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The New Institutional Economics Approach to Economic Development: A Discussion of Social, Political, Legal, and Economic Institutions

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1. INTRODUCTION

The last 50 years of development economics have seen hopes for global development raised high and dashed time and again. While there has been positive, sometimes even impressive, growth in many countries, in most of the world experience has not matched expectations. The accumulation of physical capital and human capital, liberalisation and privatisation have all been proposed as the elixirs of growth. While all these arguments have some merit, by themselves they are incomplete solutions to the problem of development. The disappointing performance of the post-Communist transition, the slow growth of the 1970s and 80s in Africa and Latin America, and the Asian financial crisis of the 1990s were all rooted in poor governance. Good governance involves aligning the incentives of agents with the interests of principals in both economic and political spheres. This paper describes some insights from New Institutional Economics on how best to design these incentives.

The ‘Washington consensus’ in the 1980s urged developing country governments to liberalise their banking systems, privatise inefficient state enterprises, and reform their tax structures—all of which were causes of serious fiscal problems—and this advice was likewise passed on to the post-Communist countries of Europe and Asia in the early 1990s. However, such liberalisation, privatisation, and tax reforms in fact created serious instability, inequity and inefficiency, because they were carried out without the regulatory and legal frameworks, and government rules and structures, that make banking systems, corporate governance, and tax collection work effectively in advanced industrial countries. Some of the most useful applications of NIE are to show what institutions are required to make the standard economic policy advice actually work in practice.

In contrast to the old institutional economics, which was focused on case studies of organisation and preference formation, the New Institutional Economics (hence NIE) combines economic theory with the analysis of institutions. In contrast to the old

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institutional economics, New Institutional Economics does not have any disconnect with mainstream economics on the paradigm of the nearly rational, nearly self-interested individual. Rather, the main message of NIE is that economic activity is plagued with transactions costs and collective action problems. These *transactions costs* include uncertainty about the trustworthiness of sellers or borrowers and administrative costs that are borne to reduce these uncertainties. These transactions costs can be mitigated, and the scope for markets expanded, by establishing appropriate *institutions*, defined as rules and the enforcement of rules. Rules that are written and enforced by the state are called formal rules. Rules that are unwritten and enforced by groups within society are called informal rules.

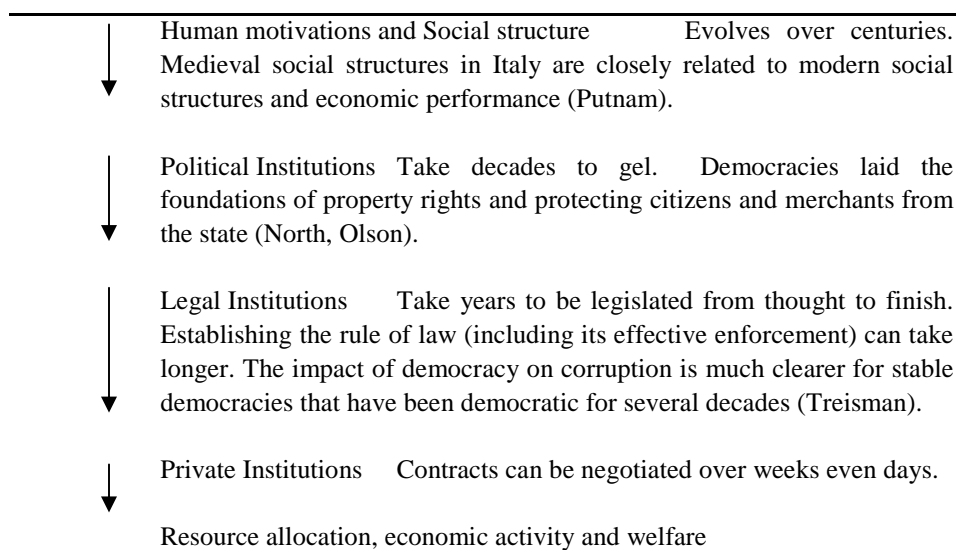
To take a concrete example, people may not be willing to lend because they do not expect to be paid back. Institutions such as commercial laws providing for lenders to be paid back in the order in which they lent money to the debtor, and predictable law enforcement, might increase the willingness of lenders to lend money to borrowers. The market for loans is also augmented by good collateral laws. Similar arguments can be made for the development of equity markets. More sophisticated versions of these arguments can be used to show the potential benefits of group lending in the context of microfinance. In the context of international financial flows, bank fiduciary requirements and corporate governance may reduce financial risks for international investors, as well as the financial exposure of developed-country governments that de facto insure many such investors.

The paper is organised as follows: I begin by describing Williamson's (1999) hierarchy of institutions: social structure and human motivations that take centuries to evolve, political institutions that take decades to gel, legal institutions that take years to be legislated, and the use of law by private parties that can be established over much shorter periods. I then discuss each of these sets of institutions following the order of Williamson's hierarchy.

2. A HIERARCHY OF INSTITUTIONS: SOCIAL STRUCTURE AND HUMAN MOTIVATIONS, POLITICAL INSTITUTIONS, LEGAL INSTITUTIONS, AND ECONOMIC PERFORMANCE

Several layers of institutions are important for institutional development and economic performance. These layers, from the slowest moving to the fastest moving are: human motivations and social institutions, political institutions, legal institutions and private institutions (Figure 1).

While there is an extent to which all these institutions are endogenous, there are two reasons why we ascribe causality from social structure to political institutions, political institutions to legal institutions, and legal institutions to the use of law by private parties. First, an institution that changes more quickly is more likely to change in response to a slow-moving institution than vice versa. Second, there is a clear sense in which political institutions (like legislatures and executives) affect legal institutions (like laws and their enforcement); and legal institutions (like commercial laws) affect how private parties use these laws.

Fig. 1. A Hierarchy of Institutions [Williamson (1999)]

3. HUMAN MOTIVATIONS AND SOCIAL STRUCTURE

Let's begin with human motivations and social structure. These include the extent to which: people in society care about each other's welfare; citizens are imbued with civic virtue that motivates them to follow politics and vote in elections; public officials and school teachers are motivated by something other than wealth maximisation; the social networks that exist among people in similar professions and across classes and professions; and the extent of ethnic diversity and income inequality in society.

In his eloquent new account of development "Development as freedom" (1999), Amartya Sen has argued that human beings define themselves and are motivated by what they do as much as what they consume. Rather than merely using our capabilities to earn wages and consume goods, we also use our entitlements to develop our capabilities. Excelling at using our capabilities gives us as much satisfaction as consuming goods. Even though it may be cheaper to give large welfare payments to the handicapped rather than make every building wheelchair accessible as a way to maintain the consumption levels of the handicapped at reasonable levels, this may not be the optimal way to organise society, because it ignores the satisfaction the handicapped can get by doing their jobs well. In the context of development this provides an argument for "trade not aid" or at least "open markets and institutional reform not handouts".

Economists' narrow view of human behaviour that people are rational and selfish is useful when designing private institutions but not always helpful for the design of political institutions. People do vote and in some societies civil servants do not take bribes when they are offered. An empirically grounded theory of human motivations that is consistent with evolutionary arguments and makes useful and generally accurate predictions is sorely needed, but is no where near completion.

One reason why such a theory is needed is to improve our understanding of social order. As mentioned above, the foundation of social order is the bedrock of development

and is contingent on the citizenry being politically engaged and willing to play fair. North, Summerhill and Weingast (2000) have an excellent theoretical statement on the foundations of social order and its application to the comparative development of North America and Latin America. Social order consists of:

- (1) A shared belief system about the rights and privileges of private parties and public institutions.
- (2) The clear statement of these rights and privileges.
- (3) Implicit or explicit incentive structures that prevent officials from exceeding the bounds of their authority—these include limited benefits from deviations, and fear of reprisal.
- (4) A clear and shared understanding on the part of the population of what constitutes a deviation from expected behaviour, and a willingness to rebel or retaliate.
- (5) A shared understanding of the legitimacy of rules and a widespread willingness to follow them, so that deviations are rare and can effectively be punished.

Less dramatic versions of 4. could place some checks and balances on other branches of government, but there is some ultimate sense in which the answer to Juvenal's question "*Quis custodiet ipsos custodes?*" (But who will guard the guardians?) is that a shared belief system among the citizenry about acceptable and unacceptable behaviour by the government and a willingness to punish an errant government is needed to keep the government honest.

Constitutions inspired by the US constitution were adopted in Latin America but largely failed to firmly take hold. The North American experience with self-government in the British colonies had led to a shared belief system about the proper role of government. This, combined with the federal system, which made states compete with each other, limited the extent to which government would try to grab assets. A peaceful and prosperous equilibrium was thus maintained till the civil war. Latin America, by contrast, had little experience with democratic self-government until the 19th Century, and found that constitutions unsupported by belief systems and civic virtue, could neither constrain governments nor keep the peace.

The reason that military coups are unthinkable in developed countries is that soldiers would not accept certain kinds of orders, even from their direct commanders. The oaths of allegiance soldiers take are not dissimilar. It is a belief system on what is right and what is wrong that is the foundation for a reliably democratic social order. One of the reasons for the frequency of military takeovers in Pakistan is that there is not a clear, unambiguous and strong antipathy to military governments. Members of the armed forces are never socially shunned because of their involvement in military takeovers. Most Pakistanis would prefer a democracy but the strength of their feelings is not strong enough to prevent military takeovers.

One of the insights in the work of North, Summerhill and Weingast is that in societies where there is a weaker consensus on what actions governments should and should not do, and a less engaged citizenry the role of government should be limited. While proactive government may work in Nordic countries, expanding the role of government elsewhere is likely to lead to pathological misgovernance. The optimal level

of anti-trust activism and the complexity of competition policy are perhaps lower in developing countries. Changing belief systems themselves while important is outside the scope of what aid project and donor assistance can reasonably achieve—with a few caveats listed below. Crafting political institutions that can be realistically sustained by the available civic virtue is a more useful activity.

Casari and Plott (2001) have an excellent experimental paper demonstrating how human vices such as spite might be harnessed to improve outcomes. They replicated a centuries-old institution used to protect common property resources in the Italian Alps, in a classroom laboratory. This system, called “carte de regola,” rewards the discoverer of a violation with part of the fine charged to the violator. This effectively harnesses the behaviour of spiteful agents, who spend resources identifying violators rather than over-consuming, which they would otherwise do. Casari and Plott find that there are spiteful agents who willingly engage in finding and punishing violators even when incentives aren’t strong enough for strictly rational agents to do so. When incentives are sharpened to the point where even strictly rational agents would spend resources identifying violators, the efficiency of outcomes sharply increases. One important lesson from this experiment is that rather than try to change human nature, smart institutional design should harness both selfishness and other morally questionable human qualities, such as ambition and spite, for socially useful purposes.

Recent empirical research has linked history and geography through their effects on social structure to modern legal and political institutions [Easterly (1999), Engerman and Sokoloff (1998), Acemoglu, Johnson, and Robinson (2000)]. The comparative advantage of certain regions at producing certain kinds of goods (sugar, cotton) which had economies of scale in production, led to large inequalities in land, income and wealth. Inequality, in turn, appears to affect several of the proximate causes of development, commercial laws, the rule of law, education levels and trade openness, and consequently economic performance. Alternatively, settler mortality may have affected settlement patterns, the character of colonial institutions, and since these were inherited by post colonial states, modern day institutions.

Some policy-makers are disheartened by such findings because history and geography cannot be changed. But these findings do *not* imply that colonial origins, comparative advantage in producing certain goods, or religious makeup are destiny. They merely state that these things are correlated with the proximate causes of development today. A society that chose to improve its performance on the proximate causes of development and enact better commercial laws, reliably enforce laws, educate its population or perform sensible land reform would reap the fruits of this labour, irrespective of its colonial origin and religious makeup. Indeed, some countries of French legal origins have reformed their commercial laws and found that this led to improvements in financial development. Men can make their own history even if not in circumstances of their making.

The collective noun “men” in the previous sentence of course includes women too as is standard in English usage. But there are instances where women’s involvement is particularly important. Swamy, *et al.* (2001) have found that women disapprove of corruption more than men in most countries, and that countries where women are more engaged in market work and public life have lower levels of corruption. Moreover,

empowering women at the level of the household leads to increases in expenditures on health and education, and this may also be true at the level of government. Chattopadhyay and Duflo (2005) have found that Indian localities with women policy-makers are more likely to provide public goods that women want. Mala Htun has found that female parliamentarians in Argentina are more likely to be members of health and education committees and introduce legislation on health and education than men. This suggests that societies should be able to leverage their existing civic virtue by removing the barriers that prevent women from engaging in public life.

4. POLITICAL INSTITUTIONS: DEMOCRACY, THE SEPARATION OF POWERS, AND DECENTRALISATION

I now turn to the second set of institutions in the schema: political institutions. Political institutions consist of the methods of selecting the government (dictatorships and democracies), the separation of powers within government (whether the executive, legislature and judiciary are separately elected and de facto independent of each other), the extent to which citizens can participate directly in rule making through referenda, how powers are assigned to federal and local governments, and the existence of a free press.

The historical work of North (1983, 1990), Olson (1993) and others has argued that democracy creates the political foundations of secure property rights. Indeed, it seems that democracy was created to protect the rights of merchants and nobles from expropriation by the king. Citizens are likely to vote out a government that systematically violates property rights; indeed, no government facing democratic political disciplines has ever abolished private property. Recent econometric work has shown that property rights are more secure in democracies than autocracies, and corruption levels are lower in stable democracies.¹

Besides the question of whether or not elections are held, there is the issue of how many elections are held. Separate elections for the executive, legislature and even other branches of government like the attorney general may help keep governments honest. The introduction of the long ballot, where citizens directly choose a large number of public officials was part of the reform of local governments, which transformed local politics in America from generally dishonest to generally honest. In almost all developing countries the attorney generals at all levels of government are appointed by the executive. There, officials have—to put it politely—weak incentives to investigate the executive branch. Corruption, which is a criminal charge, can only be prosecuted by the attorney general's office in many countries and consequently corruption cases against sitting governments are rare. In the U.S., by contrast, 44 out of 50 states have directly elected attorney generals. These officers are not beholden to the executive branch and may even have positive incentives in terms of their political careers to successfully conduct high-profile investigations. Once cases have been filed and facts found at the local level, even a politically appointed attorney general in the federal government can not allow cases to be properly prosecuted in federal court. In an experimental analysis Azfar and Nelson (2007) do find that directly elected attorney generals are more vigilant than appointed attorney generals.

¹Clague, *et al.* (1996), Treisman (1999).

In many countries, powers are not even separated between the executive and the legislature. In Indonesian local elections circa 2000, citizens only voted for a party, the party has a list of candidates who got a seat in the council depending on their order on the party list and the fraction of votes their party got. The party list could be changed *after* the election! When the members of the council finally took their seats, they voted for the mayor (Bupati). Reports suggested that each stage of this process is corrupt: would-be councilmen paid for positions on party lists, would-be mayors bribed councilmen for votes. Such practices were so prevalent that the Indonesians have coined a word for them: “money-politics”. There were also reports of other forms of legislative corruption, in voting for laws and in voting on the budget. Citizens felt disconnected from government as they never voted for any one person they could hold accountable. Survey results indicated that Indonesians would not vote for the same mayor the local council elected and that they thought that the quality of government service would improve if the Bupati was directly elected [Azfar (2002)]. Eventually the system was reformed and direct elections were introduced.

Improperities in campaign finance are a frequent and serious cause of misgovernance. The problem lies in the choice between privately financed campaigns, which lead to unsavory quid pro quos, and publicly financed campaigns which would favour the incumbent. The solution may lie in a system of electoral lotteries, financed by the government which combine the ability of the market to gather information and the ability of the public sector to raise revenues. The government could put up a certain amount of prize money and offer lottery tickets for various candidates, which could be redeemed if the specified candidate won the election. As an illustrative example for the U.S., the U.S. government could auction off lotteries worth \$ 100,000,000 a month starting a year before the election. The sum total of costs would be \$1.2 Billion, which is small change for the U.S. treasury. The price of the lottery tickets would signal that people thought there was a non-trivial probability the person would win the election, or perhaps that people support the candidate and are buying the lottery tickets as a form of contributing to the campaign. To prevent prices being set by a few players in the market, the government could limit the number of lottery tickets any one individual could buy at \$1000. Thus the price would reflect the probability that the 100,000th buyer placed on the candidate (if buyers were ordered by the prices they were willing to pay). With an appropriate cap the money raised by the sales of tickets for the candidate would go to the candidate. The auctions would generate much interest in the press and financial markets and might actually help citizens focus on politics. The sums of money involved for other countries would be much smaller and the period over which the auctions are conducted would also typically be shorter in line with the shorter campaign periods in developing countries.

Another important dimension of political design is the extent to which powers are concentrated in central or local governments. The political experience of the United States gives cause to be hopeful for local government. Citizens are interested in local politics, they follow local news and vote in local elections. Labour and capital are mobile across jurisdictions, keeping local governments honest and efficient. However, these political disciplines appear to be weak in the developing countries we have studied [Azfar, Gurgur, and Meagher (2004), Azfar, Livingston, and Meagher (2006)]. In

Uganda, a majority (70 percent) of citizens rely on community leaders for their information on local politics which may weaken political disciplines on local government. In the Philippines too, far more people use officials as a source of their news on local politics than is the case for national politics. In both countries, broadcast media is a more important source of information on politics than print, which indicates that the independence of the broadcast media is at least as important as the freedom of the press. In both countries, the propensity to vote and the reasons for voting are no better for local politics than for national politics. Cross-jurisdictional mobility is not driven by service provision in either country. In developing countries it seems that the presumptive political disciplines that are supposed to keep local governments honest are weak or absent. Indeed, of the 336 corruption cases in the Philippines current in mid-2000, nearly half (49 percent) were against municipal mayors [Batalla (2000)].

Another piece of evidence suggesting the newfound enthusiasm towards decentralisation may be misplaced is that cross-country regressions on the link between decentralisation and corruption fail to find consistent results. Fisman and Gatti (2000) find that countries where sub-national governments control a larger share of expenditure are less corrupt, but they acknowledge this could be driven by reverse causality, as the central governments in highly corrupt countries are unlikely to devolve expenditure authority to local governments. Treisman (1999), using a typology created by political scientists ranking some states as federal and others as unitary, finds that federal states are more corrupt.

Theoretical results on decentralisation are even more pessimistic. Bradhan and Mookherjee (1998) have pointed out that local governments may be more susceptible to capture by elites. Anyone familiar with the politics of rural Sindh would recognise their concerns. Moreover, vertical externalities between overlapping levels of government can increase public expropriation of the private sector to truly inefficient levels, as each level of government tries to maximise its take from the private economy. Azfar and McGuire (2002) have shown that even devolving authority from a rapacious autocracy to perfectly democratic local governments may not improve outcomes, because the central government would be so intrusive that the democratic local government would voluntarily decide not to engage in economic activity.

One caveat is in order. Decentralisation has greatly increased the contestability of political markets at the national level. Since the early 1990s as the pace of decentralisation has accelerated, the number of capital city mayors and governors of large provinces that are credibly competing with incumbents for the presidency has dramatically increased. This just might lead to great improvements in the quality of governance, but is currently an understudied and poorly understood phenomenon.

One possible policy implication of the findings of the questionable impacts of decentralisation is to urge caution on the pace and extent of decentralisation. Another is to provide technical assistance on building institutions that are complementary to decentralised governance. These include the development of human and physical capacity in local governments, the development of good accounting systems in local governments, the development of capacity in the local media and NGOs to monitor local governments, and systemising the use of surveys to elicit information on the needs of citizens and their rating of local government performance.

5. LEGAL INSTITUTIONS: LAWS AND THEIR ENFORCEMENT

The two fundamental theorems of welfare economics state that markets can achieve Pareto-efficient outcomes and that any Pareto-efficient allocation of goods can be achieved by some initial distribution followed by trade. These are powerful results which, when contrasted with the inefficiencies of state-led development, provide strong arguments for markets. It is now increasingly well understood how these theorems in fact provide an important positive role for the state. It is, after all, trade that is both voluntary and reliable which leads to these efficient outcomes. In the absence of the protection of property rights, many exchanges would not take place and markets would remain primitive and stunted. Reliable law enforcement is an important, indeed essential, public good that the state must provide to encourage economic development.

Phrased differently, the rule of law—which means that the rights and privileges citizens are clearly defined, impartially interpreted, and consistently enforced—is important to encourage economic activity. Creating the rule of law, however, is a non-trivial task. The actual demands on a legal system before it can reasonably be said to be governed by “the rule of law” are sophisticated and complex.²

Of all laws, commercial laws, which lay the foundation for the development of capital markets, are perhaps the most relevant to NIE. Commercial laws include collateral laws—which define the relationships between lenders and borrowers in debt markets—and corporate laws—which define the rights of shareholders in equity markets. Collateral laws and corporate laws are important for augmenting the markets for loans and equity, respectively [Azfar and Matheson (1999), Levine (1999)]. Perhaps even more important than specific laws is the quality of law enforcement. In all likelihood it is the enforcement of good commercial laws, rather than their mere existence, which encourages lenders to trust others with their money. Without the basics of law enforcement, merchants would even be reluctant to engage in spot transactions and fear for their very lives. Both good laws and their reliable enforcement are needed to augment markets. Indeed, law enforcement had a much larger effect on the development of capital markets than commercial law, and law enforcement has an independent effect on economic growth as well as an effect through the development of capital markets.³

“Justice delayed is justice denied” is an insightful aphorism on the needs for efficient justice. One of the most important weaknesses of many judicial systems is the years and even decades it can take for cases to be decided. Delays in justice in India are connected with poor economic performance and persistent poverty. I know anecdotally from Pakistan that land and rental markets are particularly badly affected by slow-moving justice. While focus has shifted to improving the speed of judicial decisions, the engineering approach taken by the “helicopter drops” of computers and equipment misses out on the perverse incentives of the participants: litigants who do not want cases decided and bribe judges to delay judgements, lawyers who are paid by court appearance, and so on. Legal reforms that placed limits on the numbers of adjournments and reasons for adjournment might have a larger impact on improving the speed of justice.

The direction of causality between legal and political development may not be unidirectional. If, for instance, corruption or malfeasance prevents elections from being

²Summers (2002) lists 18 requirements that must be satisfied by a law-based legal system.

³See Azfar and Matheson (1999).

fair even if they are nominally free, a society cannot be properly democratic. Just as contested political markets may underlie the rule of law, reliable law enforcement may underlie genuinely contested political markets. Similarly, the absence of the rule of law can allow the harassment of members of the opposition—and in systems with the separation of powers, of other branches of government. In Russia, for example, judges who attempt to circumscribe the actions of the government find their electricity supply becomes strangely unreliable. More generally, in societies where the quality of public services is uncertain and people rely on personal favours, the government can unduly influence people in the media, judiciary and opposition and undermine the effectiveness of formally democratic institutions.

Corruption—often defined as the abuse of office for personal gain—has significant overlap with poor law enforcement. There was for a long time heated debate about whether corruption helped or hindered development. Famous political scientists like Huntington (1968) and Leff (1964) argued that in the absence of corruption there would be even more severe constraints on commerce. In an article entitled “Economic development through bureaucratic corruption” Leff wrote “the only thing worse than a corrupt over-centralised bureaucracy is an honest over-centralised bureaucracy.” Myrdal (1968) provided an early dissent from this position, arguing that corruption undermines the positive role a state must play in development, and that one of the causes of over-regulation may be corruption itself. After serious empirical work began on corruption in the 1990s, economists have converged to Myrdal’s position. For instance, Lee and Azfar (2007) have shown that trade restrictions are more persistent in countries with high levels of corruption. The emerging consensus is that corruption does in fact undermine economic development.⁴

There is significant conceptual overlap as well as causal interactions between corruption and other dimensions of misgovernance. As a practical matter this makes it difficult to trace the cause of some poor socio-economic outcome back to corruption rather than to some other form of misgovernance. Corruption levels are highly correlated (inversely) with bureaucratic quality and the rule of law, which makes it difficult to identify which aspect of misgovernance is the culprit. However, because causal links between corruption and other kinds of poor governance—like poor bureaucratic quality—are both presumptively likely and occasionally even empirically identified—for instance if hiring is done on the basis of bribes not merit—it may be reasonable to state that corruption is responsible for some socio-economic pathology, even if the effect of corruption on the relevant outcome cannot be econometrically disentangled from other measures of governance.

This brings us to the question of how we might reduce corruption, or more generally how we might create the rule of law in developing countries. These are difficult questions. The reform of actual laws is relatively easy, the creation of the rule of law much more difficult though probably more useful.

⁴See Azfar, Lee and Swamy (2001) for a review. Corruption has been shown to lead to lower investment [Mauro (1995)], slower growth [Knack and Keefer (1995)], misallocated resources [Mauro (1998)], poorer health and education outcomes [Gupta, *et al.* (2000) and Azfar and Gurgur (2001)], and more restrictions on international trade [Lee and Azfar (2001)].

Yet the beginnings of an understanding to these difficult questions are beginning to emerge. Stable democracies lead to more secure property rights and lower levels of corruption.⁵ The separation of powers between the law enforcement branch of government and the executive may also reduce corruption. The random allocation of judges and prosecutors to cases, may make it more difficult for systemic corruption to get gelled into place [Azfar (2006)]. The rule of law can be improved by several mechanisms like the dissemination of laws in the press and on the internet, by allowing parties to agree to binding arbitration and private repossession of property following court judgments, and by restricting the reasons for granting adjournments of court cases. Deregulation and simplifying licensing procedures which remove the leverage to demand bribes may reduce corruption. Clear expenditure tracking from the central government, through local governments all the way down to delivery points appears to reduce corruption [Reinikka and Svensson (2002)], and the use of report cards on local governments may improve their performance [Paul (1994)].

6. PRIVATE INSTITUTIONS: DEALING WITH TRANSACTION COSTS IN INCOMPLETE CONTRACT, PRINCIPAL AGENT, AND ADVERSE SELECTION PROBLEMS

Perhaps the most interesting advances in economic theory have been on understanding how organisations try to minimise transactions costs (asymmetric information and the administrative costs of dealing with asymmetric information). We consider two such problems: the “principal-agent problem”; and the adverse selection problem.

The principal-agent problem refers to the problem of motivating an agent to take a particular action when the action is not observable. In broad terms, there are two kinds of principal agent problems. Both kinds of principal agent problem do not allow the principal to observe the agents action, however there are important differences in the outcomes the principal can observe: In the first kind of problem the principal can observe what he truly cares about—how many shoes are sold- and incentives can closely replicate first best outcomes; In the second kind of problem the principal cannot observe what he truly cares about—critical thinking- but only something correlated to it—test scores-. In this case incentives can be counterproductive distracting agents from what they would best be doing.

The analysis of the principal-agent problem started with the first kind of problem. The predictions of the theory were optimistic and counterfactual. Not only could the principal induce the agent to take the correct action, he could do it at essentially no extra cost—compared to the situation where the principal could directly observe the action. These predictions were due to the artificial simplicity of the models. Indeed, this was acknowledged early on, but the most useful insights were to come later.

Later analyses of the principal agent problem began with the demonstration that in more complex environments, incentives actually had to be more simple to prevent the agent “gaming” the incentive scheme [Holmstrom and Milgrom (1987, 1991)]. Incentives could depend linearly on outcomes—like shoe salesmen paid a fixed wage—

⁵ Treisman (1999), Clague, *et al.* (1996).

but not be much more complex; and incentives could only be contingent on something closely related to—but not identical to—the principal’s true interests. In addition to this need for simple incentive schemes, the outcome the principal truly cares about—critical thinking—is not observable. The implications of these analyses are less optimistic and suggested incentives are a two-edged sword. Motivating teachers by making pay contingent on test scores may make them work harder at improving test scores, but such incentives would distract them from more valuable tasks like teaching children to think critically or imbuing them with civic virtue. They might even let students cheat [Jacob and Levitt (2003)]. The suggestion of the newer *multi-tasking* literature on incentives seems to be “weak incentives may be useful, and should be based on as broad a set of outputs as possible—use several different types of test scores, on different subjects etc.—but as long as the true objective—critical thinking, civic virtue—is not observable, sharp incentives may be distracting rather than useful”.

In the adverse selection problem, the agent’s type (or the type of project the agent is involved in) is unknown. The idea now is to select trustworthy agents, or agents who would undertake profitable projects, to work with. This point was first made with respect to the market for used cars (lemons) by George Akerloff, for which he received the Nobel Prize in 2001. The problem applies to many different markets, here, we will discuss two: credit markets and labour markets.

Suppose, for instance, that there were two kinds of agents, one who would like to invest in a relatively safe project with positive expected payoffs, and one type who would like to invest in risky projects with negative expected payoffs. A banker in such a market may not find it worthwhile to lend at all. Indeed, before institutional innovations in the forms of lending started with the micro-finance revolution, lending to entrepreneurs in developing countries was risky business.

A Bangladeshi economist Mohammed Younis thought up a way to resolve the adverse selection problem, and won the Nobel Peace Prize as a consequence. If borrowers were obliged to borrow in groups, and the entire group suffered from the default of one member, then borrowers would only agree to form groups with others who they knew were safe bets. Thus, as long as borrowers knew each other better than loan officers could be expected to, loans would be taken but only used for safe and profitable projects.

Fig. 2. Micro-finance: Transaction Costs and Institutional Solutions

Problem	Moral Hazard Borrowers are careless or chose risky projects	Adverse Selection Some borrowers only have access to risky investments
Solution	Dynamic incentives Improved access to credit in the future for borrowers who repaid the first loans on time provides incentives to not be careless, rash or lazy	Insisting on group lending means such borrowers will typically not be allowed into groups, and hence not able to borrow

In addition to using group lending for selecting trustworthy borrowers, micro-finance programmes also used “dynamic incentives” to induce borrowers to work harder and improve the chances of success of their projects. Dynamic incentives take the form

of improved access to credit after successful repayments in early rounds. Because of group lending, which mitigates the adverse selection problem, and dynamic incentives, which combat the moral hazard problem, micro-finance programmes have had high repayment rates. Yet they are often not profitable, because of administrative costs, and once the administrative costs are accounted for it is not clear how cost-effective they are [Morduch (1999), and Montgomery and Weiss (2005)] contains an excellent survey of the micro-finance experience).

7. CONCLUSION

What in conclusion does NIE teach the development professional? The main lesson of NIE for development assistance might be that aligning the incentives of agents with the interests of principals, and improving information flows about actions and outputs can improve outcomes. This applies to principal-agent relationships in both the political sphere (voter-prime minister-civil servant) and the economic sphere (creditor-debtor, shareholder-manager). It also applies to clear property rights which give private agents sharp incentives to minimise on costs while maintaining quality.

In the political sphere regular and genuinely contested elections, and a free press that keeps the population relatively well-informed, align the incentives of politicians with the interests of voters. Other details of the political system, especially the separation of powers and democracy within political parties, are also important.

In the private economic sphere, collateral laws that clearly state creditors should be paid back in the order in which they lent may help improve the functioning of debt markets. Corporate laws that give shareholders control rights in proportion to their holdings might help the development of equity markets. Paying workers and managers in proportion to the profitability of the firm also appears to motivate employees. If designed with care, some form of output-based compensation may even improve the performance of school teachers and other public sector employees.

I conclude with a disclaimer about the limits of what NIE can help us do. Incentives are not a panacea and explicit incentives are not always appropriate. Truly valuable outcomes are often not observable, and using imperfect proxies for these outcomes can sometimes be distracting rather than useful. Finally, NIE can not help us change human nature. Rather than try to build social capital in societies with problematic social structures, or transplanting developed-country institutions in technically more backward societies, NIE suggests we would be better off trying to design political and legal institutions suited to current realities.

Appendix Glossary of Terms

Principal-agent problem refers to any situation in which the agent who is supposed to be serving the interests of the principal finds it not in his interest to do. The solution to a principal agent problem is to provide the agent with incentives to align his interests with those of the principal.

Moral hazard, refers to a class of principal agent problems. Moral hazard arises in a situation where the agent bears little consequence from his actions and may be careless and endanger his interests and those of others. Examples are fire insurance and insuring bank deposits. The term moral hazard is sometimes used by economists to refer to a broader class of principal agent problems more precisely referred to as “hidden action” problems, where the principal cannot observe the agent’s action.

Adverse selection problems refer to situations where one party to a transaction cannot observe the value of the good or service being transacted. They are sometimes referred to as “hidden value” problems. The classic example is the market for “lemons” (used cars) where the market may remain sub-optimally small because buyers do not trust sellers.

The hold-up problem or incomplete contracts problem refers to the inefficiencies created by two parties to a contract being unable to observe the quality of goods they would have to trade in the future for present day investments to be worthwhile. The inability to measure quality can make long-term contracts impractical and discourage present day investment.

Incomplete contracts refers to situations when important variables to a transaction cannot be verified by courts and so cannot be usefully included in a contract. In some such situations reconfiguring rights to profits from the collective enterprise can resolve the incomplete contracts problem.

Information asymmetries arise when one party to a transaction has more information on important factors than other parties. Information asymmetries can refer to both “hidden action” and “hidden value” problems.

Transaction costs include—but are not limited to—information asymmetries, and the administrative costs of mitigating the problems created by informational asymmetries.

Property rights include the rights of control and sale of assets. Principal agent problems arise when those who control an asset—managers—are not the same as those who own the rights of sale—shareholders.

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