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Cooperation and Conflict in the Global Political Economy

Vinod K. Aggarwal and Cédric Dupont

Chapter contents

Reader's guide

How can one understand the problems of collaboration and coordination in the global political economy? In situations of global **interdependence**, individual action by states often does not yield the desired result. Many argue that the solution to the problem of interdependence is to create international institutions. Yet this approach itself raises the issue of how states might go about creating such institutions in the first place. This chapter examines the conditions under which states might wish to take joint action and provides an introduction to game theory as an approach to understanding interdependent decision-making. It then discusses the conditions under which international institutions are likely to be developed and how they may facilitate international cooperation. We then examine dimensions of institutional variation, with a discussion of factors that shape the design of international institutions.

Introduction

It is now commonplace to hear about the phenomenon of globalization. Much of the current analytical debate on globalization has its roots in the international political economy literature on interdependence of the early 1970s (Cooper 1972; Keohane and Nye 1977). At that time, political scientists began to identify the characteristics of the changing global economy, including the increased flows of goods and money across national boundaries as well as the rise of non-state actors as a challenge to traditional conceptions of international politics.

Although increasing interdependence among states was a relatively new phenomenon when considered against the baseline of the 1950s, high levels of interdependence had existed in earlier historical periods, including the period prior to the First World War (Bordo, Eichengreen, and Irwin 1999; McGrew, Chapter 10 in this volume). This interdependence, however, was not matched by high levels of institutionalization, in stark contrast to the post-Second World War Bretton Woods organizations of the International Monetary Fund (IMF), the World Bank, and the General Agreement on Tariffs and Trade (GATT), and now its successor, the World Trade Organization (WTO). The problems that institutions such as the IMF faced with the breakdown of the Bretton Woods gold-dollar-based standard in 1971 (Reinhart and Trebesch 2016), the movement towards trade protectionism that appeared to undermine the GATT, and instability in the oil market with the 1973–4 oil crisis also drove the debate on interdependence in the early 1970s.

A key issue in considering the implications of interdependence revolves around the question of how to achieve collaboration and coordination among states. In particular, scholars have focused on how states respond to perceived problems in the global economy that they cannot deal with solely on their own. An important starting point is to distinguish interdependence from interconnectedness based on the costs of interaction. 'Where interactions do not have significant costly effects, there is simply interconnectedness' (Keohane and Nye 1977: 9). With costly effects (or high benefits), however, we can consider countries as mutually dependent on each other, or interdependent. In attempting to cope with interdependence, then, countries will be faced with making decisions that will affect their direct well-being, and thus the sharing of costs and benefits can be potentially controversial.

This chapter considers the problem of collaboration by first characterizing situations that might require states to work with each other to achieve a desired outcome. It then turns to a focus on basic game theory as an analytical tool to tackle the nature of collaboration and coordination efforts. Finally, we consider how institutions might play a role in enhancing the prospects for cooperative behaviour.

Globalization and the need for international cooperation

According to international economics textbooks, worldwide economic openness has clear benefits. Integrated world markets help to ensure an optimal allocation of factors of production and therefore help to maximize both aggregate world welfare and individual national welfare. By contrast, sealing off national borders fosters economic inefficiency and has negative consequences for poverty alleviation and development prospects. Yet, in practice, the benefits of globalization cannot always be realized by states pursuing independent policies; cooperative action is required.

The process of global integration forces significant adjustments in production patterns across states. In particular, the changing distribution of costs and benefits from trade liberalization can result in strong political opposition, both for and against further liberalization. Adjustment has been all the more difficult in that it leads to unpredictable outcomes and instability in the prices of traded goods. This has proven particularly problematical for many developing countries because they strongly rely on a few primary commodities for the bulk of their exports (UNCTAD 2017, 2018). Not only have the prices of most non-fuel commodities tended to decline over the long-term, but also they have been increasingly volatile (UNDP 2011; UNCTAD 2012*b*; UNGA 2013, World Bank 2018). From this perspective, the price surges from 2003 to mid-2008, in 2009–11, and since 2016 for non-agricultural commodities, may not be indicative of a long-term reversal. The abrupt drop of prices in the second half of 2008 is an acute reminder of the long-term boom and bust long-term pattern in commodity terms of trade (Spatafora and Tytell 2009; IMF 2012*b*). Ultra-specialization by some countries in specific commodities has therefore, on the one hand, brought severe adjustment costs and, on the other hand, failed to provide stable and increasing revenues and significantly hurt their growth prospects (Cavalcanti, Mohaddes, and Raissi 2012). This is an increasing source of concern as the number of countries whose value of commodity export exceeds 60 per cent of the value of total merchandise exports has been rising since 2010 (UNCTAD 2017). Developing countries that rely on the export of manufactures have also faced significant adjustment challenges. For example, many Latin American countries have increasingly faced a loss of market share in the United

States (US) and Europe with the rapid rise of the Chinese export juggernaut.

Liberal analysts often argue that countries will be able to manage the process of adjusting to a rapidly shifting division of labour. From their perspective, the prospect of growth in a large number of newly competitive sectors, combined with state capacity to provide social and fiscal transfers, should serve as means to address the challenges of world competition. Yet developing countries, in particular the poorest among them, often have a pre-industrial economic structure. As a consequence, economic openness has brought about a radical transformation of their socioeconomic structures, particularly in rural areas, leading to massive migration flows to urban areas. The state structures of developing states are often simply unable to cope with such a rapid and radical transformation. This has led to chaos and, in many instances, to famine and violence as well as to further political instability and insecurity. For their part, rich countries have often faced strong domestic lobbies in agriculture, textiles, steel, and other older sectors of the economy, creating pressure for trade distorting restrictions of various kinds including subsidies, tariffs, quotas, **voluntary export restraints**, and the like (see Hiscox, Chapter 4 in this volume). Although such demand, in line with the Ricardo-Viner competitive trade logic, seems to be in decline due to the increasing multinationalization of the production chain, the rise of trade in intermediary products as well as product differentiation, governments are increasingly facing opposition from pro-environmental groups, human-rights activists, or consumer-protection groups.

Given these political constraints, countries may either be unwilling or unable by themselves to sustain processes of economic liberalization. We need to distinguish between two situations. Facing political difficulties, some countries may no longer view international economic cooperation as beneficial and will adopt a national mercantilist approach, relying on selective domestic economic closure while pushing for market access abroad. For most countries, however, such a choice would be politically too costly given previous international commitments but also because they still consider cooperation to be valuable in the medium to long run. Reneging on economic liberalization mostly comes from the difficulty of resisting domestic demands for some protectionism or from the hope of levelling or tilting the international playing field in their favour. In the latter case, the temptation by some countries to slow or halt liberalization may induce others to reconsider their commitments, leading to an action–reaction cycle that slows global integration and decreases economic welfare. This cycle has been readily evident in the imposition of tariffs by the Trump Administration in the US and retaliation for these measures by China.

International cooperative action may therefore be required to avoid the unfortunate effects of this **temptation to free ride**. This temptation varies according to the sociopolitical organization of countries, their degree of economic flexibility, their competitiveness, and the extent of their integration into global value chains. On the sociopolitical dimension, the political insulation of governments from lobbying by those who are affected by adjustment costs can ease the process of economic liberalization, as was the case in the first wave of globalization in the second half of the nineteenth century when few countries had democratic systems of government. But with the spread of democracy, such political insulation has drastically diminished, forcing governments to at best 'talk' protectionist or worse, adopting protectionist policies during economic recessions. Another way to make liberalization politically palatable has been the development in some countries of corporatist deals between the government, unions, and business to share the costs of adjustment. The temptation to free ride also depends on the economy of countries and on its flexibility, particularly regarding labour markets, as well as labour skill levels. More generally, countries with deregulated markets, and few and lean state-owned companies should be less tempted to free ride on the globalization process because adjustment would be less costly. Lastly, the globalization of the supply chain has increased the number of firms that would suffer from any reversal in economic liberalization, making countries with high integration into global supply chains less likely to be tempted to renege on existing commitments.

International cooperation may also be required to remedy what we call the 'inhibiting fear' that countries may feel when facing a decision to either engage in economic liberalization or to continue it. Although countries may be convinced that liberalization will yield benefits, they may be hesitant to risk the instability that might come from the ebb and flows of the international market. This fear is particularly problematical in the domain of financial liberalization.

In contrast to trade integration, financial integration has produced sudden and violent shocks to national economies (see Pauly, Chapter 9 in this volume). The massive increase in capital flows in the last twenty years has been accompanied by extreme volatility, particularly for developing countries that have been experiencing sharp fluctuations in the flow of short-term capital (Calvo and Talvi 2005; Edwards 2005; Reinhart and Rogoff 2009; Caceres et al. 2017). This volatility is particularly strong for countries that are highly dependent on commodity prices (Pagliari and Hannan 2017). For example, the series of crises that hit East Asia in the period 1997–8 led to drastic economic contractions. South Korea's growth rate dropped seven percentage points below its pre-crisis, five-year-average growth rate, Indonesia's performance was similar, and Thailand's was even worse (Eichengreen and Bordo 2002). Recent work on the Asian financial crises and the Argentinean crisis in 2001, both at the aggregate and case-specific levels, has shown that governments are highly vulnerable to such profound economic contractions. On average, the chances of losing office in the six months immediately following a currency crash seem to be twice as likely as at other times (Frankel 2005). Long believed to be limited to the developing world, this financial and political reality has nowhere been more vivid than in the eurozone since 2010, with the tense dynamics around the situation of Greece foremost but also around other countries, including larger economies such as Spain and Italy. Economic globalization has created profound and far-reaching policy challenges to states that, in turn, have an impact on key pillars of their economic and political organization.

International cooperative action in the financial realm may reassure countries by promises of assistance either by individual states or international institutions before or during difficult times. This may facilitate states' adjustment efforts in responding to shocks and prevent them from taking the wrong action at the wrong time, which could lead to massive negative contagion effects. As with trade, the need for international support varies across countries depending on the sociopolitical and economic characteristics that we have discussed. The inadequate response of rich states and financial institutions to the problems faced by countries affected by the financial crises of the late 1990s led many countries to rapidly build up their holdings of foreign reserves to counter speculative attacks on their currency and to avoid an IMF adjustment programme. But this individual response has come at a significant price. Most central banks hold foreign exchange reserves in the form of low-yielding, short-term US Treasury and other securities. The accumulation of reserves by developing countries created an important opportunity cost (the difference between what governments might have earned by investing these assets elsewhere versus keeping them in low-yielding securities). In most cases, for instance, investing the same amount in the domestic economy would have yielded a significantly higher return. According to a recent study, the income loss due to this difference in yields amounts to close to 1 per cent of GDP (Rodrik 2006*b*). Leaving aside the question of whether this insurance against the vagaries of financial integration comes at an acceptable price, such a solution is only available to a small number of countries, and therefore is not a viable alternative to international action to provide **liquidity** to countries facing financial crises.

Finally, when countries address the issues of 'temptation to free ride' and 'inhibiting fear', they may encounter a third problem—how to negotiate the distribution of gains and losses from a possible agreement. This 'where to meet' problem can be seen in cases of international cooperation such as a decision on how much to contribute to common support funds, how and to what extent to intervene in currency markets, and in the trade-off between quotas, tariffs, and subsidies in trade negotiations (see Box 3.1). For example, as part of the bargaining over the creation of a **common pool of resources** to support financial stability, there is likely to be considerable debate about the criteria for which country should contribute how much. This burden-sharing decision has often been a problem historically. Intervention in currency markets is also controversial. Although some national intervention to maintain stable currencies may be warranted in that it helps governments to obtain various national economic objectives such as controlling the rate of inflation, the US has often accused Japan and China (and other East Asian states) of manipulating their exchange rate to gain a competitive advantage in trade.

Burden-sharing problems may also be part of the problem of trade liberalization. A good example has been the ongoing conflict with respect to the reduction of agricultural support schemes used by developed countries (and often by developing countries

BOX 3.1

Goods and the Problems of Cooperation

In examining the problem of collaboration, we can use the concept of 'type of goods' to examine more rigorously the problem of incentives to free ride, fear that one's counterparts will fail to follow good policies, and the distributive conflicts that might ensue over where to meet. In a capitalist economy, private firms produce goods such as wheat, clothing, computers, and services such as financial products, insurance, and the like. Such goods are generally referred to as **private goods**, based on two characteristics: the goods are generally excludable and are not joint in consumption. The concept of *excludable* means that goods can be withheld from those who do not pay for them; *not joint in consumption* means that when a consumer utilizes the good, it is exhausted and cannot be used by others without additional production.

In addition to private goods, other goods may be desired, such as national defence or parks. These goods are characterized by the difficulty in creating exclusion and the jointness of their consumption, and they are known as public goods. Because anyone can have access to these goods once they are produced, consumers will misrepresent their demand for such goods as they can obtain them once they are produced and 'free ride'. In such cases, the private sector will not produce public goods, and governments will coerce citizens to pay for such goods through mechanisms such as taxation.

If a good is characterized by lack of exclusion and lack of jointness, then such a good is referred to as a common pool resource. Examples of such goods include fish in the oceans, or even, as a limiting case, a public park. Thus, if the ocean is overfished, fish will cease to reproduce and die out. Similarly, while parks are often seen as public goods, too many users of a park create crowding, which impairs the enjoyment of the good for others. Private actors will be particularly reluctant to produce such goods, and even governments will be concerned about the problem of too many users.

Finally, **inclusive club goods** refer to goods that may be excludable and yet be joint in consumption. These include goods such as software, music, and literature, which the private sector has a great incentive to produce. Once a unit of the good is produced, it can be distributed at either little or no cost. Indeed, firms may quickly develop a monopoly in the production of such goods if they are the first movers who make the good, and thus face regulation. For example, if a firm launches a satellite to beam television programmes to consumers, while the initial cost of securing a rocket to put the satellite in orbit will be great, once the satellite is in operation, the programmes can be disseminated to large numbers of consumers. Private firms will generally attempt to regulate consumption by encoding the transmission to prevent free riding. Alternatively, governments may simply regulate the industry and consumer behaviour to prevent consumption without paying (e.g. penalties for copyright infringement).

How do the problems of creating various types of goods play out in the international arena, and what obstacles do states face in achieving cooperation? Consider the case of cooperation with respect to global warming. It is now well-documented that emissions of greenhouse gases, in particular CO_2, due to human activity (in particular the burning of fossil fuels) have reached levels that lead to an important warming of average temperatures on earth with potentially dramatic impact on populations in the medium- to long-term. Yet, because reducing the emissions of greenhouse gases is a costly process that may require deep restructuring of energy production and use, the negotiations over how much or how quickly to limit those gases has been an internationally contentious issue. The public good nature of the problem can be seen in the incentives to free ride by various countries who wish to benefit from the reduction in emissions of greenhouse gases but do not want to bear the costs of reducing their emissions. There is a severe distributive conflict ('where to meet') as actors debate the appropriate levels of reduction for developed and developing countries. The latter fear to derail economic development to fight a phenomenon largely associated with the economic development since the mid-1800s of current developed economies. With respect to crowding, at the extreme, limiting global warming has common pool resource properties, because jointness may be impaired if one country (or a small number of countries) produces a huge amount of emissions that then spread evenly in the atmosphere.

In 1992, states recognized the need to take action to limit global warming with the adoption of United Nations Framework Convention on Climate Change (UNFCCC) that established the Conference of the Parties (COP) as its highest authority to develop an international climate change regime. So far the most important pillar of this regime has been the Kyoto protocol adopted in 1997 by the COP and entered into force in 2006. The protocol set binding targets for the reduction of

Figure 3.1 summarizes the four types of goods.

Jointness in Consumption?

		YES	NO
Exclusion Possible?	NO	Public	Common Pool Resources
	YES	Inclusive Club Goods	Private

greenhouse gases by thirty-seven industrialized countries (the so-called Annex I countries) as well as a general commitment for all groups of countries. The originality of the protocol is that it defines 'flexible mechanisms' to help industrialized economies meet their targets, including the trading of emission 'rights', the transfer of 'clean energy' technology to developing nations (the so-called Clean Development Mechanism) as well as the possibility of joint implementation. But whereas the flexibility of implementation for industrialized economies and the lack of binding commitments for developing countries were essential for the adoption of the Kyoto protocol, they have severely limited its impact on the limitation of global warming.

There is a clear need to do more about global warming, including by developing countries, and within a stronger monitoring framework. Yet discussions have been impeded by severe distributive conflicts (on financial commitments in particular) both within industrialized countries and between industrialized and developing countries. The agreement reached in December 2015 at the twenty-first meeting of the Parties in Paris brought hope of change and progress towards the objective of curbing warming. According to the agreement, all parties have to 'undertake ambitious efforts' (art. 3) in the view of reaching the objective to hold 'the increase in the global average temperature to well below 2°C above pre-industrial levels' (art. 2). Although the pace and intensity of efforts will take into account differences in levels of economic development, the Paris agreement extends the obligation of taking concrete action to all countries. This came about at the price of significant financial assistance given by developed countries to developing ones, which could open new discussions on the distribution of costs and benefits, and also at the price of delaying for three additional years until COP 24 held on Katowice in December 2018 the tricky issue of finding a common standard on how governments measure and monitor their individual efforts.

With respect to inclusive club goods, the debate over standards also illustrates the problem of 'where to meet'. If a firm convinces its government to advocate the choice of its standard in international negotiations, the firm may be able to gain a significant advantage over its competitors. Even if firms do not gain direct competitive advantages from a change in standards, there may still be an effect on national costs and benefits, leading to possible conflict. For example, the implementation of international financial reporting standards (IFRS) developed under the auspices of the International Accounting Standards Board (IASB) led to fierce debates and discussions within the European Union (EU) before its final implementation in January 2005. The IFRS cornerstone is the notion of fair value accounting (FVA) that aims at assigning market values to assets. Whereas this had been the standard adopted in the Anglo-Saxon world, continental European firms had relied on a more 'prudent' way, with a valuation based on the balance sheet and a low valuation of assets. The move towards a new standard significantly increased the risk of hostile takeover of companies that would become suddenly more attractive due to 'hidden' reserves.

as well) to protect their farmers. Addressing the free riding temptation has been hampered by the difficulty to find an agreement at a lower level of support.

KEY POINTS

- International cooperation can help to address three typical problems associated with the process of global integration: a temptation to free ride, an inhibiting fear, and a need to find meeting points in situations where collaboration will produce differing costs and benefits to governments.
- A country's need for international cooperation depends on its sociopolitical structure as well as on the structure and flexibility of its economy.
- Different types of problems associated with the process of global integration call for different solutions to address these three typical problems, ranging from the provision of binding rules to facilitating mechanisms.

International cooperation: A strategic interdependence approach

Our discussion so far has highlighted the potentially important role of international cooperation in enhancing the prospects for global economic integration. Yet, as the 'where to meet problem' shows, such cooperation may itself entail varying costs and benefits for participating states and its successful negotiation is therefore not a foregone conclusion. To further explore the challenges of international cooperation, we can utilize a game-theoretic approach to examine interdependent decision-making. A country's choice depends both on its cost–benefit evaluation of the various outcomes and on its expectations regarding the choices of other actors. Game theory provides useful tools to analyse actors' behaviour in such a context. Key features of actors' interactions are captured through 'games' that describe the choices available to actors (players in the game), their evaluations of potential outcomes, as well as the information they have when they make their choices.

To keep this chapter's discussion of game theory as parsimonious as possible, we focus on simple games with two persons and two strategies per person (see Box 3.2). We further assume that actors have extensive knowledge of the other actor's preferences but that they cannot observe their actual choices. Obviously, in real-life situations, actors may have less information about preferences and/or may be able to observe the other's behaviour. Our modelling choices may appear to oversimplify real-life examples but, as several authors have already shown, simple models can clearly reveal the decisions that governments face in attempting to deal with fundamental aspects of interdependence (Cooper 1975; Snidal 1985*a*; Martin 1992; Zürn 1992; Aggarwal and Dupont 1999; Drezner 2007).

Each of the three typical problems discussed in the previous discussion can be depicted with a specific game. We address them in turn and then focus on situations that represent mixed situations.

'Free riding temptation': The Prisoners' Dilemma

As we have seen, global economic integration remains fragile due to countries' political difficulties in implementing potentially costly economic changes—albeit ones that are economically positive. They may be tempted to free ride on others' policy changes to take advantage of their gains from their trading partners opening their markets, which may in turn affect others' policy choices, and possibly bring an end to global economic liberalization. This situation is aptly captured with the game called the Prisoners' Dilemma.

The Prisoners' Dilemma models a situation in which two individuals are involved in a robbery and are caught near the scene of the crime. The district attorney (DA; or prosecutor) does not have sufficient evidence to convict either of the suspects of robbery unless at least one of them reveals additional information to him, but he has some evidence to convict both of them of a lesser crime (for instance, reckless driving or carrying a firearm). The DA wants more information to convict both suspects for a long period. The two prisoners are placed in separate interrogation rooms. The DA tells each prisoner that if they confess and reveal the truth, they will get a much lighter sentence. If both prisoners confess (Strategy S2 in the game depicted in Figure 3.2), however, they get a heavier sentence than they would have received if they had both remained silent (Strategy S1 in Figure 3.2) where they would have been charged with the lesser crime (when both confess, the DA has the evidence to convict both on the more serious offences). Confessing to the DA could bring the minimal sentence if the other one does not confess but could also lead to a lengthier sentence if the other also confesses. Remaining silent, on the other hand, may lead to either a moderate sanction if the other prisoner remains silent, or the maximum penalty if the other one speaks to the attorney. Facing this situation, and unable to communicate, the rational strategy for both prisoners is to choose to confess as this choice brings them the highest utility whatever strategy the other is planning to use. We call such a strategy a dominant strategy. They do so because confessing to the DA is individually always a safer strategy than remaining silent. The key point of the Prisoners' Dilemma game is that actors may face a structure of interaction that prevents them from reaching a cooperative solution even though such a solution would be optimal for both of them. Allowing the prisoners' to communicate would not change the situation given the dominant strategy of both prisoners to speak when they individually face the DA.

This story can be generalized using the game depicted in Figure 3.2. The numbers in the various cells indicate the preferences of players on an ordinal ranking scale, with four being the most preferred situation and one the least preferred. In the following figures, the first number in each box refers to Player Alpha's preference, while the second number refers to Player Beta's preference (thus '4,1' is Alpha's most preferred outcome and Beta's least preferred outcome).

As Figure 3.2 shows, both players have a dominant strategy (confess, Strategy 2) that leads to what is called the **Nash Equilibrium** outcome, which is in the lower-right cell of the matrix. A Nash Equilibrium is an outcome in which none of the players can improve their situation by changing their individual strategy. But if both players switch to Strategy 1 (remain silent) in the

Figure 3.2 Prisoners' Dilemma Game (ordinal form)

		Player Beta S1	Player Beta S2
Player Alpha	S1	3, 3	1, 4
Player Alpha	S2	4, 1	**2, 2**

BOX 3.2

Game Theory and its Critics

Game theory has become a standard tool for analysing situations of interdependence in social sciences. Aside from its predictive aim, game theory has a strong appeal for anyone engaged in explanation, investigation, or prescription. It often makes ostensibly puzzling processes intelligible, without attributing causality to factors such as the incompetence, irresponsibility, or lack of concern of decision-makers.

Whatever its value, however, the use of game theory poses severe methodological problems that have prompted intense debates in the literature. Critics have traditionally emphasized (1) the overstretching of the concept of rationality and (2) the gap between abstract theoretical concepts and real phenomena. Regarding the notion of rationality, most applications of game theory assume that players, interacting under conditions of imperfect information, possess a very high computational ability. To make their decisions, players must evaluate a host of possible worlds on the basis of the knowledge commonly shared with others or privately known. This kind of situation often implies that players engage in comparative reasoning about a large set of possible worlds. Leeway in their interpretation often leads to a myriad possible equilibria, which significantly decreases the predictive power of game theory. To avoid this indeterminacy, most game theorists have refined the concept of 'rationality' to allow the selection of one or very few equilibria among the vast initial array. For example, one might assume that people always choose to buy the cheapest product available (even though we know that many people buy based on brand name, reputation, or other factors) because it makes the choices of actors easier to map. Most of these refinements to the concept of rationality thus lack empirical grounding.

A more recent controversy has focused on the empirical contribution of rational choice approaches to politics, including game-theoretic work. A variety of pathologies have prevented rational choice theory from improving our understanding of politics. In particular, rational choice theorists are, according to these critics, method-driven rather than problem-driven. In other words, instead of focusing on building models that accurately reflect decision-making in the real world, game theorists (according to critics) are more concerned with constructing elegant models. As a consequence, game theorists tend to neglect issues of empirical testing and therefore to undermine the scientific value of rational choice theory.

Although there clearly remain weaknesses in most game-theoretic analyses of international relations, the link between theory and empirics has clearly improved over the last decade. Users of game theory have used different techniques to check the validity of their models based on a comparison with reality. The dominant approach has been indirect testing through statistical analysis using either large-N data sets or a series of case studies. Another approach has been to use case studies to trace the behavioural attitude of actors and check them with specific predictions of models.

matrix in Figure 3.2, each of them gets a better outcome (upper left cell). Yet ironically, this collectively optimal situation, also known as a **Pareto-optimal outcome** (Pareto-efficient outcomes are defined as outcomes from which no actor could become better off without worsening the pay-offs to another actor), is unstable because each actor can improve their own welfare by individually switching strategy to the cells in the upper-right or lower-left corners of the matrix.

Within international political economy, the Prisoners' Dilemma has been widely used to illustrate the problem of reciprocal trade liberalization (Grossman and Helpman 1995; Hoekman and Kosteki 1995; Maggi 1999). The difficulties in monitoring partners' trade policies, and the potential political benefits to governments from open export markets and closed domestic markets often push states to back out of their commitments to reciprocate trade liberalization measures. As Conybeare shows (1984), this argument particularly applies to countries with large domestic markets, as these countries are less dependent on the success of trade liberalization (this makes the utilities of the lower-right cell in Figure 3.2 relatively acceptable) and such countries can also positively affect world prices through their tariff policy (imposing a tariff on imports lowers the price that other countries will receive for their exports). For smaller countries, though, the Prisoners' Dilemma is not an adequate depiction of their trade situations. Rather, smaller countries tend to have preferences that reflect the game of chicken, a situation that we discuss later. Furthermore, for countries with firms integrated into multinational supply chains, reciprocal trade liberalization may be superior to asymmetric liberalization, a situation that better reflects the game of Assurance that we discuss later.

Another typical application of the Prisoners' Dilemma in international political economy has been in examining the collective management of resources. Whereas countries producing particular commodities traded on world markets would prefer a situation where they all manage production so as to keep prices sufficiently high—by forming a cartel such as OPEC (Organization of Petroleum Exporting Countries)—individual countries face the temptation to 'cheat' by increasing extraction or production of those commodities so as to maximize their individual income. As a result, acting collectively to keep commodity prices stable—in commodities such as coffee, tin, and even oil—has been a daunting task, particularly for developing countries.

'Inhibiting fear': Assurance games

The second typical problem that a country seeking to enter international cooperation faces comes from the uncertainty of benefits and costs linked to integration in the world economy. Global economic integration brings its full benefits when most countries are part of it and adopt appropriate policies. When some countries make mistakes, or if liberalization policies lose momentum, international markets may react abruptly. If states become paralysed by this likelihood, the whole world may revert to a much lower level of integration. This situation is best modelled through another category of game—Assurance games.

One specific example of an Assurance game is 'Stag Hunt', depicted in Figure 3.3. The name of the game comes from the story of two hunters chasing a stag. They go out before dawn and take positions on different sides of an area where they think a stag is hiding. They have a mutual understanding to shoot only at the stag (Strategy S1 in the game depicted in Figure 3.3). Shooting at any other wild animal, say a hare (Strategy S2), would lead them to miss shooting the stag because the stag would be frightened by the noise and stay put in its hiding place. As time goes by and as dawn arrives, however, both hunters start thinking that going back home with a hare might be better than continuing to wait for the stag to come out of hiding. If each of them thinks that the other one will eventually yield to the temptation to shoot at a hare, they will both end up killing a hare—a better outcome than not catching anything but clearly much less attractive than sharing a stag.

Figure 3.3 Assurance game (Stag Hunt) (ordinal form)

		Player Beta S1	Player Beta S2
Player Alpha	S1	**4, 4**	1, 3
	S2	3, 1	**2, 2**

In Stag Hunt, players share a single most preferred outcome—that is, a Pareto-optimal Nash Equilibrium—but they do not have dominant strategies. As a result, there is a second, Pareto-deficient, equilibrium outcome. In such a game, reaching the Pareto-optimal equilibrium is not a foregone conclusion. Doubts about the willingness of one's counterpart to choose strategy S1 (shoot the stag) might push a player to choose strategy S2 (shoot a hare), which guarantees for that individual the highest minimal gain. Yet, such an outcome is rather unlikely because of the attraction of the upper-left cell. In contrast to the Prisoners' Dilemma game, it is not the temptation to reap additional gains that may prevent actors to be in the upper-left cell of the game but their anticipation of a possible mistake or unintentional move by the other one.

Financial globalization has features of a stag hunt game. With increasing capital flows among countries, global capital markets become deeper and provide greater opportunities for individual countries. Yet, policy mistakes by some countries may quickly destabilize markets. Fear of the potential negative impact of such a destabilization may lead countries to implement measures to slow down or restrict capital movements. Such a move may lead to changes in other actors' expectations and quickly drive the world, or at least a region of the world, to a much lower level of integration. This new situation could have the advantage of being less risky for countries but is unlikely to bring as many opportunities for investment and therefore reduce growth prospects.

'Where to meet': Coordination games

Whereas market liberalization is essential for global economic integration and increased prosperity, sustainable global integration requires some market supervision. This supervision in turn requires cooperative action by countries. The difficulty, however, is that there are often many ways to supervise markets and countries may differ on their preferred coordination point because potential solutions vary in their costs and benefits. This strategic context corresponds to a game of coordination. In the specific

Figure 3.4 Coordination game (Battle of the Sexes) (ordinal form)

		Player Beta	
		S1	S2
Player Alpha	S1	**4, 3**	1,1
	S2	1, 1	**3, 4**

game depicted in Figure 3.4, actors have to choose *among* Pareto-optimal outcomes. Its name, 'Battle of the Sexes', comes from the story of a husband and wife who have to decide where to spend their evening after work. They either can go to the opera or watch a football match. Neither spouse derives much pleasure by being without the other one but they differ on the best choice. The husband would prefer to watch football (strategy S1 in Figure 3.4) whereas the wife would prefer the opera (strategy S2 in Figure 3.4). In the story, both are getting off of work and have to rush to either the stadium or opera. They cannot communicate with each other (say, the batteries of their cell phones are dead!), and have to meet at one of the locations. If each of them follows their preferred solution, they end up at different locations, which both regard as a bad outcome. Perversely, if both of them want to please the other one by choosing the location that they know that their partner prefers, they also end up being separated. Thus, they have to somehow implicitly coordinate, with one making a concession and the other getting their first choice. Figure 3.4 provides a generalization of that story.

In the Battle of the Sexes, none of the players has a dominant strategy. Player Alpha prefers to play Strategy 1 when Player Beta chooses Strategy 1 and prefers Strategy 2 when Player Alpha chooses Strategy 2. With Player Beta having the same preferences as Alpha, the game has two equilibrium outcomes—the upper-left and lower-right cells in Figure 3.4. These two outcomes are clearly Pareto-superior to the two other possible outcomes, but actors will disagree on which one to choose. Player Alpha prefers the upper-left cell whereas Player Beta prefers to end up in the lower-right cell. Both players want to avoid being separated but each player prefers a different outcome.

In international political economy, efforts by developed countries to choose mutually compatible macroeconomic policies typically reflect games of coordination (Putnam and Bayne 1987). For instance, when there is high volatility in financial and exchange rate markets, coordinated responses by leading countries would often be best, but each country would like to choose the policy mix that fits its own domestic constraints. Coordination was a key challenge in efforts to address the 2008–9 global financial crisis and the ensuing 2009–12 global recession. Whereas major central banks were able to coordinate their actions to contain the stress in financial markets to a reasonable extent, governments have had more difficulty in implementing concerted fiscal responses. Some countries, such as the US, engaged in large fiscal stimulus, while others were more reluctant to use fiscal policy out of concern for the health of their public finances. This asymmetry fuelled a concern for free riding where a country would benefit from the efforts of its neighbours, as their stimulus plans boost its exports without affecting its fiscal stance. As a result, countries resorting to large stimulus tended to adopt 'nationalist' or protectionist policies to channel government funding to national firms. To offset this suboptimal dynamic, major economies have promoted the use of the G20 as a forum in which heads of states have repeatedly committed to concerted plans of action and pledged to refrain from protectionist measures. Yet, despite high hopes following the meetings held in London and Pittsburgh in 2009 (Cooper 2010), this newer forum has gradually lost momentum and the governance of international financial matters looks very similar to the pre-crisis situation (Helleiner 2014*b*).

Another prominent example is the choice of international monetary system (Cooper 1975). Discussions between the US and Great Britain during the Second World War regarding the architecture of the future international economic order revealed that, although both countries agreed on the absolute need for coordination, they fought over the details of the new order, with each trying to impose its own plan. A more recent example was the debate within the EU over the design of monetary union, which saw Britain, France, and Germany proposing different solutions for some economic and monetary convergence between member states as well as for rules of fiscal behaviour within the monetary union (Wolf and Zangl 1996). At the global level, in the aftermath of the recent global financial crisis, Russia and China have aired the idea of finding an alternative to the current dollar-dominated system. They have not however been able to push this onto the financial agenda of the G20, whose performance on matters of monetary and financial governance has fallen short of expectations (Vestergaard and Wade 2012; Helleiner 2014*b*).

Mixed situations: Chicken, Called Bluff, and Suasion

We now turn to games that capture situations in which more than one typical problem of cooperation may be present or in which the actors may view the structure of the problem differently. We begin with the game of Chicken, which combines the features of the temptation to free ride as well as distributive tensions between the actors. This game, depicted in Figure 3.5, builds on the story of two cars, travelling in opposite directions, speeding down the middle of the road towards one another. Inside each car sits a driver who wants to impress her respective passenger that she is a tough person (i.e. demonstrate resolve). The best way to do so is to continue driving straight down the middle of the road (strategy S2 in the game depicted in Figure 3.5)—even when the car coming in the opposite direction comes dangerously close. Yet, if at least one driver does not swerve, the outcome will be disastrous and both cars will crash, killing everyone. To avoid this unfortunate outcome, at least one driver will have to yield and swerve (strategy S1 in Figure 3.5), but both would like the other one to be the 'Chicken' who swerves.

The distributive tension between two equilibrium outcomes is a typical feature of the **coordination games** discussed earlier. But in contrast to those games, the game of Chicken has a third outcome that is collectively optimal—the compromise solution in the upper-left cell. As in the Prisoners' Dilemma, however, this outcome is not stable and actors have a strong temptation to revert to one of the two equilibriums represented in boldface in Figure 3.5. As such, the Chicken game helps to capture more complex situations faced by countries attempting to engage in international cooperation (Stein 1982).

In the context of the global political economy, Chicken games are useful depictions of the complex structure of burden sharing that occurs within a group of powerful players. For instance, when there is monetary and financial stability in the global economy, the US and the EU may tend to resist making public commitments to international cooperation unless there is a clear sign that the other party will act similarly. Getting out of a trade negotiation stalemate or dispute such as the US-China tariff war can also be a Chicken-like situation in which each actor is unwilling to agree on any asymmetric solutions.

To this point, we have only considered cases where actors have symmetrical preferences. We now examine two interesting *asymmetric* games, the first of which has one player whose preferences are those of the Prisoners' Dilemma game, and a second player with a structure of preferences of the Chicken game. The resulting asymmetric game, known as the game of 'Called Bluff', is depicted in Figure 3.6.

Player Alpha has Prisoners' Dilemma preferences with a dominant strategy to play S2, whereas Player Beta has Chicken preferences with a preferred choice of S2 if Alpha chooses S1 and a choice of S1 if Alpha chooses S2. Yet in this game, owing to the asymmetry in pay-offs, Beta knows that Alpha has a dominant strategy of S2, Beta therefore should choose S1, leading to the equilibrium outcome in the lower-left cell in Figure 3.6. Here, Player Alpha gets his most preferred outcome, whereas Player Beta gets her second worse outcome. This scenario can be used to analyse situations where stronger countries or actors can take advantage of the other's weakness and shift the burden of cost of cooperative action onto the weaker party. This outcome is caused by the difference in actors' sensitivity (vulnerability) to the need for cooperation itself. The player with the less dependence on the need for cooperation (Beta in Figure 3.6) is able to free ride on the other player (Alpha in Figure 3.6). Given the lack of capacity of the weaker actor to

Figure 3.5 Chicken Game (ordinal form)

		Player Beta S1	Player Beta S2
Player Alpha	S1	3, 3	**2, 4**
Player Alpha	S2	**4, 2**	1, 1

Figure 3.6 Called Bluff (ordinal form)

		Player Beta S1	Player Beta S2
Player Alpha	S1	**4, 4**	3, 2
Player Alpha	S2	2, 3	1, 1

sustain cooperation alone, this often leads to a breakdown of international action.

A good illustration of this situation is the monetary policy of Germany and Japan in the 1960s, in the context of the Bretton Woods fixed exchange rate system. The stronger player, the US, asked these countries to revalue their currencies to help boost the competitiveness of US exports and relieve the pressure on the dollar. These countries refused to undertake significant revaluations, which thus had increasingly costly implications for the US economy and, ultimately under the Nixon administration, the US simply forced the burden of adjustment on the weaker countries by breaking the link between the dollar and gold and imposing a 10 per cent across-the-board tariff. This action led to the end of the Bretton Woods system (see Helleiner and Babe, Chapter 8 in this volume).

A second case of asymmetry is a game with one player having preferences oriented towards cooperation and the other one having Chicken preferences. In the game of 'Suasion', Player Beta has preferences similar to a player in the Chicken game but Player Alpha has preferences that are typical of another game, the game of Harmony. The basic feature of Harmony games (see Figure 3.7) is that both players not only dislike acting separately (as in the case of coordination games) but they also do not differ on the best outcome. They both therefore have a dominant strategy to do the same thing. Cooperation is, so to speak, naturally guaranteed (as, for instance, in nineteenth-century liberal assumptions about international economic relations, which argued that everyone would generally be made better off with free trade and open markets more generally).

Combining a player with Chicken preferences and a player with Harmony preferences yields the game depicted in Figure 3.8, known as the game of 'Suasion' (Martin 1992).

The predicted outcome of the Suasion game shares some similarity with that of the game of Called Bluff illustrated in Figure 3.6. Both games feature a situation in which one player gets its most preferred outcome. However, the difference between these two games is that in Suasion, the 'stronger' player (Alpha in Figure 3.8) gets his second best outcome, which results from the choice of his dominant strategy (S1 in Figure 3.8). Put into the context of international cooperation, this clearly reflects a situation in which an actor perceives the benefits of international action to be much more than its associated costs. Because this actor (Alpha) absolutely wants to carry through action at the international level and is assumed to have the capability to do so, other actors (Beta) are in a situation whereby they will let him (Alpha) undertake the bulk of the effort, and will enjoy the benefits at low or no costs to themselves.

One can view this as a situation as one of the tyranny of the weak, which is in sharp contrast to the game of Called Bluff. Note, however, that the stronger player is not forced into an asymmetric outcome by the behaviour of the weak, but by his own preferences. From this perspective, the Suasion game features an opportunistic attitude by the weak rather than a deliberately tyrannical outlook. Martin (1992) argues that this game illustrates the Western world's restriction of technology exports to the Soviet Union during the Cold War. Control of technology sales to the Soviet bloc was done through the Coordinating Committee on Export Controls (COCOM). Within it, however, the US had a dominant strategy to control technology whereas European states were more opportunistic. They could benefit from sales to the Soviet bloc without jeopardizing the overall balance of power between the two blocs. The US was dissatisfied with this situation and had to persuade Europeans to participate fully with COCOM.

More generally, this type of game relates to situations where one actor (or group of actors) can undertake actions that are immune (up to some degree) to the free riding behaviour of other countries. For example, tax havens in small countries were 'tolerated' by bigger countries as long as the latter could use capital movement restrictions to secure financial stability.

Figure 3.7 Harmony (ordinal form)

		Player Beta S1	Player Beta S2
Player Alpha	S1	**4, 4**	3, 2
	S2	2, 3	1, 1

Figure 3.8 Suasion (ordinal form)

		Player Beta S1	Player Beta S2
Player Alpha	S1	4, 3	**3, 4**
	S2	2, 2	1, 1

When capital restrictions were dismantled, there were significant increases in the efforts to circumvent the free riding behaviour of tax havens. Such free riding became politically intolerable with the advent of the global financial crisis, which required global coordination efforts. The G20 countries put significant pressure on 'renegade' countries with the preparation of a blacklist by the Organisation for Economic Co-operation and Development (OECD).

KEY POINTS

- Each of the typical problems of international cooperation can be viewed through the lens of strategic decision-making.
- Game theory can help us analyse interdependent decision-making.
- Cooperation can be expected to fail either due to actors' incentives to cheat, to actors' sensitivities to distribution issues, or to lack of confidence in the other actor's behaviour.
- Problems of distribution and free riding may be combined in real-world situations; some games are able to model these combinations.
- Differences in resources or in the perceived need for cooperation result in situations of asymmetric burden sharing.

International cooperation: A variety of solutions

The discussion of cooperation problems in the global political economy highlights the varied nature of the challenges facing actors. We now turn to the question of how to address these challenges. In particular, we focus on the role that international institutions can play in addressing cooperation problems. Our analysis begins with situations where the problems can be addressed without institutions and then turns to cases where institutions can help the process of cooperation.

International action without international institutions

In many of the games that we have examined, individual actions by both players lead, or may lead, to an outcome that we can characterize as collectively optimal because there is no welfare loss. Yet, this notion of optimality tends to be short sighted because the asymmetric outcomes of the Called Bluff, Suasion, Chicken, and even coordination games are optimal only in terms of a narrow view of *collective welfare*. Such a conception of welfare does not obviate the problems of the distribution of gains that may either make the road to an agreement difficult or plague the likelihood of collaboration. As we discuss later, institutions may play useful roles in addressing these problems, but collaboration may also occur through individual actions.

Individual, decentralized, action can also be optimal in the thorny case of the Prisoners' Dilemma. Yet, for this to happen, we must relax the baseline assumption that players play the game only once and allow them to have repeated interactions through time (Axelrod and Keohane 1986; Taylor 1987; Sandler 1992; Cornes and Sandler 1996). When players expect to meet again in the future, they may be more willing to cooperate. Yet even under such conditions of iteration, however, cooperation is not a foregone conclusion. For example, if the expected net value of cooperation is too low (e.g. actors may overly discount the importance of future iterations owing to a dire economic or political situation at home for governments), the temptation to free ride cannot be overcome. The Prisoners' Dilemma game demonstrates that, if defection by one actor would generate high costs for the other actor, or if actors cannot gather information easily, actors may not reach a Pareto-optimal outcome.

Applied to the case of trade liberalization, repeated interaction is not sufficient to ensure cooperative behaviour for governments that are under heavy domestic pressure, as the temptation to reap immediate political gains through defection may simply be too great. Domestic pressure may be particularly high in democratic countries where economic groups or citizens have easy access to the political sphere, in countries with a political system that tends to favour coalition governments, or in countries without strongly embedded social consultation mechanisms. Conversely, the cost of defection may be too high when actors invest heavily in cooperative efforts and highly value the outcome produced by cooperation. In such cases, they are significantly more reluctant to jeopardize cooperation, even if others free ride.

A world without international institutions is also not universally effective in securing the exchange of goods. As long as trading partners have access to other markets for their products, an institution-free world can work in the context of global trade, because countries can simply turn to another market if a breach in the trading relationship occurs. Yet if there is only one partner that is interested in the goods produced, or if it would be more costly to trade with other partners, such an option does not exist. If a country cannot threaten to sell its goods elsewhere, another country may take advantage of it. Another important qualification for successful institution-free contexts is if one (or both) of the parties has made relation-specific investments. In such a case, these investments will discourage defection and may encourage cooperative behaviour.

What other factors might impede cooperation when actors cannot rely on international institutions? Monitoring will be much more difficult if states only have limited information gathering capability. If an actor has so little information that, for example, it is unsure whether the other actor 'defected' on the last round, then the prospect of repeated interactions does not increase the chances of cooperation. Similarly, an expanding number of states, with an expanding range of trade products that use increasingly sophisticated policies to intervene in markets, makes monitoring trade policies increasingly difficult. It is therefore more difficult to detect non-compliance without the help of a third party.

The role of institutions

As our discussion earlier suggests, actors may need help to sustain collectively optimal outcomes. One way that individuals might be able to coordinate their choices to achieve desired goals might be through the creation or use of international institutions or regimes. International regimes have been defined broadly as 'sets of principle, norms, rules and decision-making procedures upon which actors' expectations converge' (Krasner 1983). To refine this definition, we can distinguish between the principles and norms, or 'meta-regime', and the regime itself, defined as the rules and procedures to allow us to distinguish between two very different types of constraints on the behaviour of states (Aggarwal 1985). In this case, we can use the term institution to refer to the combination of a meta-regime and a regime—rather than Krasner's definition. Note that an institution is not the same thing as an international organization: one can find areas of international collaboration where there are well-defined principles, norms, rules, and procedures for actors' behaviour in the absence of an organization such as the IMF. We structure our discussion in the following sections around three major functions of institutions (see Table 3.1).

First, institutions can act as channels for the third-party enforcement of agreements. To successfully overcome players' temptation to free ride, international institutions should be strong, meaning that member countries should have specific and binding obligations. In particular, agreements that credibly restrain actors' temptation to free ride in trade and monetary policy, for instance, need to rely on some sort of enforcement mechanism delegated to an international institution. At its strongest expression, in the EU or in the WTO, such a mechanism relies on an organization—the EU has two such entities, the Commission and the Court of Justice—with supranational power to monitor, evaluate, and sanction (if needed) the behaviour of its members.

The chances of a cooperative agreement can also be enhanced through a different kind of centralization—one that ensures a prompt and undistorted dissemination of information. This type of facility helps identify the requirements of multilateral action and protects against possible defections. Enforcement can also be achieved through either positive incentives, as when the IMF provides funds to countries that are following its policy recommendations, or through punitive action, as when the WTO rules against a particular state policy.

Second, international institutions can help craft responses to situations characterized by distributive tensions among states. They can help states choose one among several collective outcomes and eliminate some sharply asymmetric outcomes. Institutions may also be useful for gathering information about the preferences of actors, and through appropriate use of agenda setting, may help find focal point solutions for both cost sharing and benefit splitting. Institutions with a firmly and widely established meta-regime tend to perform these tasks extremely well. In contrast, institutions lacking a strong meta-regime may have difficulty generating possible solutions that are attractive to all members. This has often been considered as the source of difficulties for the GATT, and its successor the WTO. Deep disagreements among GATT members led to the creation of another forum, the United Nations Conference on Trade and Development (UNCTAD), in the 1960s, and to serious hurdles in the negotiations of the extension of the scope of GATT/WTO, as recently revealed during the Doha Round of negotiations. The members of UNCTAD

Table 3.1 Problems, games, and institutional roles

	From problems to institutional solutions		
	'Free riding temptation'	'Inhibiting Fear'	'Where to meet'
Strategic game	Prisoners' Dilemma	Stag Hunt (Assurance games)	Battle of the Sexes
Illustrations	Trade liberalization	Financial integration	Managing adjustments
	Debt rescheduling	Trade liberalization and specialization	Multilateral negotiations
Role(s) of institutions	Channel to enforce contracts monitoring/surveillance sanctioning mechanisms policy transfer	Enhancers of cooperation pools of resources suppliers of knowledge and capacity	Providers of solutions to distributive conflicts negotiation fora agenda setting linkages
Examples of institutional solutions	*Monitoring/Surveillance*: Articles IV and VIII of IMF; Trade Policy Review mechanism WTO; *'Sanction'*: Conditionality IMF; DSB's authorization of sanctions WTO *Policy transfer*: Common Trade policy and Economic and Monetary Union in the EU	*Pools of resources*: quota system in IMF *Suppliers of knowledge and capacity*: WTO (technical cooperation), World Bank, IMF, UNCTAD	*Negotiation fora*: WTO General Council; Executive Boards IMF and World Bank; UNCTAD *Agenda setting*: IMF and World Bank staff

had shared principles and norms that they felt were not importantly addressed in GATT/WTO.

Third, international institutions can do a lot to allay actors' fear or reluctance to engage in cooperative behaviour. Rather than enforcing a particular outcome, institutions should enable actors to reach it (by pooling resources, e.g.). To help the integration of developing countries into the global financial system, the IMF provides cheap credit opportunities through the contributions subscribed by all members. The World Bank finances the development of basic infrastructure in developing countries to help them reduce poverty. At the European regional level, the European Monetary System (EMS) has relied on a decentralized system of very short lending facilities among members to help them defend the parity grid that served as an anchor to the set of national currencies.

To address enforcement and distribution problems, institutions can establish rights for members that either define mechanisms of exclusion or determine compensation schemes. In relation to our previous discussion of games and cooperation, careful institutional design can sometimes 'privatize' the benefits of cooperation, reducing the temptation to free ride. The reduction of trade barriers almost always applies to countries that belong to particular clubs, be they regional (see Ravenhill, Chapter 6 in this volume) or global. Assigning rights and obligations can also produce decentralized cooperation when institutions also provide information about the preferences of actors and reduce the costs of their discussions to their minimum. When actors are more certain about who owns and is responsible for what (a result of the assignment of rights and obligations), cooperation may result.

Under these conditions, as Coase (1960) suggests, actors do not need any centralized power to remedy the problem of negative **externalities** (situations where an individual's action negatively affects the well-being of another individual in ways that need not be paid for according to the existing definition of **property rights**) (Conybeare 1980; Keohane 1984) but should find a mutually satisfactory solution through financial compensation. The crucial aspect, in the Coasian framework, is establishing liabilities for externalities. The history of international monetary agreements provides several examples of the difficulties associated with determining satisfactory schemes assigning responsibilities to the involved parties. For instance, the collapse of the fixed exchange rate systems was largely due to the inability of IMF members to redistribute the burden of adjustment from the US to Germany and Japan. Difficulties in the so-called European Snake in the early 1970s induced member states to design the EMS in such a way as to put the responsibility on strong currency members (in particular Germany) to intervene as much as weak currency members in defending existing parities.

Our brief discussion of the roles of institutions reveals the value associated with information gathering and dissemination. Long-term enforcement requires identifying prospects for defection, finding a focal point based on the constellation of positions, and informing actors of the overall global context. Therefore, a major activity of international institutions is to collect information about actors' behaviour, preferences, and the state of the international environment.

KEY POINTS

- Institutions are key instruments for resolving enforcement, distribution, and assurance problems.
- Institutions help assign rights and obligations to benefactors of cooperation as well as in defining those benefactors.
- Institutions help make the international scene an information-rich environment.

The formation and evolution of institutions

We have seen that institutions can help cooperation in several ways. But how might institutions be formed in the first place? And what factors may impact the design of institutions? We begin with a broad discussion from the literature on international relations and then turn to more specific issues. In examining institutions, five different approaches in international relations have been brought to bear on this problem: neo-realism, neo-realist institutionalism, neo-liberal institutionalism, cognitivism, and radical constructivism (Aggarwal 1998).[1]

[1] The term 'radical constructivism' was first used by Haas (1992); for a more recent synthesis, see Duffield (2007).

Neo-realists assume that in an anarchic international system, states must rely primarily on their own resources to ensure their security. For neo-realist scholars, international institutions have no significant role in international relations because power considerations are predominant in an anarchic world (Waltz 1979; Mearsheimer 1990). In this view, as we have discussed earlier, collaboration will only be sustainable if states highly value future interactions, have symmetric resources, and are highly interdependent.

Still within a power-based tradition, though, some scholars have examined changes in and the effects of international institutions. In this literature, labelled neo-realist institutionalism, the central concern is on how regimes affect the distribution of costs and benefits of state interaction. For analysts in this school (Krasner 1983; Aggarwal 1985; Krasner 1991; Knight 1992), institutions have distributional consequences (in other words, the benefits of cooperation may be unequal) and can be used as devices to seek and maintain asymmetric gains. They can more broadly help control other actors' behaviour, both at home and abroad (Aggarwal 1985). For example, within the domestic context, state elites can argue that their hands are tied and thus attempt to circumvent pressure for particular actions from domestic actors. Examples of this include the Mexican government signing onto the North American Free Trade Agreement (NAFTA) (tying the hands of the Mexican government to a more open market posture in the face of domestic protectionist groups) or the American use of the Multi-Fibre Arrangement (MFA) to prevent textile and apparel interests from pressing for excessive protection.

A central theme in this literature has been the role of hegemonic powers in fostering the development of institutions through both positive and negative incentives (Kindleberger 1973; Gilpin 1975; Krasner 1976). Benevolent hegemons, for example, may provide **public goods** (a special type of good, e.g. national defence, that cannot practically be withheld from an individual without withholding them from all—the 'non-excludability criterion'—and for which the marginal cost of an additional person consuming them, once they have been produced, is zero; the 'non-rival consumption' criterion) because their large size makes it worthwhile for them to take action on their own to overcome collective action problems. But while suggesting that regimes may form when powerful states desire them, this approach does not tell us much about the nature of regimes. Moreover, scholars in this school over-emphasize tensions arising from the differences in the distribution of benefits between actors and downplay the possibility that actors may not necessarily and as acutely think in comparative terms but focus on the positive impact of institutions on their situations. Finally, this approach has little to say about actors' desire to pursue multilateral versus bilateral solutions to accomplish their ends.

Building on these criticisms of the neo-realist approach, neo-liberal institutionalists have examined the specific incentives for states to create institutions—as opposed to simply engaging in ad hoc bargaining. This body of work, taking off from seminal research by Oliver Williamson, examines the role of institutions in lowering the costs involved in choosing, organizing, negotiating, and entering into an agreement (what he calls transaction costs), and has garnered a considerable following in the field of international relations (Keohane 1984). As we have seen, institutions provide many useful functions in helping actors to coordinate their actions or achieve collaboration. This theoretical approach assumes that collaborative action is primarily demand-driven—that is, actors will create institutions because they are useful—but does not really specify a mechanism for how they would go about actually creating them.

An important theme of this work has been how existing institutions may constrain future institutional developments (Keohane and Nye 1977; Keohane 1984). One aspect of this constraint is the possibility that existing institutions with a broad mandate will affect the negotiation of more specific institutions, leading to the 'nesting' of regimes within one another (Aggarwal 1985). Thus, while the notion of transaction costs and sunk costs (the investments that actors have made in specific institutions) are central elements in this thinking, the role of regimes in providing states with information and reducing organizational costs can be distinguished from the role of existing institutions in constraining future actions.

A fourth approach to examining institutional innovation and change places emphasis on the role of expert consensus and the interplay of experts and politicians (Haas 1980; Haas 1992). New knowledge and cognitive understandings may lead decision-makers to calculate their interests differently. For example, work by Ernst Haas focused on the efforts of politicians to use linkages across various issues (sometimes from quite distinct areas) to create new issue packages in international negotiations. The objective is to provide benefits to all, in an effort to facilitate the formation of international regimes (Haas 1980).

Lastly, 'Radical Constructivists', while focusing on the role of ideas, argue that reality is in fact constructed in the minds of decision-makers. These scholars, drawing from Ernst Haas's work, go much further than Haas in suggesting, 'power and interest do not have effects apart from the shared knowledge that constitutes them as such' (Wendt 1995). Analysts in this school see norms and values as being dominant causal forces and ascribe considerable power to institutions in not only constraining actors, but in fundamentally altering how they conceive of their basic interests. In summarizing their view, Peter Haas notes that this school argues that 'there is no "objective" basis for identifying material reality and all claims for objectivity are therefore suspect' (Haas 1992). The subjective element in states' decision-making makes it more difficult to objectively evaluate the role that institutions might play or how they might be constructed.

The characteristics of international institutions

The five general approaches just discussed are a useful starting point for the understanding of how institutions are created and of the key drivers of their subsequent evolution, but they clearly are of limited help to understand specific variations in the forms of institutions. Based on the existing literature and on our own work, we characterize institutions in terms of their membership, the stringency of their rules (the degree to which they constrain state behaviour), their scope, their membership, the extent of delegation of power from member states to institutional bodies, and the centralization of tasks within the institution (see Box 3.3).

The Bretton Woods institutions, the WTO, and UNCTAD have quasi-universal *membership*. By contrast, the Group of Seven most industrialized countries only welcomed one new member in the last thirty years (Russia formally joined the Group in 1997, transforming it into the G8). Moreover, it is interesting to underline that the G7/8 remains autonomous from the larger G20, with the latter becoming the most visible global economic steering forum. Similarly, most regional integration arrangements have remained selected clubs with limited membership (see Ravenhill, Chapter 6 in this volume). Membership also varies in terms of the type of actors who can participate. While most institutions remain state-centric, some

BOX 3.3

IMF and WTO: Selected Organizational Characteristics

Set up in order to promote international monetary cooperation, the IMF exerts a surveillance function over member states' financial and economic policies and provides financial and technical assistance to member states. Day-to-day business is conducted by the Executive Board, a restrictive body with twenty-four executive directors representing directly or indirectly all members. The IMF's five largest shareholders—the US, Japan, Germany, France, and the United Kingdom (UK)—along with China, Russia, and Saudi Arabia have their own seats whereas the other sixteen executive directors are elected by groups of countries. The Executive Board gets its powers from the Board of Governors, the highest authority of the IMF in which each member has a seat. To assist it in the conduct of IMF affairs, the Executive Board in turn selects a managing director who is the chief of the operating staff of the Fund of 2,800 employees, with half of them being economists.

Within the Executive Board, the normal *de jure* decision-making mode is simple majority, but important issues are decided by qualified majority, either 70 per cent (suspension of one member's rights in case of non-respect of obligations) or by 85 per cent (e.g. modification of quotas, change in the seats of the Executive Board, provisions for general exchange arrangements). Qualified majority voting increases the power of the biggest contributors, in particular the US, which has a veto power over issues requiring 85 per cent majority decisions. *De facto*, however, voting rarely occurs in the Executive Board. Instead, executive directors use consensus to adopt decisions.

The institutional structure of the WTO differs significantly from the IMF model. It reflects very clearly what the organization considers to be its primary role, that is, a forum for the negotiation of liberalization agreements. In the WTO, the principal institutional structures are a ministerial conference meeting every two years, the General Council, and three councils in the area of goods, services, and intellectual property. All members have a seat in these councils. The default decision-making mode is consensus but decisions may also be made at unanimity (suspension of most-favoured nation (MFN) treatment), at 75 per cent majority (interpretation of an existing multilateral agreement, or a waiver of an obligation for a particular country), or with two-thirds majority (for admission of new members for instance).

The WTO General Council also serves as the Trade Policy Review Body that adopts reviews of member states' trade policies. Reviews are conducted on the basis of a policy statement by the member under review and a report prepared by economists in the WTO Secretariat. That Secretariat, headed by a director-general, has around 640 staff and its main function is one of administrative and technical support to WTO councils, committees, and working groups.

Delegation of authority in the WTO is therefore restricted to the mechanism for solving trade disputes between members. Delegation is conferred first to small groups of experts (three or five) who are established when members fail to settle disputes in a conciliatory way. Panel members are independent individuals under instruction from no government. Their role is to make an objective assessment of the dispute and issue a report with findings and recommendations (establishing the legality of member states' policies in the case under dispute). This report has then to be adopted by the General Council serving as the Dispute Settlement Body. The latter, however, can only reject the panel report by consensus.

The second body with delegated authority from the member state is the Appellate Body, which reviews appeals made by member states on panel reports. The seven members of the Appellate Body serve for four-year terms and are legal experts with international standing. The appeal can uphold, modify, or reverse the panel's legal findings and conclusions. As for the case of panel reports, the Dispute Settlement Body must endorse the appeal report. Rejection is only possible by consensus.

For more information, see http://www.wto.org; and http://www.imf.org

have started to include private actors. For instance, the Financial Stability Forum (FSF) was created in 1999 and upgraded to the Financial Stability Board by the G20 in 2009 (Helleiner 2014*b*) to promote international financial stability groups representatives from national ministries, international financial institutions, and sector-specific groups (insurance, accounting standards, securities commissions). Controversy continues at the WTO over whether non-state actors should be permitted to participate in deliberations. (For other efforts paying particular attention to membership issues, see Sandler (1992), Koremenos, Lipson, and Snidal (2001) and Aggarwal and Dupont (2002)).

The second dimension, *stringency of rules*, covers both the precision and the obligation of rules in the literature on legalization of world politics (see Aggarwal 1985 on regime strength, and Abbott and Snidal 2000 on legalization). From this perspective, authors have often contrasted the so-called European and Asian models of regional economic integration. The first one is built upon a wide set of specific and binding rules (called the *acquis communautaire* in the jargon of European integration) whereas the second is built upon declarations, intentions, and voluntary commitments (Ravenhill 1995, 2001). The lack of any precise and concise definition of a balance of payments problem in the IMF severely affected the constraining power of this institution in preventing its members from running imbalances.

Third, we consider the *scope* of agreements defined as issue coverage (Aggarwal 1985; Koremenos Lipson and Snidal 2001). The evolution of the GATT from its origins in 1947 to the creation of WTO in 1995 reveals an important increase in the scope of the agreements. Whereas GATT initially focused on the liberalization of trade in goods, the WTO covers services, agriculture, as well as trade-related aspects of intellectual property rights and investment. Similarly, the G7/8 agenda has drastically expanded from a focus on macroeconomic management at its creation in the mid-1970s to a broad range of international security and economic issues, including terrorism, energy, environment, and arms control in the 1990s and early 2000s. At the other end of the range, one finds sector-specific institutions such as the International Organization of Securities Commissions (IOSCO), the International Associations of Insurance Supervisors (IAIS), and International Accounting Standards Board (IASB), as well as product-specific organizations such as the International Coffee Organization (ICO), the International Cocoa Organization (ICCO), the International Copper Study Group (ICSG), and the International Sugar Organization (ISO).

The fourth dimension is the extent of *institutional delegation*, the authority ceded by members to an institution, a dimension central to several existing studies (Abbott and Snidal 2000; McCall Smith 2000; Dupont and Hefeker 2001; Hawkins, Lake, Nielson, and Tierney 2006). International agreements may or may not include the creation of institutional organs, and these organs may or may not be given some autonomy from members for making new rules or monitoring and enforcing existing ones.

The extent of delegation may vary significantly across organs of the same institution. For instance, while the dispute settlement process in the WTO features an independent Appellate Body, the governing body of the organization—the General Council—relies upon consensus decision-making and the members have kept the size and the prerogatives of the secretariat down to a minimum. At the regional level, the extent of delegation strongly distinguishes the EU from the small secretariats found in other regional institutions. Whereas the EU includes organs with supranational power, governments remain in full control of negotiation and implementation processes in most other regional agreements, including the NAFTA, the Association of Southeast Asian Nations (ASEAN), and the Asia-Pacific Economic Cooperation (APEC) grouping.

A fifth dimension is *institutional centralization* (Koremenos, Lipson, and Snidal 2001). Is there a concentration of tasks performed by a single institutional entity? Centralization may refer to such tasks as the diffusion of information, monitoring of members' behaviour, or the imposition of sanctions, as well as the adoption of new rules or modification of existing ones. Strong administrative bodies are natural candidates for the centralization of many tasks, as exemplified by the case of the European Commission in the EU, or the administration of the IMF or the World Bank. Yet, in the latter two, key decisions and tasks go through the Executive Board with a limited membership of twenty-four countries or groups of countries represented by executive directors elected by member states (see Helleiner and Babe, Chapter 8 in this volume).

It is often difficult to understand these five dimensions as being separate but they are conceptually distinct. As an example, although it is hard to imagine an agreement with lax rules and high delegation, strict rules do not necessarily imply high delegation (good instances are the numerous bilateral treaties on investment and to a lesser extent bilateral free trade treaties). Similarly, centralization and delegation may reinforce each other but none of them requires the other one. Conferences or councils of head of governments and states centralize most of the activities of several regional economic organizations (including monitoring, and dispute settlement). Yet, decision-making remains either consensual (where no state publicly dissents from the agreement) or based on unanimity.

Explaining institutional design

How can one account for institutional variation on these five dimensions? Consistent with a functionalist approach to the study of international institutions, we should expect the five dimensions to be affected by the type of problems that institutions should address (Stein 1982; Snidal 1985*a*; Aggarwal and Dupont 1999; Koremenos, Lipson, and Snidal 2001; Ostrom 2003). In Table 3.1, we linked our three typical problems with specific roles for international institutions. Keeping these in mind, the 'temptation to free ride' problem is the one that clearly calls for strong rules, with delegation and centralization to international bodies. Cooperation is difficult and thus requires relatively strong institutions. In such cases, membership tends to be restricted to well-'socialized' governments. An inclusive membership makes monitoring more difficult and costly, and thus creates many opportunities for members to free ride.

As for scope, on the one hand, enforcement of the agreements is more likely to occur when institutions have a broad scope and are able to link different issues (Aggarwal 1998). Linkages across issues help in deterring defection on a single issue when actors have broad interests (McGinnis 1986; Lohmann 1997). For example, members of the WTO cannot subscribe to the agreement on goods (GATT) without also accepting the agreement on services (GATS) as well as the agreements on intellectual property rights (TRIPS) and investment (TRIMs), and the dispute settlement mechanism. On the other hand, adding issues to an institution's agenda requires strong capacity to monitor behaviour, which may often not be present. In the context of the Doha Round of talks within the WTO, now collapsed, there was increasing concern about the negative impact of the willingness to support an all or nothing approach—to make the WTO a **single undertaking** as a means to achieve a negotiation breakthrough (Elsig and Dupont 2012).

The 'inhibiting fear' and 'where to meet' problems call for quite different institutional features. For these cases, there is a positive link with centralization for the pooling of resources, knowledge, and information provision, or the reduction of costs of negotiations. Addressing the 'inhibiting fear' may require some clear and binding rules on access to resources and knowledge. Yet in these cases, restricting the size of membership may not be a strong prerequisite for success. Solving distribution problems may require a softening of rules to allow some room for different interpretations of the agreements. Delegation of power is not essential in both situations, except for a potential benefit of agenda setting power to find mutually acceptable solutions.

As for scope, there is no clear link between 'inhibiting fear' and issue coverage. But a diverse set of issues can provide greater ground for compromise when players have different preferences and when they do not assign equal value to all of the issues. For instance, trade liberalization and monetary cooperation in the European Community has often been facilitated by the development of social or regional policies or packages to 'compensate' countries that might not immediately be major beneficiaries of the other policies. But, as the case of agriculture in the GATT/WTO shows, having different issues on the agenda is not helpful when countries categorically exclude certain issues from consideration in making trade-offs. Finally, with respect to membership, selected, restrictive groupings tend to reinforce the fear of being left out and thus should be avoided to address the 'inhibiting fear' problem. As for problems of distribution, more members may on the one hand help in the quest for new solutions. Yet, new members may also add as many new conflicts as complementarities among players.

As we have seen, then, different types of problems call for appropriate institutional design. Although focusing on general tendencies in institutional design in view of the problems they need to address provides a useful first step, we are still faced with some anomalies. For instance, given that trade liberalization is widely portrayed as embodying a 'temptation to free ride', how can one explain that some institutions (for instance European Free Trade Association) that focus on trade liberalization have remained informal and thus lack organs with delegated power? Why is it that some institutions do not have clear rules and preconditions for membership (for instance GATT/WTO or the EU until the early 1990s)? And lastly, why do some countries prefer very loose rules in designing institutions (such as ASEAN and APEC)?

To increase our ability to understand such choices, we can consider three other key influences. First, an important issue is what we call *potential participants* in the institution. In particular, the number of these actors and their relative power—two factors considered by Koremenos, Lipson, and Snidal (2001)—as well as their overall financial and 'social' capital (Ostrom 2000) influence the design of institutions. Relatively little concern about membership rules in GATT 1947 can be accounted for by the fact that the international system was much smaller and more homogeneous than the one that emerged in the 1960s as a result of decolonization. Similarly, the need to define strict criteria for entering the EU only became salient when the iron curtain fell and former communist countries with still very different political systems expressed an interest in joining the EU. Turning to the financial and social capital among potential actors, the disparities in size of financial reserves held by East Asian economies surely explains the very decentralized form of the regional financing arrangement known as the Chiang Mai Initiative (an East Asian mechanism that is intended to provide emergency finance to member economies facing a run on their currencies). In turn, the fact that there has been little formalization of relationships between central banks in the developed, democratic world builds upon a joint understanding and on a high level of expertise on how to address problems.

Second, the *information and knowledge available to actors* affects institutional design. Institutions comprised of actors with rich and reliable information usually require less centralization or less delegation (Coase 1960; Williamson 1975; Koremenos, Lipson, and Snidal 2001), as illustrated with the loose structure of the European Free Trade Association from its creation in 1960 to its upgrading in 1993. The founding members of that association—the UK, Denmark, Norway, Sweden, Austria, Switzerland, and Portugal—did not have the mutual distrust that characterized French–German relationships in the EC and information from partner countries was thus considered by all members to be rich and reliable. Existing knowledge about the issue area(s) covered by the agreement may affect the stringency of rules, the delegation of power, issue scope, and membership. Poor knowledge about the issues at stake tends to make actors wary of making hard commitments (rules and delegation)—a tendency particularly present in the discussions in the domain of the environment (see Dauvergne, Chapter 14 in this volume). Better knowledge may affect issue scope and the contours of membership as clearly illustrated by the key influence of the work of the Intergovernmental Panel on Climate Change (IPCC)—the intergovernmental body that reviews and assesses the scientific information on climate change—on the evolution of commitments in the domain of climate change. In trade, whereas the politics of trade liberalization may call for careful selection of members for inclusion in the WTO, the widespread belief in the veracity of international trade theory (which argues that global membership yields the greatest efficiency in the allocation of resources) helps to account for the pressure to universalize increasingly membership in this institution.

Third, and finally, we can focus on the *outside institutional setting*. When actors create new institutions, they generally do not do so in a vacuum. Thus, when new institutions are developed, they often must be reconciled with existing ones. One approach to achieving such reconciliation is by nesting broader and narrower institutions in hierarchical fashion. Another means of achieving harmony among institutions is through an institutional division of labour, or 'horizontal' linkages (Aggarwal 1998). The challenge of institutional reconciliation is not, however, unique to the creation of new ones. In lieu of creating new institutions, policy-makers might also modify existing institutions for new purposes. For instance, faced by seemingly intractable balance of payments problems in Africa in the 1990s, the IMF developed new structural adjustment programmes that overlapped substantially with those of the World Bank. When modifying institutions, members therefore must also focus on issues of institutional compatibility. Moreover, bargaining over institutional modification is likely to be strongly influenced by existing institutions.

A few examples will illustrate these ideas. One can think about the problem of reconciling institutions from both an issue area and a regional perspective (Oye 1992; Gamble and Payne 1996; Lawrence 1996*a*). Nested institutions in an issue area are nicely illustrated by the relationship between the international regime for textile and apparel trade (the Long Term Arrangement on Cotton Textiles and its successor arrangement, the **Multifi ber Arrangement (MFA)** that was phased out completely in 2005) with respect to the broader regime in which it was nested, the GATT. When the Executive Branch in the US faced pressure from domestic protectionist interests simultaneously with international pressures to keep its market open, the American administration promoted the formation of a sector-specific international regime under GATT auspices. This nesting effort ensured a high degree of conformity with both the GATT's principles and norms as well as with its rules and procedures (Aggarwal 1985, 1994). Although the textile regime deviated from some of the GATT's norms in permitting discriminatory treatment of developing countries' exports, it did follow the MFN norm, which called for developed countries to treat all developing countries alike.

The APEC grouping, created in 1989, illustrates the concept of regional nesting. APEC's founding members were extremely worried about undermining the GATT, and sought to reconcile these two institutions by focusing on the notion of 'open regionalism'—that is, the creation of APEC would not bar others from benefiting from any ensuing liberalization in the region. APEC members saw this non-discriminatory liberalization as a better alternative to using Article 24 of the GATT, which permits the formation of discriminatory **free trade areas** and **customs unions**, to justify this accord (see Ravenhill Chapter 6 in this volume). Rather than forming an institution that could conflict with the promotion of GATT initiatives, therefore, APEC founding members attempted to construct an institution that would complement the GATT. Furthermore, APEC members wanted to avoid undermining existing sub-regional organizations, in particular ASEAN. This clearly restricted the level of obligation and delegation that could have been transferred to the newly created pan-regional organization (Dupont 1998).

An alternative mode of reconciling institutions would be to simply create 'horizontal' institutions to deal with separate but related activities, as exemplified by the division of labour between the GATT and the Bretton Woods monetary system (IMF and World Bank). In creating institutions for the post-Second World War era, policy-makers were concerned about a return to the 1930s era of competitive devaluations, marked by an inward turn among states and the use of protectionist measures. These 'beggar-thy-neighbour' policies were found across economic issue areas, and individual action by each state worked to the detriment of all. As a consequence, the founders of the Bretton Woods monetary system also turned their focus to creating institutions that would help to encourage trade liberalization. By promoting fixed exchange rates through the IMF and liberalization of trade through the GATT, policy-makers hoped that this horizontal institutional division of labour between complementary institutions would lead to freer trade.

Finally, on a regional basis, one can see the development of the European Economic Coal and Steel Community and the Western European Union (WEU) as horizontal organizations. The first was oriented towards strengthening European cooperation in economic matters (with, of course, important security implications), while the WEU sought to develop a coordinated European defence effort.

Conclusion

This chapter has sought to provide a systematic analysis of the problem of collaboration in global political economy through the lenses of types of problems, games, and institutions. We have seen that states may need to collaborate or to coordinate their actions to keep economic globalization on track because they may face problems of free riding, an inhibiting fear that their efforts will lead to instability for their economy, and the need to find coordination points that have varying costs and benefits to the participants.

The problem of free riding or the difficulty of finding a coordination equilibrium is a common one on a number of issues, including trade, monetary cooperation, the environment, human rights, and the like. Despite some limitations, game theory provides useful insight into the diverse set of problems that states may face in collaborating or in coordinating their actions. One of the most commonly used games, the Prisoners' Dilemma, has been utilized to show that in many issue areas, actors have a strong incentive to defect despite the potential joint gains that they may receive. Yet as we have shown, many problems in international political economy are not Prisoners' Dilemma games, but instead may be better characterized as Chicken, Assurance, Suasion, or even Harmony games. By carefully examining the types of problems that actors face in a particular issue area and the structure of pay-offs, game theory provides insight into the constraints on joint action.

It is worth keeping in mind that the preferences that go into creating games are often assumed by many analysts—particularly those in the neo-realist institutionalist and neo-liberal institutionalist camps. Where do preferences come from and are such preferences amenable to change? It is on this dimension that constructivist arguments focusing on the role of experts, changing knowledge, and possible shifts in preferences through learning may provide significant insight that can help us to create more logically compelling games.

Once we can establish the basic game structure that actors face, we can better examine what role institutions might play in ensuring more favourable outcomes. In some cases, contrary to the perspective often taken by neo-institutionalists, institutions may not really be necessary for ensuring cooperative state action. Hence, we examined the types of situations in which self-help might lead to a positive outcome versus those in which institutions might play a genuinely useful role in overcoming collective action problems.

The role of institutions in fostering collaboration itself raises two puzzles. First, how might states collaborate in the first place to create institutions? This in itself raises an analytical problem that various theories have attempted to address. As we have seen, hegemons may have strong incentives to create institutions to constrain the behaviour of other actors and possibly their own domestic lobbies. Other approaches such as neo-liberal institutionalism focus on the strong incentives that major states may have in creating institutions and suggest that small numbers of actors may be able to overcome the usual collective action problems that may lead to free riding behaviour.

A second puzzle concerns the design of institutions. We focused on five dimensions to characterize institutions: membership, the stringency of their rules, their scope, the extent of delegation of power from member states to institutional bodies, and the centralization of tasks within the institution. The types of problems which actors face can partially account for specific institutional characteristics. Yet other factors also influence the design of institutions. These include the potential participants in the specific issue area, the knowledge and information available to actors, and the pre-existing institutional context. In particular, with respect to the last factor, the Asian financial crisis of 1997–8 and the ongoing proliferation of trade agreements raises an important issue about reconciling new and old institutions. The Asian financial crisis generated considerable conflict when some Asian countries sought to create an Asian Monetary Fund. In the end, this effort faltered in the face of IMF and US opposition, but East Asian countries have since aggressively sought to create regional monetary mechanisms and the biggest emerging countries have created their own multilateral development bank—the New Development Bank BRICS. In trade, the problems of the Doha Round have been accompanied by the proliferation of new bilateral and regional agreements with the development of new rules for international production networks. The extent to which such arrangements will continue to coexist with the WTO in a sort of two-pillar system (Baldwin 2016) or further undermine the WTO remains a crucial question that will have important implications for prospects of continued economic liberalization in the global economy.

? QUESTIONS

1. Why does globalization increase the pressure for international collaboration?
2. What is the most frequent problem of collaboration in global political economy?
3. What is the thorniest situation of collaboration in global political economy?
4. How can game theory help us understand problems of collaboration?
5. Can enforcement really be carried out in international political economy?
6. How can institutions help overcome obstacles to collaboration?
7. What is the link between the types of problems that countries face in the global economy and their choice of an institution?
8. What are some key characteristics that can be used to describe international institutions?
9. What theories or variables help to account for the choice of specific international institutional characteristics?

Test your knowledge and understanding further by trying this chapter's Multiple Choice Questions at www.oup.com/he/ravenhill6e

FURTHER READING

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