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Global Imbalances: A Job for the G20?

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Abstract

Excessive imbalances between countries' current accounts are significant for two very different reasons. First, they are objects of contention between the Group of Twenty (G20) countries, which use imbalances to try to force other countries to change their policies, and even to justify unilateral trade measures – thus making it harder for G20 members to reach consensus on other important issues. Second, imbalances are not always based on sound economic reasoning and *excessive* imbalances signal that the global economic system is malfunctioning: It cannot effectively transform available funds created by savings, credit or monetary expansion into consumption and productive investment. Accumulation occurs due to a confluence of factors. Uncertainty, inequality and ageing constrain consumption, while productive investment is constrained by overcapacities and technological change, and the financial system's inability to distinguish between productive and non-productive purposes. Downward revaluations and bankruptcies normally reduce financial resources that are not used for consumption or production. However, vested interests, easy monetary conditions and assumptions about the systemic nature of certain institutions – especially those in the financial system – interfere with this correction. This may well have been at the root of the 2008 global financial crisis and also be causing today's excessive imbalances. If there is not resolved, crises can recur. The relational nature of imbalances (one country's surplus is another's deficit) means that international coordination is required. The G20, a leaders group that brings together the world's largest economies, is best placed to coordinate. It can pilot approaches for transforming available funds into consumption and productive investment, and upgrade its working methods, and thus help reduce excessive imbalances.

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Abstract

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Abbreviations

G20	Group of Twenty
GDP	gross domestic product
IMF	International Monetary Fund
T20	Think20
UK	United Kingdom
US	United States
USD	United States dollar

1 Introduction

When the world faced a financial crisis over 10 years ago, the Group of Twenty (G20) was established as a leaders group. This paper questions whether the factors that led to the global financial crisis are still relevant today and if the G20 could again work together to tackle a new crisis. Excessive imbalances between G20 countries' current accounts impact both matters. First, the global financial crisis and excessive current account imbalances have the same root cause: the inability of the global economic system to effectively transform available funds into consumption and productive investment. As long as this persists, future crises are possible. Second, excessive current account imbalances are a point of contention between surplus and deficit countries in the G20. In fact, they are being used to justify unilateral trade measures between G20 members – making it harder for the G20 to build consensus and work effectively.

In this paper I attempt to explain the nature and relevance of excessive current account imbalances among G20 countries and show how they are linked to the global financial crisis. I explain why reducing excessive current account imbalances requires national and international action, and develop policy options for the G20 to deliver at least some international coordination. Rather than presenting an in-depth empirical account or attributing certain causes to specific effects, I trace broad tendencies. I draw on my professional experience and selective review of the literature, and use metrics sparingly.

Excessive current account imbalances accumulate because the global economy cannot effectively transform available funds into consumption and productive investment. Like every transformation, this mechanism has two aspects. One is that investable funds accumulate because consumption is constrained through uncertainty, inequality and ageing. The other is that the funds are insufficiently used for productive investment because overcapacities and technological change constrain demand for investment, and the financial system cannot differentiate between productive and non-productive purposes. With the United States dollar (USD) the dominant reserve and trading currency, vested interests and incomplete information about risk and interdependence prevent market forces correcting the overhang of investable funds.

One country's surplus is another's deficit. The relational nature of current account imbalances means that national and international policies are needed to reduce excessive imbalances. I find that the G20 is best organisation for the international coordination required. I identify some of the group's strengths and suggest policies it could pursue to help reduce global imbalances. I also discuss changing current G20 procedure to make its policies more effective.

I begin by discussing the notion, importance and development of current account imbalances since the 1990s (Section 2), then analyse the factors that contribute to excessive current account imbalances and how they relate to the global financial crisis of 2008 (Section 3). Next I examine the history of unwinding excessive current account imbalances, provide policy recommendations about what each G20 country can do today and explain how international cooperation is both necessary and difficult (Section 4). Then I look at G20 collective action, set out what the G20 has done so far and develop further recommendations for helping reduce excessive imbalances and improve working methods (Section 5).

2 Current account imbalances – an overview

2.1 What current account imbalances say

A country's current account is “unbalanced” if the sum of its exports of goods and services and transfers to other countries (e.g. remittances) does not equal the sum of the goods and services imported and transfers received (Dornbusch, Fischer, & Startz, 1998; Luckenbach, 2002, p. 135). Current account imbalances are compensated through capital accounts, with deficits financed by capital inflows (typically from selling domestic assets). Current account surpluses are used for capital outflows (usually expenditures for foreign assets). Before showing why this mechanism is subject to such intense political debate, I clarify what current account imbalances indicate about economies.

Current account imbalances reflect the ways households and businesses in a country make and use money (Bernanke, 2005). They can use money to buy goods or services (consumption), provide capital to secure an anticipated future cash flow (investment) or hold on to it (hoarding¹). While selling goods or services or making a profit on investments earn money, hoarding does not.

The way households and businesses use their relationships to make and spend money offers useful insights. The volume and direction of the goods or services and money exchanged reveal information about current cash flow. Can investees transform all their invested funds into future cash flows? How? The volume of hoarded funds may indicate that resources are not being used to their full potential.

Current account imbalances are expressed as relationships between countries – although most decisions about using and making money are not made at national levels (Avdjiev, Hardy, Kalemli-Özcan, & Serven, 2018; Avdjiev, Berger, & Shin 2018, p. 23). In market economies, households and businesses are generally free to make their own decisions: They are not compelled to fulfil national targets. For their part, multinational businesses make decisions as single units crossing national borders. Determining that a particular income stream is made in a certain country is difficult, especially when it is a financial centre or tax haven (International Monetary Fund (IMF) 2019a, p.28; IMF 2019b, p. 13). National metrics such as the current account never expose the underlying microeconomic relationships: Like all metrics about the sum of economic activity in a country, they must be used with caution.

Current accounts can, however, suggest important macroeconomic questions. National aggregates can reveal how specific economies function compared with others, and how they depend on other countries – which in turn determines the space a country has to pursue its public-welfare objectives (Acemoglu, Robinson, & Verdier, 2017). The larger question – whether a particular economy's growth pattern is sustainable – is best answered using flow

1 More and more funds are now held in liquid instruments with no or negative yields and a large part of disposable funds are not being invested productively – which amounts to hoarding. The current volume of negative-yielding bonds is USD 16 trillion (Carney, 2019, p. 2). Hoarding matters because money not used for consumption is not necessarily invested (Keynes, 1936, p. 210; Skidelsky, 2018, p. 343). This disconnect occurs because people have had different reasons to save and invest since the end of the 19th century (Stewart, 1972, p. 118).

metrics like the current account and stock metrics such as the net creditor and debtor positions (IMF 2019a, p. 15).

In and of itself, a current account imbalance only shows that countries have different ways of using and making money for the present and the future. The profiles are complementary (or “multilaterally consistent”) (IMF 2019a, p. 7), meaning that the global sum of surpluses and deficits equals out. One country’s surplus is another country’s deficit. A current account imbalance alone gives no indication of whether the underlying economic situation is healthy: This depends on how the flows creating the imbalances are used. For example, a deficit country can productively use imbalances to balance its deficit through future export revenues. Using short-term flows to finance long-term positions, however, may not permit a country to refinance its deficit on time.

2.2 Why current account imbalances matter

Current account imbalances can be regarded as a benign expression of the international division of labour. An ideal pattern is ageing and capital-rich economies that invest in younger countries that have more opportunities for productive growth (Bernanke 2005). Japan, for example, began as a fast-growing capital *importer* and then, as incomes rose, became a more cautious capital *exporter* (Müller-Plantenberg, 2003). However, a substantial part of today’s imbalances – 35 to 45 per cent according to the IMF (IMF 2019a, p. 22) – are deemed “excessive” because they result from distortions rather than a healthy division of labour. Excessive imbalances can indicate current market failures or vulnerabilities and possible future risks. Policy-makers must understand the underlying problems in order to solve them and control the risks. This includes identifying and differentiating issues that can (and must) be approached through unilateral national action, challenges that call for collective international remedies, and countries’ necessary adjustments to internal or external constraints. Categorising a problem involves making a judgement call; cases can always be viewed from different angles (Sections 4.2 and 4.3).

Typical domestic patterns include:

- Countries have excessive surpluses partly due to internal constraints that can be remedied through domestic policy. If citizens save too much because there is no good social insurance – or invest too little in their country because it has no financial intermediaries (Triggs, 2019) – social safety nets can be built and the domestic financial sector developed.
- Sometimes excessive surpluses result from deeper internal constraints that defy policy changes. People in ageing societies who anticipate living a longer part of their lives on pensions save more and consume less in order to be able to maintain their lifestyles. With rising incomes and expenditures, the reserves needed to maintain a certain standard of living also have to grow (Stewart, 1972, p. 262). Shrinking populations consume less. If market power and inequality channel more funds to rich people who typically spend a smaller fraction of their incomes on consumption (Stewart, 1972, p. 83), saving and hoarding will increase. Incentives to hold liquidity (to hoard) – in response to uncertainty or waiting for interest rates to rise (Keynes, 1936, p. 196) – can boost surpluses, which monetary policies (lowering interest rates or expanding liquidity) cannot always effectively counteract (Stewart, 1972, pp. 89, 90, 94).

- Countries may have excessive deficits because of internal failures. Often, uncontrolled fiscal expenditures and an under-regulated financial sector are one side of the equation and constraints to exports – red tape or inadequate trade infrastructure – the other. In such cases, targeted domestic policies can help.
- Excessive deficits can also be structural. A society that compensates the lack of substantial wage growth by increasing private and public debt but still finances debt will have difficulty implementing counteractive policies.

External patterns are somewhat similar but are less easily controlled nationally.

- A country that fears having to face uncertainty (such as a balance of payments crisis) alone, with no international safety net (like IMF emergency credit lines), will seek to build up reserves (save) rather than consume (Bernanke, 2005; Bery, 2018, p. 15; Carney, 2019, p. 4). It may therefore export more than is economically efficient and perhaps even create surpluses.
- A country that needs access to the dominant currency (the USD) will try to export a lot to the USD zone. If large parts of its economy are bound up in integrated global value chains, it will seek to continue exporting through those chains (IMF, 2019a, p. 55). Shifting resources to consumption would have to compensate for losses incurred by breaking this path dependency, and could result in excess exports or excess surpluses.
- Excessive deficits are often driven by large capital inflows in response to changes in the global financial environment (IMF, 2019a, p. 14). The typical case is easy short-term money produced in the US that flows to emerging markets searching yield (Carney, 2019, p. 7). Risky mismatches especially occur when short-term funds are invested in longer term, less liquid instruments (Stewart, 1972, p. 67). Denominating flows in foreign currencies compounds the risk. In theory, countries can control foreign exchange exposure by determining the openness of their capital accounts. However, interdependence often prevents them exercising their options.
- Another cause of excess deficits is a currency's reserve status, with that of the USD a major case in point (Ito & McCauley, 2019): The dollar's status shields the US economy from the correction that its deficits would otherwise trigger: Deficits continue to grow without being corrected by market forces (Stewart, 1972, p. 279). Since the reserve status of the USD is largely due to a network effect (Carney, 2019, p. 7) that results from the aggregate behaviour of myriad businesses and households both in- and outside the US, it is hard to see how policy could change that.

If imbalances can have both benign and malign causes and the reasons for them are not self-evident, why are they important? First of all, surplus and deficit positions are sometimes seen as symbolising a country's position in the international division of labour. Export prowess connotes strength and import demand dependency. This simplistic mercantilist view makes imbalances appear as viable indicators of success or failure: Surpluses are good and deficits bad.

Second, changes in global imbalances (in particular country-to-country relationships) reveal which countries adjust their structures and policies and which do not (Viani, Alberola-Ila, & Estrada, 2018). Power relationships play a role in determining who has to adjust (see

Section 3.1). Reducing incomes is an effective (if not desirable) way to check excessive imbalances – but whose? To avoid reducing incomes, countries have historically resorted to protectionist measures or devaluations in order to correct excessive deficit or surplus positions (Stewart, 1972, pp. 72, 170) – measures that only work for countries that can shift the burden of adjustment onto others.

Third, policies intended to reduce imbalances can have very different effects. Although they address basic economic problems and ideally create more sustainable growth, they may merely shift current patterns, changing the composition of imbalances and not positively affecting overall growth. One approach is attempting to raise exports through competitive devaluation, which typically does not raise demand: It merely steers demand away from other countries because the intrinsic utility of the underlying goods and services remains unchanged (Dornbusch et al., 1998, p. 292). Effects like this force us to distinguish between policies that only aim to change how global imbalances are distributed between countries and policies that address the causes of excessive imbalances.

The symbolic power of imbalances and the way they reveal power relationships and pressing distribution issues show that debates about global imbalances are inherently political.

2.3 How current account imbalances have developed

Global imbalances that had been growing since the late 1990s peaked at 6 per cent of global gross domestic product (GDP) in 2007, the eve of the global financial crisis (IMF, 2019a, p. 4). In its wake, imbalances dropped to 3.5 to 4 per cent of global GDP, where they have generally remained. However, the distribution of imbalances among countries has changed dramatically: Before the crisis, emerging economies largely contributed to imbalances; today they are concentrated between more advanced economies (Bery, 2018, p. 6; IMF, 2019a, p. 12). Four effects account for this.

- China reduced its surplus from 10 per cent in 2007 to 0.4 per cent in 2018, largely through a 35 per cent appreciation of the renminbi that began in 2007, a strong increase in outbound tourism, falling income from foreign capital, saturated export markets and massive internal policy support (IMF, 2019a, Box 1.2).
- Emerging economies have reduced their deficits because capital flowed back to advanced economies that ended quantitative easing, tightened monetary policies and raised interest rates (IMF, 2019a, para. 7).
- The US have increased their deficit as a result of easing mechanisms in the fiscal and monetary spheres that were introduced to manage the global financial crisis.
- The eurozone increased its surplus through greater fiscal discipline, private-sector deleveraging and a weaker euro.

As a result, US deficit surpluses have moved from China to the eurozone, and eurozone surplus deficits have moved from emerging economies to the US. Now global imbalances occur more than ever between the US and the eurozone.

The drivers of reduced flow imbalances since the crisis have three key features:

- Adjustment was largely driven by reducing investment and consumption rather than by expanding purchasing power or productive capacities (Viani et al., 2018). Just as Keynesian theory would have it, adjustment did not result from price movements but rather corrections in income – in this case, downward (Stewart, 1972, pp. 101,110,128; Skidelsky, 2018, p. 339). This could mean that the financial system has not become better at transforming large pools of available funds into consumption and productive investment, and that economic causes of excessive imbalances remain unchanged.
- While the advanced economies and China were largely introduced adjustments autonomously, those implemented by emerging economies were essentially induced by external factors, particularly the monetary policies of advanced economies.
- Finally, adjustments were mostly driven by financial sector effects rather than by the real economy (Viani et al., 2018). With international banks' high level of integration, this reminds us that national metrics like current accounts explain only part of the story (Section 2.1).

As a flow metric, the sum of global imbalances is a continuing development with cumulative effects. Although flow imbalances have generally remained stable since their post-crisis correction, stock imbalances (the sum of net creditor and debtor positions) continue to accumulate. In 2018, they reached a record high of 40 per cent of global GDP and could expand by another 5 percentage points by 2030 (IMF, 2019a, pp. 15, 23).

3 Current account imbalances and the global financial crisis

As the sharp correction of imbalances in 2008 reveals (IMF, 2019a, p. 8), imbalances are closely linked to the crisis. However, current accounts alone do not explain the connection because they only show relationships in the real economy, which is not where the problems began. A strong export sector is not a problem in itself: It becomes a challenge if the financial system cannot sufficiently translate the income it generates into consumption and productive investment. There is also no intrinsic problem in the rising consumption of imported goods. Challenges only occur if the financial system does not deliver automatic corrections when consumption rises to unsustainable levels. Excessive imbalances – like the global financial crisis – can be explained as resulting from specific malfunctions in the economic system. It is helpful to first look at factors that create a surplus of investable funds in some countries and deficits in others – and then show how the financial sector dealt with this situation before and after the crisis.

3.1 Saving gluts and circuit breakers

A “global saving glut” (Bernanke, 2005; Bernanke, Bertaut, DeMarco, & Kamin, 2011; Carney, 2019, p. 4) occurs less from income accumulating than from the forces that prevent it being used for productive investment and consumption. Rising uncertainties due to geopolitical tensions – as well as technological change and the absence of collective safety nets – push countries, households and businesses to hoard money. These funds are not used for productive investment or consumption.

Rising income inequality and ageing in advanced (and soon also in some emerging) economies drive the propensity to save and invest – and to not consume: More and more savers are competing for a limited pool of assets, not all of which represent productive investments. The recurrent build-up of asset bubbles attests to the fact that because the financial system cannot always distinguish between productive and non-productive purposes (Geithner, 2015, p. 69), competition concentrates on safe rather than productive assets. Safe assets once were good for pensioners but that notion is becoming uncertain. Thus competition increases for assets that are perceived as safe, which helps explain the rise of assets with negative yields (a particularly inefficient type of hoarding).

Uncertainty and inequality constrain consumption. This is a major problem because the marginal propensity to consume determines the extent that new investments increase incomes (Stewart, 1972, p. 102). In addition, technological change means that investments often cost less – at least in advanced economies. Smaller targeted investments are made in data, new processes and intellectual property instead of in large-scale expenditures for brick and mortar structures and hardware. This dampens demand for productive investment and lowers the volume of investment opportunities.

In a functioning market, excess savings are eventually relocated to productive purposes or wiped out through corrections in asset values and bankruptcies. The economy's circuitous nature normally ensures that sooner or later, resources that have no real use are discarded. When the crisis struck in 2008, however, the political influence of savers and investors in advanced economies along with assumptions about the systemic nature of certain businesses ("too big to fail" or "too connected to fail") largely prevented a correction (Geithner, 2015, p. 151). Official measures to protect savers and investors from the effects of the crisis acted as circuit breakers, protecting funds and institutions from market forces that otherwise would have destroyed them.

Similarly, rising consumption does not drive growing deficits: They are enabled by the failure of corrective mechanisms, which play out differently in the US and in emerging economies. Although the US is still generating net investment income (Bordo & McCauley, 2019, p. 29), this does not mean that its current account deficit is sustainable. That depends on contingent factors such as continued easy monetary conditions (IMF, 2019b, p. 10) – an inherently fragile situation that would normally trigger market-driven corrections at some point. However, three circuit breakers prevent it fully operating, so deficits continue to accumulate.

- Normally, relative losses in the competitiveness of US exports would self-correct through lower USD exchange rates (Stewart, 1972, p. 227). However, this does not happen because the USD is also the dominant currency for banking, reserves and invoicing (Ito & McCauley, 2019; Carney, 2019, p. 3). Global demand for the USD will continue to keep its exchange rate at a level high enough to limit US exports. Global demand for safe assets does not require the US current account to be in deficit, as one variant of the Triffin dilemma posits (Bordo & McCauley, 2019). Instead, the USD's special role in the global financial system prevents it properly adjusting the country's real economy (Carney, 2019, p. 6).
- Relative gains in the competitiveness of other countries' exports should curtail the use of USD in favour of other currencies and draw investments outside the US. Both results

could help correct US deficits, with a weaker USD supporting US exports and increased investment outside of the US lowering capital flows into the country. Here, too, however, circuit breakers stop these corrections fully operating: The USD's dominance as the invoice currency and the path dependencies created by integrated global value chains raise the short-term cost of capturing alternatives outside the USD zone (IMF, 2019a, 48 f; Carney, 2019, p. 6). Market-driven adjustments cannot fully play out.

- In the wake of the global financial crisis, emerging economies were forced to reduce their deficits while advanced economies used national policies (from monetary easing and fiscal stimulus to informal deposit guarantees) to protect and even expand their surplus and deficit stocks. This asymmetric adjustment (Viani et al., 2018) demonstrates the power relationships that underpin the global financial system. As Keynes wrote, “[A]djustment is compulsory for the debtor and voluntary for the creditor” (Triggs, 2019). While capital flows would normally self-correct at some point and stop deficits and surpluses accumulating, confidence in being protected from adjustment allows imbalances to continue to grow.

Before we turn to features of the financial sector that contributed to the global crisis, it is worth mentioning that of the factors described above, only ageing and technological change cannot be influenced by conventional policies. In contrast, inequality and the extent to which the public sector protects private sector assets and its access to finance are clearly matters of national policy. International collective action can ease geopolitical tensions and develop a global financial safety net.

3.2 When money moves faster than knowledge

We have seen how uncertainty and self-insurance, and inequality and technological change, as well as the failure of corrective mechanisms, have prevented available funds being used for consumption and productive investment. The financial system has exacerbated this problem by integrating markets, countries, households and businesses worldwide. Such integration transmits financial risk without also conveying the information needed to assess it (Geithner, 2015, p. 102; Lo, 2017, p. 378 f). These days, default insurance and other credit enhancements hide risk, and with risk invisible, raising leverage to capture maximum profits from minimum equity seemed rational (Detragiache, Tressel, & Turk-Ariss, 2018). The fact that leverage makes a position sensitive (and much more risky) to market deteriorations was obfuscated. Once again, a mechanism thought to be inherent to healthy markets – with new explanations about how risk can correct pricing and allocation – did not work. This failure relates to global imbalances in two important ways: First, it affects surplus (creditor) countries and deficit (debtor) countries very differently. While the former have to figure out how to get their money back, the latter have to create sufficient trust to secure continued access to external funding. Both interests aim to stabilise current surplus (credit) and deficit (debt) positions. Second, a financial system cannot clearly distinguish productive from non-productive investments if information about risk is blocked (Geithner, 2015, p. 69). If a profit opportunity is visible but not the underlying risk, a non-productive investment that relies on leverage can appear more attractive than its productive alternatives. This effect works like another circuit breaker – interfering with the normal corrective mechanism whereby businesses and countries rebalance deficits by switching to more productive activities.

In retrospect it is easy to see how even small events that occur beyond most investors' horizons can destroy highly leveraged positions whose risks were obfuscated. Next I take a closer look at the interdependence produced by the global financial sector and the systemic nature of its risks and roughly describe the role the G20 could and did play in the wake of the global financial crisis. The significant relationships are between banks and financial institutions – not countries.

3.3 Malfunctions in finance

Risk creates dependence when we rely on others to absorb it. Before 2008, the financial sector had been using more and more cheap short-term USD funding in advanced markets to invest in high-yield, long-term assets – from emerging market instruments in local currencies and subprime positions in the US housing market to sovereign bonds issued by eurozone countries. Currency mismatches (from sourcing money in one currency and investing it in another) and maturity mismatches (from sourcing money from short-term positions and investing it in long-term positions) were inherent to the deals: “Carry trades” bet on currency differentials. Exposure was compounded because the funding risk (to financing or refinancing the investment) and the default risk (losing the investment) were determined by very different economic environments: one at the centre of the global financial system and the other in all kinds of peripheries – defined by geography, market segment, sector or business line. For better or worse, risk served to integrate or create “tight coupling” between the centre and the periphery (Lo, 2017, p. 321 f).

The risk of bringing the two sides together is systemic: Making the “right” choice among different market options does not necessarily eliminate risk (Lo, 2017, p. 377). No single player felt strong enough to absorb all the risk and everyone tried to offload at least part of it onto someone else (witness the prominence of insurance and other “credit enhancement” products before the crisis). But markets cannot price risks that flow from each player's inability to trade in a market where there is no trust: Markets have to price risks on the standing of a single identifiable counterparty or the worth of a definable asset (Tooze, 2018, p. 434).

Bank balances are now where the centre and the periphery are becoming increasingly dependent on each other's wellbeing. That is where two types of risk meet (Avdjiev et al., 2018, p. 15). The traditional metrics of current account measures or any sort of country-by-country metrics cannot depict this new form global interdependence because they are either limited to the real economy (and leave out the financial sector) or they try to present what is essentially an “interlocking matrix” of private sector bank balance sheets in terms of country relationships (Avdjiev et al., 2018, p. 23; Tooze, 2018, pp. 9, 72 f).

The sheer volume of today's global financial sector makes it difficult to determine how the public or any country's national resources could meaningfully leverage it (Tooze, 2018, pp. 8, 204). Depending on its public and private sector resources, foreign currency reserves or current account surplus may offer only limited protection to a country exposed to external financial risks (Tooze, 2018, pp. 8, 65, 204). In 2008, it was arguably more effective to have the public sector absorb residual systemic risk than to deploy actual resources (Geithner, 2015, p. 227). G20 regulatory measures – from the tax agenda and financial supervision to capital requirements for banks and other safeguards on financial institutions – may have more or less addressed the root causes of the crisis (Geithner, 2015, pp. 388 f).

As I explain in Section 5.1, not all G20 responses to the crisis were coordinated: More needs to be done – especially improving coordination. In some of the largest G20 economies, the public sector has taken over many of the currency and maturity mismatches that had accumulated in the private financial sector, along with some of the risks in using cheap debt to purchase high-yield instruments (Tooze, 2018, pp. 207, 210, 470 f). Remaining risks in the private sector were contained through very expansionary monetary policies and in some countries, generous fiscal policies. The immediate response to the crisis was to save the system: Not doing so would probably have been catastrophic. Ten years after the crisis, the issue is whether the G20’s regulatory programme has been able to outweigh the crisis era policies that reinforce the status quo and effect lasting change by creating a more robust system.

Some figures indicate that the job is far from accomplished (Tiftik & Mahmood, 2019). Low interest rates have caused global private and public debt to balloon from USD 97 trillion in 2008 to USD 246 trillion in 2019 – almost 320 per cent of global GDP (IIF 2019). USD credit to non-bank borrowers outside the US has risen from USD 5.75 trillion (1.5 trillion to emerging markets) in 2008 to USD 11.8 trillion in 2019 (3.7 trillion to emerging markets) (BIS, 2019). Non-bank financial activity continues to expand and now accounts for a substantial share of total global financial assets. The Financial Stability Board’s narrow measure of nonbank financial intermediation (just some financial institutions) covered USD 51.6 trillion or 14 per cent of total global financial assets in 2017. That year, the broader measure – of all financial institutions aside from central banks, banks, insurance corporations, pension funds, public financial institutions and financial auxiliaries – amounted to USD 116.6 trillion or 30.5 per cent of total global financial assets (FSB, 2019). This could mean that the private financial sector will be looking for someone to relieve it from systemic risk – again. In many G20 countries, however, there is not much policy space left for additional monetary or fiscal expansion (Geithner, 2015, p. 514) – partly because the measures that reinforced the status quo during the crisis were not removed during the upturn.

This could become politically significant. In 2008, G20 countries exhausted their monetary and fiscal powers to save an economy that many felt was failing to produce good distribution outcomes in the first place. Financial integration constrains domestic redistribution policies (Acemoglu & Robinson, 2006, p. 338 f). The 2008 crisis measures may have expanded inequality by bolstering things that rich people have: assets and cheap money to invest everywhere. As a result, G20 countries may have to face the next crisis with fewer resources, a more sceptical public and a lack of ideas about how to move the needle on domestic inequality.

The financial system has continued to integrate on a global scale – fundamentally unchanged, albeit more slowly (Lane & Milesi-Ferretti, 2018). In contrast, G20 countries did not react to the global financial crisis with fully integrated policies. Instead, authorities first attended to their own currencies and the financial institutions in their spheres. The fact that the US Federal Reserve Bank was only able to save US banks by also securing European banks’ continued access to USD funding was never stated publicly (Tooze, 2018, pp. 219, 261, 482 f). Openly securing only part of the system invites arbitrage between safeguards in different economic spheres (Tooze, 2018, p. 196), which wastes public resources and establishes an informal hierarchy of economic spheres. In this hierarchy, a country’s strength depends on its ability to absorb systemic risk and access USD (Bernoth & Herwartz, 2019). USD creation outside the US (Avdjiev et al., 2018, p. 25) is perhaps less an indication of US preponderance than a reminder that global financial interdependence has developed much faster than international cooperation. We need to catch up.

4 Unwinding excessive imbalances – generally and between G20 countries

4.1 From the gold standard to the US dollar

Imbalances were traditionally managed by the international currency regime, with the global gold standard ensuring that people in importing or debtor countries, rather than those in exporting or creditor countries, bore the burden of managing and eventually winding down an imbalance. That deficits to other countries had to be reduced by lowering real incomes at home was economic consensus (Stewart, 1972, p. 58). Adjustments effected by the gold standard were not regarded as matters of political choice and agency (Rodrik, 2011, p. 24 f.; Tooze, 2014, p. 353 f). Access to gold and the power to issue equivalents indicated a country's place in the global economic hierarchy. Each country had to practice fiscal and monetary discipline and develop domestic capacity to carry out internal adjustments in order to make the best of its position. As long as this was generally accepted, there was no need for explicit political coordination; the G20 created that later. By generally curtailing domestic policy options, such as inflationary or over-expansive fiscal measures, it provided broad international political consonance.

Today, however, market-driven currency-exchange-rate movements are supposed to produce the adjustments previously delivered by the gold standard and the Bretton Woods fixed-rate regime. These days, changes in exchange rates are expected to fix current account imbalances (Luckenbach, 2002, p. 152 f; Carney, 2019, p. 6). Why?

In Section 3.1, I explained how the USD exchange rate cannot fall low enough to help rebalance the US deficit because the USD is a global reserve currency. Can this dominance make the USD function like a gold standard and force other countries to correct their imbalances? USD debt exposure determines sovereign credit quality everywhere but in the US (Bernoth & Herwartz, 2019). Gaining and maintaining access to USD funding still motivates emerging economies to reduce their deficits. But the USD cannot replace the gold standard because:

- The gold standard was underpinned by global economic consensus. Adjustments were largely regarded to be between creditors and debtors, not countries. Global discipline supported creditor friendly adjustment in both surplus and deficit countries. No longer: The USD has had no visible effect on eurozone surpluses and has helped the US current account deficit to keep growing.
- The gold standard worked because countries could not escape its discipline by producing gold or its equivalents themselves. Today, however, much USD funding is created outside the US by market players not controlled by US authorities (Bordo & McCauley 2019, p. 16; Avdjiev et al., 2018, p. 25).
- The gold standard worked because it called for country adjustments that rarely encountered effective domestic resistance. Since the 20th century, however, governments have become more responsive to their citizen's aspirations and less concerned with international cooperation (Bordo & McCauley 2019, p. 11). Much economic history could be described as certain nations breaking the international consensus in the effort to satisfy their citizens (Tooze, 2014). The gold standard was an

early victim of this development (Stewart, 1972, p. 70). The premise that debtor countries have to bear the burden of winding down an imbalance is no longer accepted. In economically advanced countries, negative rates on debt instruments are forcing creditors to shoulder part of the adjustment burden.

- Like the gold standard in its time, the USD today represents how global interdependence constrains the economic policies of many (if not most) countries. Access to the global economy is largely mediated by USD funding, although it now seems somewhat weaker than the old gold standard. Today, policies motivated by national interests are deemed more legitimate: Countries are free to pursue unilateral policies that protect excessive surpluses or deficits even if they hurt the global economy. One example is the way central bank mandates are essentially geared to domestic economic goals (Oxenford, 2016, p. 9). Such mandates (Blinder, 1998) do not necessarily include protecting third countries from negative spillovers: Central bank policies can actually exacerbate global imbalances.

4.2 Policy options for each G20 country – a case for cooperation

As we have seen, the gold standard's automatic adjustment is history and the USD cannot replace it. Corrections once delivered as a matter of course by the global economic system have to be produced through targeted policy measures, which differ in surplus and deficit countries. Surplus countries can reduce household and business uncertainties by setting up or strengthening collective insurance schemes, including social safety nets. That allows for the hoarding response to uncertainty to be replaced by more consumption and productive investment. Surplus countries can gradually reduce formal and informal protection for funds and institutions that find no productive use and let self-correction run its course. This goes for overcapacities in the European banking sector (Geithner, 2015, p. 430) and “zombie” businesses that only survive because of persistent expansionary monetary policies. Countries with surpluses can also raise public and mobilise private investments (such as for infrastructure) in order to boost the growth potential of excess savings.

Surplus countries can also improve possibilities for social mobility by reducing inequality and boosting demand. Capabilities must be strengthened through education, by reducing barriers to and within labour markets, and introducing progressive and resilient tax systems.

Emerging economies that are running deficits can reduce their reliance on short-term foreign (currency) financing, build up productive capacity and improve export infrastructure. They can also diversify the countries they export to and the denominations of their financing. Since global interdependence particularly constrains emerging countries that may not have access to the long-term funds they need to develop, not all may be able to benefit from these options. Some countries may have structures so deeply integrated into the USD economy that their potential to build effective local currency markets is limited.

Finally, advanced economies with deficits may have to improve the way their financial systems communicate the signals of risky financing. They must continue to monitor the implementation of Basel III's more stringent capital requirements and roll out equivalent measures to shadow banks and make their systems more robust (Geithner, 2015, p. 506; Daniels, 2017). Where investments have failed, they could gradually make space for market-driven self-correction and be more cautious fiscally in order to prevent overheating and asset bubbles.

All countries should reduce their real economies' dependence on the financial sector so that overcapacities (Reinhart & Rogoff, 2009, p. 162) can be safely unwound. Policies can vary from country to country – from strictly controlled limits on leverage for banks and non-banks to enhanced collateral requirements, and even selective controls for capital flows.

Perhaps most importantly, countries should work together to reduce international tensions and strengthen cooperation, including through the G20. This particularly applies to uncertainties created by escalating geopolitical conflicts. It is virtually impossible to produce a micro-level snapshot of global interdependencies or roughly estimate the damage that would occur through various channels and subsequent rounds of causation if they were further disrupted. The economic system cannot compute the threats resulting from geopolitical tensions: There is no market price for risky token policies.

National measures will not suffice. While all these options primarily require individual countries to take action, they all also have international dimensions: Like the effects of climate change, uncertainty can be global; it can originate in relationships between countries (like the US and China) or cross borders (witness the risks of contagion after the Asian and global financial crises). Country-level inequality and the means to fight it are determined by a country's position in the global net of interdependence (Acemoglu & Robinson, 2006, pp. 338 f; Acemoglu et al., 2017). The correlation between capital mobility and lower shares of corporate tax revenues (Garretsen & Peeters, 2007) is just one case in point. Perhaps financial integration is where the challenge's global nature is most apparent: With today's interconnecting banks and financial institutions, national measures alone only shift overcapacities to other countries.

This is why G20 countries are obliged to coordinate, even when they enact purely national measures to reduce excessive imbalances (IMF, 2019c, p. 3; Carney, 2019, p. 5). A number of economic reasons underscore this point:

- Interdependence means that a country cannot secure its national policy goals through national action alone – either because its effect is neutralised by an external development or because it will only work if other countries support the same goal (Carney, 2019, p. 4). While developing countries have long been aware of this predicament, today even the strongest countries are far from self-reliant. In 2004, for instance, the US Federal Reserve System could not slow down the US business cycle because its trading partners had pegged their currencies to the USD (Tooze, 2018, p. 38). Interdependence determines how much emerging countries can control their current account deficits: Monetary expansions in advanced economies usually spill over to emerging countries and drive up their deficits (Oxenford, 2016, p. 11; Avdjiev et al., 2018, p. 27; Carney 2019, pp. 4, 8). The reverse is also true: Monetary contractions in advanced economies can reduce deficits in emerging countries – and simultaneously limit growth (Viani et al., 2018). Mere hints of monetary contraction in advanced economies can make capital flee emerging countries – as observed in the 2013 “taper tantrum”. Emerging economies can only reach their deficit reduction targets if advanced countries' policies do not thwart them. If the latter truly want to see lower deficits in emerging economies, they have to begin by “doing no harm”.
- Spillovers can also take a different form: If an open economy unilaterally expands domestic demand to reduce its surplus, benefits could accrue to foreign exporters

(Stewart, 1972, p. 104; Carney, 2019, p. 6). While this may make perfect sense in economic terms, it might raise some political economy issues. The current lack of global demand may make a country prefer to support its domestic producers. Cooperation between countries can help manage such issues.

- Reducing excessive imbalances without hurting growth seems like a reasonable combination. Triggs (2019) has shown that the US, China and Germany can achieve this more effectively if they simultaneously undertake the reforms he considers necessary: tighter fiscal policies in the US, more public investment in Germany and increased domestic consumption in China. To grow, countries have to trade off rebalancing and growth and sometimes act on their own (Triggs, 2019, para. 3.5). But coordination is generally very valuable. To achieve the goal of global rebalancing, one country's surplus must be another country's deficit. At best, unilateral action will reduce one country's surplus. But overall global imbalances will not change if a new country takes over an abandoned surplus position and deficit countries do not reform. Sustainable growth requires more coordination because reducing excessive surpluses and deficits may involve hard and disruptive adjustments, such as private-sector deleveraging in deficit countries and large internal stimulus measures in surplus countries. This has to be weighed against the (probably larger) political risks to growth that can arise from attempting to correct imbalances through protectionism (Carney, 2019, p. 9).
- Some underlying drivers of excess imbalances (uncertainty, inequality, overcapacities and financial integration) are global and require international collective action. A stronger global financial safety net underpinned by a better-resourced IMF would reduce incentives for countries to build precautionary reserves and regional alternative structures – and free resources for consumption and investment (Carney, 2019, p. 13).

It is difficult to know who has to do what to reduce excessive imbalances. Not only is the question politically contentious because it determines how burdens of adjustment are shared among countries, but it is also conceptually difficult because the answer depends on how particular drivers of excessive imbalances are qualified: Are large savings only an issue for the country where the savers live – or are they also a challenge for other countries that cannot effectively translate those savings into consumption and productive investment? Can one country act alone to solve a particular problem or is a collective solution necessary? We have seen that there is always a collective dimension to solving excessive imbalances, if only because excessive surpluses and deficits are two sides of the same coin. Nevertheless, it is still hard to sort out where a country's responsibility ends and international collective action is needed. One recurring issue in the global financial crisis was distinguishing between problems that a private financial institution could resolve on its own and problems that needed public-sector solutions (Geithner, 2015, p. 94). In many cases, the threat was viewed as exogenous to any single business because it affected all market players. This may be true for some drivers of excess imbalances because they are beyond the control of any single country and affect all countries. This is certainly true for the global financial system's growth and integration. Excess funds can (and do) move from country to country: The relationships driving excessive imbalances are between (and inside) globally integrated businesses, not countries. Our interdependent global economy requires international cooperation that matches its degree of interdependence.

4.3 Impediments to cooperation

Managing interdependence is, however, not the first priority in international policy-making. That revolves around the normative question: Where do one country's economic responsibilities end and where does collective responsibility begin? Countries respond according to their economic traditions (Stewart, 1972, p. 275; Bery, 2018, p. 14). Rooted as it is in the notions of *Ordoliberalismus*² and its self-image as a small open economy without systemic importance, Germany emphasises what each country can do on its own (Tooze, 2018, p. 114). Not long ago, the US effectively guaranteed the multilateral system and was awake to the possibilities of collective economic policy-making. Interdependence has been the everyday experience of emerging countries since the beginning of globalisation. While they understand the importance of international cooperation, they are obviously more sensitive to its potential negative effects, witness the debate about emerging countries' voice and representation in the Bretton Woods institutions and their relationship to the UN system. These very different traditions make it harder to find a common language to discuss distributing responsibilities for unwinding excessive imbalances in the international system (Tooze, 2018, p. 72 f).

Domestic interests also play a role. National policies for reducing excessive imbalances inevitably affect domestic constituents. Better-off taxpayers often do not want to fund social insurance schemes they feel will never benefit them. Savers want their money protected, whether or not the global economy can productively use it – a problem that is particularly salient in advanced countries, where more people have been integrated into the global financial system. Savers are growing and gaining political clout. Exporters want to expand their businesses, believing that importers' long-term ability to pay is not their problem. Investors may fear rising government expenditures and doubt that it will effectively be used to improve infrastructure. Businesses want to enhance the value of their equity by using debt (e.g. to buy back shares), thereby raising leverage without serving a productive purpose. Highly leveraged businesses that depend on low interest rates and expansionary monetary policies want them to continue. Banks want to grow their balance sheets and capture the opportunities of leverage and foreign-currency financing. Sometimes they also want to shift the resulting risks to governments.

For all these reasons, adjustments to unwind excessive imbalances can face domestic resistance. A government trying to respond to domestic constituencies has to weigh the necessities and advantages of international cooperation against the political costs at home. This may particularly apply to advanced economies: The risks of global interdependence have always determined policies in emerging countries but were not sufficiently understood by people in advanced economies. Power relationships have often enabled advanced economies to shield themselves from adjustments by shifting the burden to other countries, as shown by the global status of the USD. Public understanding of how adjustment is necessary may be quite weak in advanced economies. With inequality constraining consumption, rising inequality in advanced countries (Milanović, 2016) may contribute to even higher surpluses and stronger pressure for protectionist policies.

2 This is the idea that markets should be driven by free agents and operate within a consistent set of predictable rules that enable competition and do not discriminate between market participants. Proponents of this notion are usually hostile to changing the rules, allowing ad hoc exceptions or favouring specific market participants.

We have seen how central banking is primarily driven by domestic considerations (Oxenford, 2016, p. 9; Bery, 2018, p. 13). Managing global imbalances is a central bank's job only insofar as they affect its domestic mandate. The G20 repeatedly pledges its commitment to refrain from competitive devaluations, with the G7 agreements to depreciate the USD in 1985 (the "Plaza Accord") and the Japanese yen in 2011 (after the tsunami) rare cases in which the implementation of central bank mandates and the realities of interdependence converged.

Another impediment to cooperation is that it requires acknowledging that some countries are more powerful – and some more dependent – than others. While we have seen that interdependence encourages cooperation, it affects countries in different ways. Perhaps the most striking example is the extent to which economies worldwide count on having continued access to USD financing. Successful cooperation builds on existing power relationships instead of seeking to change them. The status of the USD as the reserve currency and the preferred denomination for safe assets is a major cause of excessive deficits. The strength of the USD is not the product of deliberate US policy or the outcome of sustained market confidence in the US economy, but rather a simple network effect: Most people accept the USD as the prime medium of exchange and unique store of value. Everyone has a reason to join (Carney 2019, p. 7). The US also draws significant advantages from the status of the USD: Thus it will probably remain unchanged.³ Any attempt at cooperation will have to build on that fact.

5 Policy options for the entire G20

In many ways, the G20 seems like the proper forum for coordinating measures to reduce excess imbalances. It is a leaders group that draws on a tradition of cooperation among finance ministers and central bank governors. Everything the public sector can do to correct excessive imbalances is within the power of some group of players in the G20 system because it comprises leaders, finance and portfolio ministers, and central bank governors. Most global imbalances exist between G20 countries with the emerging countries most affected by monetary changes in advanced economies also part of the group. The G20 was founded to fight financial crises. Excessive imbalances and financial crises have the same root cause: The global economy cannot transform large pools of available funds into consumption and productive investment – or effectively discard them. Having successfully controlled and repaired the immediate damage caused by the global financial crisis it makes sense for the G20 to now solve the transformation problem – which in turn would help correct excessive imbalances.

5.1 The G20 approach to current account imbalances

In response to the global financial crisis, the G20 agreed to simultaneously introduce stimuli at home and provide the IMF with additional resources (Geithner, 2015, p. 341). While this certainly helped ease the reduction of flow imbalances I describe in Section 2.3, the response was incomplete. Flow imbalances were mostly reduced through downward adjustments

³ This is why Carney's "Synthetic Hegemonic Currency" is probably not an option for the time being.

instead of boosting consumption and productive investment. Policy responses to the global financial crisis were markedly different, driven by countries' domestic economic interests and traditions (cf. Section 4.3). While the US and the eurozone defended their respective deficit and surplus stocks, China reduced its surplus by increasing domestic consumption (at the cost of rising internal debt). This lack of coordination contributed to global stock imbalances (the sum of net debtor and net creditor positions) continuing to rise and excessive surpluses simply shifting from China to the eurozone.

The original aim of the United Kingdom (UK) G20 presidency in 2009 – producing a range of commitments for reducing excessive imbalances – was not achieved. Instead, the G20 agreed to a number of standard positions that are important for managing excessive imbalances but do not directly target them (Triggs, 2019).

- The G20 routinely describe the qualitative side of their goal as “strong, sustainable, balanced and inclusive growth”, with “balance” implying the reduction of excessive current account imbalances. Indeed, at their meeting in Fukuoka, G20 finance ministers drew that connection and documented their sophisticated internal debate about what drives excessive current account imbalances (G20 Finance Ministers, 2019). However, the G20 never committed to taking specific measures to reduce them.
- The G20's Framework Working Group in the Finance Track monitors the spillover effects that one country's policy measures can have on others. This at least makes it possible to address how advanced countries' monetary policies affect emerging economies' deficits.
- The G20 have repeatedly promised to not engage in competitive devaluations (G20 Finance Ministers 2019). This is crucial for collectively managing excessive imbalances because it prevents G20 members unilaterally improving their own current account balances at others' expense.
- Finally, the G20 often emphasise that the IMF is the centre of the global financial safety net. If the IMF has sufficient resources to play this role, country-level self-insurance is unnecessary and resources are freed for consumption and productive investment. This effect can help reduce excessive surpluses.

Another factor is the G20's programme of financial reform after the global financial crisis (Daniels, 2017), which largely concerns improving regulations, supervision and robustness in the banking and financial sector. This defensive approach creates requirements for more capital, less leverage and more liquidity in order to prevent the accumulation of excessive risks, and to make institutions and the entire system able to absorb them. While this defence can strengthen self-correction mechanisms to help prevent excessive surpluses and deficits, the current G20 financial reform agenda does nothing to solve the basic need to turn large pools of available funds into consumption and productive investment.

5.2 What the G20 can do now

I have shown that the G20's current approach to reducing excessive imbalances is somewhat piecemeal. This is probably due to G20 members' differing views of the forces that drive

excessive imbalances and who is responsible for remedying them (cf. Section 4.3). Assuming that these constraints remain, what can the G20 do better?

First, the G20 must reduce uncertainties in the global economy, so that there are fewer incentives for hoarding and more money is available for consumption and productive investment. The G20 should introduce precautions for specific risks, in particular by boosting IMF resources to improve crisis-response capabilities (Carney, 2019, p. 13). The IMF should do this because it can credibly produce universal responses and its collective insurance is much cheaper than self-insurance for each member. Relying too heavily on regional financial safety nets may invite the arbitrage and diversion of financial flows, which can create excessive imbalances (Geithner, 2015, pp. 55, 233). The mere fact of G20 members cooperating reduces uncertainty. The perception that a working coordination mechanism is in place should another crisis strike can prevent countries, households and businesses seeking unilateral solutions. Developing robust consensus among G20 members and visibly acting on it is important in itself.

Second, the G20 must continue implementing its financial reform agenda and prevent backsliding. The agenda helps control excessive leverage and makes financial institutions and the overall system resilient to future shocks. Practicing common disciplines such as Basel III across the G20 helps prevent arbitrage. However, there are limits to what the financial reform agenda can achieve: It basically concerns reinforcing self-correction mechanisms that enable institutions and the system to recognise, control and eventually absorb risk so that rising deficits are automatically checked. The agenda does not address political impediments to adjustment: Savers and investors can mobilise political protection for surpluses and deficits even when deficits are excessive, and remedies like capital requirements that work at the level of financial institutions cannot control systemic risk. The acute threats that became obvious during the global financial crisis were not inherent to the nature or behaviour of any particular firm. Panicked price movements, sudden stops in the readiness to trade with any counterparty at any price, as well as changes in the monetary policy environment were all felt to be exogenous and beyond the control of any single institution. Crisis responders were probably right when, based on limited information, they tended to consider a particular risk as systemic rather than specific to an institution. With continued global financial integration it this still holds today.

Third, the G20 should take measures to improve the process for turning available funds into more consumption and productive investment. This is the underlying malfunction driving excessive imbalances (cf. Section 3.1) because wage stagnation, inequality, ageing and hoarding induced by uncertainty constrain consumption and limit potential profits producing goods and services in the real economy. This is happening although the volume of private sector funds is growing. Uncertainty drives the search for safe – but unproductive – assets, and encourages precautionary hoarding.

One factor behind under-consumption is that most consumers directly or indirectly draw their main income from wages paid by a productive sector that is using more and more labour-saving processes and technologies – while at the same time, market power is increasingly concentrated in oligopolies and monopolies (Autor, Dorn, Katz, Patterson, & Reenen, 2017). This concentration represents an opportunity for the economy as a whole because better-integrated production processes create more value with less effort and friction. However, they also cause wages to stagnate. Today, profits resulting from

technological change largely accrue to investors and highly educated wage earners who consume less and less. One solution could be to help consumers draw a larger share of their income from investments, which is where money is made today. To raise consumption, this income stream has to be safe, stable and predictable. Accessing profits generated through the use of data could produce this kind of income stream.

Consumers could earn profits by acquiring equity stakes in businesses that process and use data. Rather than paying for the equity stakes, they would authorise the businesses to use their personal data, along with other data deemed to be theirs (for example, because consumers have clearly gathered it). There is still a lot of data that has not been captured – that can be swapped for equity. The non-transferrable equity stake would entitle consumers to draw a stable flow of dividends as disposable income. This model assumes that businesses that process and use data will eventually cause substantial productivity increases (OECD, 2019). There is reason for optimism: Innovation has been shown to stimulate productivity once an entire production process has been adapted to capture its potential. Although this takes time, it does happen.

The G20 could pilot this kind of model and systematically share implementation experiences. In some ways it fits with what the G20 already does.

- One issue in the G20 debate about taxing digital businesses is how they draw value from consumer data. This is the rationale behind the UK's Digital Service Tax. Taxing businesses on the basis of user-generated value is a slightly different way of ensuring that at least part of the profit made from data returns to the people who created it.
- G20 activity on inclusive business (G20, 2015) and financial inclusion (GPFI, 2017) aims at fostering business models that empower poorer people. This is exactly what we need to expand global demand and create more investable opportunities in the real sector.

This concept reconnects investment to the drivers of demand and productivity (data) in the real economy. Because consumption patterns and data governance differ across market segments and countries, it could also strengthen the diversity that enables competition and systemic resilience and reduce the risk of one business failure taking down the entire system.

5.3 How the G20 can work better

Options for joint G20 policies only work if all G20 members agree them. G20 governance determines how easy or hard it is to reach consensus. This is why it is useful to consider how the G20 can improve its working methods.

A leader-led process like the G20 is arguably in the best position to enable deep cooperation. Heads of state and government can cut deals across all policy areas and normally have enough political clout to make difficult things happen at home. For the time being, however, the G20 appears to have no common ambition for closer economic cooperation. Disagreement within the G20 on contentious issues like trade, migration and climate may threaten consensus on other policy areas and weaken the will to cooperate. It may therefore be useful to look at the institutional mechanisms that enable G20 cooperation – where

improvements could strengthen cooperation even though G20 consensus is fractured. Ideally, working institutionally would lay the groundwork for deeper forms of consensus.

The G20 agenda must be purpose driven. Solving problems that require cooperation should be more important than developing messages to enhance the visibility of the next summit. High-level events only produce real outcomes if they are treated as the means to a substantive end. More informal meetings within G20 summits could open additional space for meaningful debate. For example, the G20 summit in Hamburg started with an unscripted leaders' debate on security and terrorism. Such G20 meetings can increase mutual understanding of crucial policy issues.

Summits should concentrate on topics G20 leaders want to discuss. Robust top-level consensus only emerges when leaders engage in person. Focussing on more "leaderlike" matters could require reconsidering some G20 traditions, for instance, the expectation that every G20 leaders' statement has to formally repeat their positions on a permanent set of policy issues. There may be merit in formally confirming what G20 leaders have previously said, but former commitments implicitly hold until they are explicitly rescinded. A member's behaviour that visibly diverges from summit language may indicate that the procedure was routine, without robust personal leader-level engagement. Disconnects between language and behaviour can pose serious credibility issues that subsequent verbal confirmations cannot fix. Some members have voiced doubts about the G20's long-standing commitment to refrain from protectionist measures, pointing to a number of new policies that could be construed as protectionist but were nevertheless implemented (Evenett & Fritz, 2017). The contrast between the benign language on trade in official G20 statements and the escalating trade conflict between some G20 members could not be more glaring. The general public notices this because trade differences are among the top issues in international affairs. A perceptible discrepancy of language and behaviour on one highly visible issue can inspire doubts about the effectiveness of G20 agreement in other policy areas – and even its entire agenda.

The G20 have another way of showing their commitment to a specific policy goal: by asking an international organisation to follow up and report to the next summit, as has long been standard practice. This strengthens G20 countries' bond to various international organisations and facilitates cooperation.

In substance, the G20 summit agenda should be driven by leaders' priorities rather than internal and external stakeholders' wishes to boost the importance of their pet issues. But the G20 can also add value to certain items without engaging leaders – witness G20 minister and working-group meetings. It is unreasonable to expect all G20 leaders to reach a thoroughly considered agreement on every item of every G20 working group. Outcomes on "non-leader like" matters could figure in stand-alone minister and working-group documents because their status as a formal record of G20 consensus makes them independent of the leaders' communiqué. A deliverable's importance would depend on its substance, not on a passing reference in the leaders' statement. This could create incentives for more ambitious outcomes: A deliverable would only make it into the summit communiqué on the strength of its political impact.

The G20 should be aware of what ambitious summit language can – and must – do. Whenever G20 leaders state an aspiration, the power of that statement rests on the belief

that they will use their joint leverage to achieve it. It is fitting that the G20 have begun to address the fundamental challenges of our time, including the 2030 Agenda, climate change, digitalisation and the global financial system. But ambitious language must be backed up by policies and behaviours that equal the aspiration. Steps with minimal impact or that visibly fall short of what the G20 is capable of are just as risky to the group's credibility as avoiding big challenges altogether. These trade-offs should be carefully considered when designing new commitments – another reason why the G20 must further develop accountability processes that unite ambition and implementation (Hilbrich & Schwab, 2018).

The G20 could seek ways to better connect the Finance and Sherpa Tracks. Traditionally, the Sherpa Track has been used to position the G20 vis-à-vis non-finance stakeholders, notably domestic constituencies in G20 countries and non-G20 members. This has been achieved by creating a proprietary Sherpa Track agenda along with the pre-existing Finance Track's working schedule. Since 2008, the Sherpa Track has brought a "leaderlike", openly political dimension to the G20. One could argue that the tracks legitimise each other because Finance Track agenda items are sometimes technical and hard to communicate (Geithner, 2015, p. 18). Even necessary and productive measures on finance have limited effect if the realities of interdependence are not widely understood and managed in a clearly political manner. The Sherpa Track could systematically engage with the structural, sectoral and distributional aspects of Finance Track items to create a more integrated, coherent schedule.

Understanding and managing global interdependence is a major challenge for G20 societies and others. G20 engagement groups and outreach partners are well placed to actively engage in this conversation, particularly G20 think tanks (Think20, T20): They could start developing a language that can better connect the very different traditions of economic thought across the Atlantic and in various G20 countries (cf. Section 4.3) so that the G20 have a conceptual framework for mapping their differences. The current debate about how to implement the 2030 Agenda also shows that in times of deep global interdependence the dynamics of policy-making are not thoroughly understood. The T20 could produce specific actionable evidence about the key domestic policy goals in G20 countries that can only be achieved through G20 cooperation, as well as the constraints it faces.

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