identified above as driving disruptive change today. Section 3 seeks to identify if there is in a tenable solution space for the economic system that features globalization and rapid labour-saving technological change and yet does not drive destabilizing political blowback, because it violates sustainability conditions in those dimensions.

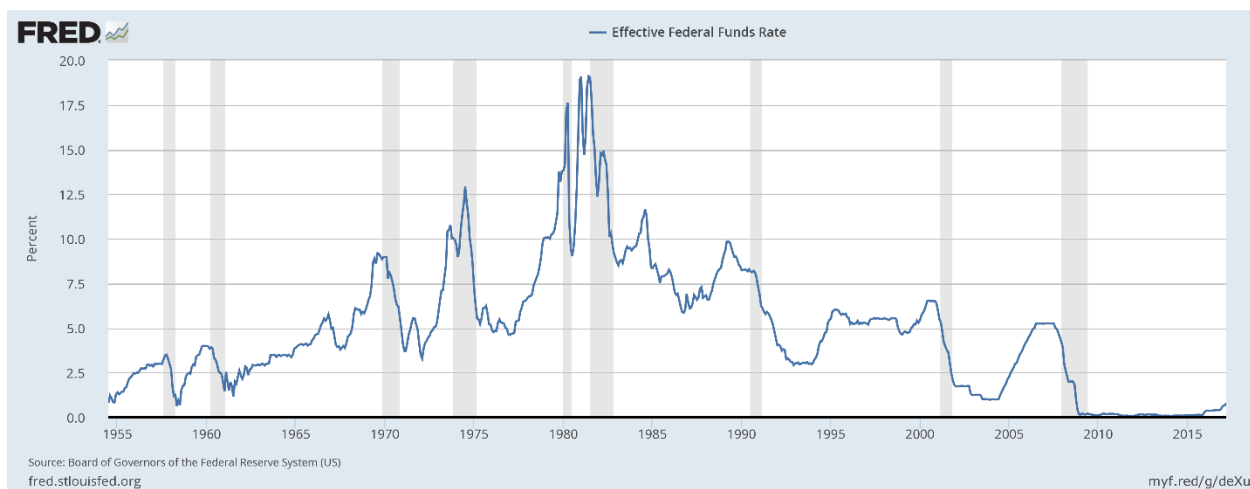
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2 FACTORS CONTRIBUTING TO DISRUPTION

2.1 Capital Deepening

Capital deepening makes workers more productive, as they have more capital with which to work, but machines also simply displace people in production. While both phenomena give rise to a measured rise in labour productivity, the first supports labour income whereas the second undermines it, contributing to the rise in the share of factor incomes flowing to capital. Importantly, substitution of capital for labour has been promoted not only by technological advance, but also by policies that effectively subsidize capital and tax labour, including (a) lowering interest rates for macroeconomic stabilization, which has resulted in interest rates being zero or negative in real terms over much of the business cycle during the monetarist era, thus promoting capital deepening at labour's expense through a pure substitution effect in factor markets; and (b) the removal of constraints on the mobility of capital, which incentivized national governments to shift taxation from the mobile factor of production (capital) to the immobile factor (labour).

On the first point, since the end of the 1970s, interest rates have been manipulated by central banks to control inflation and to stimulate interest-sensitive consumption and investment in response to recessions. From business cycle to business cycle in the monetarist era, the average interest rate over the business cycle fell (see FRED chart below). In the most recent business cycle, interest rates hit the floor and stayed there, because the monetary stimulus failed to kick-start a self-sustaining growth dynamic.



Lowering interest rates to stimulate economic activity has a side effect: as interest rates go to zero or below, the relative cost of labour goes to infinity. If there is any scope for substitution of capital for labour, no one will hire a worker when they can hire a machine, if the carrying cost of the machine is nil in real, risk-adjusted terms. For four decades, capital has been under-priced relative to labour on average over the business cycle because of the use of interest rates for macroeconomic management. In the most recent business cycle, the carrying cost of capital has been effectively eliminated over the whole cycle. Subsidizing capital is a policy choice, not an intrinsic feature of Globalization 2.0.

On the second point, Globalization 2.0 makes capital movement fully free, while labour is constricted both by policy and by the non-economic impediments to movement. Public Finance 101 tells us to

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shift taxation from the mobile to the immobile factor of production. So in addition to subsidizing the cost of capital, we shift taxes from capital to labour. This further disincentivizes business from hiring workers and forces wages down, as labour cuts its price to stay in the market.

Job destruction because of trade liberalization or technological progress is efficient; job destruction because of effective subsidization of capital is not. Similarly, wage restraint because of international competition is one thing; wage restraint to compete with subsidized capital is another.

It is valid to question the relative weight of trade and technology versus under-pricing of capital in the deterioration of quality work and suppression of labour income in the United States and elsewhere. An empirical task awaits. However, the current policy framework clearly ignores the implications of sustained, inefficient, policy-induced substitution of capital for labour. It, therefore, ignores a vital feature of the political economy. Workers are voters. Systems that don't create jobs and income growth get voted out.

If one constructs an empirical framework that concludes that all is well given near full employment, good job creation, and rising wages, the cognitive dissonance with political revolt, declining life expectancy, falling social mobility, swollen incarceration levels, etc., should be enough to warn that the framework does not capture important dimensions that matter in terms of social or political constraints.

Issues that arise for individuals are compounded by income inequality. As Warraich (2017) observes, "The average lifespan of women in Fairfax, Va., right outside Washington D.C., is 85 years — three years longer than the average for women in the United States. But just 350 miles away, in McDowell County, W.Va., the average woman lives just 72 years. The gap is even wider for men." When poverty kills because of limited access to health care for the poor, institutional regulatory choices that lead to health problems also lead to political reaction.

2.2 The Knowledge-Based Economy

Layered on top of the capital deepening was the emergence of the KBE. One indicator of the scale of this phenomenon is the rise in the share of capital's value accounted for by intellectual property and other intangible assets. As Balsillie (2016) points out, in 1975, intangible assets, principally intellectual property, made up one-sixth of the value of Standard and Poor's 500 companies; forty years later, in 2015, they made up five-sixths of the value.

The KBE works on different principles than the traditional economy. Where trade and foreign direct investment in the traditional economy create competition and profits are made by moving inventory, the KBE resembles the game of Monopoly — the winning strategy involves acquiring as much intellectual property as possible, building companies on this property, and charging rent to the rest of the world for its use.

Policymakers' awareness of the value of owning intellectual property resulted in a strategic push to enclose the knowledge commons (Ciuriak, 2017a); and to reframe FTAs to address the concerns of the KBE. This reframing caused FTAs to become more like asset value protection agreements than FTAs (Ciuriak, 2017b). Protection works differently than liberalization — it preserves established positions and weakens the ability of challengers to upset the existing order rather than strengthening their ability to do so.

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Powerful network externalities coupled with the power to exclude competition through the monopoly rights embedded in patent portfolios have led to phenomenal concentrations of wealth in particular areas and been associated with increased corporate concentration (The Economist, 2016) and the unexpected emergence of waning business dynamism (Hathaway and Litan, 2014) in an age of innovation. Clearly, institutional features that weaken the renewal dynamic in economies can lead to festering problems in particular regions or particular social groups in an era where globalization is generating new competitive pressures. Given enough time, these problems can generate political frictions that emerge as disruptive change at the ballot box.

2.3 Kleptonomics

The transition from Keynesian demand management to supply side policies involved a number of radical shifts in policies. Exchange rates, which had been fixed and tied to gold, became flexible and forbidden by the International Monetary Fund to be tied to gold. Monetary policy took over from fiscal policy the role of macroeconomic stabilization, resulting in extended periods over the business cycle where real interest rates were zero or even negative. Putting aside the never-ending debate about the relative merits of fiscal versus monetary stimulus, let's look at the side effects of monetarism and capital mobility.

As one consequence of lowering interest rates, the value of equities, which are held disproportionately by higher net worth individuals, rises, while the value of savings vehicles, such as bank accounts used by lower income/wealth groups, falls. This transfers claims on real resources from lower income/wealth groups to higher income/wealth groups: effectively, wealth is skimmed from the many and transferred to the few. Let's call this **Kleptonomics 1.0**. Quantitative easing, as practiced by the Central Banks today, takes this model to the limit.

Cheap money and rising equity values enable a second form of skimming, the leveraged buyout (LBO). Companies could be bought with borrowed money, stripped of such assets as pension funds, and broken up and sold into rising equity markets saddled with the debt used to buy them. Let's call this **Kleptonomics 2.0**. The heyday of the LBO was in the 1980s and it became harder in subsequent decades to repeat. However, it provided a significant boost to the concentration of income and wealth and remains a significant enough issue today for Berkshire Hathaway Chairman Warren Buffett to speak disapprovingly of it at the company's 2017 annual shareholders' meeting.

With liberalized capital accounts (an intrinsic feature of Globalization 2.0), fluctuating exchange rates, responding in part to interest rate manipulation by Central Banks, resulted in financial volatility. This created the need for hedges, which transferred wealth from the non-financial sector to the financial sector, and created opportunities for speculative financial activity such as yen carry trade, as witnessed in the spectacular rise in the face value of foreign exchange turnover (see BIS, 2016). Call this **Kleptonomics 3.0**.

Growth generated by monetary stimulus was inherently debt driven. This created a tinderbox for financial crises, which became routine in the monetarist era after a striking hiatus during the Bretton Woods era (see Quian et al., 2010: Figure 6). These crises greatly eroded the benefits of globalization, while creating massive public sector debt burdens, as governments bailed in while the private sector was bailing out. Rising public sector debt translates into austerity, which is felt only by the middle and lower-income groups. The devastating last two crises (Asian/Emerging Markets and Subprime) were

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not independent of the policy regime – they were endogenous to it. As the financial sector was inevitably bailed out, there was again a shift of income and wealth to the monied class. **Kleptonomics 4.0.**

Tax avoidance by the wealthy, as uncovered by the Panama Papers incident, and tax avoidance by multinationals through schemes like the Double Dutch and others shift the tax burden that provides the public goods underpinning the economy onto a shrivelling middle class. Obtaining benefits without paying constitutes wealth appropriation. **Kleptonomics 5.0.**

In the knowledge-based economy, ownership of intellectual property becomes a cash cow in the hands of patent trolls, who buy up large stocks of non-performing patents, do not explore which ones actually have value, but wait for others to identify viable commercial undertakings, from which they seek to obtain rents on the basis of infringement claims. In the context of the massive proliferation of low-value patents, this becomes a way to skim. In turn, this results in taxpayer money being used to defend national innovation systems. **Kleptonomics 6.0.**

One does not need to come down on one side or the other on the many debates about the above developments (monetary vs. fiscal policy efficacy; did LBOs bring market forces to bear on inefficient corporate managers; do patent enforcement entities create liquidity for dormant patent rights; etc.) to accept that they did have the side effect of concentrating income and wealth. At the same time, the bottom line on the era of supply side economics is that it saw a slowdown in per capita real GDP growth relative to the pace of growth under the Keynesian Bretton Woods system.

3 DISCUSSION AND PRELIMINARY CONCLUSIONS

The foregoing argues that globalization, which emerged as the result of fragmentation of production through trade in intermediate goods and services together with trade in tasks, did indeed create winners and losers, but the public reaction to globalization was mediated by how broadly the wins were distributed and the distribution of wins varied across societies based on factors other than globalization per se. For example, the reaction in the United States can be contrasted with the reaction in Canada.

As a generalization, systemic problems were related to getting prices wrong and institutional features that skewed income distribution. Of particular and general importance, the use of interest rates for macroeconomic stabilization distorted relative prices in factor markets to the disadvantage of labour, with pervasive knock-on effects in the social and political domains. Policies aimed at protecting assets in the age of the KBE weakened the resilience of societies in the face of changes driven by the ever-deeper reach of globalization. Various features of the institutional setting when applied in the context of a KBE and leveraging the international openness generated by Globalization 2.0 drove a Matthew Effect that further concentrated incomes.

For societies that gave the strongest emphasis to market prices and market mechanisms – in particular the UK and the US – the effects appear to have been the strongest in driving economies outside of tenable solution spaces, where sustainable solution spaces are defined by the intersection of feasible economic outcomes and acceptable social and political outcomes.

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From a policy perspective, this review suggests that preserving the benefits of globalization will require some adjustments.

First, and of particular urgency in light of the looming impacts of artificial intelligence on jobs, it is essential to rebalance the playing field for labour with capital. Societies are already gearing up for the need for basic minimum incomes, but it is essential to minimize reliance on such instruments since people need a role in society as much as they need the money. Distorting the capital/labour ratio will be even more counter-productive going forward than it has been in the past decade of quantitative easing. In Ciuriak (2016), I advocate that, in Europe, to enable a normalization of interest rates the European Central Bank should buy up the fiscal debt of EU Member States above the 60% of GDP Maastricht limit and simply cancel it. This would reduce the debt of EU Member States, empowering fiscal policy. It would also dilute the wealth accumulated by the top income classes through asset price inflation, which would represent a fair redistribution back towards the middle and lower income classes. Ben Bernanke has put forward a similar concept in his suggestion that missed monetary targets be made up through a compensating injection of money.

Second, while the public focus is on movement of persons, it is the unfettered freedom of movement of capital that will likely need to be dialled back, at least in contexts where labour movement is fettered. As it turns out, Keynes' intuition appears to have been right when he opined that, for the international economic system to be viable, it would have to include controls on the flow of capital. Cracks have already appeared in the formerly solid consensus on the value of full freedom of movement of capital (e.g., Ostry et al., 2016; El-Arian, 2016). . Some constraint on the mobility of capital seems essential to allow a partial shift of the tax burden from labour to capital, thereby helping to level the playing field in factor markets and restoring some semblance of fairness in burden-sharing for the provision of public goods. Capital controls would also likely restore stability to international markets – something that has been lacking since the Bretton Woods era. In economic terms, of all the four freedoms, the free movement of capital seems to be the least important.

Such changes do not usually happen smoothly, but rather as discontinuous events driven by necessity. Economic history is episodic in nature with the various episodes distinguished by often sharply differing policies and preoccupations. The Bretton Woods era featured fixed exchange rates, constrained capital flows, fiscal policy pre-eminence in macroeconomic policy management, and a preoccupation with Keynesian demand management policies to address the binding constraint on growth, which was perceived to be aggregate demand. That era ended in the 1970s amid a confluence of negatives: slow growth, inflation, fiscal deficits (from over-use of the main macroeconomic policy tool of the day, fiscal outlays), distortions (bloated public sectors, inadequate incentives), and policy impotence with the breakdown of the Phillips Curve trade-off between unemployment and inflation with the advent of stagflation.

The solution that crystallized was to shift the supply curve out. This ushered in a completely different era with fluctuating exchange rates, unconstrained capital flows, monetary policy pre-eminence in macro-economic management and a fixation on increasing productivity to address the main constraint on growth, which was perceived to be supply constraints.

After nearly four decades of this policy direction, we see a startling similarity to the set of problems that emerged in the 1970s after two decades of Keynesianism: slow growth, persistent deflationary

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pressures (the obverse of the problem of the 1970s), fiscal deficits and debt problems (from bailing out the private sector, which reeled from crisis to crisis during the supply side era; see Buckley and Arner, 2011), distortions (e.g., corporations saving and households borrowing, weekly international financial transactions equal to a year's worth of "real" economic activity, and factor prices distorted by persistent low interest rates), and policy impotence of the main macroeconomic policy tool (monetary policy has run into zero bounds, leading to serial quantitative easing (QE I, II, III, etc.).

A breakpoint in the current model of globalization is likely coming – there are more than enough potential triggers in Trump Administration policies to fundamentally reshape trade and capital and financial flows, including most importantly the following:

- The introduction of a new corporate tax scheme based on the destination-based cash flow principle with border adjustments, together with a tax holiday for repatriation of US financial assets held abroad, which would imply disruptive changes to global capital flows and allocations and possibly disruptive shifts in exchange rate relationships.
- The performance reviews of US trade and investment agreements and World Trade Organization rules, including of the most favoured nation principle itself.
- More speculatively, the end of the US dollar system, which is implicit in the Administration's threat to impose taxes on US corporations investing abroad and its desire to run current account balances, which implies the US dollar balances to finance global transactions will be constrained, forcing the rest of the world to shift to different transactions modalities.

From an analytical perspective, this points us in several new directions. Of particular importance to the modelling community, the current technical infrastructure for computable general equilibrium (CGE) model analyses of the global economy does not break out the dimensions in which change is happening. Three research priorities loom large:

1. Adapt the GTAP database to allow the modelling of the integrated income accounts that include the national accounts and balance sheets of the various sectors. Resort to the integrated accounts was found necessary to understand the shocks that brought down the world economy in the 2008-09 financial crisis. It is now urgent that this shift be made to understand the disruptions to come.
2. Update the GTAP database and CGE model structures to reflect the KBE, to capture innovation directly, and to represent the impact of the intellectual property chapters of modern trade agreements, including wealth effects in models based on integrated national income accounts with balance sheets.
3. Develop models that distinguish between capital deepening (which raises labour productivity and wages in tandem) and displacement of labour by machines (which drives down wage rates to compete) to enable quantification of policies that impact on the emerging competition between man and machine.

Is there a sustainable model of globalization in the age of the KBE, AI and robots? Natural experiments are about to test this question. What is clear is that the current model of Globalization 2.0, in a context of policies that skew the competition between labour and capital fails the test.

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