NBER WORKING PAPER SERIES

TRAPPED IN THE TRILEMMA:
WHEN SECURITY TRUMPS ECONOMICS

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Working Paper 30506
http://www.nber.org/papers/w30506

NATIONAL BUREAU OF ECONOMIC RESEARCH
1050 Massachusetts Avenue
Cambridge, MA 02138
September 2022

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Trapped in the Trilemma: When Security Trumps Economics
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NBER Working Paper No. 30506
September 2022
JEL No. E52,E60,F30,F40,G28,N1

ABSTRACT

This paper describes the challenges of globalization in terms of the logic underpinning four distinct policy constraints or "trilemmas" and their interrelationship; in particular the disturbances that arise from capital flows and the difficulties of adjusting monetary policies to a global monetary environment. These trilemmas intersect and interlock. The trilemmas are: 1. The traditional Macroeconomic trilemma between capital mobility, fixed exchange rates and monetary autonomy; 2. The International relations trilemma between capital mobility, sovereignty and international order; 3. The Political economy trilemma between capital mobility, democracy and sovereignty; 4. The Financial stability trilemma between capital mobility, financial stability and independent national policies. The four trilemmas offer a way to analyze how domestic monetary, financial, economic and political systems are interconnected within the international system that opens up vulnerabilities. They can be described as the impossible policy choices at the heart of globalization.

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Trapped in the Trilemma: When Security Trumps Economics

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Along with the Industrial Revolution, globalization has been the defining economic processes of modernity. Both represent a realization of the potential of two theories formulated at the beginning of the industrial era, Adam Smith's division of labor and David Ricardo's theory of comparative advantage. They have been the key to the growth of the world economy in the modern era, and the efficient allocation of resources across space and time. Their disruption or interruption triggers substantial welfare losses.

Globalization—the establishment of cross-national linkages—is rarely a simple, unidirectional process. As measured in terms of the flow of capital, or goods, or people, it displays a steady upward movement from the middle of the nineteenth century to the First World War, but then the momentum faltered, with a brief revival in the 1920s and then a collapse during the Great Depression. Although a new institutional framework was established at the end of the Second World War, the resumption of large capital and trade movements took a substantial period of time.

Globalization—the establishment of cross-national linkages—is rarely a simple, unidirectional process. It creates major strains as different economic, social, and political systems adapt to each other's influences. It lends itself to being weaponized as a means to exert pressure on external countries. The strains have produced worries about globalization reversals: the slowing down or "slobalization" after the Global Financial Crisis, the vaccine nationalism that followed Covid, and now, after the Russian attack on Ukraine on February 24, 2022, the use of financial sanctions as an instrument of statecraft.

Globalization involves much more than a simple application of theoretical insights about economics: it rests on an institutional framework. That order has been described in rather different ways. Alternative versions of the ordering principle include:

- Hegemonic stability, in which order is generated by the leading commercial nation and the dominant political power (Great Britain in the nineteenth century, producing *pax britannica*, and the United States in the later twentieth century, with a *pax americana*).
- A system of a stable balance of power with alliance systems.
- A liberal order based on constitutional institutions, increasingly based on a principle of democracy, that would secure property rights and ensure government limited by the rule of law.
- Multilateralism, with functioning international organizations capable of securing a commitment of member states to the principle that peace and prosperity are indivisible, and that one country (even a very large one) cannot be safe, secure, and prosperous on its own.

All of these contain inherent instabilities. Hegemons gradually lose their preeminent power. Alliance systems may produce conflict and instability. The rule of law may be challenged when democracies decide to attack openness to trade or capital or migration. International institutions

outlive the circumstances in which they were originally created and struggle to adapt to new challenges.

This paper aims to establish a framework for considering the instabilities of the globalization process. It describes the challenges of globalization in terms of the logic underpinning four distinct policy constraints or “trilemmas” and their interrelationship; in particular, the disturbances that arise from capital flows and the difficulties of adjusting monetary policies to a global monetary environment. An earlier paper (Bordo and James 2019) explained shocks emanating from financial tensions and their effects on international capital markets. But disturbances can emanate from elsewhere, and the story of international financial relations is interwoven with security and geopolitical dilemmas. The Ukraine crisis has illustrated dramatically how finance may be weaponized: but such an enlistment of capital as a tool of statecraft has a very long history. Indeed, the creation of the Bank of England in 1694, long seen as a central moment in the creation of the modern financial world (North and Weingast 1989) was primarily justified in the statute that authorized the new institution as enabling the prosecution of war against France (James 2020).

The analysis of a policy trilemma was first developed as a diagnosis of exchange rate problems (the incompatibility of free capital flows with monetary policy autonomy and a fixed exchange rate regime), but the approach can be usefully extended. Secondly, then, why do states accept an openness that may constrain their ability to act, and conversely, in what ways may control of international capital flows enhance national sovereignty and the space to impose a sovereign will on others: a second trilemma then looks at the tradeoffs between capital mobility, international order, and the assertion of sovereignty? The third trilemma extends the analysis to domestic politics and looks at the strains inherent in reconciling democratic politics with monetary autonomy and capital movements. Does democracy mean an enhanced credibility, and hence greater willingness to borrow? Or are the commitments produced by borrowing incompatible with a regular expression of popular will in democracy? A fourth trilemma, the incompatibility between financial stability, capital mobility, and fixed exchange rates, is characteristic of the era of hyper-financialization, but is also of great relevance in an age where interdependence may be weaponized.

These trilemmas intersect and interlock. They offer a way of analysing how domestic monetary, financial, economic, and political systems are connected within the international system in a way that opens up vulnerabilities. They can be described as the impossible policy choices at the heart of globalization. Frequently, then, the trilemmas will conjure up countervailing and highly destructive anti-globalization tendencies and trends. Getting choices right in a way that enhances resilience by contrast may offer a way of stabilizing the course of a globalization that provides substantial benefits.

In practice, as scholars investigating the exchange rate trilemma have demonstrated, it is empirically hard to determine a pure policy stance: there are varying degrees of commitment to a fixed exchange rate regime, varying degrees of openness to international capital, and varying extents of monetary autonomy (Obstfeld, Shambaugh, and Taylor 2005). A fixed exchange rate regime, even in the hardest imaginable form of a monetary union, need not be permanent, and states may break away from monetary unions. Similarly, at the opposite extreme, a wildly

floating exchange rate will generate pressures to look for a way of stabilizing the price. Even with very strict capital controls, there are leakages, for instance through invoicing practices for trade. And a completely open capital account may still have a home bias in which investors prefer securities in the same jurisdiction. Consequently, then, monetary autonomy faces limits even in an apparently tightly controlled setting. The other trilemmas are marked by the same phenomenon, with gradations between extreme poles characterizing most experienced outcomes. Thus in international relations there are shades between war and peace, and between Cold War (itself an intermediate point between peace and conflict) and Hot War, with proxy wars and hybrid wars somewhere in between. And it is not always easy to distinguish between autocracy and democracy, and regimes may move between one and the other: thus Imperial Germany was democratizing before 1914, after 1989 new post-communist democracies did sometimes substantial "back-sliding," and the experiences of the 2016 US election and the attack on the Capitol on January 6, 2020, was a reminder that even well-established democracies may be insecure.

Thus, in practice, policy is hardly ever positioned at the corners of the trilemma, and actual policy stances fall somewhat in between the corner positions—where the corners simply represent the boundaries of the possible. The discussion of the exchange rate trilemma thus serves as a Weberian ideal type, rather than an exposition of the real world. The same reservation applies to the other trilemmas that we identify: there is obviously neither pure financial stability nor pure instability, no absolute democracy, and no completely binding treaty organization or international system. There are always trade-offs.

The positions are often difficult to quantify, though there have been attempts to establish indices that purport to measure the extent of globalization, sovereignty or democracy (Aizenman and Ito 2020; Eichengreen and Esteves 2019). Simply identifying the choices as borders can help us define problems and sources of tension, and establish potentially effective remedies. Finally, we address forms of cooperation—with regard to financial security and the building of agreements across borders—that can take the sharp edges off the trilemmas and reduce the likelihood of sudden and traumatic reversals and shocks. In fact, improvements in institutions may be thought of as removing the harder corners (Bazot Monnet Morys 2022).

1. The Macroeconomic Trilemma

The first trilemma is undoubtedly the most familiar of the four sets of issues examined here. Mundell (1963) formalized the point that free capital movements and a fixed exchange rate rule out the possibility of conducting independent monetary policy. Padoa-Schioppa (1982) reformulated this proposition as the "inconsistent quartet" of policy objectives by bringing in commercial policy, another central part of the globalization package: free trade, capital mobility, fixed or managed exchange rates, and monetary policy independence. In both the Mundell and Padoa-Schioppa formulations, the impossible choice provided a rationalization for building a more secure institutional framework to secure cross-border integration, especially to deal with the problem of small or relatively small European countries. So even here, in the strictly macro-economic policy trilemma, there needed to be a political or a security commitment. Both Mundell and Padoa-Schioppa were major architects of the process of European monetary union, a process which derived a considerable push from the sharply diverging inflation rates and

exchange rate chaos of the 1970s and 1980s. Mundell and Padoa-Schioppa justified this step of further integration on the grounds that the exchange rate was a useless instrument—the monetary equivalent of a human appendix or tonsils—that could be usefully and painlessly abolished. However, some countries continued to regard the exchange rate as a useful tool for obtaining trade advantages.

The policy constraint following from free capital movements has been posed in a more severe form by Rey (2013), who shows that in a globalized world of free capital movements, monetary policy is limited even with flexible or floating exchange rates. A choice to have a floating exchange rate thus does not give a free pass to monetary policy. Rey identifies "an 'irreconcilable duo': independent monetary policies are possible if and only if the capital account is managed, directly or indirectly, via macroprudential policies." This argument does not necessarily lend itself to the demonstration of the necessity of monetary union: If the aim is to preserve national policy autonomy, a better choice is to control capital movements, as was envisaged in the 1944 Bretton Woods Conference and provided for in the Articles of Agreement of the International Monetary Fund. Capital movement across borders—through both inflow surges and the consequences of reversals—may fundamentally limit the scope of national monetary policy. Since the 2008 global financial crisis, the articulation and elaboration of macroprudential policies has become a way of trying in practice to limit or manage the extent to which capital may be mobile; consequently, the discussion of the monetary policy trilemma leads in a straightforward way to the discussion of financial policy issues.

In the Great Moderation, there was a convergence of inflation rates. Across the world, a transition to a low inflation regime occurred, first in rich industrial countries, but then in emerging markets, first in Asia but ultimately also in Latin America, where inflation had been an apparently fixed way of life. This beneficent picture was sometimes referred to as NICE (Non-Inflationary Constant Expansion, or alternatively Nearly International Competitive Equilibrium). Since 2020, however, with an uptick in inflation, there has also been more divergence in national inflation rates, which might be expected to drive capital flows looking for safer or higher returns. The sharply negative real interest rates in the major industrial economies offer parallels with the monetary policy failures of the 1970s. The failure to provide stable money will have destabilizing consequences. There will be a greater scope for reversals and sudden stops (the so-called taper tantrum of 2013) offered an anticipatory taste of the difficulties that follow from a change in monetary orientation at the center.

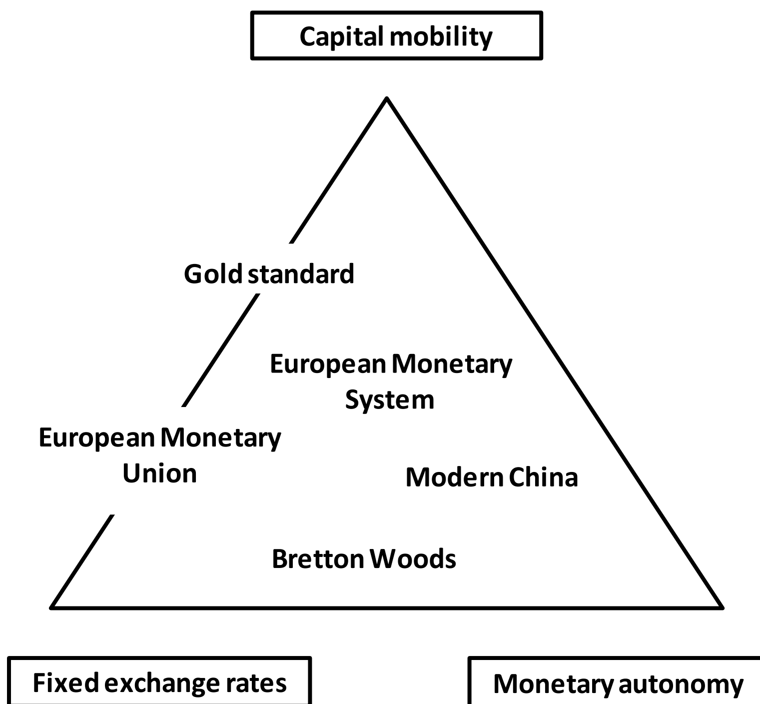
The most obvious response to the new threats of capital stops would be a much tighter system of capital controls. Some version of restrictions on capital movement had already been provided since the GFC through macroprudential policy, limiting for instance the foreign exposure of banks. The main emphasis was on deterring inflows, and capital flow management was added to the standard institutional toolbox. The IMF in 2012 attempted to use a newly defined Institutional View that would allow countries to "reap the benefits of capital flows while managing the associated risks in a way that preserves macroeconomic and financial stability and does not generate significant negative outward spillovers." (IMF 2022) But the initiative largely avoided addressing the political and financial drivers of capital flows from the source countries. In addition, the existence of substantial foreign liabilities, a stock problem rather than a flow question, would demand a much more interventionist set of policies, and spills over into the

sphere of security politics (see Trilemma 2). Extreme possibilities such as confiscation of foreign assets may be justified on national security grounds. That outcome might mark a much more dramatic reversal of financial globalization.

Capital mobility continues to be attractive. Financially constrained borrowers—corporations as well as governments—see capital inflows as a way of obtaining access to financial resources. In addition, the inflows may be linked to institutional innovation and governance reform. After waves of overborrowing, the costs may be clearer: capital flows, in the nice analogy of Stiglitz (1998), generate such large waves as to upset the delicate row boats of small countries afloat on the sea of globalization. But many participants in the process quickly forget the possibility of the large waves and tides.

The logic of the original Mundell trilemma thus points either in the direction of closer cooperation (including perhaps political arrangements that constrain domestic choices) or toward capital controls as a way of rescuing national policy autonomy. In light of the gains that may be lost as a result of capital controls (and of an awareness of the necessarily incomplete character of capital controls that makes them prone to evasion), the process of globalization points in the direction of a need for cooperation and coordination. There is a need for a return to a more stability-centered and rules-based monetary policy. In its absence, the pressure for radical control measures will be irresistible. The return to stability policy requires trust between states, and perhaps institutions of cooperation, and those are lacking or strained when the international order becomes precarious in deglobalization phases.

Figure 5.1. The Macroeconomic Trilemma



Source: Authors' illustration.

2. The International Relations Trilemma

In times of international tensions, financial exclusion, and the triggering of financial panics have regularly been used as an instrument of statecraft. There were numerous examples as great power rivalry escalated in the first age of globalization. In 1887, Bismarck excluded Russian bonds from use as collateral in German markets, an action which effectively excluded Russian bonds from German issuance, and led to a rapid deterioration in German relations with Russia and then to a reorientation of Russia to the French market and to an alliance with France. The risks of financial panics were highlighted in the Second Moroccan Crisis in 1911, when French holders sold off German assets and provoked a financial panic in Germany. At the same time, Austria-Hungary, whose businesses hoped for further access to the French capital market, abandoned its German ally and lined up with Paris (Fischer 1963, 133-34). In the 1930s, Germany used speculative attacks on the French franc as a way of putting pressure on the French government. Since a collapse of the exchange rate was believed to require corrective adjustment, French fiscal policy would be reoriented to austerity and cutbacks, and the most obvious area where there was a leeway on discretionary spending was the military budget (James 2001). A forex crisis thus led to a military weakening of the enemy.

Financial measures may be used in conjunction with trade measures, which constitute a much more obvious step in limiting the capacity of the other side to undertake effective military action. Cutting finance off is an obvious way of stopping trade. States with some sort of control over central economic nodes in a network "can weaponize networks to gather information or choke off economic and information flows, discover and exploit vulnerabilities, compel policy change, and deter unwanted actions." (Farrell and Newman 2019, 245) There are two parts to the weaponization: the collection of information on network sensitivities, and the potential use of that information in a choking operation. But as Farrell and Newman also note, there are limits on the exercise of power by such weaponization: there is a temptation to overuse it, and then the weapon starts to crumble as others realize the dangers and seek alternative mechanisms and alternative networks. A recent study by Moulder (2022) showed how in the 1930s the use of sanctions led to a backlash and made the pariah powers Italy, Germany, and Japan more intent on the pursuit of autarky, more challenging, more aggressive, and more murderously destructive. Indeed, recent writing on the use of financial power by Juan Zarate (2013) suggests that hegemons can easily over-use their power.

The recent financial sanctions on Russia are a case in point. They are designed with a double purpose: to make it harder for Russia to get access to resources needed for ordinary economic life (civil aviation is affected by a shortage of Airbus and Boeing parts) and hence for the prosecution of the war in Ukraine. But the wider impact is probably the more intended or desired one: to convince ordinary Russians, and oligarchs who are either sanctioned or under penalty of sanctions, that it would be good to change the course of policy and perhaps also to change the political leadership. Russia on the other hand uses energy supplies as a way of putting pressure, especially on energy dependent western Europe.

By contrast, alliances and treaties can lead to a prospect of stabilized capital inflows, that in turn – it is hoped – produce better relations. "Tied hands" could serve as a way of making capital flows more reliable. The "tied hands" argument with regard to ensuring that democratic decisions were compatible with a longer-term framework of stability was frequently presented in the form of treaties or security arrangements. Often the reassurance creditors needed to convince them to lend was political rather than simply a monetary commitment mechanism (such as participation in the gold standard, an exchange rate mechanism, or the monetary union). Alliances offered investors the security that creditor governments would put pressure on banks to continue lending, and hence reduced the likelihood of sudden stops. The search for credibility might lead to a security commitment, in which countries would seek ties with powerful creditor countries because of the financial benefits. This kind of argument about the security bulwark that locks in capital movements applies to both democratic and nondemocratic regimes. On the other hand, some constitutional regimes depend on giving secure guarantees to property and thus raise long-term credibility. This sort of approach can only be found in liberal constitutional democracies (Wallis 2005) (see also Trilemma 3 below).

Like the other mechanisms involved in the various trilemmas, the security relationship too thus may reverse. If the security regime were severely challenged, the gain in credibility would no longer look attractive. And if capital flows reversed or financial fragility appeared, there would be fewer gains from participating in the international order. Potential borrowers that had locked themselves into security or other cooperative arrangements would then be tempted to defect.

The story of how diplomatic commitments enhance credibility is especially evident in the case of tsarist Russia: a nondemocracy or autocracy locking into international security commitments. The beginning of the diplomatic rapprochement between Russia and France in 1891 was accompanied by a French bond issue, which the supporters of the new diplomacy celebrated as a "financial plebiscite" on the Franco-Russian alliance. Russia survived a sharp contraction in 1900–01 as well as a political crisis, with war and revolution in 1905, with no default. It raised new money immediately after the revolution of 1905. By 1914 almost half of the Russian government's 1,733 million ruble debt was held abroad, with 80 percent in French hands and the United Kingdom holding 14 percent. The diplomatic, military, and financial calculations were intricately entwined, and were skillfully used by Russia as a way of locking in the creditors politically and economically (Siegel 2014).

In imperial systems (which again are nondemocratic), the imperial security umbrella, coupled with the extension of legal principles from the metropole, functioned in a similar way and reassured investors that the country was capable of sustaining greater debt levels. The effect has been attributed to imperial order, but it is hard to determine whether it is due more to the effects of good policy, imposed as a result of reform-minded administrators, or to the power of the empire to compel repayment (Ferguson and Schularick 2006). A similar debate occurs about the large-scale expansion of Chinese lending in the twenty-first century: is there a perceived advantage to Chinese lending because it comes with more technology transfer, or because of less intrusive policy conditionality, with the absence of the environmental and governance conditions that come with World Bank or bilateral support from western countries (Horn, Trebesch and Reinhart 2019)? Or is there also some longer term political guarantee.

In the aftermath of some crises, the imperial system simply expanded to swallow up bankrupt debtor entities; well-known examples are Egypt in 1875 and Newfoundland in 1933. But even very large and powerful political units have sought financial shelter by embracing financially stronger powers. In an extreme example, in early 1915 the Russian government suggested a fiscal and political union with France and the United Kingdom to allow it continued access to credit markets (Siegel 2014). The search for guarantees and stability then requires going beyond the nation-state, a process that makes constitutionalization much harder and more problematic.

When capital dries up, incentives to make international commitments also disappear, as do domestic incentives to maintain the security of contracts). Interwar Italy is a good case of the consequences of the logic of the reversal—when the international system no longer promises large financial gains. When the capital market was open in the 1920s, the fascist dictatorship of Benito Mussolini stabilized its currency and entered a fixed exchange rate regime (the *quota novanta*). Mussolini also moderated his foreign policy and suppressed any proclivity for political adventurism. When the international financial system broke down in the banking crisis of 1931, foreign policy restraint no longer offered any financial benefits, so Mussolini reoriented his policy toward imperial expansion. Adolf Hitler proposed a similar response to the Great Depression: Germany should break with international constraints and enrich itself at the expense of neighboring countries. Thus, a reversal of the gains that follow from security commitments is likely to be associated with a backlash against democratic politics.

There are more modern variants of the same process. After private capital flows in Europe from north to south halted in 2008, many southern Europeans lost their enthusiasm for European integration and turned against both the euro and the European Union.

The case of modern Russia is even more striking. Initially Russian President Vladimir Putin seemed to be a rather pro-Western, modernizing leader who sought engagement with the world economy, which included access to capital markets that would allow Russia to develop. Before 2008 Russia acquiesced to the logic of global capitalism; it needed to cooperate with global multinational companies to build an economy based on raw material and energy production, as well as technologies to process the raw materials.

But in 2007–08, Russia's strategy changed. On the eve of the global financial crisis, Putin spoke to the annual Munich Security Conference about the new power potential of the BRICs (Brazil, Russia, India, and China) as an alternative to what he dismissed as an arbitrary "unipolarity." His audience was shocked, and many saw the speech as evidence of insecurity or irrationality. However, as the financial crisis spiraled out of control, Putin reached the conclusion that he had been prophetic. After the crisis (if one follows power logic instead of the logic of economic growth) there was no longer so much to be gained from global markets. Instead, the best game in town was to cooperate with other countries with more state-centered capitalism, notably China. In this case, the escalation of sanctions as an instrument of financial warfare has threatened to produce a new division of the world into blocs, reproducing aspects of the deglobalization experience of the 1930s.

In a striking speech at the US Atlantic Council, Treasury Secretary Janet Yellen (2022) reflected on China's ambiguous response to Russian aggression and to the western sanctions regime. Her

call was unmistakable in its clarity, that countries should reorder trade relations so that they would manage supply chains by "friend-shoring," building relations with countries that were reliable allies and reducing dependence on strategic competitors.

The Yellen principle is the opposite of a long-term strategy began during the Cold War and extended since then, one that was applied especially, and with great fervor and conviction, by Europeans. The alternative strategy (it might be termed the globalization strategy) depended on the insight that countries could be sucked into a stable order through commercial and financial ties, and that economics would take the rough edges off ideological and security confrontations. The German phrase for this was *Wandel durch Handel*, change through commerce, and for a long time Germany was the key exponent of the practice in dealing with the Soviet Union and then with Russia.

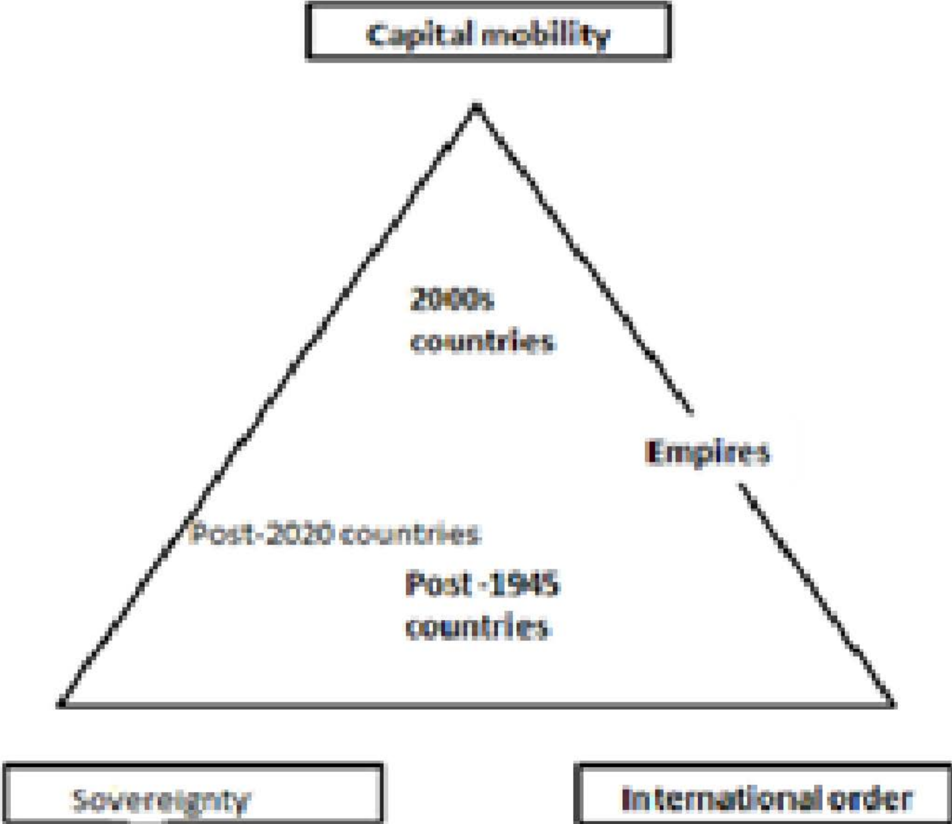
The policy of building energy pipelines in return for future supply was already a source of tension in the Reagan presidency, when Washington saw it as undermining a policy aimed at outspending the Soviet Union. But it may also have played a part in bringing the Soviet Union into a much more flexible position in the late 1980s, and thus in ending the Cold War.
Just now, for very particular reasons, the philosophy of trading as much as you can, and with as many peoples as you can, looks hopelessly naïve. The vulnerability that it may create was highlighted by the coincidence of the finishing of the NordStream2 gas pipeline from Russia to Germany and the Russian invasion of February 24. It is easy to heap opprobrium on the German drivers of the project, especially on the unrepentant former Chancellor Gerhard Schroeder, who defiantly refuses a *mea culpa* and still is proud of his role as a board member of Gazprom and a potential mediator between Russia and the West. But the mistake lay not in the building of the pipeline, but rather with the other energy decisions that made for a one-sided dependence: the abrupt exit from atomic energy after the Fukushima catastrophe, the turn to wind and sun sources of renewable energy that could not supply consistently and hence needed to be supplemented by imported gas, and the failure to construct LNG terminals to import liquified natural gas from the US or the Middle East. Any supply thinking needs to focus on resilience. Dependence on one source makes for vulnerability.

Here lies the key: trade and finance may indeed be pacifying, commerce might create better relations, but for that course to succeed, a multilateral system with multiple sources is much more effective than the cultivation of bilateral relations.

At the beginning of a European wave of revolutions in 1848, at a moment of acute ideological polarization, the greatest nineteenth century British foreign policy thinker and statesman, Lord Palmerston, formulated the philosophy: "We have no eternal allies, and we have no perpetual enemies. Our interests are eternal and perpetual, and those interests it is our duty to follow." This maxim is just as surely true in the twenty-first century as it was in the nineteenth. It is impossible to predict quite how the domestic politics of countries will develop, and how such developments might affect their trade relations. Trying to identify friends will always be a deeply problematical exercise. There is dismay in Washington and Europe about the long list of countries that did not support censure motions in the United Nations General Assembly. But it would be unwise, and costly, to let those votes influence the future direction of trade. Trading with the enemy legislation makes sense in all-out conflict. But here, as in many other problem

cases, there are substantial gray policy spaces in between. In dealing with common problems – diseases, carbon dioxide emissions that move across borders and between continents – there are however no enemies, but necessary partners. The same is true for the global threat of hunger that has been the terrifying outcome of Russia's actions. Friend-shoring won't feed people: and it is likely to make many enemies.

Figure 5.2. International Relations Trilemma



Source: Authors' illustration.

3. The Political Economy Trilemma

The development of financial imbalances in the aftermath of a long experience of globalization or financial opening may strain the political system. Countries that want to employ sanctions as a tool of statecraft usually make the calculation that the pressures will upset the balance of domestic politics. In the current Russia-Ukraine war, President Zelensky, and the West, believes that Ukraine's effective military response, coupled with sanctions, will persuade Russians to rethink their politics. Meanwhile, Russia hopes that the use of energy blackmail will persuade

Europeans to change their governments: an important part of Marine Le Pen's presidential campaign relied on fanning worries about energy costs and promising not to impose any energy embargo (and to stop wind-powered energy as an alternative to gas and oil dependence).

States (whether they are autocracies or democracies) initially like the benefits of openness. Democracies, in which governments are responsive to the short-term demands of voters, are also likely to want to set monetary policy independently. They need to work out a trade-off between present monetary autonomy and the ability to attract inflows. In addition, both policies have time consistency problems of a different character. First, the monetary stimulus will bring immediate benefits only if it is unanticipated; if there is an expectation that the behavior will be repeated, agents will build the future into their responses to the stimulus. The stimulus relies on the non-continuation of the policy. Second, by contrast, capital inflows may also bring short-term effects, but if there is a sudden stop, investment projects will remain unfinished and repayment will be problematic. The benefits rely on the expectation that the flows will continue. But states, especially democratic states, find it hard to commit to policies that will lock in the institutional basis on which long-term inflows can occur; there is instead an incentive to derive simply short-term advantages (such as those following from monetary stimulus) and leave the longer-term problems to successor governments.

The economic and financial problems that arise when capital inflows end or reverse can be severe. The collapse of unstable financial structures has immediate and severe economic effects that may include most or all of the following features: bank collapses, withdrawal of bank credits, rise in bankruptcies, collapse of prices, and rise in unemployment. In a celebrated article by Irving Fisher (1933), these effects were referred to as "debt-deflation." In Fisher's presentation there was no lender of last resort, but even with a lender of last resort and deposit insurance, guarantees and rescues can lead to fiscal crises.

While capital inflows continue and the financial imbalances build up, the system looks as if it is politically attractive and stable. Indeed, political parties often make compromises to support governments that can promise the institutional reforms needed to allow the inflow of capital to continue. Because inflows are generally the result of external financial conditions, they should not be interpreted as a response to particularly suitable or well-designed economic policies; but that is how they are commonly interpreted by voters, who view economic success as a key determinant in their choice (Kayser 2009). In practice, large inflows may weaken effective economic policymaking, because they relax the constraints under which governments operate and because the generally rising tide means that signals are suppressed that might indicate problematic features of the economy (Fernández-Villaverde, Garicano, and Santos 2013). Capital flows thus may suppress basic signals about government effectiveness that are essential to the functioning of democracy, because voters are not correctly informed about the level of competence of their governments. Warning against the potentially deleterious effects is a business that is unattractive, and left to outsiders, who make Cassandra-like prophecies. The insiders who benefit from inflows can in aggregate behave to ridicule the Cassandras.

However, when financial strains appear as a result of capital account openness, political parties no longer wish to be associated with the consequences. Voters blame the parties that have been associated with power for their past mistakes and flock to parties that define themselves as being

against the system. In modern parlance, these parties are often described as "populist." The populist parties may be on the left or on the right; in fact, most anti-system parties combine elements of a left-wing and a right-wing critique of the system they are trying to overthrow. The left-wing critique is that the burden of crisis adjustment of incomes and wealth falls unequally and unfairly on the poor. The right-wing critique emphasizes that the adjustment works to the benefit of foreign creditors and represents a derogation of national sovereignty. These opposing arguments are not really contradictory; they can be (and are) easily combined. In these circumstances, the democratic principle is simply recast as a defense of national sovereignty.

Examples of the disintegration of traditional party systems in the aftermath of severe financial turbulence can be found in twentieth century history and in the contemporary euro crisis. The Great Depression produced disintegration of democratic systems in central and eastern Europe and Latin America. The iconic case of democratic failure is that of Weimar Germany, which had a constitution and political system that had been carefully designed by distinguished political theorists (notably Max Weber and Hugo Preuss) to be as perfect a reflection as possible of popular voting preferences: the system featured both a direct election of the president and proportional representation designed so that there would be no "lost" votes. However, the parties committed to democracy progressively lost voting shares, and the parties associated with government lost especially badly. By the time of the Great Depression, both the center-left (the Social Democratic Party) and the center-right (the Democratic Party and the German People's Party) had lost significantly and were no longer capable of commanding a parliamentary majority. In terms of policy, the governments could do little, and their policy options were profoundly limited (Borchardt 1991).

The disintegration of system parties in the face of economic constraints was also a key element in the long drawn-out European debt crisis of the 2010s. Technocratic governments commanded little support, and parties became radicalized. Italy's technocrat prime minister, Mario Monti, who had stepped in when Berlusconi's government collapsed under international pressure, founded a new political party (Civic Choice) but got only 8.3 percent of the vote in 2013—a showing similar to that of the liberal parties in the late years of Weimar Germany. Even if the antisystem parties do not succeed in gaining majorities, their enhanced support and electoral support push the old or traditional parties to take a less accommodating and more radical stance.

In hard times—when politicians demand sacrifices from their voters—they often explain their position by saying that their hands are tied. While that may be a plausible argument in very small countries, the larger the country, the less compatible this stance is with the idea of national sovereignty. Consequently, the demand for an enhanced national sovereignty appears as a frequent response to setbacks, and even small countries may rebel. As Greece's flamboyant, radical finance minister Yanis Varoufakis put it in 2015, "The notion that previous Greek governments signed on the dotted line on programmes that haven't worked, and that we should be obliged to just follow that line unswervingly, is a challenge to democracy." (Financial Times, 2015)

The demand for national policy autonomy affects the policy equilibrium that arises out of the first trilemma. In the first era of globalization, central banks were frequently seen as a way of giving more policy alternatives (such as expanding domestic credit) that might offset the effects

of international developments (such as interest rate rises in the core of the system); a country like the United States that had no central bank was in consequence more vulnerable and more exposed (Bazot Monnet Morys 2022). But when monetary independence could lead to the possibility of short-term stimulus at the cost of longer-term credibility, such autonomy would be undesirable. Monetary independence would lead to political pushes to manipulate monetary policy for short-term advantages without providing any long-term gains. The Mundell trilemma in these circumstances points in the direction of constraining national monetary autonomy. If the outcome of a likelihood of turning to a more national monetary policy is known in advance, it will influence investors' calculations. They will see commitment to a gold standard or fixed exchange rate regime as ultimately lacking credibility.

The possibility of such a reversal seemed less likely in the nineteenth century, at the time of the classic gold standard. In fact, investors often made the argument that the extension of constitutional rights was more rather than less likely to protect their rights. The phenomenally successful banking house of Rothschild consistently pressed for political reforms, imposing a sort of political conditionality (Ferguson 1999). The people who were represented in parliaments were on the whole creditors; making policy dependent on their assent meant ruling out the possibility of an expropriation of creditors. However, as the franchise was extended, parliaments no longer reflected a preponderance of creditors; they came more and more to represent groups that benefited from state transfer payments. Such payments stood as alternative claims on the public purse to the requirement to service debt. The experience of the first major cycle of the political process in which democracy turned against creditors led Polanyi (1944) to make the famous argument that the gold standard (and, by implication, analogous regimes) was impossible in a democratic age.

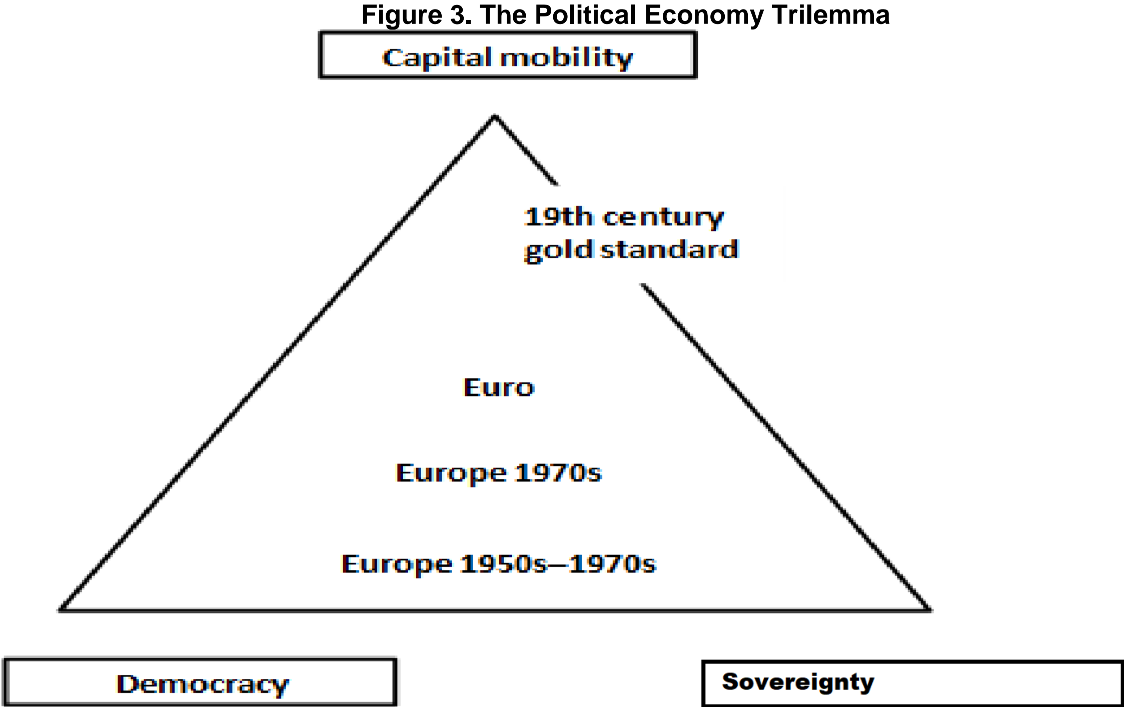
The memory of the politics of turning against creditors during the Great Depression faded as the credit super-cycle emerged in the second half of the twentieth century, when the argument began to resurface about the compatibility of globalization with democracy in emerging markets (Eichengreen 1996). Rodrik (2000, 2007) formulated the point in this way as a general argument about the incompatibility of hyperglobalization, democracy, and national self-determination: "democracy, national sovereignty and global economic integration are mutually incompatible." He presented the European Union as the best template of a new form of global governance with supranational rulemaking (Rodrik 2011). After the global financial crisis, the same problems and policy dilemmas appeared in rich industrial countries, and globalization appeared vulnerable again.

Democratic politics can be thought of as evolving two sorts of operation: the formulation of laws based on general principles of conduct, and redistribution of resources. As to the first, the attraction of democratic advantages in providing greater institutional security may vary with the general state of the financial market, and in upswings there may be less of a need to demonstrate credibility through legislative constraints on executive behavior, or guarantees of judicial independence (Ballard-Rosa, Mosley and Wellhausen 2021). Mobility also affects the second, the capacity to redistribute resources. The capacity to redistribute is limited if there is a large cross-border mobility of factors of production: capital is most obviously mobile, and it escapes if rates of capital taxation are too high; but the same process may also hold true in the case of taxation of high incomes, and income earners will try to operate in a different national and tax

setting. Even the capacity to formulate general laws may be limited, in that incompatible principles in different countries may produce anomalies or loopholes and possibilities for forum-shopping.

Politicians are often painfully aware of the restraints. Jean-Claude Juncker, the veteran prime minister of Luxembourg and current president of the European Commission, formulated the constraint in the following way: "Politicians are vote maximisers … for the politician, the Euro can render vote-maximising more difficult, as a smooth and frictionless participation in the monetary union sometimes entails that difficult decisions have to be undertaken or that unpopular reforms have to be initiated" (Marsh 2011, 269). The third trilemma can thus be formulated as the incompatibility of capital flows, independent monetary policy, and democracy. This incompatibility poses a severe problem for people who believe that a major area of policy in a modern state should be capable of being decided by a democratic process.

Figure 3. The Political Economy Trilemma



Source: Authors' illustration.

4. The Financial Stability Trilemma – or Octahedron?

Some observers also analyze a financial stability trilemma in which financial stability, cross-border integration and independent national policies are incompatible (Schoenmaker 2011). Capital flows are common to all the three trilemmas already analyzed, and the national politics involved in trying to assert control are also common features of the trilemmas.

A large part of the order-destroying impact of international tensions and domestic backlashes arises because of the impact on financial stability. The threat to stability may arise from politics deliberately engineered speculative attacks, from sanctions, but purely economic policy, changes in monetary policy stance, might also have an analogous effect. It is plausible to argue that changes in a central economy drive a global financial cycle. A move to disinflation at the financial center after a major inflationary episode leads to tighter conditions elsewhere, and removes the search for higher yield that often drives capital outflows from the center. The disinflations of 1920-1 that followed from US and UK monetary policy thus produced sudden stops in flows to continental Europe, and destabilized finances and politics there. The Volcker disinflation of the early 1980s was one contributing element in the Latin American debt crisis.

To understand the character of the constraint, and to understand how resilience against all the types of external pressure – whether emanating from geopolitics or from spillovers of monetary policy - we must reflect on the origins of the new sources of financial instability. The formulation of the classical macroeconomic trilemma says little about the sequencing of policy measures. The original Mundell formulation implies that policy formulation began in an idealized nineteenth century world, in which capital mobility and a fixed metallic exchange rate were assumed and central banks mechanically responded to gold inflows or outflows by loosening or tightening monetary policy. The third element—a flexible monetary policy—is necessarily ruled out if the rules of the game are followed. Indeed, almost no nineteenth century analyst depicted monetary policy as a discretionary instrument. But this approach does not describe nineteenth century reality. Most countries, in fact, engaged in considerable experimentation with the monetary standard (Bloomfield 1959); it was only in the last decades of the century that the gold standard became a nearly universal norm.

Why did the gold standard appear attractive? Countries adopted it (as they would later engage in fixed exchange rate arrangements) mostly in the hope that it would enhance their credibility, provide a "good housekeeping seal of approval" (Bordo and Rockoff 1996), and attract substantial capital inflows. A stable exchange rate could be used to compensate for inadequate availability of domestic capital. The beneficial effect of an inflow of foreign capital would be realized only if the domestic financial system started to intermediate the new flows; thus, domestic financial expansion or the beginning of an expansive financial cycle was a consequence of regime choices.

Such domestic financial expansion often (but not always) occurred on an inadequate institutional basis; indeed, financial underdevelopment and inexperience were often the very flaws the policy choice was intended to correct. But underdeveloped financial systems had little experience in managing credit allocation or running banks. Countries wanted to adopt the gold standard in the nineteenth century (or open their capital accounts in the late twentieth century) to develop their financial institutions, but the resulting financial inflows often increased the vulnerability of fragile domestic institutions. However, as long as the inflows persisted, they sustained a false confidence that additional capital was indeed producing more stable and mature financial systems.

Eventually a learning process about finance set in. It took time for countries to adapt their institutions to the capital inflows and the risks of crises. In many cases, countries failed to adapt efficiently and capital flows simply reinforced existing rent-seeking and corrupt institutions (Calomiris and Haber 2014). In these cases, capital inflows increased rather than decreased vulnerability.

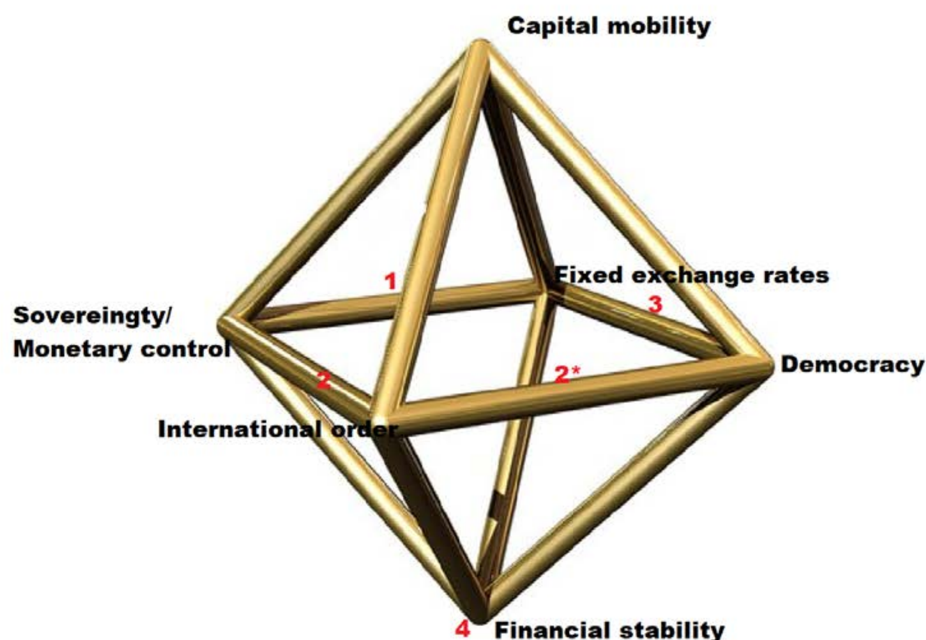
General lessons from historical episodes suggest that liberalized financial systems may weaken financing constraints, thereby providing more room for the build-up of financial imbalances (Borio, James, and Shin 2014). But domestic political stability can provide a compensating dynamic (see Trilemma 3). Not every surge of foreign lending had the same effect: Canada was able to digest capital inflows, and sustain a long current account deficit in the nineteenth century, without incurring financial fragility.

The most extreme cases of the damaging effects of capital inflows occur in fixed exchange rate regimes (the nineteenth century gold standard, Europe in the 1920s, the Asian boom of the 1990s) or in a monetary union (Europe in the 2000s). Thus it is sometimes argued that a flexible exchange rate curbs the excesses, as capital inflows bring an exchange rate appreciation that lowers trade competitiveness and reduces the attractiveness for new inflows. But this approach blocks off many of the potential beneficial effects that borrowers expect to obtain from the inflow of capital.

After a series of financial crises around the world, the problem has been discussed as an issue of appropriate sequencing; that is, the wisdom of building stronger domestic institutions before seeking mechanisms to encourage capital inflows. A country should not open a capital account until it has deepened its domestic financial system; otherwise, the inflow of money might create financial imbalances. But this argument misses the fundamental point that the domestic system may never develop adequately on its own; it needs external resources. In a sense, then, financial instability is inherent to the development process, and leads to the geopolitical vulnerabilities described above.

Financial stability and free capital movements thus stand in a permanent tension, that produces many trilemmas, that affect both international political order and the chances of a liberal democratic domestic political order. We can thus think of these two as poles in a complex system of trade-offs or multiple trilemmas that can be captured figuratively by, or folded into, a polyhedron which offers a three dimensional policy space in its interior, and includes a wide variety of possible trilemmas that derive from the ones analysed: capital mobility, monetary independence, and financial stability; capital mobility, international order, and financial stability; capital mobility, national sovereignty, and financial stability; and, in the realm of domestic politics, capital mobility, democracy, and financial stability. The trilemmas analysed in this paper are simply indicated by red numbers in the base of each triangle in the figure.

Figure 4. The Financial Stability Octahedron



Conclusions and Implications

The multiple trilemmas may not be the apparently impossible policy straitjackets they seem to represent. In practice, there are always intermediary solutions; in the original macroeconomic version, there is never pure capital mobility or pure monetary policy autonomy. Some restrictions on capital mobility—even the home preference of investors or increased macroprudential controls on banking—provide room for policy maneuver. Policymakers are always making practical trade-offs; those trade-offs require institutions to manage them.

Such an approach also indicates how practical responses to the other trilemmas are likely to evolve. Capital mobility is central to all the trilemmas, so it might be tempting to recast the story in terms of the conclusion that capital mobility is simply not worth it (Stiglitz 1998; Bhagwati 2004). In practice, the historical experience shows that turning away from capital mobility is not that easy, and it carries an economic and political cost. Capital mobility is part of modern globalization. It is the apple in the Garden of Eden: irresistibly attractive but the cause of problems and misery. Once tasted, it is hard to spit the apple out again.

If financial stability is to be compatible with increased capital mobility, there must be more policy coordination on financial stability issues. Since 2008, such coordination has been a priority in international discussions of the Financial Stability Board (established in 2009 as a successor to the Financial Stability Forum in the wake of the Asian financial crisis). But the task

of coordination is always challenged by national regulatory solutions that respond to particular local circumstances.

Absolutely irreversible fixed exchange rates—for instance, in a monetary union—require a high degree of political coordination, if not necessarily a political union. In the nineteenth century and until 1914 the gold standard economic world coexisted with political stability underpinned by an increasingly precarious international alliance system. The failure of the alliance system to contain conflict in 1914 ended the economic calculations of gold standard participants, and currency convertibility was suspended in almost every state. In the 1920s an attempt was made to restore the gold standard and to build order through the League of Nations. After 1945, in the Bretton Woods order, democracies were less constrained, as there were effective limits on capital movements. The opening of capital markets required a greater realism on the part of participants in a democratic process.

Democratic politics will not work when too many promises are made. Realistic democracy involves a commitment to longer-term sustainability. Sustainability is always threatened by rapid changes of policy or by policy inconsistency. Some commentators identify a fundamental "economic policy problem." Democratic societies find credible commitment to a long-term policy almost impossible, even with a broad consensus that such a long-term orientation would be desirable. Political scientists point out that no adequate mechanisms exist to reward current majorities for future economic performance; that is, policies that entail a current cost with payoffs that do not occur until several electoral terms in the future. The difficulties lie in part in the fact that present pain and future gain have often been misused as political slogans, and there is therefore a great deal of public cynicism about them. In addition, the relationship between present policy and future economic outcomes is not well understood, which leads to arguments about notions of a "free lunch" in the case of monetary policy where low interest rates are supposed to deliver greater growth, employment, and prosperity levels or in fiscal discussions that suggest that more spending and larger deficits can shift an economy from a bad to a good equilibrium.

Multilateral institutions can be thought of as commitment mechanisms that improve the quality of democracy by limiting the power of special interest organizations that most frequently make the appeal to an apparent free lunch and by protecting individual rights (Keohane, Macedo, and Moravcsik 2009). The international relations trilemma is thus potentially solvable in the same way: through the evolution of a longer-term framework of stability. International commitments—the foundation of a stable international order—can lock in particular domestic settlements and ensure a longer-term framework of stability. The Bretton Woods international regime is often rightly regarded as a mechanism by which the United States internationalized the New Deal settlement (Ikenberry 2001).

Considering a broader concept of democracy in an international setting reduces the political logic of a zero-sum-game mentality in which one country's gains can be achieved only through losses imposed on others. A larger security umbrella can therefore provide a framework for a system of rules about capital movement and a framework for stability that would limit or circumscribe the destructive capacity of capital-inflow-fueled credit booms.

At present, there is a vigorous debate about the future of multilateralism. Many influential figures, including Treasury Secretary Yellen, call for a rethinking of the Bretton Woods framework and the Bretton Woods institutions. But such grand compacts (of which the best historical example is the 1944–45 settlement that included Bretton Woods) are hard to achieve without a substantial amount of fear and uncertainty. The equivalent today of the time pressure that existed at the end of World War II is an urgent but also uncontrollable global crisis, of the kind that erupted on February 24, 2022. The sad – but perhaps also consoling - lesson of Bretton Woods is that things need to be extremely dangerous before a political dynamic of reform develops. Surely today's world is quite dangerous enough to stimulate the development of a new international architecture that could encompass the trade-offs necessary to rescue multilateralism?

Bretton Woods was designed as a multilateral and multipolar system, the expression of the wartime coalition (the United Nations), in which security and economic stabilization were joined at the hip. Today there is an urgent need for a similarly joined up governance structure at the global level, offering a coordination between the profusion of regional bodies. In 1944-45, the five largest shareholders of the Bretton Woods institutions, the IMF and the World Bank, which would have their own representatives on the Executive Board, were also the countries which would have the permanent seats on the UN Security Council: the USA, the USSR, the UK, China and France. But because of the failure of the USSR to ratify the Bretton Woods Agreement and of the communist revolution in China, the IMF and the World Bank developed in a different direction, excluding both the USSR and (initially) the PRC. And in practice, the international financial system evolved as a unipolar order, built explicitly (as the Articles of Agreement of the IMF recognized) around the US dollar. The most complex contemporary financial crises – Ukraine or Venezuela – are also overshadowed by a distinct security dimension; and neither the security nor the financial dimension can be tackled on its own.

The Bretton Woods institutions also reflected a concern of the mid-twentieth century, the centrality of Europe in security issues (since two European powers, France and Great Britain, were also great imperial powers). That diagnosis it is no longer applicable today. Though there has been for at least two decades a widespread consensus that the European over-representation should be reduced, nothing has come of that besides relatively small quota adjustments. At a moment when in the wake of Russia's attack on Ukraine, and following a much earlier initiative of President Macron (2017) there is a much greater willingness to contemplate joint European action in military and security issues, and more effective enhanced economic cooperation is also on the agenda, the implications should be realized and Europe represented by a single seat in the IMF and the World Bank.

The aftermath of the GFC – as was true after the interwar Great Depression - has been a revival of thinking in zero-sum terms: nations or regions are involved in a competitive struggle and what benefits one will hurt the others. That is a marked contrast with the central vision of BW, as elaborated in his closing address by Treasury Secretary Henry Morgenthau (1944): "Prosperity, like peace, is indivisible." Competition can theoretically produce big gains, and a pluralism of political forms is also an incentive to better outcomes, and to enhanced development. But competition between countries in a bid for dominance (or monopoly of power, or information) is destructive and dangerous.

How can an international order be rebuilt? Bretton Woods was a success in part because it did not involve a great deal of discussion. Though there were 44 countries represented at the conference, only two, the United States and the United Kingdom, really had a voice; and that of the United States was much more powerful than that of its partner. So the outcome really represented simply an internationalization of the U.S. domestic program. Today there are multiple competitors for the top place at the table: China sees itself as a successor to US hegemony, and with the Belt and Road Initiative tried to build up its own version of globalization, with its own institutions. The European Union sees itself as offering a model of how multilateralism can work. Russia sees a role as a disruptor, who can benefit from the collapse of alternative models or order. None of these rivals is likely to be able to build up anything like the *pax americana*. Getting any agreement between strategic rivals will mean persuading citizens in all those countries of the merits and the benefits of cooperation.

Zero-sum thinking in addition is not just a chance product of the financial collapse of 2008. It is fostered by new and revolutionary technical developments. That is because transformative technologies, often with low or zero marginal costs, can create strong gains derived from network effects. The network offers a winner take all advantage: there is no room left for the second player. This characteristic of networks makes for a radical instability.

Another area – crucial to the discussion of financial inter-connectedness, but also to the great power politics of today – is the renegotiation of public sector debt. Over-indebted sovereigns are hardly news – the history goes back hundreds if not thousands of years. Discussions about a coordinated general mechanism in the early 2000s for sovereign restructuring of private debt (the SDRM initiative) failed. But there was a well understood process, involving the Paris Club for official creditors in conjunction with an IMF program and conditionality. One of the features of the recent defaults of Venezuela is that there is a competition between creditors to use favorable terms for debt renegotiation as a way of establishing or enlarging influence. Interest rate tightening combined with soaring of the US dollar may lead to a generalized debt crisis. The early manifestations in Pakistan and Sri Lanka look different to late twentieth century style debt crises in that there is a tension between satisfying China's demands and those of other creditors. That looks again like a historic throwback to the anarchic way debt was handled by 19th century Great Powers, and also endangers the access of countries to private debt markets as private creditors see enhanced likelihood of default.

The debt dilemma raises directly the old linkage of security issues with financial stabilization. The old mechanisms have reached the limit of what can be achieved. There were three distinct ways in which multilateral governance institutions operated in the era of postwar stability. The first, and probably initially most attractive, but also most uncertain in terms of its legal status, is *a judicial or quasi-judicial role* in arbitrating disputes between countries. There are many cases that look as if they require arbitration: trade disputes, or – often associated with trade disputes – debates about whether currencies are unfairly valued so as to produce a subsidy for exporters. The new emphasis on sovereignty in the UK, and elsewhere in Europe where "sovereignists" confront "globalists," pushes back against this type of arbitration.

The second style of multilateralism involved institutions acting as *sources of private advice* to governments on policy consistency and on the interplay between policy in one country and those

in the rest of the world: explaining and analyzing feedbacks and spillovers, and offering policy alternatives. That sort of consultation – rather than a formal arbitration procedure - was the main vehicle for discussion of currency undervaluation issues in the 2000s (a set of problems that will reemerge as the dollar soars). The essence of this kind of advice is that it is private. It is like speaking with a priest in the confessional. Governments are pushed to adopt better policies, sometimes by the provision of a new framework or new analysis, by information about how other countries will respond and how policies will interact, or sometimes also by reflection on how some parts of society or the administration think. In the 1950s the head of the IMF convinced General de Gaulle by telling him about Napoleon's views on the stability of the French franc. But after their visit to the confessional, governments do not appear to be giving in to outside pressure, but rather following, as sovereign actors, decisions that they themselves have reached. The outcome may be that behavior or policy changes, but the outside world will not really understand the reason why or the logic that compels better behavior.

The third is as a *public persuader* with a public mission. British Prime Minister Gordon Brown liked to use the phrase "ruthless truth-telling" or "speaking truth to power" with regard to the advice of multilateral institutions. There is an increasing recognition of the limits of secret diplomacy and behind the scenes advice. Societies cannot be moved unless there is a genuine consensus that they are moving in the right direction. The backlash against globalization is fed by a climate of suspicion: experts, economists, international institutions are not trusted. In the course of the 2000s, the G-20 and the IMF moved to public assessments of how policy spillovers affected the world. Newspapers and the media in particular countries often took up the message: but there was always a question as to whether the political deciders really listened.

The third, public, style of action looks more appropriate than the secretive processes of the second in an age of transparency, when IT looks less secure, when secrets leak, when Wikileaks flourish. Now it is unwise to assume that anything is secret. Former diplomats publish indiscreet memoirs. Officials tweet about what they are doing.

The accessibility of information opens a fundamental dilemma. Policy advice is invariably quite complicated. Spillovers and feedbacks require a great deal of analysis and explanation, and cannot easily be reduced to simple formulations.

Should international institutions be more like judges, or priests or psychoanalysts, or persuaders? None of the traditional roles on their own and by themselves are any longer credible. But multilateral institutions will also find it impossible to take on all three roles at the same time. Judges do not usually need to embark on long explanations as to why their rulings are correct. If they just act as persuaders, maintaining a hyper-active tweeting account, they will merely look self-interested and lose credibility. But if the judges are secret – like the World Bank's International Centre for Settlement of Investment Disputes – they may be more efficient (as measured by the gains arising out of their rulings) but they will lose legitimacy.
It is easy to see why the institutions that successfully built the stability of the post-1945 order might be despondent in the face of apparently insuperable challenges. But there is a way out that harnesses the new technologies, and that allows for a successful mediation of disputes that threaten to divide but also to impoverish the world.

The post-crisis world is one in which ever larger and more updated amounts of data are available. In the past, we needed to wait for months or years before we could conclude accurate assessments of the volume of economic activity or of trade. Now real time data on a much broader set of measurable outcomes is available. Some analysts like Yuval Noah Harari see data as a new religion.

Some of the issues that need to be addressed are new, or appear in a new forms, and are global public goods: defense against diseases that spread easily in an age of mass travel, against terrorism, against environmental destruction. In each case, the availability of large amounts of detailed information, quickly, is essential to the ability to coordinate an effective response: for instance, where there is pollution and how it impacts health and sustainability, and then where and why it originates. Even large countries on their own cannot find the right response. So the data should not be confined to financial or economic data, but include quickly available health data (on a range of vital indicators – broad demographic measures, but also the accumulation of personal data, pulse rates, or oxygen or sugar levels in blood, or blood pressure). This is data that matter to people: it is also data that invites public policy responses, but also private sector activity to rectify problems and satisfy demands. And only the provision of accurate information can possibly convince citizens on the need for action over general challenges to global welfare: whether from human violence, climatic impact, or contagious disease. But the interpretation of the data – perhaps the heart of the policy response – cannot be dictated, but needs to be left to individuals who will respond to the climate of public debate.

The wider dissemination of data will be controversial. Not least because it offers the public, the citizens, an element of control. They can ask: are governments doing well in promoting public goods? Are specific companies with substantial market power hurting and harming, or protecting and promoting the general welfare? The provision of accurate, speedy, and detailed data, with a sustainable governance mechanism, would offer a basis for more informed political choice. A *pax informatica* requires a new sort of thinking: and the country or the society that can offer a vision of how simultaneously large amounts of linked-up and up-to-date data can be used and privacy safeguarded will emerge as the leader of a new era of globalization.

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