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# Markets, States, and Institutions

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It is a real pleasure for me to participate in this festschrift in honour of my good friend Kaushik Basu, to recognize his intellectual contributions, his contributions as a public intellectual, and his contributions as both a national and global public servant.

The subject of my chapter is one to which Kaushik has made profound contributions: markets, states, and institutions. In particular, I want to highlight how our thinking about this subject has changed over the past third of a century; and to provide an overarching framework into which these changes can be placed—a framework that both helps explain why the approaches taken in the past have been less successful than was hoped in promoting development, and provides some guidance for policy reforms and research going forward.

Earlier work both at the World Bank and within the development community more generally focused on necessary reforms to policy frameworks. These ‘reforms’—the now infamous Washington Consensus policies—mostly consisted of giving a larger role to markets in the allocation of resources.

When these reforms were less successful than hoped, there was a switch to a focus on institutions, including those of the public sector. It was recognized that the policy reforms had to be instituted by governments, and that governments often failed to do what was required. Thus, even if the overall agenda was to place a greater emphasis on markets, to accomplish that end one needed reforms in at least one key institution—the government—to bring that about.

There was a second rationale for a focus on institutions—there were pervasive market failures, and a hope that non-market institutions, on their own, would ‘step in’ to fill the gap. This belief was not based on any deep theory, but rather on the notion that with a market failure (say the absence of an insurance

market) there was an opportunity for a Pareto-improving non-market action. A strong Hayekian belief in decentralized evolution suggested that such evolution would lead society to higher and higher levels of well-being—especially to Pareto improvements. These beliefs were reflected, for instance, in the idea that non-market life insurance, say provided by the family or burial societies, would be adequate to address market deficiencies. No government intervention would be needed. This particular line of research, sometimes associated with Douglas North's early work, was laid to rest when Arnott and Stiglitz (1991) showed that the Nash equilibrium with non-market institutions could be *worse* than without these institutions. There is an incentive for such institutions to be created, but they may actually displace the admittedly imperfect markets, in such a way as to lower welfare.<sup>1</sup>

Both markets and states are, of course, institutions—institutions through which we allocate resources. It used to be argued that, in thinking about the best way of organizing societal systems of resource allocation, one assessed in which sectors the market should dominate, and in which sectors the state. The perspective was that fully private goods should be produced by the private sector; those associated with the delivery of public goods should be produced by the state.

Today we see the interaction in a more complicated way: in many cases, the two interact, in a complementary way, within the same sectors. For instance, there is the possibility of the separation of finance from production; government could provide finance for a typically publicly provided service, like education, but the production would be done through private enterprises. In the provision of infrastructure, there has been great interest in public–private partnerships (PPPs). In the financial (and other sectors) which might have seemed to fall naturally within the private sector, there is an important role for government regulation. And in some areas, government has had to do more: underwriting mortgages, providing finance for small businesses, and—especially in many developing countries—providing long-term finance.

While in recent years there has been a great deal of hyperbole over PPPs, in practice, there has been disappointment. PPPs often entail the government taking the risk, while the private sector takes the profits. So too, the conditions under which government can delegate to a private body the fulfilment of public objectives have been shown to be extraordinarily restrictive (Sappington and Stiglitz, 1987).

<sup>1</sup> See also Stiglitz (2000) and World Bank (2001). This result only holds if non-market insurers have no better information than market insurers. Given the restrictive conditions under which Nash equilibria within market economies achieve Pareto efficiency, there was little grounds for the presumption that this broad Nash equilibrium, involving market and non-market institutions, would be efficient. For a broader critique of these naive evolutionary ideas, see Stiglitz (1994).

The standard argument for introducing a role for government began with the theory of market failures—the work of Arrow and Debreu identified a large variety of circumstances in which private markets do not lead to (Pareto) efficient outcomes. Subsequent work by Greenwald and Stiglitz (1986) showed that whenever information was incomplete (asymmetric) or markets incomplete—that is, always—markets were not efficient. The presumption that markets were efficient, which had reigned since Adam Smith, was reversed: the presumption now was that markets were inefficient. There was always a potential role for government.

But while there was a *potential* role for government, it was not always obvious that government could fulfil this role. Attention shifted to government failure. While the theory of government failure is not as well-developed as that of market failure, it is clear not only that governments often fail, but also that such failures are not inevitable: even imperfect governments can result in an improvement in resource allocation. They can help markets work better. Indeed, it is hard to find any country that has had successful development in the absence of strong government interventions.

But as our understanding of government failures has increased in recent years, so too has our grasp of the depth of market failures—highlighted by the financial crisis of 2008.

More importantly, we have come to appreciate *markets as institutions that must be structured*. Markets do not exist in a vacuum. They are structured by public policy, by the rules of the game that are set by the government, for instance through laws that relate to corporate governance, competition policy, and labour market regulation.

These then are the central messages of this chapter:

- (a) In any society, resource allocations occur within institutions, so that the rules governing the institution are critical, particularly the rules determining how decisions are made within it. Institutions consist of multiple individuals, with differences in preferences and beliefs. A critical issue is how these are 'aggregated', so that the institution reflects in some adequate way those within the institution. This was the central question posed by Arrow in *Social Choice and Individual Values* (1951). His results were deeply disturbing, for he showed that there was no way of aggregating the multiple preference orderings of the different individuals comprising an institution that had certain desirable properties (like transitivity), in the absence of some restrictions on preferences and/or the choice set—other than dictatorship, where the actions chosen were those that reflected the preferences and beliefs of a single member. This negative result poses one of the great challenges for governance.

- (b) Societal resource allocations are the result of the interaction among these institutions. In recent years, economists have given a great deal of attention to ‘mechanism design’; that is, to the design of allocation mechanisms with certain desirable (usually efficiency) properties. But the set of institutions in place in any economy is not the result of rational deliberation over alternative mechanisms (even if our politicians understood what that entailed). Rather, they have evolved, with adjustment of one set of institutions or another in response to changes in the world and changes in ideas, including learning from past successes and failures. As a result, there is no presumption that, in any country, the existing set of institutions or the rules governing their interactions are optimal in any sense, that they produce either efficient or equitable outcomes. A key concept in institutional design has been ‘checks and balances’: a recognition that within an institutional arrangement (say government), there is the danger of the aggrandizement of power in the hands of a subset of individuals, or even a single individual, resulting in decisions that reflect that individual’s or those individuals’ perceptions or interests. At the societal level, the same issues arise: we should see different institutions as providing checks and balances on each other.
- (c) The functioning of markets (both the decisions made by individual institutions and the outcomes of the interactions among the institutions) depends on the rules of the game specified by the political process, which in turn depends on the rules of the political game and underlying characteristics of society, most importantly, the magnitude of economic inequality and the degree of solidarity and political cohesion. But the functioning of markets also depends on *trust*. No economy can rely on the enforcement of contracts through the legal system. Trust, especially as it relates to the functioning of market institutions, depends in part on perceptions of the legitimacy of the economic and political system, which in turn depends on perceptions of fairness and equity. In short, the functioning of the market depends on non-market institutions and beliefs and perceptions that reach beyond the market. By focusing too narrowly on markets, by creating markets that are seemingly disjointed from the rest of society, by taking excessively tolerant views of market abuses (of the kind that became rampant in financial markets before and during the 2008 crisis), market advocates may have actually undermined the success of markets.<sup>2</sup>

<sup>2</sup> That is, when markets are viewed as non-competitive, when they abuse the consumers that they are supposed to serve, when they are able to extract excessive rents, markets lose their legitimacy as mechanisms for allocating resources, and there will be less voluntary compliance

- (d) If a system of checks and balances among institutions within society is to work—to ensure that societal resource allocations do not come to reflect the interests and beliefs of a certain subset of individuals—then there cannot exist excessive economic inequality. For if there is excessive economic inequality, there is at least a risk that this economic inequality will get reflected in political inequality—in inequality in key public institutions. The voice of the wealthy will predominate both public choices (public allocations of resources) and in the setting of the rules of the game. In short, the emphasis of the World Bank and development economists more generally on the governance of public institutions is correct, but good governance is, in part at least, an endogenous variable. Lectures about good governance won't succeed if the conditions for good governance aren't there. Policy discourse should focus not just on what is entailed by good governance (e.g. transparency and accountability) but also on the conditions necessary to create and sustain good governance, e.g. reforms in economic policies that lead to greater equality both in market incomes and in income and wealth after taxes and transfers.
- (e) Everyone benefits from the good performance of the public sector—including having the rules of the economic game written in ways that support efficient and equitable outcomes. But since the public good is a public good, there will be an under-supply of efforts at maintaining good public governance, making it particularly easy for interest groups to capture the state. The rules of the game for the public sector have to recognize this and guard against it. We will discuss in Section 3 what this entails.

## 1 New Understandings of Markets

Since the development of the Walrasian economic model,<sup>3</sup> a particular view of the market economy has prevailed. It entails simplistic firms that maximize profits (or stock market value in a dynamic context), and households consisting of unitary actors, with households and firms interacting in competitive markets through a price mechanism. Economists celebrated the informational efficiency of prices, the ability of prices to provide requisite information from households to firms and vice versa: firms don't have to have knowledge

with the terms of (implicit or explicit) contracts. In *Freefall* (Stiglitz, 2010) I detail the host of abusive practices engaged in by the financial sector in the years surrounding the financial crisis.

<sup>3</sup> There were many key contributions over the more than a century during which that model evolved, including formalizations by Arrow, Debreu, and Samuelson.

of other firms' technology or of households' preferences, and similarly, households don't have to have any knowledge of technology or resource availability. It was all quite miraculous.

This view of the market economy relied on three critical assumptions that are worth noting for the purposes of this discussion: (a) In each institution (treating firms and households as institutions), there was no problem of preference aggregation. Indeed, the issue was not even recognized; (b) Each institution faithfully carried out what was agreed—there was no problem of contract enforcement; (c) All markets were competitive—no one had market power.

There were other assumptions, such as those relating to information, which are critical to the results concerning the efficiency of the resulting resource allocations. Advances in recent decades have shown the central role of over-simplistic information assumptions employed in standard analyses. For instance, even a small amount of information imperfection could generate a high level of market power, both within an institution (like a household or a firm; see for example Edlin and Stiglitz, 1995) or across institutions (monopoly and monopsony power; see Diamond, 1971; Stiglitz, 1985b, 2009, 2013). The absence of good information provides opportunities for one group to exploit others. Most fundamentally, as we have already noted, with even slight imperfections and asymmetries of information, there is a presumption that the market economy—even if it were competitive—is not efficient.

There was, in the traditional analyses of a market economy, no discussion of institutions and institutional interactions simply because institutions didn't matter. They were 'superficial'. We saw the world through institutions. In agriculture there was the institution of sharecropping; in finance, the institution of banks. But economics looked deeper, beneath the surface, to the underlying economic forces—the laws of supply and demand. Simply by studying these, one could understand resource allocations (including distribution of income).

In the past forty years, the foundations of all of these assumptions underlying the standard model have been challenged—and so too the belief that institutions didn't matter.

### 1.1 *Aggregation*

One example of a challenge to these assumptions involves preference aggregation. The family is now seen as consisting of several members, with often conflicting preferences and beliefs. Household resource allocations cannot be described as if the family maximized some family social welfare function. It is better described as the result of a complex bargaining situation. This is important, because there are changes, which in standard theory would make no difference, but which might affect the bargaining power of each member

and which affect the resulting resource allocations. One of the reasons for the success of the Grameen microcredit programmes is that they changed the power relationships within the household; so too for their mortgage programmes, which required the transfer of title to women, and which affected incentives for divorce.

Kaushik's pioneering work (Basu and Van 1998; Basu 1999) on child labour shows how changing the rules—not allowing child labour—can have general equilibrium effects, which are welfare enhancing.<sup>4</sup>

In the case of the firm, it has been shown that the conditions under which there is unanimity about what the firm should do are very restrictive.<sup>5</sup> There has to be a full set of Arrow–Debreu securities.<sup>6</sup>

The modern theory of the firm (Berle and Means 1932) has emphasized that there are multiple stakeholders in the firm, and that managers do not necessarily and in general do not fully represent the interests of any group other than themselves. Because of imperfections of information, there has to be delegation of decision-making authority (Stiglitz 1985a), and managers will inevitably be decisive.

Importantly for our purposes, society has not left the working-out of the power relationships within either the firm or the household to the 'market'. Government sets the rules of the game, through family law and through corporate governance. Corporate governance restricts the power of managers, even as managers try to do what they can to increase their discretionary power (see, for example, Edlin and Stiglitz, 1995). And, of course, corporate executives fight hard for legal frameworks that give them more discretion. For instance, they fought hard against initiatives of 'say in pay', giving shareholders some say in the pay of the managers who are supposedly working for them (even when shareholder votes were non-binding). They suggested that the passage of say in pay would have a destructive effect on the functioning of the market economy: it would potentially curb their ability to extract rents from the corporation.

## 1.2 Contract Enforcement

Contract enforcement is of particular importance in the context of intertemporal contracts.<sup>7</sup> Again, the role of government is crucial: the government sets

<sup>4</sup> In this work, it is the rules governing society as a whole that matter.

<sup>5</sup> The conditions under which there is unanimity that it should maximize stock market value are even more restrictive.

<sup>6</sup> See Grossman and Stiglitz (1977, 1980).

<sup>7</sup> The importance of contract enforcement is highlighted by sovereign wealth debts, where the ability to enforce contracts is particularly limited, e.g. through reputation mechanisms (implicit contracts). See Eaton and Gersovitz (1981); Eaton et al. (1986).

the rules determining how contracts will be enforced, and even what kinds of contracts can be enforced. Individuals cannot sell themselves into slavery, but student debt can essentially never be forgiven, with lenders being able to garnish 25 per cent of a worker's wages for his/her entire life. When the costs of contract enforcement are very high, de facto it is as if they are only enforced through reputation mechanisms.

### 1.3 *Competition and Power*

The strength of the underlying competitive paradigm in explaining resource allocation is so strong and pervasive that we forget that a country like the United States developed on the basis of slavery—the involuntary provision of labour. For long periods of time, various forms of feudalism, restricting contracts that individuals or classes of individuals can undertake, persisted around large parts of the world. And even today, such restrictions effectively exist in some places. In many places, to increase the market power of one group, there were restrictions on what others could do (e.g. land ownership in apartheid South Africa).

In some cases, the deviations from competition were enforced through what might be viewed as a market mechanism as part of a repeated game. It is easy to see how 'cooperative' behaviour among one group can be used to exclude others. Social capital may strengthen the functioning of society, but it can and has been used to enforce power relationships (see Dasgupta and Serageldin, 2000; Dasgupta, 2005, 2012). In many cases, government actions were pivotal. In some cases, as in the case of racial discrimination in the United States, the two interacted.

This then is the fundamental dilemma: the government is often complicitous in one group's exploitation of another. But the government is the only means to 'tame the jungle'—to prevent powerful groups from exploiting others.

## 2 Public Governance

The previous discussion should have made it clear that the notion of a market economy without government intervention is a phantasm. Without government—one way by which society sets the rules of the game—there is a jungle. Power triumphs—until it is overcome by some stronger power.

In recent decades, economists have focused on the need for collective action. Society is better off if or when it acts collectively—through the provision of public goods, proscribing activities that give rise to negative externalities, and encouraging those that give rise to positive externalities. There can be Pareto improvements. But the most important arena for collective action is

the establishment of the rules of the game, enabling a market economy to function, enforcing contracts, and preventing the abuse of power, whether within an institution (e.g. through corporate governance rules) or within society (through antitrust laws).

I need to emphasize: these rules relate to both equity and efficiency—an obvious observation in the context of competition policy. Without such policies, there is a tendency in market economies for the growth of market power; and that results both in Pareto-inefficient allocations and in distributions of income in which those with market power gain at the expense of the rest.

In the standard economic model, the importance of these rules of the game was given short shrift. If the assumptions of the standard model were always satisfied, then these rules of the game might matter little. Unfortunately, as we have already noted, both for the economics profession and our society, those assumptions do not hold, and the formulation of economic policies on the belief that they do has had sometimes disastrous effects.

To be fair, much of the policy advice (especially in the context of development) over the past half century recognized that markets often didn't work well—though typically the onus was placed on government, blaming it for intervening in one way or another. The presumption was that if only government got out of the way, we would wind up in a world well described by the competitive ideal. That idea was, of course, absurd: in the absence of government intervention, markets do not gravitate towards the ideal, but rather in the opposite direction. The reason that countries have enacted competition laws is precisely that in the absence of government action, there is a tendency for excessive market concentration. Historically, many government interventions have arisen out of public demands seeing massive market failures: interventionist (Keynesian) macro-policies from the excessive volatility of market economies, with persistent high unemployment; social security from the failure of the private sector to provide annuities at reasonable transaction costs; unemployment insurance and other social insurance from the failure of the market to provide adequate risk mitigation instruments, etc. Historically, many government interventions have arisen from public demands after massive market failures: interventionist (Keynesian) macro-policies in response to the excessive volatility of market economies, with persistent high unemployment; social security in response to the failure of the private sector to provide annuities at reasonable transaction costs; unemployment insurance and other social insurances in response to the failure of the market to provide adequate risk mitigation instruments, etc.

But here, standard economics often makes two other mistakes: (a) assuming that so long as market imperfections are not too large, the economy can be well described by the competitive equilibrium model; and (b) ignoring the theory of the second-best.

Rothschild and Stiglitz (1976) and Diamond (1971) laid to rest the first idea: even arbitrarily small information imperfections can have very large effects on the nature of market equilibrium.

Policy analysts understood that it was impossible to achieve anything like the ideal world envisioned in the competitive equilibrium model. There would be information imperfections and incomplete markets. These were *inherent* market failures—not in any way related to government actions. But they assumed that moving towards that ideal would lead to better outcomes—and if we got close enough, we would achieve something like the ideal results envisaged by Adam Smith. Not only was there no support for this conclusion, there was also a strong theoretical literature (beginning with Meade, 1955 and Lipsey and Lancaster, 1956) showing that these results were not true. Later work showed that free trade—in the absence of good risk markets—could make everyone worse off (Newbery and Stiglitz, 1984). Capital market liberalization could lead to more economic volatility (a theoretical proposition—see Stiglitz, 2008) supported now by a wealth of empirical evidence (Rodrik, 1998).

Before the 2008 financial crisis, there was an agenda called ‘completing markets’—creating new structured financial products, arguably trying to get closer to the Arrow–Debreu complete set of risk markets. But more recent theoretical analyses have explained how this actually contributes to economic volatility (Guzman and Stiglitz, 2016a, 2016b), and there is now a consensus that these products were an important factor in giving rise to the crisis (FCIC, 2011).

Thus, the standard competitive equilibrium model is not the ‘right’ model for thinking about much of what goes on in the economy. Not surprisingly, it is particularly unsuited for reaching an understanding either of recent macro-economic volatility or of the large increase in inequality. But it is not even the best model for thinking about the slowdown in economic growth, for explaining the growth of short-termism in the economy and its increasing financialization. These changes are *not* the result of enhanced understandings of economics, leading to improved strategies by firms or improved policies by government.

An important development in economics in recent decades has been game theory—predicated on the belief that what matters is strategic interactions of a kind that simply don’t exist in the standard competitive model. An important insight of game theory is that the rules of the game matter. Market participants know this.

There is thus a metagame over the determination of the rules of the game. The rules of the game are set by the state, by government. Much of the fight today is over the determination of the rules governing labour—with corporations attempting to eviscerate the power of unions; competition

policy—with big behemoths arguing that their anti-competitive behaviour is really efficiency-enhancing and in the interests of ordinary consumers; and corporate governance—with those controlling large corporations trying to ensure that they have freer rein in doing what they want to do, including seizing for themselves a larger share of corporate revenues.

In *Rewriting the Rules* (Stiglitz et al., 2015), we argued that beginning around a third of a century ago, the rules of American capitalism (and those of much of the rest of the advanced world) were rewritten, changed in ways that favoured the powerful at the expense of the rest. The liberalization agenda was actually a ‘special interest’ agenda, allowing, for instance, those in the financial sector to reap huge rewards from excessive risk taking, with the downside risks being borne by the public.

The adverse effects of these rewritten rules were even greater because they led not only to more inequality, but also to lower growth, as they encouraged firms to focus on short-term financial returns, and to use their scarce capital for purposes other than investment in productivity enhancement.

### 3 Reducing the Likelihood of State Capture

The central issue, as we noted in the introduction, is that, while good governance is essential for a well-functioning society, ensuring the public good—which a good set of rules does—is itself a public good, from which all benefit. There is always an undersupply of public goods (on their own), and this includes efforts at maintaining good public governance. By contrast, there are ample incentives to subvert good governance, resulting in efforts at rent seeking and state capture—using the power of the state, including its powers of compulsion, to advance particular interests.

There is no easy or simple resolution to this problem. Some countries have done a reasonably good job of ensuring that the state advances the public interest; some have failed. Out of this wealth of experience—backed by a modicum of theoretical analyses—there are some precepts that may be useful.

First, transparency is essential. Transparency in the public sphere is what good information is in the private sphere: without transparency, it is easy for special interests to divert state resources for their own purposes. Transparency includes the *right to know* (see e.g. Florini, 2007 and Stiglitz, 1999)—to know what the government is doing; and the right to disseminate (i.e. a free press)—the right to tell (Islam 2002). But transparency also entails more: the provision of information is itself a public good, so that there will be an undersupply in the absence of government action to correct for this market failure (see Stiglitz 2002).

Transparency is often linked with accountability: there have to be consequences for one's actions. In the absence of transparency, there cannot be accountability. The problem though is that the relevant outcomes (societal outcomes, or even more limited outcomes, say in the education sector) are the results of actions taken by multiple individuals, and it is typically impossible to parse out the (marginal) contribution of any single individual. And in many areas, the lags between the actions and the consequences may be large, with many intervening events.

Among the most important aspects of the design of the public sector is a system of checks and balances, to reduce the risk of capture—with checks and balances, state capture requires a hold over multiple branches of government. But while a system of checks and balances makes capture more difficult, special interests have still managed to overcome the obstacle.

Thus, the system of checks and balances has (so far) prevented one branch of the government dominating over another; but it has not prevented powerful groups from capturing the entire government, or to put it more mildly, from exercising disproportionate influence, of a kind inconsistent with democratic values. This failure can be traced to the failure of a broader set of checks and balances—within our society. As inequality grew in the United States during its gilded age, it became increasingly clear that excessive income and wealth inequality would lead to excessive political inequality. The reforms of the Progressive Era, including antitrust measures, were motivated by an understanding of the political process more than by insights from competitive market analyses. Their architects realized that ordinary sensibilities about what democracy and the principle of one-person-one vote mean were undermined in societies in which there is excessive inequality.<sup>8</sup> It was apparent that economic inequality was being translated into political inequality.

The United States shows the dangers of economic inequality getting translated into political inequality, as the Republican Party (disproportionately representing those at the top)<sup>9</sup> has in many states engaged in a strategy of disenfranchisement and disempowerment, making it more difficult for those at the bottom to vote and more likely that if they do vote, their vote won't matter. They have openly engaged in gerrymandering. The Republican-appointed justices of the Supreme Court, in its infamous *Citizens United* decision in 2010, seemingly argued that money was not corrupting the political process.

Elsewhere, I argued that these and other changes in America's political processes meant that it might better be described as a democracy with 'one dollar, one vote' rather than 'one person, one vote' (Stiglitz, 2012).

<sup>8</sup> See Stiglitz (2015).

<sup>9</sup> Though as the 2016 election showed so clearly, with significant support from other segments of society.

Because the public good is a public good, society ought to do what it can to promote civic engagement in promotion of the public good. We now recognize the central role of civil society—groups within society getting together, voluntarily, to advance their conception of the public interest.<sup>10</sup> That is, collective action occurs not just through national governments, but through a host of institutional arrangements, some government (local governments) and some non-governmental. The government can (and should) subsidize and encourage, in a variety of ways, these organizations, because they are the means by which the voice of various groups within society can get injected into the political process.

This is one of the ways in which thinking about development (markets, states, and institutions) has changed: as we noted in the introduction, we used to view society in dichotomous terms—states or markets (sometimes emphasizing their complementarity). But there are a host of other institutional arrangements and players—the most successful institutions in the United States are arguably not-for-profit educational institutions. In fact, for-profit universities are among the least successful institutions. Even in the United States, in many areas, cooperatives play an important role (credit unions and agriculture cooperatives are two examples).

#### 4 Concluding Remarks

This essay is about both economic policy and economic methodology. I have argued that the standard workhorse model of economics, the competitive equilibrium model, provides a poor description either of advanced or developing economies, and policy frameworks based on that model have proved less effective than hoped.

In one of his last acts as chief economist of the World Bank, Kaushik brought together past chief economists as well as other development experts to see whether there was a post-Washington Consensus consensus. There was—articulated in the Stockholm Consensus. The theoretical models underlying that new consensus go well beyond the standard competitive equilibrium model. So too, the policy advice goes beyond ‘improve markets’ and ‘increase resources’.

I have argued that the pervasive imperfections of competition imply the relevance of game theory. And the constant changing in the economy—both in response to new ideas and new technologies—suggests the relevance of ideas borrowed from evolutionary theory. But it is evolution without teleology, without any notion that we are necessarily moving in directions that make everyone in society better off. Indeed, in some cases, societies can get

<sup>10</sup> Of course, special interests often try to cloak themselves in the guise of civil society, and it is not always easy to distinguish between the two.

caught in low-level equilibrium traps; in others, some gain, but at the expense of others.<sup>11</sup>

This chapter argues that economists should strive to base their policy advice on a broader set of models—of understandings that go beyond economics narrowly defined. But it also argues that much of the standard policy advice is not based on a deep grasp of economics. Standard policy has failed to understand the implications of the theory of the second-best, the lack of robustness of the standard model—where small deviations from idealized assumptions have great effects—and has not really acknowledged that markets need to be structured.

The standard model portrays the market economy as a fine-tuned machine. Economists' job is only to keep it well oiled, and more importantly, to stay out of the way—to make sure that government intervention didn't muck up the works. But upon closer examination, it is clear that market economies, unless tempered, create a dynamic that may not be consistent with their own (successful) survival: a selfishness, which breeds inequities and injustices; a lack of trust and dishonesty, which undermines the functioning of markets themselves; and a weakening of the state, which makes it unable to govern the market and to make investments that can sustain learning. Can we have cheap labour and well-heeled consumers? For a time, perhaps, but recent history suggests there will eventually be an unravelling.

The rewriting of the rules of the market economy a third of a century ago, to advance the interests of the wealthiest, impaired the functioning of the market. This led to slower growth and more instability—including the largest economic crisis in three quarters of a century. Markets can be self-destructive. The market needs to be saved from itself.

But the political process that might do this has increasingly been captured by the wealthy in society. The United States prided itself in creating a system of checks and balances between branches of government. While the dangers of gridlock may not have been fully anticipated, many in the elites may find the dysfunction to their liking: a political system too weak to stop their exploitation of others, too weak to even impose a tax system with a modicum of progressivity. (In the United States, unlike almost any other advanced country, the very rich actually pay quite a low effective tax rate.)<sup>12</sup>

<sup>11</sup> For a brief discussion of these traps, especially viewed within an evolutionary context, see Hoff and Stiglitz (2001).

<sup>12</sup> This low effective tax rate was underlined by the revelation in 2012 that Mitt Romney, the Republican presidential candidate at the time, had paid less than 14 per cent of his *reported* income in taxes. Romney practically boasted about the low rate he enjoyed, saying in a debate that 'I pay all the taxes that are legally required and not a dollar more.' It is a pathology of American political discourse that bragging about gaming the system for personal gain has become, in some quarters, the mark of a 'good businessman' and not a sign that someone is deficient in civic responsibility. This pathology was of course on display during the campaign of the current US President, Donald Trump.

But in a deeper sense, in terms of the functioning of society and the political system as a whole, there is an absence of checks and balances—no way, short of a wholesale recommitment to an agenda of greater equality, of preventing those at the top from continuing their aggrandizement of power; no way to prevent the concentration of economic and political power; no way to ensure a true democracy even in the market place of ideas.

In the introduction, we noted that markets do not exist in a vacuum. They have to be structured, and they have to be seen in the context of the richer ecology of institutions within our society; so too for non-market institutions, most importantly the state.

Kaushik is one of the few economists who has seen markets, the state, and institutions within this holistic framework, and who has demonstrated the ability to use models in the way they should be. Simple models can provide important insights, such as his path-breaking work on child labour. One needs precisely the right degree of complexity—to capture that which is relevant, excluding the extraneous; and the right degree of simplicity—so that one can thoroughly understand what is going on. But too often, economists who have proven their mettle in model formulation and analytics lose the ability to exercise judgement when it comes to policy. They do not understand the limitations of each model and how to blend the insights of various models together coherently, with the whole being greater than the sum of the parts. It is because Kaushik was able to combine these deep analytic skills with this superb judgement that he has been such an outstanding public servant.

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