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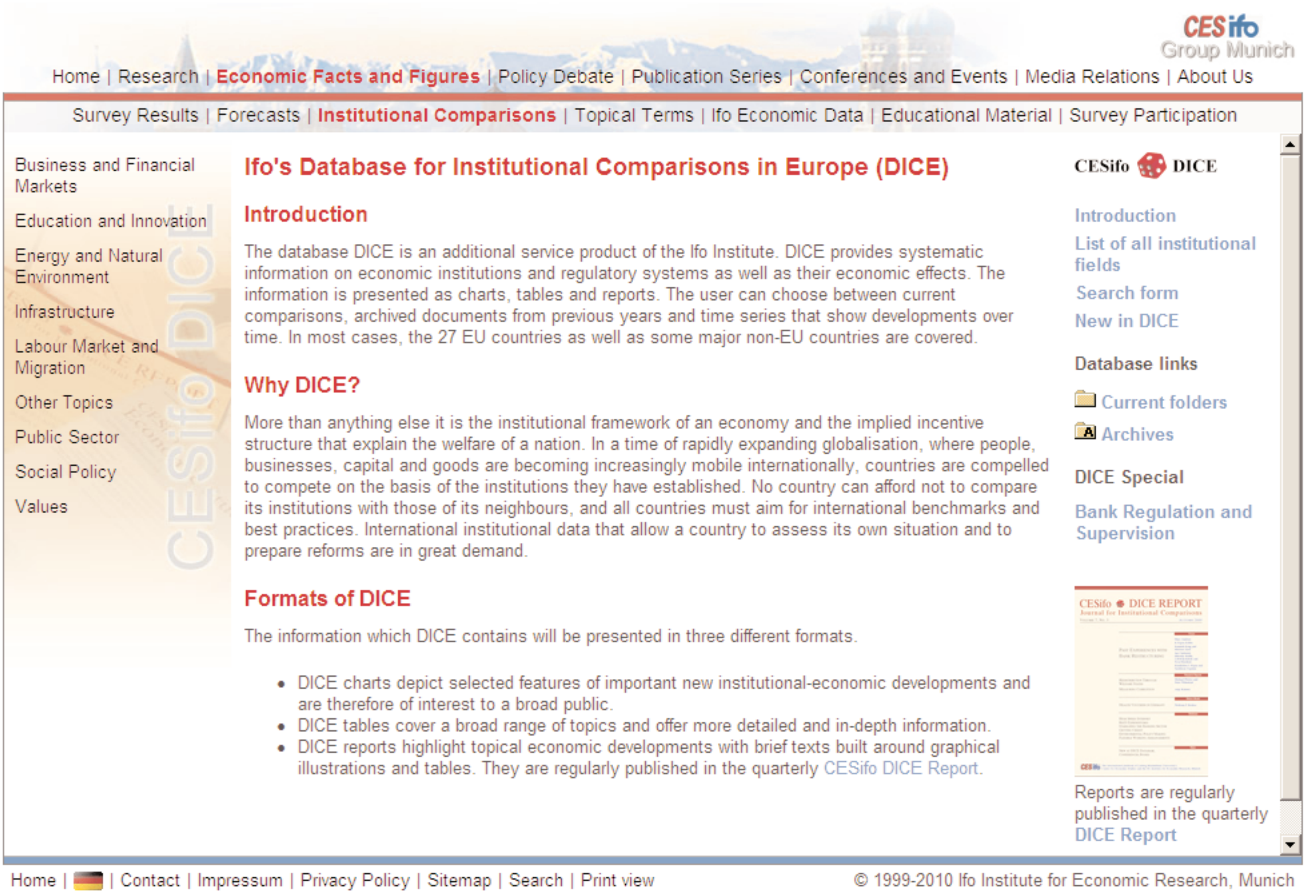
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Corruption

Corruption: Theory, Evidence and Policy

Arvind K. Jain*

Given temptation, it is surprising that corruption is not more prevalent. In an environment where wealth is the most important measure of success, can public officials be blamed for wanting to enrich themselves by exploiting their powers? By definition, corruption is: "… acts in which public power is used for personal gains in a manner that contravenes the rules of the game" (Jain 2001, 73). If corruption has been controlled, it is due to the ability of civil society and public institutions to check the behavior of public officials. When unchecked, corruption is accompanied by misallocation of resources, economic stagnation, social and economic disparities and, eventually, political violence. The first decade of this century provides ample casual evidence of these effects. Haiti, with a legacy of corrupt leaders, remains one of the poorest countries in the world; Nigeria, despite its oil reserves, has a stagnant economy; 40 percent of the population in India lives below poverty line while the richest family in the country builds a two-billion-dollar family residence; Tunisia, in spite of respectable growth rates for a number of years, found its corrupt leader unceremoniously overthrown in early 2011.

To understand corruption, we must first recognize what form corruption takes, what allows it to thrive, what consequences it can have on the society and what measures have been successful in controlling corruption.

What is corruption?

Like the heads of Hydra's dragon, corruption presents itself in many shapes though all originate from the same body politic. Forms of corruption differ from one another in terms of both the source of power that is exploited and the impact they have on the economy and the society. Let us look at two forms of corruption, each occupying extreme positions on a scale of corrupt activities. At one end is a somewhat benign example, such as a doorman asking for a small tip to let you into the office. At the other end, we find a more malignant example of a leader treating society's assets as personal property.

Most people are exposed to corruption in its benign form when they have to pay a bribe to receive a service from a government official. Quite often, the service would have been a right of the citizen; the bureaucrat may merely have discretion over imposing some costs (in the form of delays and opportunity costs of permit denial) on the citizen before granting the service. A bribe is demanded to reduce that cost. This form of bureaucratic corruption usually occurs once a regulatory regime has been determined and the resource allocation decisions have been made – the bureaucrat is, in fact, interfering with the implementation of decisions.

Economic models of bureaucratic corruption must tackle issues of information asymmetry (which agents are corrupt and which will participate in propagating corruption) and uncertainties about costs (associated with probabilities and penalties of detection, as well as with the purchase of loyalties of other agents) in addition to all the usual unknowns such as demand and supply. Rose-Ackerman (1978), Shleifer and Vishny (1993), Dabla-Norris (2002), Ahlin and Bose (2007), Lambert-Mogiliansky et al. (2007), among many others, provide examples of such models. Acemoglu and Verdier (2000) illustrate the role of corruption in governments' attempts to correct market failures.

At the other extreme, "political" or "grand" corruption arises from a rogue dictator's control over a country's resource allocation and expenditure decisions. This leader will maximize his personal wealth rather than the welfare of the population. Of necessity, he will have to have acquired an almost complete control of political powers within the country. A portion of the wealth amassed through corruption is used to purchase the loyalty of those who will help the dictator remain in power and to undermine the

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civic society and public institutions that may rise in opposition. This form of corruption leads to a misallocation of resources and an extreme degree of concentration of wealth into the hands of a few. Examples of this form of corruption abound. Zaire's economy stagnated, and the country was left in economic and political turmoil upon the departure of its corrupt leader – Mobutu. In Iraq, Saddam Hussein resorted to corruption in order to prevent the development of civic groups that could oppose his regime. The chaos that followed his departure was due, in part, to a complete vacuum of political institutions in the country.

Some dictators may appear to have a "benevolent" side to them, corruption is accompanied by sharing some of the wealth with the population. Saddam Hussein ensured that Iraqi citizens received education and health care while amassing an estimated USD 10 to 40 billion in personal wealth. During the nearly thirty years of Suharto's dictatorship, Indonesia's GDP increased by almost ten times while he stole an estimated USD 15 to 35 billion from the nation. Using his country's oil wealth, Kazakh president Nazarbayev has created three billionaires within his family while raising the per capita GDP of citizens from USD 700 in 1994 to USD 9,000 at present. It is possible to argue that "benevolence" is really involuntary – that it is merely a reflection of the high cost of purchasing the loyalty of the public and of those who help maintain the corrupt structure. Di Tella and Franceschelli (2009) provide evidence of one such expenditure in Argentina – promises of government advertising revenues to the media in exchange for non-reporting of corruption. A slightly less virulent form of this type of corruption arises when powerful oligarchs ensure that political decisions are in accordance with their economic interests. This may be an accurate description of corruption in contemporary India and Russia (Lamont and Fontanella-Khan 2011). Johnson and Kwak (2010) cite examples from the United States during the eighteenth century.

Political or grand corruption is difficult to model. Most studies have focused on individual cases (such as Klitgaard 1990) and on the context of the persistence of corruption. Exceptions include Charap and Harm (2002) and Jain (1993). We will tackle the issue of persistence of corruption in the following section.

There are many ways to view corruption other than in between the two extremes discussed above. Aidt (2003) provides four ways to differentiate the range of corrupt activities. It is worthwhile to note that we exclude "fraud" and the mere existence of poverty (or worsening of income distribution) as signs of corruption. Similarly, influencing public policy through legitimate routes, whether by providing information or by making political contributions, is not necessarily evidence of corruption. "Political Action Committees" in the United States and similar lobbying groups in other countries have a legitimate role to play in modern democracies. In the same vein, policy decisions that may be directed at specific voting groups, and hence in the personal interest of a politician, are not considered corrupt.

Why does corruption survive?

The conditions for corruption to arise are ubiquitous. Its survival, however, depends upon three conditions.

The first condition necessary for the emergence of corruption is that there be rents associated with a government's regulatory powers. Let us consider the rents associated with the sale of rights to serve the wireless market (A recent corruption scandal in India puts the value of such rents at USD 38 billion in that country). Barring pathologically honest bureaucrats, an entrepreneur will collude with public officials to capture those rents. Potential losers from this exchange, which include competitors and consumers, will have incentives to prevent such sales. A necessary corollary to this condition is that those who lose from such a collusion (between entrepreneurs and corrupt bureaucrats) are not able to organize and do not have access to effective political and legal means to prevent the private sale of public property. Anticipation that well-developed public institutions will coordinate the responses of the losers may prevent corruption from developing in the first place. Foellmi and Oechslin's (2007) model illustrates how corruption exists in imperfect capital markets but not in competitive ones.

The second condition requires that corrupt bureaucracies be somewhat independent within the remaining (if honest) administrative structure of the government. External controls on the bureaucracy – whether imposed by the remainder of the administrative system or by the society at large – must be weak. If some agents seem to get away with acts of corruption, the internal dynamics of a corrupt bureaucracy will motivate other bureaucrats to expend more effort on increasing the level of their illicit income; some of that effort will have to be spent on ensuring an appropriate redistribution of the illicit income within the bureaucracy. Wade (1985) describes an extreme example of such institutionalization of corruption. Corruption within the irrigation department in one state in India grew to such an extent that the entire effort of administrators was devoted to managing the flow of illicit income rather than on meeting the needs of their clients.

The third condition requires that the public institutions controlling corruption be weak and ineffective. These institutions include civic groups that exert moral pressures, political parties and the media that could expose the wrongdoing, and the legal system that would have the authority to prosecute and punish the guilty.

Societies going through rapid modernization and economic expansion resulting from innovation (industrial or information technology revolutions, for example) are prime targets for corruption. Initial decades of industrial revolutions in most presently-industrialized countries as well as periods of rapid growth in East Asia, China and India have been characterized by high levels of corruption. In all these societies, the possibilities of economic expansion created the fuel for corruption to grow. Britain had more corruption in eighteenth century and America in the nineteenth century than in adjoining centuries. Effective political institutionalization lagged behind economic modernization (Huntington 1968, 59). In both these instances, however, the political modernization that followed was accompanied by a significant decrease in corruption. The development of political institutions increased competition to such an extent that corrupt agents could no longer continue to exercise monopolistic control over the economic growth. Corruption-reducing political modernization, however, is not a foregone conclusion. Bliss and Di Tella (1997) illustrate situations where agents "endogenize" the level of competition and corruption can persist in spite of increased competition.

Measures of economic and social development seem to correlate very strongly with a reduction in corruption (Svensson 2005, 28–29). Treisman (2000) finds a correlation between corruption and a host of other social characteristics, including type of legal system, colonial legacy and religion. While it is clear that the level of corruption in societies with well developed political institutions is lower, it is difficult to establish the direction of causation. Does development (economic, political or social) cause corruption to decline or is development possible only when corruption declines? One reason we may not have an answer is that researchers have not been able to distinguish between the different types of corruption – two extremes of which were described as bureaucratic and political corruption in the previous section. Most measures of corruption used in empirical studies appear to define corruption as a monolithic entity definable by a cardinal number or a rank. Most commonly used corruption measurements include the Corruption Perception Index by Transparency International, Business International, International Country Risk Guide and the Governance index by the World Bank, which includes a measure of corruption (Jain 2001, 76–77; Treisman 2000, Table A.2). These indices are inadequate if the issue of causation between corruption and social and political indicators is to be addressed.

An important set of agents whose role is not well understood is the intermediaries – those agents who facilitate the conduct of corrupt activities between the clients and the bureaucrats. Bose (2010) argues that these intermediaries may ensure the persistence of corruption while Khanna and Johnston (2007) highlight the role of intermediaries in India in reducing the risks associated with corrupt transactions.

Consequences of corruption

Persistent myths refer to corruption as the second best solution in view of inefficient government regulation or to its role as "the grease in the wheels of commerce". Aidt (2003, F633–35) presents and then demolishes the argument for "efficient corruption". Kaufmann (1998) lays to rest the "grease" argument. While corruption may make one transaction easier, it gives rise to a demand for more corruption – almost like adding sand to the machine, which will then require more grease.

We can say with some certainty that corruption is not good for economic growth. It is quite possible that the two types of corruption identified above have very different effects. Countries marked with bureaucratic corruption could grow as long as the resource allocation process is not influenced by what motivates political or grand corruption – the interests of the decision maker, not the efficiency of the allocation process. The East Asian Tigers have witnessed a rapid economic growth over the past four decades in spite of corruption. Casual evidence suggests that, for the most part, corruption in that region leads to redistribution of earnings, not to misallocation of investments.

Benign forms of corruption affect the economy much as a tax would. Based on a study of Ugandan firms, Fisman and Svensson (2007) show that corruption reduces firms' growth just as taxation can. Corruption changes prices and, hence, the equilibrium due to shifts in the supply and demand of public services. Political corruption affects growth by influencing decisions on resource allocations, by changing prices and by influencing the availability of resources. In addition, corruption hurts the poor more than the other segments of a society. Since the continuation of corruption requires suppression of those who may oppose corruption, it also inhibits the development of social and political institutions.

Corruption is known to deter investment because it can (negatively) bias an entrepreneur's assessment of the risks and returns associated with an investment (Svensson 2005). Allocation of investment itself will be biased in the presence of political corruption. Corruption may provide incentives to lower public expenditures (Pani 2009) and may encourage investment in large (inefficient) projects with concentrated cash flows (and thus more subject to expropriation) than more efficient maintenance expenditures. Corrupt politicians, for example, encourage the building of new schools rather than funding expenditures that would provide books and supplies for the classrooms. Corrupt officials will direct state and private investment to areas which maximize their returns, not those of the society (Krueger 1993; Alesina and Angeletos 2005).

Serious empirical research on the link between corruption and growth began with Mauro (1995; 1997). Allowing for some differences between the initial conditions of countries, Mauro found a negative relationship between corruption and growth rates, and surmised that worsening composition of public expenditure induced by corruption may play a role. Gyimah-Brempong (2002) and Pellegrini and Gerlagh (2004) validate this relationship after accounting for differences in the initial conditions of countries and their trade openness, political stability or education. Corruption inhibits growth of small and medium enterprises (Tanzi and Davoodi 2001) – firms that usually make a large contribution to growth in modern economies. Wei (2000) found that foreign investors are deterred by corruption in spite of incentives offered by host countries. Interestingly, he finds that the US's own laws against bribery seem not to have affected the behaviour of US investors. This, as Cragg and Woof (2001) point out, may be because anti-bribery laws are rarely enforced. Gupta, Mello and Sharan (2001) show that corruption biases public expenditures in favour of the military because, as Hines (1995) has pointed out, high-technology goods of an oligopolistic industry are highly susceptible to corruption.

Corruption introduces distortions in factors markets. It can lower tax revenues (and, hence, funds available for public investments) either because corruption induces inefficiencies in the tax-collection system (Imam 2007) or because corrupt democracies will have incentives to lower tax rates (Pani 2009). Corruption will direct talent away from productive activities towards rent-seeking activities (Murphy, Shleifer and Vishny 1991; 1993). Examining enrolments in engineering and law, Tanzi and Davoodi (2001, 100) find that "…corruption allocates talent in a growth reducing fashion…". Ahlin (2001) demonstrates the effect of bribery on the allocation of talent away from entrepreneurship.

While corruption affects the whole economy, it seems to target the poor. First, consistent with current debate which points to benefits for the poor from economic growth, corruption hurts the poor by lowering an economy's growth rate. Second, corruption introduces costs and benefits that create a bias against the poor (Ahlin and Bose 2007). Third, corruption can be causally linked to the worsening of income distribution.

Corruption reduces poor peoples' access to public goods – a segment of society that perhaps needs those goods more than any other. The poor, because of their limited initial wealth, are not able to pay the bribes required to obtain these services (Foellmi and Oechslin 2007; Kulshreshtha 2007). The Global Corruption Report for 2006 by Transparency International is replete with examples of corruption in health services in countries around the world and its effects on the poor. Mauro (1997) found that government expenditures on education and health were negatively and significantly related to corruption. Gupta, Davoodi and Tiongson (2001) examined a wide variety of social indicators in a sample of 117 countries.

They presented survey as well as statistical evidence that corruption leads to inefficient delivery of government social services.

There is strong empirical support for a relationship between corruption and income distribution. Eliminating the influence of other factors using instrument variables, Gupta, Davoodi and Alonse-Terme (2002) found a significant impact of corruption on the Gini coefficient for income in a sample of 40 countries over 1980–97. “A worsening in the corruption index of a country by one standard deviation (2.52 points on a scale of 0 to 10) increases the Gini coefficient by 11 points, which is significant, given the average Gini value of 39” (p. 40).

Examining the data for a sample of African countries, Gyimah-Brempong (2002, 205) concluded that “…corruption is positively correlated with income inequality in African countries, all things equal. … (One unit decrease in corruption index) is associated with between 4 and 7 units increase in Gini coefficient of income inequality”. Extending the research beyond Africa, Gyimah-Brempong and Munoz de Camacho (2006) demonstrated that different regions of the world are affected differently by corruption. These authors concluded that differences in the impact of corruption are caused by variations in the types of corruption that exist in different regions and countries. This conclusion is based on some implicit assumptions about the types of corruption. Their assumption is that, on the one hand, most African countries suffer from the same type of corruption. On the other hand, the authors conclude that diverse regions of the world, some of which had higher growth rates than Africa despite the presence of corruption, had a different type of corruption. You and Khagram (2005) find some evidence of causation in both directions – corruption affects poverty and poverty has some effect on corruption. Using the number of convictions as a measure of corruption, Dincer and Gunalp (2005) find that corruption and inequality are related in the US.

Fighting corruption

Perhaps the most important, and the most difficult, question about corruption is “how can we reduce corruption?” Attempts to fight corruption face a fundamental contradiction: reducing corruption requires the commitment and cooperation of those who benefit from corruption, which is not in their self-interest. In order for a campaign against corruption to succeed, it will require a strong moral commitment from the segment of leadership that aspires to reduce corruption in addition to sufficient support from the public. There are but a few examples of successful fights against corruption. More often than not, a reduction in corruption accompanies economic growth in open societies, where the cost of corruption begins to exceed the ability of those who benefit from it to purchase compliance from other politicians and bureaucrats.

Hong Kong was able to fight corruption in the 1970s after an Independent Commission Against Corruption was established in 1974. Georgia claims to have reduced its corruption level significantly in recent years. Petty bureaucratic corruption in some states in India has been reduced while political corruption threatens to destabilize the country (Lamont et al. 2011).

Successful campaigns to fight corruption occur along three dimensions. Laws must be strong enough to create a deterrence. It is, however, not enough to have laws on the books – there must be a will to implement them. Although US anti-bribery laws are among the oldest in the industrialized world, they are rarely enforced (Cragg and Woof 2001). China has resorted to capital punishment for certain types of corruption but has not been able to eliminate it. Corruption cannot be tackled without a strong civic society. The population must have powers to challenge politicians and bureaucrats. Governments must agree to introduce transparency in their operations and allow information to flow freely. The “Right to Information Act” in India that allows citizens to demand information from bureaucrats has given much hope to activists in India. While it has been used to fight petty corruption, it has done little to reduce instances of “grand” corruption. Finally, barriers to participation in the economic life of a society must be removed. Corruption has its losers – the population at large and those who are denied participation in economic activity. When those who are hurt by corruption are allowed to voice their discontent, the chances of a decline in corruption increase.

Concluding remarks

Neither corruption nor its study is new. Interest in this subject, however, has become central to the discussion of economic performance over the past two decades. This has followed the realization that corruption may be the biggest barrier to removing poverty in the developing world.

There is very little doubt that corruption hurts societies. For the leaders of societies who engage in corruption, however, the temptation to succumb to corruption far exceeds any moral constraints or compassion for those who may suffer as a result. Constraints on their behavior may have to come from outside – a global leadership that places value on the reduction of poverty and suffering, and the resulting peace dividend. Arriving at that type of enlightened approach is likely to take some time; in the meantime, the best we can do is inform ourselves.

The remainder of this volume of DICE REPORT consists of papers that elaborate on themes introduced in this essay: what forms does corruption take, what causes it, what are its consequences and how can we fight it.

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Forms of Corruption

Stephen D. Morris*

Introduction

As the intense debate over definition demonstrates, corruption refers to a broad range of behavior. Normally defined as the abuse of public power for personal gain (Nye 1967), most equate corruption with *bribery*, where an illegal payment is made to a government official in return for some type of official, state-sanctioned, authoritative act that has a selective and tangible impact and that in the absence of the secret payment would not otherwise have been made (Johnston 2005, 18). But beyond bribery, corruption also includes *kickbacks* which operate much like a bribe, but where the illegal payment is made after the service is rendered, usually from a portion of the governmental award itself, and *extortion* where the public official threatens to use (or abuse) state power to induce the payment of a bribe. While such acts involve transactions between citizen and government official, corruption also includes *graft* and *embezzlement*, where public officials act alone to appropriate public funds or divert their use. Closely related to graft, *fraud* refers to the various, often complex and imaginative schemes orchestrated by officials to appropriate public funds, often with civilian accomplices. These may include establishing fake companies, listing ghost workers to pad payrolls, overbilling the government on contracts, or otherwise fixing the books to hide the disappearance of public funds. Beyond these acts commonly associated with corruption, corruption also encompasses such diverse activities as *nepotism, favoritism* and *conflict of interest*, where public-sector jobs or benefits are illegally channeled to family, friends or to the benefit of the decision-makers own interests. Even within the partisan and electoral realms, corruption encompasses a range of activities such as *illegal campaign contributions, illegal expenditures, electoral fraud and vote buying*.

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Despite a largely methodologically-driven tendency in the literature to create and utilize one standard measure of something called corruption, numerous scholars have peered inside the broad concept to differentiate and identify distinct types and forms of corruption. Differences center on the participants involved in a corrupt act, the types of norms the act violates, the nature of the transaction, the broader context within which the act occurs and the purpose, outcome or motive of the act. Such analytical distinctions are not only important in developing a better understanding of the phenomenon, but are also crucial in exploring the causes and consequences of corruption and in crafting strategies to fight it. This essay presents some of the classificatory schemes, illustrates their use in theory and discusses some of the on-going theoretical and methodological challenges.

Types of corruption

Institutional location of the actor and norms

Whereas by definition political corruption involves "public officials" – thereby differentiating the concept from fraud taking place within society – the sheer vastness of the public sector means that corruption can occur at virtually any place within the government. An easy means of differentiating forms of corruption centers on the institutional location of the public official involved (i.e., corruption within the executive branch, the legislature or the judiciary, the local government, the police, customs agents, building inspectors, etc.). Two broad categories of corruption based on institutional location include "upper-level" and "lower-level" corruption. The former involves presidents, ministers, members of the legislature, governors and other high-ranking officials, while lower-level corruption relates to civil servants. The upper-level/ lower-level distinction largely parallels differences based on the distinct political roles or functions of the public officials and the norms governing their behavior. The term "political corruption" thus tends to refer to corruption occurring at the policymaking stage or, in Eastonian terms, the input side of the political system, whereas "bureaucratic" or "administrative" corruption relates to the implementation of policy carried out by lower-level officials or the output side of the equation (Bardhan 2006; Scott 1972). Because of their different functions within the system, these two forms of corruption also violate different norms. "Bureaucratic corruption" involves the violation of first-order norms (the written rules and laws that are the product of politicians' decision making), whereas "political corruption" committed by policymakers entails the violation of more nebulous second-order norms (the often unwritten guidelines determining how politicians should make decisions, such as impartiality and fairness; Warren 2004).

The nature of the transaction

A second taxonomic approach differentiates corruption based on certain characteristics of the transaction. A number of schemes have been developed along these lines. One rather simple approach relates to the direction of corrupt influence. It draws a distinction between "bribery" and "extortion". In bribery, societal interests use extra-legal payments or bribes to influence the content of state policy or its implementation. At a broader, more systemic level, this form of corrupt influence can take on the characteristics of "state capture", whereby an entire agency or institution operates on behalf of societal interests. Extortion, by contrast, involves the use and abuse of state power by public officials to demand extra-legal payments or rents in return for providing a legitimate or illegitimate service. In extortion, the direction of influence moves from state to society, while bribery reverses the direction. It is quite different when drug traffickers have half the police on their payroll doing their bidding versus when the police shake down petty thieves or extort "bribes" from citizens for real or imagined offenses.

A second and more elaborate approach based on aspects of the corrupt transaction is offered by Syed Alatas (1990, cited in Heywood 1997, 425–26). He distinguishes six forms of corruption. "Transactive" corruption involves the mutual arrangement between a donor and a recipient; "extortive" corruption implies some form of compulsion usually harming a party; "defensive" corruption refers to the act the victim of extortion is compelled to engage in; "investive" corruption involves an act with no immediate payoff, but an understanding of a favor sometimes in the future; "nepotistic" corruption relates to family members being appointed to positions in the government; "autogenic" corruption entails one person acting alone with no official-citizen exchange; and "supportive" corruption refers to acts designed to protect and strengthen existing corruption.

A third approach based on characteristics of the transaction is essentially a typology based on the relative size and frequency of the acts. This distinction is commonly expressed in terms of "grand" versus "petty" corruption. At one end, "grand corruption" involves large sums of money and usually less frequent transactions, while at the other end "petty corruption" refers to smaller and more routine payments. This distinction tends to parallel those rooted in the institutional position of the state official involved, with "grand corruption" more likely to occur among high level government officials who have limited interaction with the public, while "petty corruption" tends to take place among low-level, bureaucratic workers who regularly interact with the public.

Systemic framework

Though somewhat related to differences based on size and frequency, distinctions are also often based on the broader pattern of corruption within the system. This approach focuses not just on the individual corrupt act, but rather on the context in which the act occurs. Mark Robinson (1988), for example, identifies three forms of corruption: "incidental" corruption, which is confined to malfeasance on the part of the individual and is thus rare; "institutional" corruption referring to certain institutions that may be riddled with corruption due largely to the absence of controls; and "systemic" corruption which reflects situations where corruption is deeply entrenched and pervasive throughout society. A similar sort of distinction contrasts "centralized" and "decentralized" corruption depending on the level of control exercised by the political elite over local officials (Bardhan 2006, 344). This approach tends to parallel other distinctions as well. Institutional, systemic and centralized corruption, for instance, usually involves elaborate webs and chains of illegal payoffs inside government, often to the benefit of superiors or the political party.

Motive or purpose

A final approach distinguishes types of corruption based on the motives, purpose or outcome of the corrupt act. The range, of course, can be rather extensive. Does the corrupt act – for example, allowing a murderer to go free – result in the diversion of millions of dollars from a program designed to help the poor or simply in speeding up the award of a license that would have been granted in time anyway? One easy distinction based on motive separates corruption that promotes purely personal interests from corruption that benefits a clique, a political party or an institution which may be more systematic. In a discussion of the link between organized crime and corruption, for instance, Margaret Beare (1997, 161–69) offers a non-exhaustive taxonomy of corruption based largely on motive or outcome. She identifies four types: "bribes/kickbacks", which are paid or demanded in return for being allowed to do legitimate business; "election/campaign corruption", designed to ensure continuing influence; "protection corruption", payments in exchange for being allowed to engage in illegitimate business; and "systemic top-down corruption", where the nation's wealth is systematically siphoned-off by the ruling elites.

Theoretical linkages and methodological challenges

Identifying different forms of corruption – whether based on the institutional location of the participants, the norms, the nature of the transaction or the underlying motives – is useful largely to the extent that it advances our theoretical understanding of corruption (Gerring 1999). Recognizing different forms of corruption, in short, leads to a series of questions: To what extent do the various types of corruption actually go together? Do all forms of corruption stem from the same underlying causes or are the different types of corruption caused by different factors? Do the different forms of corruption have different affects on society or the political system?

Much of the corruption literature exploring the underlying causes and consequences of corruption fail to differentiate forms of corruption. Corruption, in other words, is treated generically as a singular class of political behavior. This is especially true of the bulk of the quantitative, cross-national studies because of the way corruption is normally measured. On the one hand, an argument can be made that political corruption of any stripe facilitates all or other types of corruption and/or that all types of corruption stem from similar causes. Factors, such as permissiveness or tolerance, the lack of trust or social capital or even the lack of democracy, for instance, would seem to feed bureaucratic corruption as well as political corruption, bribery as well as extortion, corruption within the police, the judiciary, the parties, ad infinitum. Indeed, formal models show that corrupt activity generally depends on how much corrupt activity is taking place throughout society, suggesting a common pattern (Bardhan 2006, Mishra 2006). Such an assertion that leads to grouping different forms of corruption together not only justifies the use of crude, composite measures of the phenomenon but it also sustains the search for a common set of causal factors and unified or one-dimensional consequences.

On the other hand, a wide range of theories suggest that different forms of corruption may not necessarily go together and that certain factors may relate only to certain types of corruption and not others. Mocan (2004) and Morris (2008), for instance, find weak and limited correlations linking perceptions of corruption from actual involvement in paying bribes or being asked to pay a bribe, particularly among developing countries. Mocan (2004), for example, finds that when the quality of the institution (measured by the risk of expropriation) is controlled for, the weak association between corruption and corruption perception actually disappears. Taking a different approach, Bardhan (2006) distinguishes bureaucratic from political corruption and finds that at least in the case of the United States, the two do not go together and that the United States suffers high levels of political corruption, but low levels of bureaucratic corruption.

Michael Johnston's (2005) work on corruption syndromes, in turn, highlights different causes for different patterns of corruption. Casting the balance of economic opportunities and political opportunities, weak or strong state and civil society as key causal agents, Johnston identifies four syndromes of corruption – interest group bidding, elite hegemony, fragmented patronage and patronage machines – that differ in terms of the underlying causal agents, the patterns or forms of corruption within the society, in the consequences for the political system, and hence on the approaches needed to curb corruption. In a comparison of corruption in Latin America, Daniel Gingerich (2009) similarly links different types of proportional representation electoral systems to distinct classes of corruption. The open-list, proportional representation (PR) system found in Brazil tends to create strong incentives for legislators to amass a personal following by distributing pork and private goods to supporters back home via, in part, corruption. But while the open-list PR system in Brazil feeds individual schemes of corruption to pay for expensive personal election campaigns, the closed-list PR system found in Argentina and Bolivia fosters a different pattern of corruption, where the power of the party elite, coupled with a more politicized bureaucracy, pushes party leaders to strike deals with bureaucrats and channel public resources to help the party.

Tying different forms of corruption to different consequences, Morris (1991) links broad forms of corruption to political outcome. Focusing on Mexico, I argue that while extortion can help solidify the elite and enhance centralized control, bribery tends to have the opposite effect, undermining elite unity and political stability. In a similar way, Mushtaq Khan (1998) shows how different forms of corruption can have different economic outcomes. Specifically, he demonstrates that the corruption found in Korea created strong incentives for the state to re-allocate rights and resources in a way that maximized economic growth, while the type of corruption prevalent in South Asian countries enriched political intermediaries and thus tended to undermine economic growth.

A somewhat different theoretical approach links distinct forms of corruption to different perceptions of the seriousness or level of corruptness by elite and the public. One of the earliest explorations of this by Arnold Heidenheimer (1970) relates the perception of corruptness to the nature of obligations within society. In a similar approach using opinion data, John Peters and Susan Welch (1978) find that acts involving a non-political official (judge rather than politician), a public role (rather than private citizen), donations from constituents rather than non-constituents and large payoffs tend to be deemed more serious. A more recent study in France by Lascoumes and Tomescu-Hatto (2008) also gauges the level of corruption for a range of different corrupt acts. This enables the researchers to distinguish four groups of citizens based on their different perceptions of the degree of tolerance for certain acts of favoritism (condemn or not) and overall perception of the extent of corruption among public officials.

Much of the difficulties in studying different forms of corruption are methodological. Despite the numerous taxonomies and typologies developed by analysts, we still lack the tools to adequately measure the different classes of corruption. To date, Transparency International's Corruption Perception Index stands as the most frequent measure used in empirical work exploring the causes or consequences of corruption. This indicator, however, is one-dimensional and does not differentiate among types or forms of corruption (Johnston 2005, 19). While important in advancing the study, the use of crude, one-dimensional measures of corruption cannot really address questions related to the different types of corruption. It may not be enough simply to say that a county suffers extensive or systemic corruption, or to expect the same causal factors to lie behind all forms of corruption or for all to exert a similar impact. Unfortunately at this stage, this may be all that standardized measures of corruption can tell us and all that we can learn from a global perspective. Though still relying on perceptions as measured through opinion polls, Transparency International's more elaborate Corruption Barometer does differentiate corruption by institutional location. This provides an important methodological tool to differentiate countries based not only on the overall level of corruption, but different patterns of corruption. Part of the theoretical challenge, of course, is to use this data to test and refine theories differentiating cause and consequence, moving the study beyond its one-dimensional focus.

Conclusion

Clearly corruption encompasses a wide range of behavior. As discussed, analysts have identified a number of subcategories or forms of corruption, some of which are more commonly employed than others. Among the criteria most commonly used to draw distinctions are: the institutional location and function of the public official involved ("political corruption" versus "bureaucratic corruption"), the direction of influence ("bribery" versus "extortion"), and the size and frequency of the transaction ("grand corruption" versus "petty corruption"). But despite these and other efforts to tease out different forms of corruption, understanding the relationship among the classes of corruption, their determinants and their consequences continues to confront both theoretical and methodological challenges.

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The Causes of Corruption

Toke S. Aidt*

Corruption: what and where

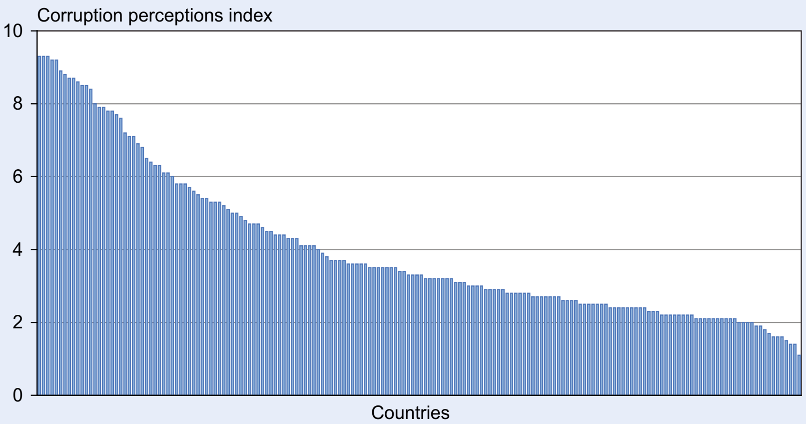
Corruption is a persistent feature of human societies over time and space. The sale of parliamentary seats in the "rotten boroughs" of Great Britain before the Great Reform Act of 1832 and "machine politics" in the expanding immigrant cities in the United States at the turn of the 19th century are just two historical examples. Contemporaneous examples also abound, and not only from developing countries, such as Nigeria, India and the Philippines, and transition economies, such as Russia. The recent "expenses scandal" that engulfed the House of Commons in the United Kingdom serves as a timely reminder that corruption regularly shows its face also in the developed world.

While corruption is usually recognised when confronted with it, it has proved more difficult to find and agree on a precise and encompassing definition. Most economists, however, are satisfied with some version of the following definition: "corruption is an act in which the power of public office is used for personal gain in a manner that contravenes the rules of the game" (Jain 2001) or corruption is "the sale by government officials of government property for personal gain" (Shleifer and Vishny 1993). The latter is also the definition that the World Bank employs. Examples of corruption thus defined include taking bribes in return for issuing licenses; accepting a kickback for granting a defense contract; not enforcing rules and regulations in exchange for a payment and so on.

The Figure provides a snap-shot of the world distribution of corruption in 2010 based on the corruption perception index published yearly by Transparency International. Each bar represents one of the 178 countries surveyed in 2010. The index ranges from 0 to 10, with a score of 10 indicating absence of corruption and a score of 0 indicating widespread corruption. To the left with high index values, we find the Scandinavian countries and Singapore, in the middle of the distribution we find countries like Thailand and Greece, while the most corrupt countries located to the far right include Iraq, Afghanistan and Somalia. A major challenge for economists and other social scientists interested in the causes of corruption and in offering advice to policy makers is to explain not only why corruption varies over time, as suggested by the two historical examples given above, but also to explain the distribution of corruption across the world illustrated in the Figure.

Figure

World Distribution of (Perceived) Corruption 2010



Notes: The corruption perceptions index scores countries on an inverse scale from 10 (very clean) to 0 (highly corrupt). Each bar represents one of the 278 countries surveyed and ordered from low to high corruption.

Source: Transparency International (http://www.transparency.org).

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A conceptual framework

To structure thinking about a complex issue such as corruption, it is useful to have a conceptual framework in mind. At the risk of over-simplifying a vast theoretical literature on the causes of corruption, surveyed superbly in, e.g., Tanzi (1998), Rose-Ackerman (1999) or Jain (2001), at least three conditions are necessary for corruption in the public sector to arise and persist:

1. Discretionary power: the relevant public officials (bureaucrats, politicians, etc.) must possess the authority to design or administer regulations and policies in a discretionary manner.
2. Economic rents: the discretionary power must allow extraction of (existing) rents or creations of rents that can be extracted.
3. Weak institutions: the incentives embodied in political, administrative and legal institutions must be such that public officials are left with an incentive to exploit their discretionary power to extract or create rents.

Much, if not all, theoretical work on the causes of corruption can be linked back to these three basic conditions. Two contrasting views about how these conditions interact, however, stand out. The first view is the "institutional view". It emphasises the role of institutions (broadly defined to include political, bureaucratic, juridical and economic institutions) and presumes a causal order running from weak institutions to corruption to poor economic outcomes. To give an example, the absence of democratic accountability may foster political corruption which, in turn, encourages rent extraction and excessive regulation of economic activity. Corruption is, in other words, seen as the symptom that something else, more fundamental, is wrong. Of course, feedbacks from economic conditions to corruption are usually also acknowledged as being important because they affect the presence or absence of economic rents, and it is also possible over longer time spans to imagine that corruption could be the cause of weak institutions. Yet, the organising and in many cases very powerful analytic principle is to look for weaknesses in the institutional framework to find the root causes of corruption.

The second view is the "social interactions view". It emphasises that corruption is the outcome of self-reinforcing social processes and downplays the causal role of institutions. The basic idea can be illustrated with an example along the lines of Andvig and Moene (1990). Corrupt colleagues are less likely to report that you are corrupt than honest colleagues simply because corrupt colleagues do not want to risk triggering an external inquiry. This makes the probability of being discovered/reported a decreasing function of how many others in the relevant social group take bribes. The incentive of any one individual to accept a bribe is obviously stronger when the likelihood of being discovered is lower. Combining these plausible assumptions, two types of stable situations can emerge: one in which no one takes bribes because anyone who does would be reported and punished, and one in which everyone take bribes because no one will ever be reported and caught. In other words, societies with otherwise very similar institutions and economic conditions may end up with very different levels of corruption. Shifts in institutions and economic conditions may trigger a swing from one equilibrium to the other, but it requires big shifts. According to this view, the key to understanding corruption is to understand how underlying social interactions work.

Cross-national studies on the causes of corruption

At the macroeconomic level, much of what we know about the causes of corruption originates from cross-national comparisons of survey-based corruption indices. These indices can be divided, roughly speaking, into two categories. The first category contains indices based on corruption perceptions, i.e., subjective assessments by business consultants, by local and international businessmen or by ordinary citizens about how much corruption there is in a given country. The three most popular indices of this type are the Corruption Perception Index, published by Transparency International (and shown in the Figure), the Control of Corruption Index, published by the World Bank, and the Corruption Index published by the International Country Risk Guide. These measures of corruption have many weaknesses (see, e.g., the extensive discussion in Lambsdorff 2005); one of the major ones being that there may be a significant gap between perceptions and facts. The second category includes indices of experienced corruption. As the name suggests, these derive from self-reported experiences with corruption. The World Bank's World Business Environment Survey, for example, asks managers in many countries to respond to the following statement: "It is common for firms in my line of business to have to pay some irregular 'additional' payment to get things done".

Clearly, these indices are also problematic because of reporting biases, etc., but other than data for a few countries on criminal convictions or legal cases related to corruption (e.g., Italy and the US, see Goel and Nelson 2011), these are the macro data available, and they have, despite their weaknesses, given a significant boost to research into the causes of corruption during the past decade. In fact, 35 (and still counting) published, empirical studies have investigated the relationship between these indices and at least 75 potential causes of corruption.

The potential causes can usefully be divided into four groups: (1) economic and demographic factors; (2) political institutions; (3) judicial and bureaucratic factors; and (4) geographical and cultural factors. The typical study limits attention to a small number of potential causes of particular interest and examines the reliability of the results by varying the set of control variables (see, e.g., Treisman 2000, Paldam 2002 or Lambsdorff (2005) for examples of this approach). Unfortunately, it is not uncommon to discover that variables – such as press freedom, the size of the public sector, economic freedom or the level of democracy – found to be significantly correlated with corruption in one study are insignificant in another which uses an alternative model specification. Moreover, Treisman (2007) points out that "standard" determinants of perceived corruption, such as GDP per capita and measures of political and bureaucratic institutions, are largely uncorrelated with measures of experienced corruption. This is clearly unsettling. One way out of the forest, originally proposed by Sala-i-Martin (1997) in a different context, is to use so-called Sensitivity Analysis to establish which of the many potential determinants or causes are robustly correlated with corruption. This involves a systematic evaluation of all possible linear (regression) models with corruption as the dependent variable and a fixed number of potential determinants (typically 3 to 5) from the target list of up to 75 as the explanatory variables. Sala-i-Martin (1997)'s criterion for robustness is that 95 percent of the cumulated density associated with the estimated coefficients on the variable of interest (e.g., GDP per capita) across all the models considered should be on one side of zero. Sturm and de Haan (2005), however, advocate going one step further and demand that a robust variable should be significant at the 5 percent level in at least 90 percent of all the regressions considered (test 1) and when there is more than one outcome variable (as is the case with corruption where one needs to study alternative indices) that this should be true for the majority of outcome variables considered (test 2). The result of such a Sensitivity Analysis applied to the determinants of five widely used corruption perception indices (including the three mentioned above) are reported in de Haan and Seldadyo (2005) and Seldadyo (2008). The Table summarises the results by listing the 12 most robust determinants of corruption and their correlation with corruption. All 12 variables pass Sala-i-Martin (1997)'s criterion for robustness for at least one corruption index, but we see that only six, in addition, pass test 1 and that only two pass test 2. Based on

Table

The top-12 most robust determinants of cross-national corruption perceptions

Variable name	Group	Sign of correlation	Test 1	Test 2
Government effectiveness	(3)	(–)	Yes	Yes
Rule of law	(3)	(–)	Yes	Yes
GDP per capita	(1)	(–)	Yes	No
Regulatory quality	(3)	(–)	Yes	No
Political polarisation	(2)	(–)	Yes	No
Protestant fraction of the population	(4)	(–)	Yes	No
Presidentialism	(2)	(–)	No	No
Absolute latitude	(4)	(–)	No	No
Voice and accountability	(2)	(–)	No	No
Wage bill in % of GDP	(3)	(+)	No	No
Population size	(1)	(+)	No	No
Economic freedom	(1)	(–)	No	No

Notes: For the full set of variables included in the Sensitivity Analysis and for information on definitions and sources, see Appendix 2 in Seldadyo (2008). The 12 variables are the only ones that pass Sala-i-Martin's criterion for robustness for at least one of the five corruption perception indices studied. "Group" refers to the four categories of causes of corruption listed in the main text. "Sign of correlation" refers to the sign of the coefficient on the relevant variable in 95% of the regressions. The outcome variable of these regressions is one of the five corruption indices, ordered such that higher values mean higher levels of corruption. Each regression includes up-to-three potential determinants, lagged by a suitable number of years. "Test 1" requires that the variable is significant at the 5% level in at least 90% of all the regressions considered. "Test 2" requires that test 1 is passed for three of the five corruption perception indices considered.

Source: Seldadyo (2008: chapter 3).

this, the two most robust determinants of corruption are "government effectiveness" and "rule of law", from the World Bank's Governance Matter Database (Kaufmann et al. 2006). Both of these variables correlate negatively with perceived corruption, however measured. "Government effectiveness" is a composite index related to the quality of public services, the quality of the bureaucracy, the competency of civil servants, and to the independence of the civil service from political pressures, while "rule of law" is an index related to the extent to which agents have confidence in and abide the rules of society, the effectiveness and predictability of the judiciary and the enforceability of contracts. A single variable from each of the groups also passes test 1 (but not test 2). They are GDP per capita, the degree of political polarisation, regulatory quality and the fraction of Protestants in the population, which are all negatively correlated with corruption.

While the Sensitivity Analysis methodology is helpful in finding robust correlations, it does not resolve the much more thorny issue of causality. In fact, for many of the variables that make it to top-12, we suspect that the causality might run the other way. For example, perhaps the government is effective because corruption is low; or agents have trust in the rule of law because corruption is low; and GDP per capita is high because of low corruption, rather than the other way around.[1]

The corruption-development nexus

The question of causality is particularly pressing in the case of the corruption-development nexus. Does the strong and robust correlation between GDP per capita and the various corruption indices tell us that development reduces corruption or does it tell us that corruption is an obstacle to development? Both directions of causation are plausible. On the one hand, corruption feeds on rents, and corrupt public officials have an incentive to create and maintain rent-creating but inefficient economic policies. The likely consequence of such inefficiencies is a reduction in national income. Likewise, corruption often works as a tax on factor accumulation and on investments in manufactured and human capital. This can retard economic growth. On the other hand, high levels of national income may be associated with a greater willingness to combat corruption or, more subtlety, high economic growth may provide incentives for public officials to eliminate corruption-induced economic inefficiencies in the present in order to hang on to their office or job for the future where even bigger rents can be extracted (Aidt and Dutta 2008). It is, of course, also possible that GDP per capita and corruption are jointly determined and caused by the same underlying institutional or cultural factors.

Recent research has made some headway in sorting out this puzzle. When applied at the macro level, the theories of corruption based on social interaction effects suggest that corruption and economic development may feed on each other and that we should, therefore, not expect to observe simple linear and unidirectional relationships between proxies for the two. Corruption-development traps may lock some countries into a "bad" equilibrium with high-corruption-low-growth, while others may converge to a "good" equilibrium with low-corruption-high-growth (Blackburn et al. 2006). Aidt et al. (2008) and Aidt (2009) model such interdependencies empirically and find robust evidence that countries endogenously sort themselves into different corruption-growth regimes depending on the initial quality of their political institutions, and that, in the short to medium run, corruption and growth feed on each other: high growth tends to lower corruption which, in turn, enhances the growth potential. Moreover, using instrumental variables to isolate the link from corruption to growth, it appears that conditional on converging to the "bad" equilibrium, corruption has little effect on growth, while the impact is large and negative for countries converging to the "good" equilibrium.

Gundlach and Paldam (2009), on the other hand, inquire into the causal order over the very long run. Their starting point is the widely accepted assumption that all countries had more or less the same (low) level of income per capita about 200 years ago and that the actual cross-national income distribution today, therefore, effectively represents differences in long-run growth rates. The work by Diamond (1997), moreover, suggests that deep pre-historical factors, such as the number of domesticable big mammals in pre-history, the number of domesticable wild grasses in pre-history, climatic conditions favourable for agriculture, relative East–West orientation, etc., sowed the seeds that explain cross-national income patterns today. Since one can reasonably assume that such factors are exogenous to cur-

[1] Seldadyo (2008) uses lagged values of the potential determinants in his Sensitivity Analysis to partially address this issue.

rent corruption patterns, they can, in principle, be used as instruments for national income in an estimation of the income effect on corruption. Based on this approach, Gundlach and Paldam (2009) conclude unambiguously that the long-run causality runs from (high) income to (low) corruption or as they put it, societies grow honest. Adding the two pieces of evidence, it appears that in the short to medium run, corruption and economic development feed on each other in a self-reinforcing social process,[2] while in the very long run, the process of development dominates and is what causes corruption levels to fall. The precise mechanism through which this is supposed to happen remains, however, unclear, but we may conjecture that it has to do with investments in stronger and more robust institutions.

Concluding remarks

So what are the causes of corruption? The short answer is that many factors play a role and in different ways at different time horizons. Yet, for practical purposes, applying the two general principles – institutional weaknesses and social interaction effects – alluded to above will in most cases not miss the target too badly and, therefore, offer a workable guide to those interested in understanding the causes of corruption and in doing something about them.

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[2] Paldam (2002) refers to this as seesaw dynamics.

Corruption and Inequality

Eric M. Uslaner*

Introduction

Corruption flouts rules of fairness and gives some people advantages that others do not have. Corruption transfers resources from the mass public to the elites – and generally from the poor to the rich (Tanzi 1998). It acts as an extra tax on citizens, leaving less money for public expenditures. Corrupt governments have less money to spend on their own projects, pushing down the salaries of public employees. In turn, these lower-level staffers will be more likely to extort funds from the public purse. Government employees in corrupt societies will thus spend more time lining their own pockets than serving the public. Corruption thus leads to lower levels of economic growth and to ineffective government (Mauro 1997; 5, 7).

Most accounts of the roots and remedies for corruption are institutional. Corruption, most academic and policy analysts argue, stems from bad governmental institutions – especially the lack of democracy, free and unfair elections, and an ineffective judiciary. I argue that institutional accounts of the roots – and the solutions – to corruption are lacking (Uslaner 2008). In an extensive six-equation model of corruption across a wide range of societies, I find little support for institutional accounts of corruption. Corruption is not shaped by democracy, the structure of a country's electoral system, whether government is centralized or decentralized (measured by federalism) or by the share of a country's government expenditures spent at the local or national level.

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Inequality and corruption

The link between inequality and corruption seems compelling. Corruption is exploitive. Inequality breeds corruption by: (1) leading ordinary citizens to see the system as stacked against them (Uslaner 2002, 181–83); (2) creating a sense of dependency among ordinary citizens and a sense of pessimism for the future, which in turn undermines the moral dictates of treating neighbors honestly; and (3) distorting the key institutions of fairness in society, the courts, which ordinary citizens see as their protectors against evil-doers, especially those with more influence than they have (Glaeser, Scheinkman and Schleifer 2003; You and Khagram 2005).

Economic inequality creates political leaders who make patronage a virtue rather than a vice, since it provides jobs for ordinary citizens. These leaders *help* their constituents, but more critically *they help themselves*. Inequality breeds corruption and leads to a dependency of the poor on the political leaders. Inequality leads to *clientelism* – leaders establish themselves as monopoly providers of benefits for average citizens. Ordinary people *do not approve of corruption*: Those at the bottom of the economic (and often social) ladder see it as necessary for survival. Corrupt leaders form the key line of defense against other groups in society that exploit you.

The inequality trap

Inequality thrives when there is low trust in out-groups and high trust in your own group, as Gambetta (1993) argues with respect to the success of the Mafia in southern Italy, widely known for low trust among its citizens (Banfield 1958). Unequal relations between groups in society – whether they are economic, religious, racial, or some combination – reinforce ties to your in-group. High levels of inequality are the single major factor driving down trust in people who are different from yourself (*generalized trust*), as Uslaner (2002, chs. 6, 8) and Uslaner and Brown (2005) have shown in several different contexts: in the United States over time, across the American states and across countries without a legacy of Communism.

Generalized trust has many positive consequences: at the individual level, it leads to more acts of altruism for people of different backgrounds as well as greater tolerance. At the aggregate level, it leads to greater economic growth, to more redistribution from the rich to the poor and to less corruption (Uslaner 2002, chs. 7, 8; Uslaner 2008).

Across countries, the correlation between inequality and corruption is weak. But there is strong support for the argument that inequality leads to greater corruption through trust. My model suggests the following dynamic of a vicious circle that makes it difficult to end corruption:

inequality → low trust → corruption → more inequality.

Corruption not only thrives under conditions of high inequality and low trust, but in turn it leads to more inequality (and thus less trust). For many countries, the trap is inescapable. Corruption aggravates inequality: The well-off can afford bribes, but the poor often do without basic services. And corruption robs the state of resources for providing basic services to all citizens, but especially the poor. People who turn to the informal economy have few legal rights (their employment is not legal and there are no contracts or unions representing workers in the informal sector). Corruption is rampant in those services the poor most depend upon: the police, the schools and the medical sector.

Countries with high levels of corruption have poor service delivery. The failure of corrupt states with rising inequality to provide basic services illustrates the inequality trap: the wealthy have options to protect themselves against the failure of public services. They may bribe local authorities to ensure that their services are fixed first. They may not have to rely exclusively upon state-provided services. The poor cannot afford bribes. Nor do they have the option of using alternative services. When governments do not have the resources to provide services, the poor will suffer more. In the former Communist countries of central and eastern Europe there are strong statistical linkages between levels of inequality, corruption, and the perceived quality of service delivery. Poor service delivery in turn leads to lower levels of trust in government – which then leads to greater tax evasion – and fewer resources in the treasury to fund basic services (Hanousek and Palda 2007; Uslaner 2010; Uslaner in press).

Inequality, trust and corruption form a vicious circle that is very difficult to break. Inequality, trust and corruption are all "sticky". They do not change much over time, so that countries that were unequal (low trusting, corrupt) in the past remain so today. The correlations over time for trust (from 1980 to 1995), economic inequality (1963 to 1996 for one measure and 1980–90 for another), and corruption (1980/85 to 2010) are all very powerful, providing strong support for the inequality trap argument. I estimated a cross-national aggregate statistical model – allowing for reciprocal effects of inequality upon corruption, trust upon corruption and inequality upon trust – and found very strong evidence in favor of the inequality trap argument (Uslaner 2008, chs. 2, 4).

What about institutions? Social scientists do not have the luxury of laboratory experiments the way physical and natural scientists do, so we largely have to rely upon cross-sectional models. However, in the late 1980s and early 1990s we had a rare opportunity to observe a natural experiment, as Communist governments fell in central and eastern Europe as well as Asia and democratic governments emerged in many other parts of the world as well. Either cross-sectionally or especially over time, the relationships between democracy and corruption are very weak. Most notably, the correlations between changes in the Freedom House measures of democracy (political and civil rights indicators) and changes in the Transparency International indicator of corruption from 1980 to 2004 are essentially zero. Moving the start date closer to the fall of Communism – 1988 – does nothing to change these correlations. Greater democratization simply does not mean less corruption.

Not only does democracy not matter, but almost all other institutional "causes" of corruption fall to statistical insignificance in my model: parliamentary systems, type of electoral list, the type of executive, the level of pay to government workers, and centralization of government. Nor does a free press act as a bulwark against corruption: many people are likely to see the press as just one more competitor for power with corrupt leaders – not necessarily any more "moral".

There *is* one institutional factor that has a big impact on corruption: the fairness of the legal system. This is an institutional measure of inequality: whether the courts and the police treat people of different backgrounds and incomes as equals before the law. It is not the same as a measure of judicial quality or the number of courts or how "efficient" they are. What matters for the courts is the perception that they are fair (Tyler 1990).

Democratization seemed to promise a new era for people in transition countries in particular. Romanians, Bulgarians, Serbs and others in central and eastern Europe and the former Soviet states in Asia saw the emergence of market democracy as their ticket to prosperity, to making their countries just like Luxembourg. But the reality was very different: in virtually every transition country, inequality, the size of the informal sector, and corruption increased – while trust remained low. Democracy and the market were not cure-alls. Newly enfranchised voters cast their ballots for corrupt leaders (as Americans did for many years and people in many other countries. Advanced democracies such as Italy and Japan as well as Third World nations still do. Markets were often dominated by the old oligarchs of the Communist regimes who continued to pillage the country under capitalism as they had done under socialism. Arrests of corrupt business people such as Mikhail Khodorkovsky in Russia were political vendettas more than they were drives toward greater transparency.

Inequality and corruption: the direct links

The inequality trap argument would be more compelling if there were some evidence that there is a direct linkage from inequality to trust rather than simply an indirect one. Where corruption is high (in Africa and central and eastern Europe), there is strong evidence for such a direct linkage in public attitudes. Where corruption is low (the Nordic countries, the United States and Singapore), people do not see a direct tie between corruption and inequality (Uslaner 2008, chs. 4, 5, 6, 7).

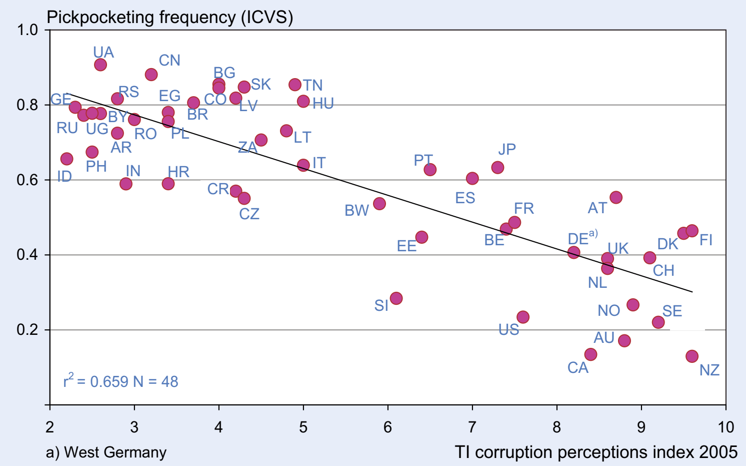
Inequality is a persistent problem in Africa. Williams (1987, 130) argues, “In the conditions of underdevelopment, with their attendant shortages and paucity of resources, corruption tends mostly to accentuate and aggravate the political and economic inequalities which have characterized so may African states for so long.” While historically low in transition countries, inequality rose sharply after the fall of Communism. In transition countries, most people believe that the only way you can become rich is by being dishonest. In the 1999 International Social Survey Programme, 51.8 percent of the respondents in the nine transition countries surveyed believed that to get to the top, you must be corrupt compared to 28.3 percent on average in the other 18 countries (mostly Western democracies). Former Kazakh Prime Minister Akezhan Kazhegeldin said of corruption: “There is a small group of people getting rich – and I mean really rich – in Kazakhstan while the rest of society remains really poor. The leadership is not interested in pushing a market economy. They keep two sets of books, one for themselves and another for everyone else” (Stodghill 2006, BU9).

Using data from the Afrobarometer and surveys from the World Bank, the government of Estonia, and a Romanian colleague, I show that: (1) the public is far more likely to see high levels of corruption than are elites; (2) people see a clear link between both economic and legal inequality, on the one hand, and corruption on the other hand; and (3) grand corruption, but not petty corruption, leads to lower levels of trust.

Grand corruption involves extending the advantages of those already well endowed. Petty corruption does not affect how people judge each other. Small bribes to see the doctor earlier, to get out of a traffic offense, to obtain a permit or a public service, or even to get a good grade from university professors do not enrich the recipients. They may reap enough to take their spouse out to dinner, but not to own mansions in Europe or to have hefty bank accounts in Switzerland or the Cayman Islands. Petty corruption may even be seen as “rational bargains” for the average citizen: it may well be worth your while to

Figure

PICKPOCKETING AND CORRUPTION



Source: International Crime Victimization Survey (ICVS) and Corruption Perceptions Index of Transparency International (IT).

pay a small bribe rather than to spend a day in court or wait hours at the doctor's office. The political boss George Washington Plunkitt in nineteenth-century New York City distinguished between "honest graft" and "dishonest graft" (Riordan 1948).

Grand corruption, not small bribes, upsets people and leads to lower levels of trust in fellow citizens. I obtained similar results using different surveys in Romania and Africa (Uslaner 2008, chs. 5 and 8). A 2008 cable from the American Embassy in Tunis to the State Department in Washington, made public by WikiLeaks and entitled, "What's Yours Is Mine", found the same dynamic underlying the unrest that ultimately toppled the government of Tunisia: "Although the petty corruption rankles, it is the excesses of President (Zine el-Abidine) Ben Ali's family that inspire outrage among Tunisians" (Shane 2011).

Grand corruption reinforces the argument of the (late) comedian George Carlin that "honesty is the second best policy". A corrupt political culture goes hand-in-hand with other economic crimes – but not crimes of violence. Notably, there is a powerful correlation between the level of corruption in a society and the frequency of pickpocketing (Uslaner 2008, ch. 3; see Figure 1).

Where corruption is relatively low, people do not see a direct connection among inequality, trust and corruption. Using surveys from the Nordic countries (the World Values Survey 1995), the American National Election Study (2004), the General Social Survey in the United States (1987) and the Asian Barometer 2004 for Singapore, I find no relationship between perceptions of inequality or social trust and corruption. And this is exactly how it should be. Low corruption was not born with American independence. Stories of malfeasance were common, especially in large cities and the South, in the United States – and it reflected high levels of inequality. Using data on historical inequality in the United States from Emmanuel Saez and Claudia Goldin's time series estimates (with Edward Glaeser) of corruption from press reports, I find that inequality explains 45 percent of the variance in inequality over 59 years (1916–74).

Is there a way out of the inequality trap?

Most countries that are highly unequal, with low trust and corruption remain so. But not all do so. There are at least three exceptions: Singapore, Hong Kong and Botswana – three places that do not immediately come to mind as having much in common. But all three "conquered" corruption – and two (Singapore and Hong Kong) are not democracies.

How did they do it? Of course, each had strong anti-corruption commissions. Hong Kong's and Singapore's commissions are widely known. But Nigeria has had many anti-corruption commissions, and most people see these commissions as facilitators, not obstacles, to corruption. The common elements in the struggles against corruption in Singapore, Hong Kong and Botswana are:

- Small size, so that it is easier to monitor corruption.
- Relative wealth, so that conquering corruption was less costly.
- More critically, government policies designed to engage the public in the anti-corruption campaign, from lessons in morality in elementary school, to mass campaigns to report illegal acts and, especially, government programs to enhance the welfare of ordinary people – all aimed at reducing inequality, so that the public felt little need to support corrupt leaders.
- Finally, and perhaps most importantly, all three places faced external threats: Botswana was surrounded by South Africa and (then-called) Rhodesia. Singapore and Hong Kong faced threats to their economic and political systems by radical unions supported by China. Their leaders may have seemed "enlightened", but enlightenment is easier when the survival of your regime is at stake. To gain the support of their publics against their opposition, the leaders had to make the lives of their citizens better. To do so, they needed to increase public welfare and to make the investment climate stronger. Singapore and Hong Kong became rich (and Botswana relatively well-off) by being honest and improving the lives of their citizens.

The "way out" of the inequality trap, then, is to free ordinary people from having to depend upon corrupt leaders for their livelihood. Universalistic social welfare programs, as practiced in the Nordic countries, are the most likely to reduce inequality and make the lives of all citizens better as well as to increase social trust (Rothstein and Uslaner 2005). And the universal social welfare program that works best to reduce inequality is universal free public education. The "biggest successes" in the fight against corruption throughout history – from the Nordic countries to the United States and South Korea –

have occurred in countries that have adopted universal public education (Uslaner 2008, ch. 9).

This is a daunting task for at least two reasons. First, when people see the rich getting richer and the poor getting poorer, they are more likely to demand redistributive social welfare programs rather than universalistic policies. If the rich get rich by being corrupt, why should they or their children share in the bounty of programs Rothstein and I have called "all for all"? Second, universal public education is extremely expensive. Wherever I talk about this "remedy", policy-makers and academics alike shake their heads and say that their (poor) country simply cannot afford it. I ask them how long they can "afford" high levels of corruption.

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Economic Approaches to Anticorruption

Johann Graf Lambsdorff*

Introduction

Fighting corruption has played a prominent role in research in the last 15 years. Countries where bribery and embezzlement among public servants and politicians are effectively contained allocate capital more efficiently, grow faster, preserve the environment, attract investors, avoid inequality in income and wealth, enhance trust in politics and foster happiness among its citizens (Lambsdorff 2007). The empirical evidence is strong and has focused attention on the necessity of good governance.

At the same time there is little consensus on how to contain corruption. Some economists have advocated the idea that corruption is necessarily a consequence of bureaucracy and government. Downsizing the public sector was thus seen as a remedy. The resulting implementation of privatization and deregulation has often failed, however, and even led to increased rather than decreased corruption. Political reform, such as strengthening participatory government, democracy and decentralization, are guiding principles in their own right, but do not necessarily offer the silver bullet that helps reduce overall corruption. Instead they can generate transitory problems that may easily go along with increased corruption.

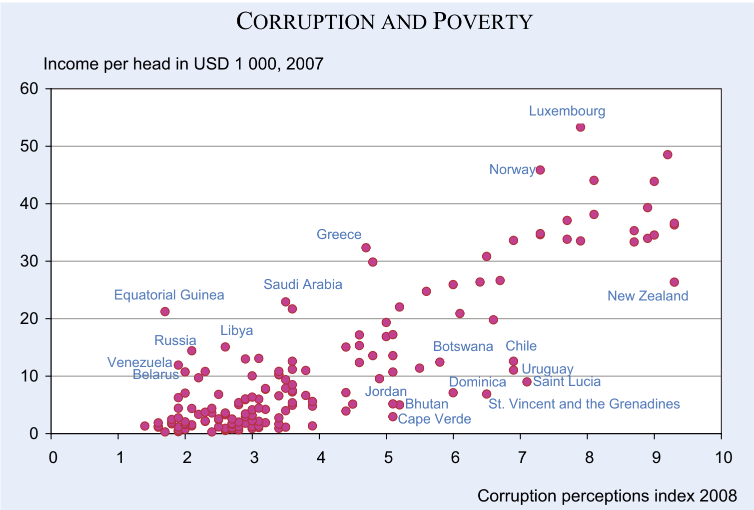
Legal reform has been given considerable attention lately, particularly in connection with criminal law. Milestones include the 1997 OECD convention, where all member states committed themselves to enact laws criminalizing the bribery of foreign officials and in 2003 the United Nations Convention Against Corruption, where 140 signing states agreed to fight corruption in all of its forms.

There is a widespread consensus that incentives for citizens, businesspeople, politicians and public servants must be created that discourage bribery. It should be turned from a high profit and low risk strategy to a risky activity that promises only little gain. But what are the risks that corrupt actors are exposed to? And how can we modify them? There is little doubt that severe penalties and high risks of detection are crucial. But can such an approach be successful when prosecutors are not independent, judges poorly paid, lobbyists masters of camouflage, businesspeople in search of legal loopholes and politicians willing to offer benefits for a price?

Approaches to anticorruption

Given the difficulties of fighting corruption, the chances for good governance frequently appear rather poor, particularly when observing how costly it may be to pay high salaries in the public sector and maintain necessary control mechanisms.

Figure 1



Source: World Bank.

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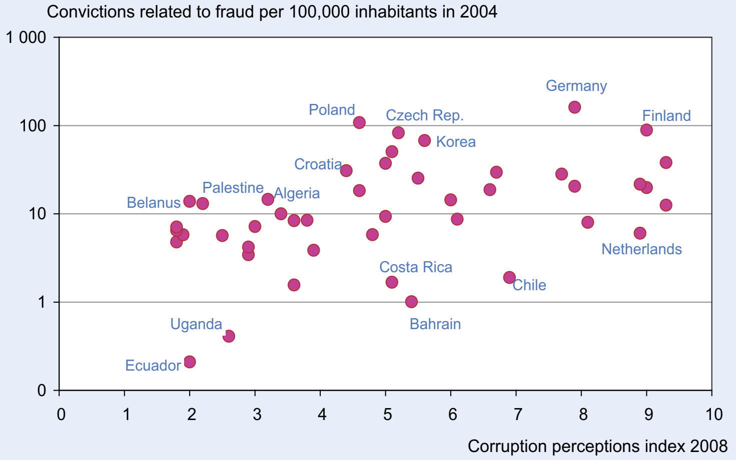
Figure 2

Perceived Corruption and the Number of Convictions



Source: United Nations (2007), Survey of Crime Trends and Operations of Criminal Justice Systems.

This may explain why, as shown in Figure 1, there is a strong correlation between poverty and corruption. Rich countries such as Luxembourg, Norway, Denmark, Germany or the United States perform much better than poor countries such as Zimbabwe, Afghanistan or Myanmar. Some outliers, however, are also noteworthy. Countries endowed with raw materials such as Saudi Arabia, Equatorial Guinea and Russia are rich but marked by higher levels of corruption. Other countries such as Chile, Jordan or Botswana are rather poor but still successful in containing corruption. Can they teach us a lesson?

Data on convictions related to fraud are also illustrative (even when recognizing that definitions and aggregation may differ from one country to another). More convictions suggest that a higher level of deterrence is achieved. This helps reduce perceived levels of corruption, as shown in Figure 2. Yet, the correlation is rather poor. One is tempted to reason that convictions in court may explain only a small fraction of the risk faced by potential perpetrators. It is noteworthy to see Chile again as an outlier. The number of convictions is rather small relative to the country's success in containing corruption.

Corrupt reciprocity

In addition to deterrence there are numerous other preventive measures that are salient in reducing corruption. These range from eliminating distorting state intervention, simplification of rules and procedures, to administrative rules or procurement law. I want to discuss one aspect that has become the focus of scrutiny lately. Corruption is an arduous type of business, and one approach for reform concentrates on rendering corrupt transactions even more troublesome.

Bribe paying companies are often betrayed. After receiving a payment, public servants and politicians fail to deliver the promised service. Other companies are extorted, threatened with criminal prosecution or forced to pay another bribe. The Wall Street Journal (31 January 2007) reported the prosecutorial investigation of M. Kutschenreuter, an executive manager at the German Siemens. A former Saudi-Arabian local representative, whose contract had been cancelled by Siemens, he allegedly blackmailed the firm. He requested more than USD 900 million as hush money and threatened to pass on documents about corruption in telecommunications contracts to the SEC. In negotiations both sides agreed on a payment of USD 50 million.

This case study is symptomatic for corrupt transactions. The risks of mutual betrayal are manifold, as the following cartoon illustrates. Corruption requires criminal expertise. Money flows must be camouflaged, measures against blackmailing must be taken, and, foremost, the enforcement of promised services must be ensured. Those who engage in this business

"A man of principle. He accepted the bribe but he wouldn't give me the license because that would be against the rules"
Source: Laxman, *Times of India*

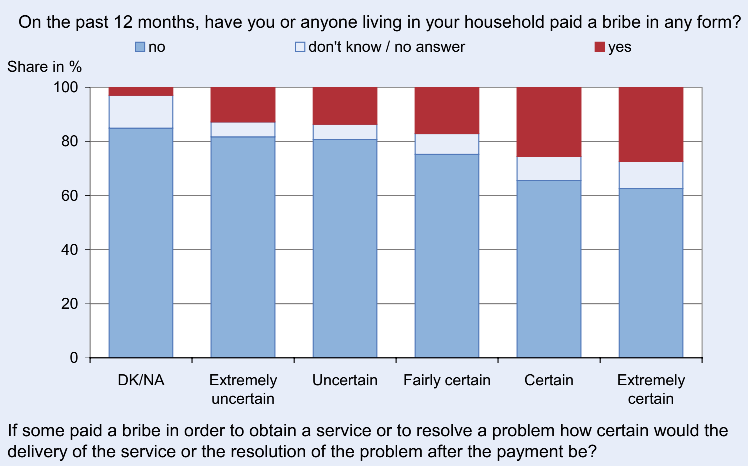
delve into a criminal sphere in which networks are as important as mutual trust. Trust, on the other hand, must be complemented by credible threats to retaliate malfeasance (Gambetta 2009).

This is well illustrated by another recent case, documented on 26 June 2007 by the Süddeutsche Zeitung. In a recent trial in Munich, Germany, Holger Pfahls was charged with accepting bribes while holding a position of a defense secretary under former Chancellor Helmut Kohl from 1989 to 1992. He was accused and found guilty of accepting the equivalent of almost EUR 2 million from German-Canadian businessman Karlheinz Schreiber for pushing through a deal to deliver 36 Fuchs armored vehicles to Saudi Arabia. In court Mr Pfahls is quoted as giving the following description of the alleged briber (own translation): "Schreiber told me that I was just one out of many who receives bribes. When Schreiber hates someone, his hatred is so profound that he wants to destroy him, even if that means his own demise. On the other hand, he is a real buddy, highly talented in creating a pleasant atmosphere." Mr Schreiber has mastered the skill of creating a pleasant trusted atmosphere while at the same time threatening retaliation, forcing his counterparts to honor their promises.

Empirically there is also a strong correlation between the likelihood to pay a bribe and confidence in corrupt reciprocity. Figure 3 shows data from a 2009 worldwide survey of households (Transparency International 2009). Households in 66 countries were asked, first, whether they paid a bribe in the last 12 months and, second, whether the delivery of the corrupt service is certain after making such payments. As shown, the likelihood of paying bribes increases with the certainty of delivery. Among households that are extremely certain about the delivery 28 percent pay bribes. But only 13 percent of households pay bribes if they are extremely uncertain whether a bribed public official will deliver the corrupt service.

Figure 3

UNCERTAIN RECIPROCITY REDUCES BRIBERY



Source: Own research based on Transparency International (2009): Survey among 70 110 households in 66 countries.

This finding provokes a novel approach to reform. The frequency of bribery can be reduced by rendering reciprocity uncertain, by undermining the stability of corrupt transactions. I labeled this method for anticorruption "the principle of the invisible foot" (Lambsdorff 2007, 2009). The wording is chosen in line with the well-known economic principle of the invisible hand. Outcomes desired by society can be achieved without altruistically motivated individuals. In the words of Adam Smith (1776, 16): "It is not from the benevolence of the butcher, the brewer, or the baker that we expect our dinner, but from their regard to their own interest." The invisible hand of market competition assures the desired outcomes. A mechanism is in place that substitutes for a lack of individual morality.

This poses the question whether we have a similar mechanism at our disposal for ensuring good governance. Can there be good governance without benevolent politicians and without altruistic public servants? Competition does not represent this type of mechanism, because corrupt politicians may have an edge over their competitors in gaining funding, recruiting loyal followers and organizing majorities for their goals. But the principle of the invisible foot may give rise to hope. Actors who are willing to engage in corruption often end up being the victims of betrayal. They may fail to profit from bribery and lose their reputation for honest business. Abstaining from corruption may then be motivated by self-interest. Temptations to give or take bribes may be rejected not due to moral concern but because of the inherent uncertainty that surrounds such deals.

Perspectives for reform

A plethora of proposals emerge once we approach corruption from this perspective. For example, due to their uncertainty, corrupt transactions are often arranged by specialized agents experienced in camouflaging, avoiding extortion, giving legal appearance to seemingly corrupt deals and enforcing illegal transactions. Intermediaries enjoy the advantage of being return customers. While a stranger may easily be cheated, intermediaries promise future business and can spread an individual's reputation as either being a cheater or an "honest" criminal. Making life harder for intermediaries could thus be an important approach to reform (Lambsdorff 2011). Intermediaries may be required to register their business and be subject to annual auditing, which would prevent them from passing on parts of their commissions as bribes.

Equally important is the observation that not all penalties and types of deterrence are advisable. This is particularly apparent with rigid gift-taking limits. Such measures may render the minor sinners dependent on a briber. After an innocent error they can become hostage to someone who was giving them a gift beyond the allowed limit. For many this marks the beginning of a corrupt career. Their initial perpetration makes them reliable partners for future corrupt transactions. The gift-limit rule serves to strengthen the stability of future corrupt transactions rather than to help the minor sinners protect their integrity. Instead of rigid rules it would be better to train employees how to deal with conflicts of interest, to sort out possible previous mistakes and to regain a life of justice. Conversely, those who bribe public servants and make them dependent deserve less backslapping.

Gender equality

Gender equality has been found to be closely related to the success in fighting corruption. There is significant evidence that a larger share of women in the working population and in parliament goes along with lower perceived levels of corruption, alas, with uncertain causality (Swamy et al. 2001). But causation has been ascertained in experimental investigations, which revealed that women differ in their reaction to bribes. While men have a tendency to reciprocate, for example by delivering a contract to the briber, women are willing to act opportunistically, taking a bribe while cheating the briber (Lambsdorff and Frank 2011). Women are commonly found to exhibit a high sense of fairness and the avoidance of behavior that contributes to inequality. But they were not found to apply a higher moral standard in corrupt transactions; rather they had a reduced sense of reciprocity.

Men, on the other hand, are more willing to reciprocate but also to retaliate if they are cheated, even if this is costly to them. This suggests that women may be preferable for routine inspections, in workplace situations that are comparable to the anonymous setting that was tested in the experimental laboratory. Men, on the other hand, may need more rigid gift-limit rules, given that they cannot take gifts without an inclination to reciprocate.

The four-eyes principle

Subjecting individual decisions to peer review is a standard organizational method. Individuals often tend to follow narrow, selfish interests which may overshadow the pertinent concerns. Having a second, independent person supervise important decisions is thought to ensure that a control mechanism is in place. Reports on anticorruption in the public sector thus often emphasize a rigid application of the four-eyes principle as a method for containing corruption. Bribing two, it seems, is more demanding than bribing just one decision maker.

What appears most intuitive to the layman has been critically challenged by laboratory experiments. Schikora (2010) employs a game similar to the one by Lambsdorff and Frank (2011), where bribe-takers can cheat the briber. He compares one treatment played among individuals with a treatment where bribe-takers decide in groups of two. Only if both agree to the bribe will it be accepted. Nonetheless there is more bribery in the group version. This is because the game is played repeatedly and as a result issues of reputation become salient. The experiments show that groups follow a maximizing strategy more than individuals do and are better at cultivating a reputation for reliable reciprocity. The mutual control exercised between two actors backfires, because rather than serving the public it is employed to uphold the actors' corrupt reputation. Thus research casts doubt on naïve expectations regarding the four-eyes-principle. How peer review should be organized to better contain risks of corruption will thus be food for future research.

Asymmetric penalties

Bribery differs from many other forms of crime in that it involves two perpetrators. It suffices for law enforcers to convince just one of the perpetrators to collaborate and self-report. Take a simple thought experiment. A briber is allowed to keep the awarded contract and entitled to claim back the bribe if he reports the infraction to prosecutors. Bribery and subsequent reporting is turned into an attractive strategy. Such a provision would be quite unfair, but also quite effective. A bribe-taker will recognize these incentives and, fearing the increased probability of detection, be inclined to reject bribes (Yadlin 2006). Self-reporting combined with leniency would thus be a valuable tool in destabilizing corrupt transactions. In contrast, if both briber and bribe-taker face identical penalties, these embed the two perpetrators into mutual dependence and silence.

But leniency programs must be fine-tuned so as not to backfire. Feess and Walzl (2004) warn that incentives given to those who report should not be excessive. What is even more important is how to deal with perpetrators who deceive each other. Imagine that a briber is still waiting for his contract to be awarded and is fearful that the bribe-taker may cheat. Will the briber be entitled to obtain leniency in exchange for reporting? Obviously, this type of leniency would backfire. If those who are cheated are invited to report, bribe-takers will not dare cheat. This type of leniency would enhance corrupt reciprocity and support the enforcement of bribe transactions (Buccirossi und Spagnolo 2006).

There are two models for taking care of these concerns. One approach would be to penalize bribe-giving but not bribe-taking. In the 1990s in Chile the payment of a bribe was a criminal offense, but accepting a bribe was not unless accompanied by an abuse of office. Even today Chile's Codigo Penal, the criminal code, is strict with respect to extortion, misappropriation, falsification of information and fraud but little punishment is added when these infractions are carried out in exchange for a bribe (Rose-Ackerman 2010, 222). The advantage is that bribe-takers are free to cheat bribers, without fears of reprisal. This model can also be linked to leniency towards bribers in exchange for reporting. As long as they do not receive the promised contract they are not in a position to threaten the bribe-taker.

Another option would be to reverse the onus of proof and grant leniency to any perpetrator, the briber or the bribe-taker, who can prove to have cheated their counterpart. While this option would also destabilize corrupt transactions, currently there is no country or institution where experience with such provisions has been gathered. More research is required to develop this thought experiment into rules than can be implemented.

Contract penalties

Monetary fines linked to business contracts can also be helpful in containing corruption. For example, the general terms and conditions of purchasing of the Deutsche Bahn AG (Allgemeine Einkaufsbedingungen AEB) set a fine of up to 7 percent of the gross accounted sum to be paid by a contractor who pays a bribe. Similar provisions can be found in the US Sentencing Guidelines. Also the "integrity pacts" by Transparency International incorporate similar types of fines. In my opinion a fine of 30 times the amount of the bribe would be adequate. Such a value would correlate with the advantage achieved by the bribery ,i.e., a light penalty for the flowers given to a low-level clerk and severe sanctions for transferring large sums of money to key decision makers.

Another advantage of such fines is that they are borne by companies, not individuals alone. Companies will lose the incentive to induce their employees to pay bribes. Not only would the employees risk penalties, the companies would also face the risks of monetary fines. There are further advantages to such fines. The circumstances for detecting a malfeasance can be taken into account. Imagine a manager who hears about allegations of a bribe paid by a subordinate to secure a contract, contrary to the manager's policy. But should the manager investigate the case further, as required by his supervisory duty? Imagine that his company would have to pay a fine. Wouldn't it then be in the corporate interest to destroy all evidence rather than bringing them to light? Monetary fines are then at risk of generating adverse incentives.

The downside effects of monetary fines can be avoided by granting leniency in cases of self-reporting (but keep in mind that leniency may not be granted if the company was cheated and the paid bribe was not reciprocated). Such provisions would enhance the manager's incentives to investigate the allegation, in order to secure lenient treatment for the company. This is an advantage of fines as compared to blacklisting, where potential leniency is possible only at the discretion of prosecutors or the procurement agency. It is also superior to provisions that render the contract obtained by help of bribery null and void, as such provisions do not deter unsuccessful bribery that was not reciprocated. Monetary fines are also superior to liability for damages to the principal and the competing bidders, as they can be made dependent on a company's effort to come forward with evidence and report the infraction.

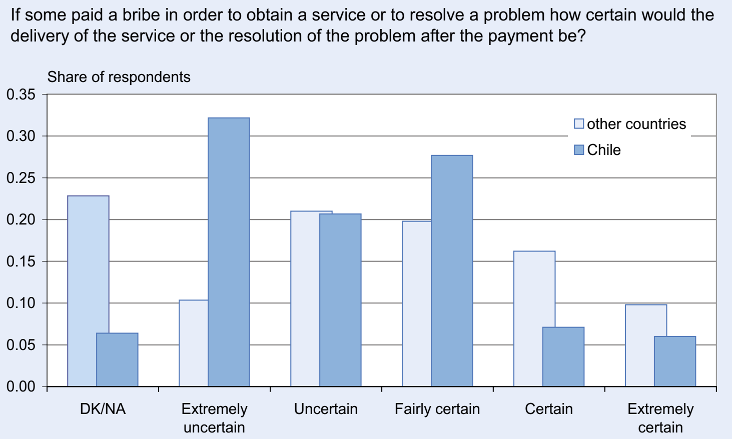
Conclusion

As this article explained, corruption is not only reduced by deterrence such as is provided by a strict criminal code and a high risk of detection. It is also undermined by the risk that bribes may not be reciprocated.

Why is Chile successful in fighting corruption? Why is it widely perceived to exhibit low levels of bribery despite being rather poor and not diligent in convicting fraudsters? One explanation might be its described policy of penalizing bribe-giving but not bribe-taking, which makes it attractive to take bribes without reciprocating them.

Figure 4

CORRUPT RECIPROCITY IS UNCERTAIN IN CHILE



Source: Own research based on Transparency International (2009): Survey among 1 001 Chilean and 69 109 households in another 65 countries.

Indeed, as shown in Figure 4, Chileans are particularly uncertain with respect to corrupt reciprocity. More than 32 percent respond that after paying a bribe it is extremely uncertain whether the promised favor will be returned. Among 66 countries this was the second highest value. A policy that effectively inhibits corrupt reciprocity rather than exercising zero-tolerance towards gift-takers is likely to explain Chile's success. Rather than focusing on a policy of zero-tolerance, a more tricky avenue is advisable.

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Fighting Corruption

Robert Klitgaard*

Introduction

Around the world, citizens are crying out against corruption. As demonstrated recently in northern Africa, the Middle East and India, corruption foments distrust, anger and instability. New leaders like Petr Nečas in the Czech Republic and Mauricio Funes in El Salvador have prioritized the fight against corruption. President Benigno Aquino of the Philippines was elected last year with the campaign slogan "If there is no corruption, there will be no poverty."

At the end of his 1985 book *Bribes*, the American law professor and Judge John T. Noonan made a remarkable prediction: "As slavery was once a way of life and now…has become obsolete and is incomprehensible, so the practice of bribery in the central form of the exchange of payment for official action will become obsolete" (706).

Noonan demonstrated that bribery is not culturally relative. Anywhere one goes, bribery is considered shameful, a sell-out to the rich and a betrayal of the trust that he called "a precious necessity of every social enterprise" (704). Bribery, he concluded, violates a divine paradigm. According to Noonan, these moral forces, coupled with increased information, communication and competition, will result in the demise of systemic corruption.

Noonan's book was published 26 years ago. And while his prediction came true for Singapore and a few other countries, the trend for the world as a whole is flat, if one judges from Transparency International's Corruption Perceptions Index. In a recent book about Asia, the economist John Malcolm Dowling noted that rising incomes have not necessarily yielded lower corruption. Instead, he wrote, "a large group of poor countries are caught in a low level corruption trap at the same time that others at high levels of income are becoming more and more honest" (2008, 273).

Even rich countries exhibit worrying signs. A government review of police corruption in New South Wales revealed a correlation between the availability of illegal drugs and corrupt activities such as protecting vice and taking payoffs (Committee on the Office of the Ombudsman and the Police Integrity Commission 2002). Cost overruns – often a telltale sign of corruption – have risen sharply over the past 50 years in US public works projects (Engerman and Sokoloff 2006). And daily news reports provide examples of private-sector fraud and conflicts of interest, from Goldman Sachs to Tenaris, even FIFA.

Even where corruption has been successfully reduced, there are also examples of "re-corruption" (Dininio 2005). The case of the cleaned-up Philippine Bureau of Internal Revenue (Klitgaard 1988, chs. 2–3) has been studied all over the world. But when I visited Manila a few years ago, the head of the BIR confided to me that it was once again rife with corruption.

Was Noonan simply wrong, then? Is fighting corruption a lost cause? It is remarkable how often we express outrage over corruption and then quickly move to cynicism. Remarkable, too, how reluctant we are to consider corruption with the same cool, analytical powers we apply to other cases of policy and management.

Where cynicism reigns, complacency follows. It is easier for us to accept that nothing can be done about an issue if we can persuade ourselves it does not matter. "Corruption? So what? It is grease in the wheels of commerce and glue in fractured polities. Corruption has its functions, even its benefits, especially where neither states nor markets work well."

But corruption turns out to slow economic growth, cripple social services and defraud justice, as other papers in this issue demonstrate (see also Klitgaard, Fedderke and Arkamov 2005). Former World Bank President Paul Wolfowitz called corruption "the sin-

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gle most important obstacle to development"; today, the Bank's website says, "The Bank has identified corruption as among the greatest obstacles to economic and social development."[1]

Fortunately, we can learn from a number of examples of impressive progress against corruption in cities, ministries and countries, from Mozambique to Colombia, from Indonesia to Qatar, as well as epic successes such as Singapore. Though contexts differ, lessons emerge. Leaders who wish to fight systemic corruption need to change a corrupt institutional culture. They need to mobilize and coordinate a variety of resources inside and outside the government. They have to think in terms of corrupt systems instead of corrupt individuals. In some cases, they need to deal with corruption as a form of organized crime.

Change the institutional culture

"Institutional culture" refers to a set of norms and expectations. When corruption is systemic, the institutional culture has grown sick. The norm is corruption; expectations are that corruption will continue. Cynicism and despair are widespread. Change seems impossible.

And yet there are cases where leaders have made substantial progress in changing the institutional culture. They begin by sending a strong signal of change. They publicize their intent to attack corruption. But in corrupt societies, words have little impact. The culture of corruption contains the idea that big fish will swim free, that the powerful enjoy impunity. Successful leaders change this idea through impressive action.

An important initial step is to fry big fish. Just after President Andrés Pastrana assumed power in Colombia in 1998, his anti-corruption team flew to several regions and held hearings about supposedly corrupt mayors and governors. The team had the power to suspend people from these offices – something that leaders in other countries may not have – and the team used this power to send a signal not only to the local leaders but to the whole country. Pastrana's anti-corruption team also went after a specific case of corruption in the Congress – choosing as the big fish people from the president's own party. President Enrique Bolaños of Nicaragua went one step further. He locked up the former president, Arturo Alemán, under whom Bolaños had served as vice-president, on charges of corruption. Under President Susilo Bambang Yudhoyono, Indonesia's Corruption Eradication Commission has won global praise for its performance. It has successfully prosecuted scores of public servants, some of them extremely senior, as well as business people giving bribes.

A second lesson: pick low-hanging fruit. Effective reforms do not tackle the most difficult domain of corruption first. Instead, they create near-term successes that are highly visible and change expectations. Momentum is created, enabling longer-term reforms on harder problems. This emphasis on early wins is a theme in the new World Development Report (World Bank 2011).

Finally, successful leaders bring in new blood. Even though they work with people within existing institutions, they also invite in young people to be "eyes and ears" (Mayor Ronald MacLean-Abaroa in La Paz, Bolivia), business people to take important public positions (the anti-corruption czar under President Pastrana), and young accountants to partner with "senior heroes" and investigate cases in depth (Judge Efren Plana in the Philippines' Bureau of Internal Revenue).

Mobilize and coordinate

A successful fight against systemic corruption must involve more than one agency of government. For example, success requires the help of the supreme audit authority, the police, the prosecutors, the courts, the financial functions of government and others. What's more, the fight against corruption requires the help of the business community and civil society. They can provide unique information about where corruption is occurring and how corrupt systems work.

This suggests an apparent paradox. The fight against systemic corruption requires a strong leader – someone strategic and brave and politically astute. But the leadership trait that is most important is the ability to mobilize other actors and to coordinate their efforts productively. The task is not command and control, but mobilization and coordination.

For example, in Colombia the anti-corruption czars of Presidents Pastrana and Álvaro Uribe created mechanisms for coordination across major minis-

[1] http://web.worldbank.org/WBSITE/EXTERNAL/EXTSITETOOLS/0,,contentMDK:20147620~menuPK:344192~pagePK:98400~piPK:98424~theSitePK:95474,00.html

tries and agencies of government (auditing, investigation, prosecution and so forth). Hong Kong's Independent Commission against Corruption works in three areas – prosecution, prevention and public relations. In each area, the ICAC works closely with and through other government agencies.

Successful reformers do something good for their public sector employees. For example, new systems of performance measurement are linked with better pay, promotion policies and "bonuses" such as overseas trips and courses.

Those who successfully fight systemic corruption involve the people. Mayor MacLean-Abaroa invited citizens' groups to become involved in local public works, which enabled new kinds of accountability. So did Mayor Jesse Robredo in Naga City, Philippines, and Mayor Elba Soto in Campo Elias, Venezuela. Mayor Soto created an Office for Development and Citizen Participation, using citizens as eyes and ears to insure successful implementation of public works.

Citizens know where corruption is and how corrupt systems work. Lawyers understand the workings of corruption in legal systems. Accountants know the illicit games played with audits. Business people understand how corrupt systems of procurement and contracting work. Citizens know where bribery shapes the services they receive (or don't receive). This knowledge can be culled in many ways.

In surveys, people can be asked *where* they perceive corruption to be occurring. In confidential interviews, insiders can be asked *how* a corrupt system works. For example, a study of a procurement system may lay out the various steps: prequalification of bidders, technical criteria and their weights, the judging of the various bids, the process for post-award changes, and the payment of the contract. Each of these may be subject to corruption. Interviewees are asked, in effect, "Here is how things are supposed to work in prequalification. In your experience, what problems tend to emerge? How prevalent do you guess these problems are? What distortions are created?" The results of many such interviews (perhaps 15 or more) can be the basis for a diagnostic assessment of a procurement system and then of remedial actions.

The Internet can be used to publicize all contracts and budgets – and also to enable citizens to denounce cases of inefficiency and possible corruption, as President Benigno Aquino is now doing in the Philippines.

The press can play a leading role. Following the tsunami in Aceh, Indonesia, a team of local journalists produced a daily one-hour radio program dedicated to the rehabilitation and reconstruction effort. These journalists acted as watchdogs, often drawing attention to cases of corruption.

Reform systems

In the long term, curing systemic corruption requires better systems. Successful leaders understand that better systems go well beyond better laws and new codes of conduct. They implicitly or in MacLean-Abaroa's case explicitly apply the formula

$$\textit{Corruption} = \textit{Monopoly} + \textit{Discretion} - \textit{Accountability}$$

to guide their systemic reforms. Corruption flourishes when someone has monopoly power over a good or service and has the discretion to decide how much you receive and where accountability and transparency are weak. So, to fight corruption we must reduce monopoly power, reduce discretion and increase accountability in many ways.

Reducing monopoly power means enabling competition, as in government contracts in Korea, Colombia, and many other countries. Mayor MacLean-Abaroa got the city of La Paz out of the construction business, meaning that public works could be carried out by any of a number of private companies. Mexico puts online all government contracts and procurement plans before and after the decisions are made, so prices and winners are public knowledge. Argentina reduced corruption in hospitals by publishing prices of all purchases throughout the hospital system.

Limiting discretion means clarifying the rules of the game and making them available to everyone. Mayor MacLean Abaroa created a citizens' manual, which described simply and in three languages what was required to obtain a permit, build a house, start a business and so forth. President Pastrana limited discretion by making the rules of the game available online. Judge Plana simplified the tax code, making it simpler to understand and reducing thereby the effective discretion of BIR employees.

Enhancing accountability means many things, and creative leaders use a remarkable variety of methods. One way to improve accountability is to improve the measurement of performance. Leaders can work with their employees and clients to create new systems for measuring the performance of agencies and offices – and then link rewards to results. Exemplars include the Public Affairs Centre in Bangalore, India (Paul 2002) and Ciudadanos al Día in Peru.

Another method is listening and learning from businesses and from citizens. This includes mechanisms for public complaints, but it goes beyond the reporting of individual instances of abuse to the diagnosis of corrupt systems. President Pastrana's *Colombiemos* campaign linked up the *veedurías* around Colombia, enabling these non-government organizations to provide better oversight of public programs and leaders.

Accountability is also increased by inviting outside agencies to audit, monitor and evaluate, for example Peru's Ciudadanos al Día. Finally, the press can be an important source of accountability if they are invited to be partners in reform instead of treated as potential political enemies.

Successful reformers recognize that corruption is an economic crime, not a crime of passion. Reformers work hard to change the risk-reward calculations of those who might give bribes and those who might receive them. Raising pay is good, especially for ministers and other government leaders. Salaries should be somewhat competitive with the private sector – perhaps 80 percent is a good norm. But note that beyond some reasonable minimum that enables leaders to live well, the level of pay does not have much of an effect on corrupt calculations. "Should I take this bribe or not?" The answer depends on the size of the bribe (which is a function of my monopoly power and my discretion), the chance I'll be caught (a function of accountability) and the penalty I'll pay if I'm caught. It only depends a little on my level of income, at least once I have enough to live on. Therefore, once salaries for top officials are "reasonable", leaders should emphasize improving information about performance and the incentives attending good and bad performance.

What about ethics and morality? Successful leaders set a good example. They sometimes create training programs for employees and citizens. Nonetheless, in the success stories I have studied, what might be called "moral initiatives" are not the key feature of the long-term reforms. The keys are systems that provide better incentives for imperfect human beings to perform in the public interest – and to avoid corruption.

Subverting corruption

What if the people on top are themselves corrupt? When corruption has become systemic, it resembles organized crime. It has its own parallel system of recruitment and hierarchy, of rewards and punishments, of contracts and enforcement. This parallel system has some inherent weaknesses. For example, in no country of the world are bribery and extortion legal. Therefore, they must be kept (somewhat) secret. The money gained must be hidden. New members cannot be openly recruited. The mechanisms for enforcement are illicit.

How can these corrupt systems be subverted? Obviously we cannot count on members of organized crime to clean themselves. Instead, we must analyze the corrupt systems and ask, "How might they be destabilized?" Who is "we"? It can be a new president and his or her team, or a new mayor or head of a public enterprise. But it can also be you and me as members of civil society. Around the world we see new examples of citizen activism, of business groups entering into "integrity pacts", of intellectuals, journalists and religious leaders going beyond lectures and sermons to analyze corrupt systems and work together to subvert them.

For example, one corrupt system of road building (in a country I am not free to mention) involved senators, government executives and key business people. The system included many "emergency works" that were let on a noncompetitive basis – at a price 30 percent higher than works bid competitively. The surcharge was shared corruptly. This system did not involve all senators, all government officials or all businesses. With the help of a team of analysts, the corrupt systems were analyzed. The lifestyles of some corrupt senators and officials were documented. Finally, the results were publicized in the press and internationally. The corrupt system could not withstand the light, and soon the key figures were in jail.

Those wishing to fight systemic corruption will mobilize people in the same way. Together, they can analyze corrupt systems and document lifestyles far out of proportion to official pay. And together, they can subvert organized crime and corruption.

All of these points mean that the fight against systemic corruption should focus on systems rather than individuals. Corruption is a crime of calculation, and regarding this sensitive subject, we have to be at our coolest and most cerebral to make progress. We have to analyze ways to shock corrupt administrative cultures into seeing that change is possible. We have to reduce monopoly, clarify official discretion and enhance accountability. We must improve information and incentives. In some cases, we may have to subvert corrupt systems that resemble organized crime. In all these steps, we must go beyond government to involve citizens, journalists, non-government organizations, businesses and government officials in the diagnosis and remediation of corrupt systems.

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Ending Military Conscription*

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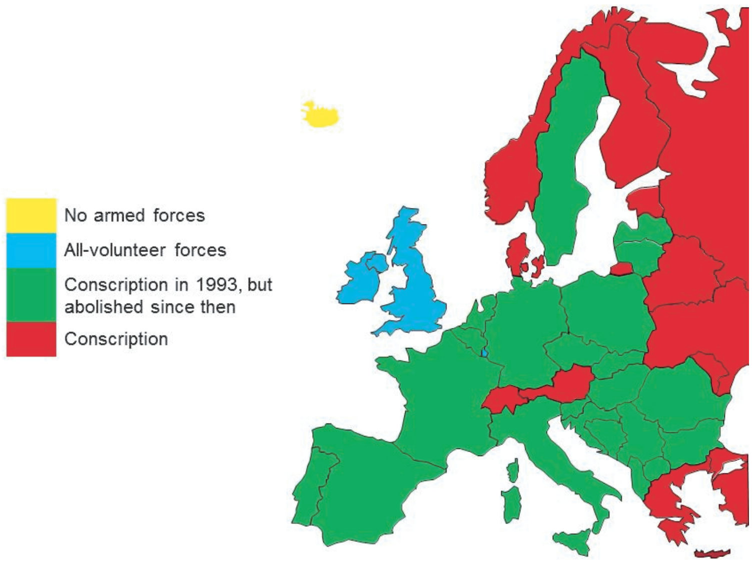
Current trends

Throughout most of the 20th century, military conscription (the draft) was a prominent feature of national military doctrines. Both world wars were fought mainly by conscripts. Among the 12 founding countries of NATO in 1949, only Canada did not rely on conscription (Iceland did and still does not have armed forces). While the United Kingdom (1960), Luxembourg (1967) and the United States (1973) adopted all-volunteer forces quite early during the Cold War, military conscription was the dominant mode of peacetime recruitment in the alliance until mid-1990s. Likewise, throughout the entire existence (1955–91) of the Warsaw Pact, all its members used conscription.

Figure 1 maps the changes in military recruitment across Europe since 1993 (after the break-up of Czechoslovakia and Yugoslavia). Initially only Ireland, Luxembourg, Malta and the United Kingdom relied on all-voluntary service. In 2011, most countries do. The only EU countries still using conscription are Austria, Cyprus, Denmark (in which it is quite easy to avoid the service in practice), Estonia, Finland and Greece.

Figure 1

Military Recruitment in Europe, 1993–2011



Sources: Own compilation, based on Wikipedia (2011), "Conscription" and selected government sources.

Figure 2 presents military recruitment regimes worldwide. Conscription is still dominant in Asia and Africa. In Latin America the use of conscription has been in a steady decline, with (de facto) abolitions in Uruguay (1989), Nicaragua (1990), Honduras (1994), Argentina (1995), Peru (1999), Chile (2005) and Ecuador (2008).

While the decision to abolish or maintain the military draft has country-specific aspects in each single case, certain groups of motivations for the abolition of conscription can be identified:

- Conscription in the US was abolished in 1973, towards the end of the Vietnam War. Liberal deferment rules and, later, the use of lotteries had generated a strong sense of the unfairness and biased selectiveness of the draft system, which added to the public discontent with the Vietnam War. In the debate about the pros and cons of abolishing the draft, economists (most notably Milton Friedman) had substantial impact, arguing that conscription is "inequitable, wasteful, and inconsistent with a free society" (Friedman 1974, 253).

- In continental Europe, with its dominant historical view that every citizen has an obligation to

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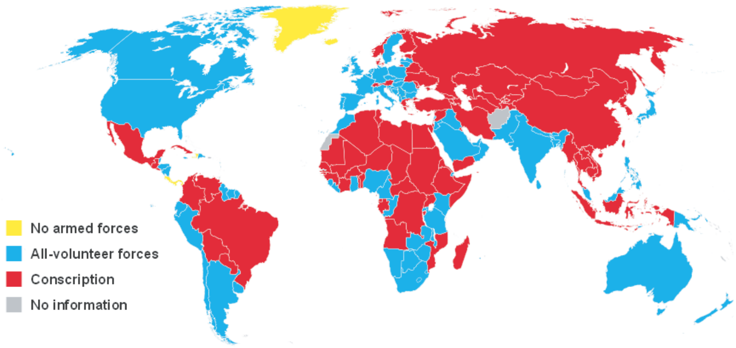
We thank Max Ostermayer for helping us with the figures.

Figure 2

MILITARY RECRUITMENT AROUND THE WORLD



Sources: Own compilation, based on CIA (2011), "World Factbook", Wikipedia (2011) "Conscription" and selected government sources.

perform some service at the call of the state, the decline in the use of conscription followed the end of the Cold War. After the collapse of the Soviet Union and the end of the Warsaw Pact, European governments no longer saw the need to prepare for large-scale warfare in Europe. This allowed many countries to seek budgetary savings by reducing the sizes of armies and reserves. At the same time, military capabilities were increasingly aimed at peacekeeping and international missions for which conscripts are ill-suited and, in most countries, inadmissible by law. Military technology moved away from territorial mass forces to smaller, mobile units equipped with sophisticated weaponry, increasing the necessity of professionalization. The smaller intake of draftees raised equity concerns as conscription was no longer hitting the full (male) age cohort but only those unlucky enough to be called up to service.

- For the Baltic, central and eastern European countries, which all started out with conscript armies, the prospect of NATO membership meant the necessity of downsizing and restructuring their armed forces. The role model of the alliance leaders, increasing levels of draft avoidance, and the public opinion that conscript forces were a vestige of the Cold War or Soviet totalitarianism promoted the eventual abolition of conscription in all countries except for Estonia (Williams 2005).

- Many Latin American countries were ruled by military dictatorships until the 1980s. The *juntas* relied heavily on conscription for military reasons (in border disputes and inner conflicts with Marxist movements) as well as for sake of indoctrination and social control. During their regimes these armies had amassed dismal records of reckless militarism, human rights violations, economic mismanagement and corruption. In the wake of democratization, armed forces suffered considerable losses in prestige, leading civilian goverments in quite a number of countries to abolish or suspend conscription.

Typically, also countries without conscription during peacetime retain the option to re-introduce conscription in case of war – when it might be infeasible to mobilize the necessary manpower by volunteers or through fiscal taxes alone. Similar arguments can explain the use of conscription in countries like Israel, where the military doctrine relies on the ability to mobilize most citizens to fight in case of a large-scale conflict. Generally, there is a positive correlation between the military threat perceived by countries and their use of conscription (Mjoset and van Holde 2002). The recent abolishment of military draft in several European countries can then be explained by (the perception of) reduced military threat after the fall of the Iron Curtain.

The economic case against conscription

Economists traditionally were and are unambiguous in favoring a volunteer army (for surveys see Sandler and Hartley 1995, chapter 6; Warner and Asch 2001 or Poutvaara and Wagener 2007a, 2011), echoing Adam Smith's verdict of the "irresistible superiority which a well-regulated standing [i.e., all-volunteer] army has over a militia [i.e., temporary conscription]" (Smith 1976, 701). Smith's arguments focus on comparative advantage and the benefits from specialization. Military conscription violates the principle of comparative advantage, which demands that jobs be assigned to those who are relatively most productive in doing them, by forcing everybody into a military occupation, irrespective of relative productivities. In consequence, the match between people and jobs will be inefficient. Benefits from specialization arise when individuals become more productive due to experience and frequent practice. Effective military operations require a considerable degree of training and mastery in handling complex weapon systems. Drafted short-term soldiers are inferior to long-term professionals. In combat, the use of less advanced military technology, lack of training, and the easy availability of apparently expendable soldiers lead to higher casualties and "cannon-fodder"-type battlefield tactics.[1]

Consequences of the abolition of conscription

Military expenditures, personnel and budgets

While quite a number of countries have abolished conscription over the past 20 years, a comparative study of their experiences – military, fiscal or economic – is still missing. In parts, this is due to the fact that the abolition of the draft generally runs parallel to other changes (say, shifts in political regimes, geopolitical developments or military technologies) that make it difficult to isolate the "pure" draft effects. Econometric analyses are not available, and comparisons have to be based on rough summary indicators.

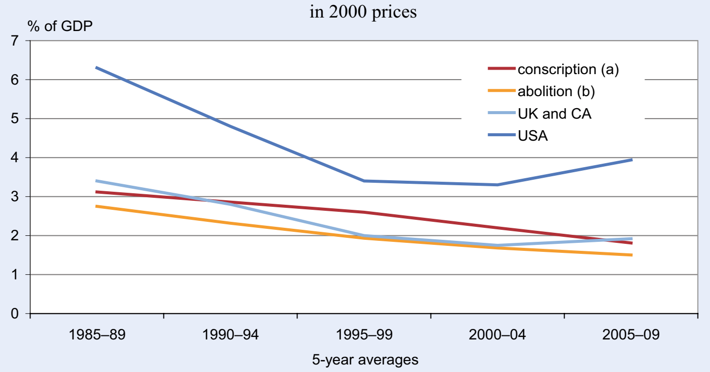
Similar studies are, to our knowledge, not available for the more recent abolitions of military conscription, say, in European NATO members. However, some summary indicators may also provide interesting insights. Compared to the 1980s, the "militarization" of society has declined across NATO, both in terms of the share of the labor force working for the military (a decline from an average of 2.7 to 1.1 percent between the late 1980s and the late 2000s) and, with the notable exception of the US over the past decade, defense expenditures as a share of GDP, which dropped from an average of 4.8 to 2.9 percent (NATO 2010). For more detailed comparisons, we group "old" NATO countries (i.e., members as of 1985) in Figures 3 and 4 according to their recruitment regimes.

As Figure 3 shows, there are no obvious differences in military expenditure trends between "old" NATO

For the government budget, operating a draft system is generally cheaper than a professional army. Conscripts are not paid the market value of their labor service and are granted fringe benefits such as health plans, family support, old-age provisions, etc., on a much smaller scale than professional soldiers (if at all). These savings are partially offset by the generally smaller size of all-volunteer forces (allowed for due to increased productivity). In an early study, Oneal (1992) found that budgetary savings from conscription in NATO averaged around 9.2 percent of national military expenditures in 1974, but decreased subsequently to only 5.7 percent in 1987. Warner and Asch (2001) report that the budgetary costs of abolishing conscription in the US in 1973 came at 10 to 15 percent of the 1965 military budget (which was chosen as a reference point to exclude the effect of the Vietnam War).

Figure 3

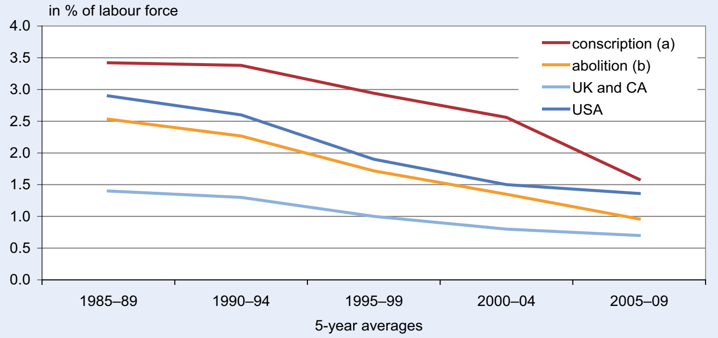
DEFENCE EXPENDITURES OF "OLD" NATO MEMBERS, 1985–2009
in 2000 prices



(a) Unweighted averages across 1985 NATO members using conscription over full period, 1985–2009 (DK, GE, GR, NO, TK). (b) Unweighted averages across 1985 NATO members which abolished conscription after 1985 (BE, FR, IT, NL, PT, SP).
Luxembourg is omitted as an outlier.
Source: Own calculations based on NATO (2010), p. 9.

Figure 4

MILITARY AND CIVILIAN PERSONNEL IN THE ARMED FORCES OF "OLD" NATO MEMBERS, 1985–2009



(a) Unweighted averages across 1985 NATO members using conscription over full period, 1985–2009 (DK, GE, GR, NO, TK). (b) Unweighted averages across 1985 NATO members which abolished conscription after 1985 (BE, FR, IT, NL, PT, SP).
Luxembourg is omitted as an outlier.
Source: Own calculations based on NATO (2010), p. 4.

[1] As early as the 19th century German economist J. H. von Thuenen (1875) argued that the carnage of Napoleon's poorly prepared winter campaigns in Russia could escalate only because soldiers were easily available through the system of conscription.

members that never had, always had or abolished conscription, except for different starting levels. There is no clear correlation between military expenditure and the use of conscription; if anything, countries with conscription seem to afford larger military budgets. As Figure 4 (quite unsurprisingly) indicates, the share of people working for the military is higher in conscription countries. Remarkably, the reduction in army personnel has been largest in conscription countries, both in absolute and in relative terms (which may indicate a problem of unfairness due to selective draft calls). A bit more surprisingly, there is no indication that the abolition of conscription led to disruptions in army sizes or military budgets that would not, in similar orders of magnitude, occur also in countries that did not change military regimes.

Conscription involves a distorted factor-price ratio between labor and other military production factors, leading to an excessive staffing of armies and too little investment. This is indeed reflected in military budgets: as Figure 5 illustrates, military budgets in countries with all-volunteer forces are less personnel-intensive than in conscription countries.

Remarkably, the share of personnel expenditures has always been highest in the group of countries that decided, in the 1990s and early 2000s, to abolish conscription. The relatively flat trend of these countries in Figure 5 should be interpreted with some caution; the averaging across countries flattens divergent trends in single countries. Upon suspension of conscription, the costs of personnel in the total defense budget decreased in the Netherlands, Spain and Portugal but increased considerably in Belgium and Italy. The interpretation also changes with the definition of personnel expenditure. Using a narrower definition that only accounts for military (but not for civilian) personnel, Buch (2010) reports that the share of personnel expenditure rose upon the suspension of conscription from 41 to 50 percent in Spain, from 30 to 37 percent in France, from 43 to 58 percent in Belgium – but decreased from 47 to 36 percent in the Netherlands. Again, there seems to be no general rule.

This picture is mirrored by changes in the share of investment and other expenditures: where there was a relative increase in personnel expenditure, there was a relative cut in investments – and vice versa.

Intangible and indirect effects

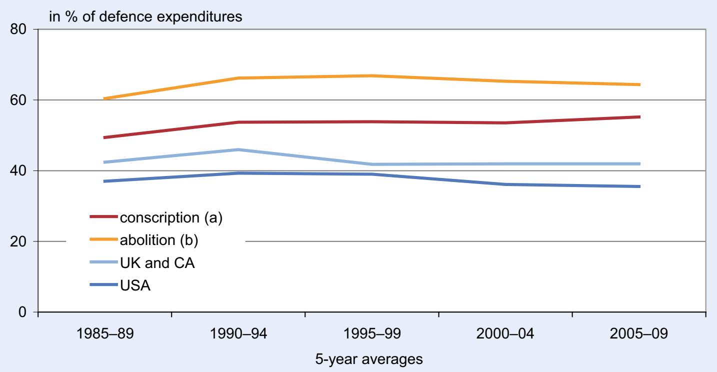
Although budgetary costs of conscription are smaller, its total social costs are likely to be substantially larger than with an all-volunteer army. The use of compulsion in itself suggests that the real costs of conscription are higher than its budgetary ones, and abolishing the draft will save society these opportunity costs. Using empirical methods that were sophisticated for their time, Oi (1967, 59) conservatively estimated the opportunity costs of the US military draft in the late 1960s to be around USD 5.3 billion (in 1960 values), when budgetary personnel expenditure amounted to USD 12.7 billion. Kerstens and Meyermans (1993) estimate that the social cost of the (abolished) draft system in Belgium amounted to twice its budgetary cost.

Economically, military draft is an (in-kind) tax, and shares with all other taxes the feature that it is not neutral but rather induces substantial avoidance activities and, thus causes economic distortions and deadweight losses. For example, conscription goes along with various ways of "dodging", inefficient employment, preemptive emigration, pretended schooling, hasty marriages, bribing recruitment officers, faking medical certificates, etc. These hard-to-be-measured costs would be saved in case of abolition.

By postponing, interrupting or even discouraging higher education and entry into the labor market, conscription also has a negative effect on the accumulation of human capital (see Keller et al.

Figure 5

SHARE OF PERSONNEL EXPENDITURES, 1985–2009



(a) Unweighted averages across 1985 NATO members using conscription over full period, 1985–2009 (DK, GE, GR, NO, TK). (b) Unweighted averages across 1985 NATO members which abolished conscription after 1985 (BE, FR, IT, NL, PT, SP). Until 1995 without France, until 1990 without Spain. Luxembourg is omitted as an outlier.

Source: Own calculations based on NATO (2010), p. 6.

2010 and the references therein). At the macro level, the disruption of human capital investments by military conscription translates into lower stocks of human capital, reduced labor productivity and substantial losses in GDP (Lau et al. 2004). From 1960 to 2000, GDP growth rates in OECD countries with conscription were lower by up to a quarter percentage point than in countries with all-volunteer forces (Keller et al. 2009). This is remarkably large given that military expenditures or the size of the military labor force per se do not seem to exert any systematic effect on GDP and its growth (Dunne et al. 2005).

Transition problems

The experiences of countries that switched from conscript to all-volunteer forces show that the transition is rocky (Warner and Asch 2001; Williams 2005; Rostker 2006; Buch 2010). Initially, all countries seem to have problems in meeting their requirements for staffing and quality in the military. Enticing new recruits to join the forces is difficult, turnover rates are high, imbalances across occupational specialties arise, with too few people with the cognitive aptitudes, skills, technical abilities and work experiences useful in professional armies. Projected savings may only materialize later than anticipated since, e.g., the military pay, post-service benefits and working and living conditions to attract new staff turn out to be more costly than foreseen, the extant staff needs retraining, redundant military bases cannot be closed down immediately, etc.

Such difficulties may lead some to call into question the efficiency gains attributed to all-volunteer forces. Thus, the share of the military budget devoted to personnel actually increased during the first few years after the 1973 abolition of conscription in the US, in spite of a reduction in army size (Williams 2005). Physical or intellectual recruitment standards for soldiers have been lowered in several countries (Williams 2005; Buch 2010). In the Netherlands, some army units remained understaffed, and France appears to have down-scaled its ambitions for out-of-area deployability of its armed forces (Buch 2010).

These non-negligible transitory problems do, however, not qualify as arguments against all-volunteer forces. Rather, they merely reflect to what dramatic extent conscription insulated the military from a most elementary feature of standard labor markets: if one wishes to hire staff in sufficient number and of decent quality, pay and working conditions have to be competitive with the qualification and outside options of those one wishes to hire. As Warner and Asch (2001) demonstrate for the US, eventually the economists' predictions have borne out: efficiency gains of the all-volunteer force were reaped with the additional benefit that the budgetary costs for military personnel reflect its true economic costs.

Myths about the draft

Proponents of the military draft argue that the opportunity costs of conscription are tolerable since they are compensated for by additional societal, military or political advantages of conscription over all-volunteer forces. However, a closer look at these alleged extra benefits of conscription reveals that they are largely mythical.

Myth 1: A conscript military is more "representative" of society than a professional army.

All-volunteer forces are thought to prey disproportionately on the poorly educated, the lower classes, ethnic minorities or otherwise marginalized strata of society. By contrast, conscription is considered to be more egalitarian since all are included in universal service.

In fact, there is hardly any reason to believe that conscription makes the military (more) representative. First, a genuine cross-section of the population in the army was never the aim in conscription countries: conscription covered substantially less than 50 percent of the population; it excluded women, migrants and often certain religious groups, fathers or gays. Second, even for its main targets (young males), the military draft is de facto biased, typically favoring individuals of high socio-economic or educational status with shorter terms of service, complete exemptions, legal and illegal buyout options or privileged work conditions (e.g., doctors or athletes). Third, the claim that the social composition in all-volunteer forces is more biased towards the disadvantaged than in conscript armies is still open to debate.[2]

[2] Segal and Segal (2004) report that the US all-volunteer military is more female, less white, more married, better educated and more middle-class than the draft-era military.

Myth 2: Conscription promotes peace

It is sometimes argued that a conscript army, which draws from all quarters of society, provides a check on military adventurism since it cannot be deployed without a fair measure of public support. Empirically, this "peacemaker" argument is dubious. In fact, the military draft may even contribute to a militarization of society by instilling in conscripts the view that killing for the home country is a patriotic duty. The possible legitimization for the production and use of violence may even raise the likelihood and severity of armed conflicts. Studying violent interstate conflicts from 1886 to 1992, Choi and James (2003) find that a military manpower system based on conscripted soldiers is associated with more military disputes than professional or voluntary armies. Similarly, Anderson et al. (1996) conclude that "warlike" states are more likely to rely on conscription. Linking conscription with democracy changes this picture somewhat (Vasquez 2005); still, there is no convincing evidence that the military draft has any mediating effect on the likelihood or severity of international military disputes.

Within societies, conscription may even contribute to brutalization: Using data on Argentine draft lotteries, Galiani et al. (2011) show that having been conscripted increases the likelihood of developing a criminal record; this holds also for those who served during peacetime.

Myth 3: Conscription is a better match with democracy than all-volunteer armies

Military conscription is often attributed with a greater affinity with democracy than an all-volunteer force. Army structures, which operate on the basis of order and command rather than on voting, are inherently non-democratic. Still conscripts may act as mediators between a society and its army, while a professional military tends to alienate from society and form a "state within a state". Advocates of conscription appeal to the soldat citoyen, referring back to the origins of modern draft in France and Prussia, as a figure that bridges the gap between army and civil society.

Economically, the "isolation" of the military from the rest of society is just an example of an increased division of labor. In a sense, every specialized worker is "alienated" in his work from the rest of society, but calls for compulsory internships of all members of society in any or all sectors of the economy have so far been unheard of. But even if the alienation from the rest of society were particularly troublesome in the military, conscription is not a solution. Praetorian tendencies are most likely to emerge from the officers' corps, which has always consisted of professionals. Moreover, the democratic controls arising from a draft are open to debate. In democratic countries like Argentina, Brazil, Chile, Greece or Turkey conscription did not help to prevent military coups in the past. Conversely, recent experiences from Latin America demonstrate that democratization and the abolition of conscription may be intertwined. Exemplarily democratic countries (like the UK, the US, Australia, Canada or New Zealand) have traditionally run all-volunteer armies without ever facing the risk of regime change or military coups. All these observations as well as the econometric evidence established by Mulligan and Shleifer (2005) and Pfaffenzeller (2010) indicate that no causality in whatever direction exists between the form of government and the structure of armed forces in a country.

Myth 4: Conscription provides better reserves

A precautionary argument in favor of military conscription is that it provides manpower reserves to augment the regular army in the case of a military emergency. If this argument should imply that reserves cannot be maintained with all-volunteer forces, then it is empirically false, as the examples of all countries with professional armies show. Moreover, the reserve argument loses validity if reservists are not appropriately prepared for their assignments in case of mobilization.

A key issue for maintaining militarily meaningful reserves is that reservists are paid sufficient compensation for their participation in regular exercises. Such contracted (as contrasted to conscripted) reservists would make the true opportunity costs of alternative military strategies visible and help to allocate resources efficiently between personnel and material.

Obstacles for abolition

The inefficiency of conscription results to a great extent from ignoring comparative advantage and specialization, which results in higher social costs than with a voluntary army. At the same time, there is no empirical support for the claim that the use of conscription would help to protect democracy, promote social cohesion or tame belligerence. Given that hardly any argument in favor of the draft survives under closer scrutiny, the question arises why so many countries still have a hard time in eliminating conscription or do not even consider it. A number of obstacles to the abolition of the military draft are conceivable:

Special interests: Several societal groups benefit from conscription – and therefore favor it. These include labor unions (that favor conscription as it keeps potential competitors off the private labor market; see Anderson et al. (1996) for empirical support), bureaucracies (for reasons of inertia and fear of organizational change), the military itself (which might fear a loss in their social status, importance and visibility), or regional interests (in areas where military bases would become redundant by the absence of conscripts). Special mention goes to the various organizations and firms in the welfare industry that benefit from the cheap labor provided by conscientious objectors to military service. Needless to say – we hope – all economic arguments against forced labor in the military also apply mutatis mutandis in the social sector.

Intergenerational issues: From an intergenerational perspective, military conscription is similar to a pay-as-you-go pension scheme: its introduction is a (temporary) way around higher fiscal taxes, the static inefficiencies remain largely unnoticed and its dynamic costs only surface with considerable time lags. As for an unfunded pension scheme, starting a draft scheme means making a "gift" (in the form of a reduced fiscal tax burden) to the cohorts that are beyond draft age at that moment. Such a gift may be revolved from cohort to cohort, but it can never be undone in a Pareto-improving manner (Poutvaara and Wagener 2007b). The abolition of the draft would impose an extra fiscal burden on age cohorts beyond the draft age. Since these largely outnumber younger cohorts at or below the draft age, retaining military draft garners widespread political support. The casual observation that the staunchest advocates of conscription usually come from age groups well above draft age provides support for this view.

Non-democratic and developing countries: In non-democratic regimes – which are currently the dominant users of conscription – popular support for conscription is less politically relevant. In these cases, aspects of indoctrination, intimidation and social control, the economic benefits to the ruling cliques from exploiting their populations by forced labor and the desire to maintain numerically large armies seem to be attractive features of military draft. For developing countries, with their inability to raise sufficient fiscal revenues and their generally lower opportunity costs of labor, the in-kind tax of military draft could even be economically efficient from an optimal-tax perspective.

Conclusions

Conscription is an inefficient form of recruiting soldiers for an army. As the strikingly positive experiences of the UK or the US exemplify, its abolition therefore is worthwhile – in spite of transition problems and potentially negative effect on government budgets. All-volunteer forces deliver modern, high-technology defense capabilities at lower and more transparent instantaneous and dynamic costs than their conscript counterparts.

Each country's decision to retain or eliminate conscription is motivated by a unique array of different factors (although, as in France or Germany, conscription may happen to be abolished in an almost cavalier way). Economic arguments unfortunately appear to focus primarily on the state in terms of budgetary expenditures and military capabilities. The adverse effects of conscription on the well-being of individual citizens and the substantial excess burden of the draft tax rarely enter into the discussion. More empirical research on these issues may contribute to the final elimination of peacetime conscription and related forms of forced labor.

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EU Eastern Enlargement: The Benefits from Integration and Free Labour Movement

Timo Baas* and

Herbert Brücker**

Introduction

Twelve countries with a population of approximately 104 million persons joined the European Union (EU) in the course of its eastern enlargement round. Eight central and eastern European countries[1] plus Cyprus and Malta were admitted on 1 May 2004, while Bulgaria and Romania acceded on 1 January 2007. A number of agreements before accession facilitated the removal of trade barriers and restrictions on capital mobility between the EU and the new member states already before their accession. Today, trade links with the 2004 and 2007 accession countries and the EU-15 countries are particular strong. The share of the incumbent member states of the EU (EU-15) among the trading partners of the eight central and eastern European countries which joined the EU in 2004 (EU-8) is between 35 percent (Lithuania) and 64 percent (Czech Republic) for exports and between 39 percent (Slovakia) and 60 percent (Poland) for imports. As is the case for trade, the rules of the Common Market for free capital mobility have also applied since the accession of the new member states.

In contrast, the free movement of workers was subject to transitional agreements which enabled the EU-15 member states to restrict labour mobility from the central and eastern European countries for a maximum of up to seven years.[2] Moreover, the accession treaties granted Austria and Germany the right to suspend the free trade of services also for a transitional period up to seven years. These transitional arrangements were utilised to protect certain "sensitive" branches like construction and cleaning. According to the so-called "2+3+2" formula, restrictions on labour mobility and the service trade could be prolonged after an initial two-year period for another three years. A further prolongation for the last two year period requires that the respective EU member state sees serious imbalances in its labour markets or that introducing the free movement would involve the threat of such imbalances.

However, not all member states applied transitional periods for the free movement of workers. When the eight new member states joined the EU, Sweden and Ireland had already opened their labour markets in 2004, while the UK kept only minor restrictions regarding access to the welfare system. The other countries maintained their restrictions on labour migration in the initial phase after accession, although some bilateral agreements for seasonal workers as well as quotas for a small number of migrants eased labour market access slightly. Step by step most EU member states opened their labour markets during the first five years after accession with the notable exception of Austria and Germany. Both of these countries, which attracted the majority of migrants from the new member states before the EU's Eastern enlargement, applied the restrictions on the free movement of workers and the service trade until the end of the seven-year period. These restrictions fathered out in May 2011. As for Bulgaria and Romania, which joined in 2007, most EU member states maintained the restrictions on labour migration after their accession. Notable exceptions are Spain and most of the new member states which joined the EU in 2004. Whether the old EU member states will maintain their restrictions on labour migration from Bulgaria and Romania in the final phase of the transitional period starting in 2012 had not yet been decided when this article was written.

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[1] The Czech Republic, Estonia, Hungary, Latvia, Lithuania, Poland, the Slovak Republic and Slovenia.

[2] Cyprus and Malta were not affected by the transitional arrangements for the free movement of workers.

The different application of transitional periods resulted in a shift of migration flows from the main recipient countries before the EU's eastern enlargements which kept their migration restrictions in place, i.e., Austria and Germany, towards those which opened their labour markets immediately after accession of the new member states in 2004 like the UK and Ireland. For the whole European Union, eastern enlargement increased labour mobility substantially. Today it is still an open question whether and to which extent the opening of the Austrian and German labour markets will result in a further redistribution of migration flows within the EU. Currently, labour market conditions in Germany are much more favourable than seven years ago, and labour markets in the UK and Ireland have not yet recovered from the economic and financial market crisis. Moreover, Spain, which, together with Italy, is the main recipient of migrants from Bulgaria and Romania, is heavily affected by the consequences of the financial and economic crisis and the emerging euro crisis. This may encourage migrants particularly from the EU-8 countries to move to Germany or Austria rather than to UK or Ireland. Migrant networks, the high share of English language proficiency among the young cohorts in the EU-8 countries and the higher net earnings in the UK and Ireland might otherwise still be strong pull factors and work against a redistribution of migration flows.

This paper analyses the effects of integrating the new member states from Central and Eastern Europe in the goods and factor markets of the EU during the first seven years of the EU's eastern enlargement. We address the effects of trade and migration in a joint framework, since we believe that a separate analysis does not make sense due to the many interactions between goods and labour markets.

Trade after the EU's eastern enlargement

The EU already started to integrate the prospective member states from Central and Eastern Europe in the early 1990s into its markets for goods and capital. Prior to the EU's eastern enlargement, the accession countries signed various agreements to ensure free trade between the EU and the accession countries and among accession countries themselves. As a first step, two free trade areas were founded, the Central European Free Trade Area (CEFTA) consisting of the (former) Czechoslovakia, Hungary and Poland, and the Baltic Free Trade Agreement consisting of Estonia, Latvia and Lithuania. The EU signed trade agreements with these free trade areas which resulted in a substantial removal of tariffs and other trade barriers. In the next step, the European Agreements (EA), which created a free trade area between the EU member countries and the accession countries, were signed in 1997. The trade provisions agreed within these contracts included the removal of tariffs and quantitative restrictions for almost all kinds of traded goods. For agricultural goods, however, numerous restrictions were maintained. Moreover, the new member states did not apply the external

Table 1

Exports to the new EU member states (EU-10) in percent of total exports, 2000–10

	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
Austria	8	8	8	8	9	9	9	10	11	11	11
Belgium[a)]	1	1	2	2	2	2	2	2	3	2	3
Bulgaria	3	3	3	3	3	4	5	6	6	5	6
Cyprus	2	2	3	3	2	1	1	2	2	2	2
Czech Republic[b)]	10	10	10	10	10	11	11	11	12	11	11
Denmark	2	3	3	3	3	3	4	4	4	4	4
Estonia	7	7	8	9	11	11	13	14	13	12	12
Finland	6	6	6	6	6	7	7	7	8	7	6
France	2	2	3	3	3	3	3	3	3	3	3
Germany[c)]	6	6	7	7	7	7	8	8	9	8	9
Greece	7	8	8	7	7	7	9	10	11	10	11
Hungary	4	4	4	5	5	7	9	10	10	9	10
Ireland	1	1	1	1	1	1	1	1	1	1	1
Italy	4	4	5	5	5	5	6	6	7	6	6
Latvia	10	11	11	11	14	19	21	23	25	26	26
Lithuania	16	16	14	16	16	18	20	21	20	20	19
Luxembourg	1	1	1	1	2	2	3	3	3	2	2
Malta	1	1	1	2	2	2	2	3	2	2	1
Netherlands	1	2	2	2	2	3	3	3	3	3	3
Poland	0	0	0	0	7	8	9	9	9	9	9
Portugal	1	1	1	1	1	1	1	1	1	2	2
Romania	4	4	4	4	5	6	7	8	8	7	8
Slovakia	0	0	0	0	15	16	17	16	17	17	18
Slovenia	5	5	6	6	7	7	8	10	10	10	11
Spain	2	2	2	2	2	2	2	3	3	3	3
Sweden	3	3	4	4	4	4	5	5	5	4	5
United Kingdom	2	2	2	2	2	2	3	3	3	3	3

[a)] Belgium and Luxembourg before 1998. – [b)] Czechoslovakia before 1992. – [c)] Before1991: Without former GDR.

Source: Authors' calculations based on the Eurostat External Trade Database.

tariff vis-à-vis non-EU countries before their accession. The technical standards of the EU have been introduced in the accession countries gradually during the integration process.

The stepwise integration of the new member states into the Common Market of the EU is associated with the restructuring of trade and production patterns. Using a gravity-model framework Antimiani and Constantini (2010) found that economic integration induced by the enlargement process had positive effects on the exports of the EU as well as on its competitiveness. This result holds especially for those countries which joined the EU in 2004 and is more evident for high-tech sectors than for low-tech sectors. As the share of tradable goods produced by high-tech sectors is larger, the integration process resulted in higher international competitiveness of the new member states and therefore stronger exports.

A customs union affects not only the production sectors of the economy but also the direction of trade. According to economic theory, establishing a customs union may lead to three different kinds of effects. A reduction of tariffs and other transaction costs results in a reduction of foreign good prices and may therefore increase the demand for these goods. This effect increases trade and is recognised as mutually beneficial. A second effect, the trade diversion effect, is connected with differences in the reduction of trade costs among trading partners. The removal of tariffs and a reduction of transaction costs for a single group of trading partners only might result in a trade diversion from former trading partners that do not benefit from a cost and tariff reduction towards the customs union. This effect is not necessarily mutually beneficial and might harm some of the trading partners. The third effect, trade displacement, is related to a more efficient use of resources in shifting production and trade from one member state to another.

With exception of the year 2009, where trade declined sharply in the aftermath of the financial and economic crisis, we saw an increase in intra- and extra-EU trade of the EU member countries for the whole decade up to 2010. In this time the share of the countries that joined the EU in 2004 (EU-10) in the total trade of EU countries increased with respect to both imports and exports (Tables 1 and 2). Whether this fact indicates trade diversion from trading partners outside the EU to trading partners inside the enlarged Union is still an open question. In an early study on EU-enlargement Wilhelmsson (2006) found that the integration process has resulted in trade creation and, to a smaller extent, trade diversion but not in trade displacement. The trade creation effect can be observed between the group of EU member countries which joined in 2004 and 2007 and the incumbent EU member states as well as within the group of the new member states. However, most of the trade creation effect can be traced back to exports from the old to the new member states.

Table 2

Imports from the new EU member states (EU-10) in percent of total imports, 2000–10

	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
Austria	11	12	13	13	11	10	10	10	11	11	12
Belgium[a)]	2	2	2	2	2	2	2	2	2	3	3
Bulgaria	5	5	5	6	6	7	7	9	9	11	10
Cyprus	1	1	1	1	1	2	1	2	4	3	3
Czech Republic[b)]	12	12	12	12	13	15	16	16	17	17	16
Denmark	4	4	4	4	4	5	5	6	7	6	7
Estonia	8	10	11	11	15	17	18	21	25	29	27
Finland	5	6	5	5	6	7	5	6	7	7	7
France	2	2	2	2	2	3	3	4	4	5	5
Germany[c)]	8	9	10	11	10	9	10	11	11	11	12
Greece	2	2	2	2	2	2	3	3	3	4	3
Hungary	7	7	7	8	9	10	11	12	12	13	13
Ireland	1	1	1	1	1	1	2	2	2	2	2
Italy	3	3	3	4	4	4	5	5	5	6	6
Latvia	22	23	24	24	28	31	32	33	34	36	35
Lithuania	11	10	11	12	18	18	20	23	21	23	21
Luxembourg	1	2	2	1	1	1	1	1	2	1	2
Malta	1	1	1	1	1	1	1	1	1	2	1
Netherlands	2	2	2	2	2	2	2	3	3	4	4
Poland	-	-	-	-	9	9	9	9	9	10	10
Portugal	1	2	2	2	2	2	2	2	2	2	2
Romania	8	9	9	10	10	10	10	15	16	17	17
Slovakia	-	-	-	-	28	30	30	30	31	33	33
Slovenia	8	8	8	8	9	9	9	8	9	9	9
Spain	1	1	2	2	2	2	3	3	3	3	4
Sweden	4	4	5	6	6	6	7	7	7	8	8
United Kingdom	2	2	2	2	3	3	3	4	4	4	5

[a)] Belgium and Luxembourg before 1998. – [b)] Czechoslovakia before 1992. – [c)] Before 1991: Without former GDR.

Source: Authors' calculations based on the Eurostat External Trade Database.

Migration after EU eastern enlargement

The scale and direction of migration from the new member states

The EU eastern enlargement is associated with a substantial increase in migration from the new member states. The number of nationals from EU-8 countries residing in EU-15 countries increased from 900,000 in 2004 to 2.4 million in 2010. The net inflow of migrants from the EU-8 amounted to 210,000 people p.a. on average since 2004, with most migrants heading to the UK and Ireland, which opened their labour markets immediately after EU enlargement (Table 3).

The propensity to migrate varies largely across the sending countries from the EU-8 and Bulgaria and Romania (EU-2). 5.4 percent of the population of Lithuania, 4.3 percent of the population of Poland and 4.0 percent of the population of Estonia resided in EU-15 countries, while only 1.1 percent of the population of the Czech Republic and 1.7 percent of the Hungarian population lived in the EU-15 in 2010. In sum, people from a country with a high GDP per capita are less willing to move to an EU-15 country than people from countries with a low GDP per capita. However, other factors like the similarity of the language, geographical distance, labour market conditions, networks of migrants and hospitality play also an important role for the migration propensity and the choice of destinations. In some EU-8 member countries' ethnic minorities, particularly ethnic Russians, are especially likely to move to EU-15 countries which results in a high share of people from those countries living in EU-15 countries.

The economic rationale behind the free movement of workers is a better allocation of human resources within the Common Market. Prior to the financial market crisis most migrants moved to Ireland and the UK, increasing production there and reducing unemployment in their home countries. Since the begin of the EU's eastern enlargement and the Great Recession the GDP of the UK grew by 2–3 percent on average, while the Polish unemployment rate declined from more than 19 percent to 7 percent. A similar decline was reported for Lithuania (7 percentage points) and Estonia (4 percentage points), but due to the economic and financial market crisis the unemployment rate went up again in both countries by 14 and 10 percentage points.

The financial market crisis affected the labour markets heavily in Ireland and the UK. As a consequence, we observe a decline in the number of residents from the EU-8 in Ireland and a drop in the net immigration rate in the United Kingdom from this country group. According to recent studies (e.g., Baas and Brücker 2010; 2011) differences in economic and labour market conditions may result in a further redistribution of migration from the UK and

Table 3

Nationals from the EU-8 in the EU-15, 2000 – 2010

	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
AT	52,786	54,947	57,301	59,622	67,675	75,143	80,706	86,911	94,084	98,317	103,755
BE	9,667	12,102	14,106	16,151	19,524	25,638	32,199	42,918	40,400	40,200	52,900
DK	8,763	9,470	9,664	9,963	10,762	12,770	16,203	21,807	30,033	33,179	36,590
FIN	12,804	13,860	14,712	15,825	16,459	18,266	20,801	23,957	27,464	30,877	35,068
FRA	40,852	48,480	48,984	34,451	48,584	36,783	50,418	43,227	41,573	48,145	64,800
DE	434,593	453,100	466,382	480,690	438,828	481,672	525,078	554,372	567,466	576,432	612,310
GRE	13,832	13,042	14,887	16,413	15,194	19,513	18,357	20,257	35,100	31,100	24,300
IRL	1,182	4,775	15,036	27,229	42,988	93,243	135,800	194,400	215,700	191,800	184,100
ITA	40,433	40,108	41,431	55,593	67,755	79,819	94,215	117,042	128,813	137,306	132,200
LX	1,063	1,100	1,136	1,518	2,164	3,252	3,940	4,561	5,362	6,232	6,666
NL	10,063	11,152	12,147	13,048	17,814	23,155	28,344	36,317	48,131	58,201	65,276
PT	437	492	587	662	842	1,061	1,373	2,477	2,502	2,843	2,800
ESP	16,396	23,672	34,076	42,672	55,735	70,576	103,190	126,971	137,068	139,558	141,465
SWE	23,884	22,868	21,376	21,147	23,257	26,877	33,757	42,312	50,575	57,669	62,440
UK	59,153	67,174	71,035	100,958	161,693	290,730	488,895	656,594	747,100	752,100	864,600
EU-15	725,908	776,341	822,860	895,942	989,274	1,258,498	1,633,277	1,974,123	2,171,371	2,203,958	2,389,271

Notes: Labour Force Survey Data for France, UK and Ireland. Belgium and Luxembourg: national population statistics extrapolated with Labour Force Survey data. All other countries: national population statistics.-- In some countries the 2010 figures are based on extrapolations from previous years.

Source: Author's calculations based on the Eurostat Labour Force Survey, British Labour Force Survey and the national population statistics from Austria, Belgium, Denmark, Finland, Germany, Greece, Italy, Luxembourg, Netherlands, Portugal, Spain and Sweden.

Ireland back to the former main receiving countries, i.e., Germany and Austria. However, the economic conditions remain unstable in the aftermath of the Great Recession and the emerging euro crisis. The scale and the direction of future migration flows from the EU-8 as well as from Bulgaria and Romania are therefore highly uncertain.

The skills composition of the labour force from the new member states

In recent years the EU-8 countries have been able to improve qualifications of their young population. The number of high school drop-outs decreased while the number of people with a university degree increased sharply. In 2010 the formal structure of qualifications of people within the age group of 25 to 35 years matched the formal qualification levels in the EU-15 countries. More than 30 percent of people in this age group hold a university degree, while 33.5 percent of people in the EU-15 countries hold similar qualifications. With higher secondary education EU-8 countries outpace EU-15 countries. More than 61 percent of the people between 25 and 35 years of age hold an upper secondary education degree; in EU-15 countries only slightly more than 44 percent hold a similar degree. As a consequence, the share of individuals with less than upper secondary education in the EU-8 is well below that of the EU-15.

However, there seem to be substantial problems in the approval and acknowledgement of occupational qualifications. Nearly 54 percent of EU-8 migrants from Poland in the UK report that they hold an occupational qualification which is not recognised in the host country. Similar figures are reported for other EU countries like Germany (36 percent). A substantial number of migrants from the new member states are therefore occupied well below their educational levels.

The labour market performance of migrants from the new member states

Even after the economic and financial market crisis, the employment rate of EU-8 migrants is higher than that of natives. In 2010, the employment rate of the native labour force in the UK was about 49 percent and that of EU-8 labour force 70 percent. A similar figure is reported for Ireland, the employment rate of EU-8 labour force is 69 percent there, while that of the native labour force is 45 percent. The high employment rate of migrants corresponds with their low age. Nearly 83 percent of migrants staying in the UK in 2009 are below the age of 35. The share of the population active in labour markets is especially high in this age group. However, during the years of crisis we saw a sharp decrease of the employment rate in Ireland, corresponding to a rise in the unemployment rate of EU-8 migrants up to 19.3 percent. In the UK, the unemployment rates of EU-8 migrants remained at 5.5 percent well below the unemployment rate of natives (7.8 percent) in the course of the crisis. One reason might be that migrants in the UK with a working duration of up to twelve months only have restricted access to the welfare system.

A macroeconomic analysis of EU enlargement and migration

The previous sections have described the structure of trade and employment during the period of the transitional arrangements. In this section, we extend the analysis by employing a multi-sectoral computable general equilibrium (CGE) model to quantify the effects of EU enlargement for the German economy. A multi-sectoral CGE framework not only has the advantage of enabling us to identify the impact of immigration on different sectors of the economy but also to consider the interaction between migration and trade. Note that the interaction between migration and trade may mitigate the potential labour market effects of immigration. Moreover, migration related factors such as remittances have a substantial impact on trade and other capital movements.

The model we employ here comprises 16 commodities, 16 domestic industries and reflects trade of intermediary and final goods as well as the movement of capital. It is assumed that labour markets are imperfect and that wages adjust to changes in the unemployment rate by a wage-setting curve. The same elasticities of the wage-setting curves as in Brücker and Jahn (2011) are used. We also assume that physical capital adjusts to changes in labour supply and trade. The speed of adjustment is based on empirical estimates. A more detailed description of the model is presented in Baas and Melzer (2011).

We restrict our analysis to Germany, which opened their labour markets in May 2011, utilising the whole time-span of the transitional periods. Please note that Germany was the main destination for migration from the EU-8 countries in absolute terms before 2004. Baas and Brücker (2011) expect that Germany will again receive a large share of future migration flows from the EU-8 considering its favourable labour market conditions in Germany and the ongoing crisis in Ireland and the UK.

The evolution of trade and migration in Germany since EU enlargement

In this simulation exercise we quantify the effects of trade and migration after the EU accession of the ten new member states in May 2004. Germany is one of the European countries which was most affected by the reduced transaction costs and, as a result, benefited substantially in terms of increasing trade with the new member states. The transaction costs for trade between the EU-15 and the EU-8 were already substantially reduced after the signature of the Europe Agreements. During the 2004–10 period considered here, Germany increased its exports to the new member states (EU-8) by 7 percent, while exports to non-EU member states increased only by 4 percent during the same period of time. Imports from EU-8 countries increased less dramatically – by 3.3 percent – leaving Germany with a considerable trade surplus.

During the first seven years since accession, Germany kept its labour markets closed for EU-8 migrants. The increase in migration was therefore moderate, the stock of people in Germany from EU-8 countries increased by 174,000 during the seven year period after the EU's eastern enlargement in 2004. Even considering the higher employment rate of EU-8 migrants compared to the native labour force, employment in Germany increased after EU enlargement by no more than the tiny amount of 0.25 percent. However, recent migration projections expect an increase in migration from the EU-8 countries during the next decade. For a simulation of these effects see Baas and Brücker (2010; 2011).

Simulation results

Our simulation results are largely driven by the increasing trade with the new member states. In our model, intermediate goods are treated as inputs like capital and labour. Trade can affect wages and the rents for capital by different channels. In our case, German workers and capital owners benefit from both the higher export demand and decreasing prices for intermediate goods. The wages of German workers increased by 0.8 percent as a consequence of EU enlargement. As outlined above, we consider imperfect labour markets here. Thus, EU enlargement results not only in increasing wages, but also in decreasing unemployment. The social security system benefits from the decreasing unemployment rate as well. The expenses for transfers to unemployed households are reduced and national insurance contributions rise. In our model we don't distinguish between the social security system and the state sector. As a consequence, governmental expenses and tax revenues increase.

Secondary to the trade effects, the German economy experienced a slight increase in migration. Immigration from the EU-8 into Germany has increased by a mere 147,000 person through eastern enlargement compared to the pre-enlargement status. Hence, the effects of migration are tiny in Germany while trade effects are relatively strong. If the participation rates of recent arrivals resemble those of their counterparts with a longer immigration history, EU eastern enlargement has increased the labour force by 93,000 persons in Germany. This figure takes into account an employment rate of migrants

Table 4

Macroeconomic effects of EU enlargement and migration in Germany

	Base year (2004)	EU enlargement effects change in %
GDP (million €)	2,211,200	1.17
GDP per capita (€)	26,791	0.93
Private consumption (million €)	1,239,350	1.00
Investment (million €)	377,050	0.76
Government consumption (million €)	453,240	0.37
Taxes (million €)	231,490	0.88
Exports intra EU (million €)	514,790	4.54
Exports extra EU (million €)	311,461	2.61
Imports intra-EU (million €)	-405,720	4.17
Imports extra EU (million €)	-278,971	2.04
Wages (hourly, €)	32	0.68
Employed labour (1,000 persons)	39,361	0.25
		change in percentage points
Unemployment rate in percent	9.20	-0.48

Source: Authors' calculations.

Table 5

Sectoral effects of EU enlargement and migration in Germany

	Base year (2004)	EU enlargement effects
	Value added in million €	Change in %
Agriculture, hunting and forestry	47,730	0.00
Fishing	420	0.20
Mining and quarrying	12,590	0.20
Manufacturing	1,357,440	1.30
Electricity, gas and water supply	91,220	0.10
Construction	189,440	0.50
Wholesale and retail trade; repair of motor vehicles, motorcycles and personal and household goods	343,810	0.00
Hotels and restaurants	62,070	0.30
Transport, storage and communication	261,690	0.00
Financial intermediation	221,390	0.00
Real estate, renting and business activities	676,450	0.10
Public administration and defence; compulsory social security	175,940	0.40
Education	114,210	0.40
Health and social work	204,850	0.40
Other community, social and personal service activities	153,330	0.20
Activities of households	6,620	0.70
TOTAL	3,919,200	0.60

Source: Authors' calculations.

from the EU-8 in Germany of 63 percent, which is slightly higher than the employment rate of natives.

Overall, we see that the reduction of transaction costs in the course of EU enlargement and the modest immigration has increased the German GDP by 1.2 percent and the GDP per capita by 0.9 percent. Workers have benefited by higher wages (+0.7 percent) and reduced unemployment (-0.5 percentage points) (Table 4).

Trade and migration also have some impact on the sectoral structure of the economy. The manufacturing sector producing tradable goods is affected by the additional labour supply and a reduction in transaction costs. On average, sectors producing non-tradable goods, like hotels and restaurants, public services, education and administration gain from the enhanced labour force but less than proportionally from trade integration. However, the migration effects of EU enlargement are relatively small, even on a sectoral base, and outpaced by the effects of a reduction in transaction costs (Table 5).

Conclusions

Seven years after the EU's eastern enlargement, trade and migration between the old and the new member states have increased substantially. Since the 1990s, the Europe Agreements and the forming of regional free trade areas resulted in a process of continuous integration of goods and service markets. This process has not yet come to a halt. In the last seven years nearly all EU-15 countries experienced an increased in trade shares with the EU-8 countries.

The formation of a customs union between EU-8 and EU-15 countries has fanned fears that this process could result in a trade diversion which would negatively affect the trade links of the new and the old member states of the EU with non-EU countries in Eastern Europe. The share of non-EU countries in the trade of the new member states has indeed declined considerably in the course of the eastern enlargement process, but we do not see a decline in absolute trade figures.

Germany, the main trading partner among the EU-15 countries of the new member states, has benefited substantially from the new trade links. As our simulation has demonstrated, both intra-EU and extra-EU trade has increased as a consequence of the EU enlargement, albeit the growth rate of intra-EU trade is about twice as high as that of extra-EU trade.

However, migration from the new member states was very moderate in Germany after the EU's eastern enlargement. The domestic workforce grew only by 0.25 percent through the influx of workers from the EU-8. Other countries which had already opened their labour markets in 2004 benefited from much higher shares of EU-8 migrants. In the UK, the labour force increased by 560,000 workers, while that of Ireland increased by 130,000 workers. This indicates that the transitional arrangements for the free movement of workers from the EU-8 resulted in a strong diversion of the pre-enlargement migration structure. Germany and Austria, which absorbed 60 percent of EU-8 migrants before enlargement, received only 17 percent of the net inflows thereafter, while the UK and Ireland attracted 70 percent of migrants.

As a consequence, the economic effects of the EU's eastern enlargement in Germany are largely driven by the increasing trade with the new member states. Labour migration has so far played only a secondary role, if at all. Our simulation results indicate that the seven years of EU enlargement resulted in a substantial gain in GDP (almost 1.2 percent), while the gain in GDP per capita is slightly less than one percent. The tradable sectors of the economy received the lion-share of the increases in production, while production in most non-tradable sectors increased less than proportionally, if at all. Workers benefited by a substantial increase in wages (almost 0.6 percent) and a reduced unemployment rate (minus 0.5 percentage points).

In May 2011, Germany and Austria finally opened their labour markets for migrants from the new member states. Given the favourable development of the German economy and the deteriorating situation in alternative destinations such as the Ireland and the United Kingdom, it is likely that Germany will receive a much larger share of the migrants from the new member states than in the past. Nevertheless, the number of EU-8 nationals who will migrate to Germany or Austria is hard to predict at present. If the net migration from the new member states once again achieves the scale it had before the financial and economic crisis, i.e., an annual figure of about 230,000 persons p.a., and if Germany attracts the same share as before EU enlargement (60 percent), then annual net migration will be about 140,000 persons. At a high share of 45 percent Germany would experience an annual net immigration from the EU-8 of about 100,000 persons p.a. As the simulations by Baas and Brücker (2011) show, the non-tradable sectors would benefit most from the opening of the labour markets, but the manufacturing sector would also see considerable growth in terms of employment and production. The GDP and the GDP per capita would grow even more than shown in the simulations presented here, while the wages would decline modestly and the unemployment rate increase slightly compared to a scenario without free labour mobility. Overall, the effects of trade and migration, the GDP per capita and wages will increase as a consequence of the EU's eastern enlargement, while the unemployment rate will tend to decline in a setting with imperfect labour markets.

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Insurance Crowding Out and Long-Term Care Partnerships

Joan Costa-Font*

Introduction

Insurance for long-term care (LTC), i.e., coverage for the costs of personal care for elderly dependent individuals has been markedly underdeveloped compared to insurance for health and longevity risks, especially in Europe. This is puzzling because the costs associated with LTC are high but it is a relatively low-probability, and hence one should expect such a contingency to meet the required insurability conditions. Even in the US, barely 10 percent of the elderly have private LTC insurance when it is estimated that more than 50 percent can afford it (Brown and Finkelstein 2004; 2007), Perhaps, the largest LTC insurance market in Europe is the French one, offering reimbursement insurance to three million policies and covering less than one percent of its population. I offer an explanation based on the interaction between family, government and markets. More precisely, there appears to be some form of crowding out, especially from society or from the existence of strong family ties (Costa-Font 2010).

Is there public insurance crowding out?

Some scholars argue in the context of the US that the expansion of public subsidisation for LTC fuels concerns about private insurance being crowded out by public LTC insurance programmes (Pauly 1990). However, empirical evidence does not appear to confirm this phenomenon (Brown and Finkelstein 2007; Sloan and Norton 1997). The main reason is that LTC programmes have not typically aimed at entirely replacing individuals in activities for which they normally take financial responsibility, but instead have focused primarily on correcting the failures of private insurance markets in providing coverage, and, to an extent, pursuing equity and redistributive goals. In Europe, Germany adopted a compulsory social insurance scheme where very affluent individuals can opt out from public insurance (and buy insurance privately), and Scandinavian countries exhibit different forms of tax financed and locally provided assistance for frail elderly in need of long-term care. However, even in those countries that have implemented generous public financing, public insurance does not cover all costs (and cost sharing arrangements are in place), the market for complementary long-term care insurance is still either small or inexistent.

Family crowding out?

The obvious alternative to market and state financing is personal financing of LTC, either individually or within the family. This form of financing has some advantages. For instance, it has lower transaction costs, can induce altruism and reduce problems associated with information asymmetry. The obvious downside is the limited risk pooling, which implies large sunk and administrative costs in the event that an individual needs long-term care. Finally, self-insurance of LTC costs comes with individuals maintaining a positive fraction of resources to bequeath, which can give rise to some forms of ex ante moral hazard to stimulate care giving within the family (Zweifel and Strüwe 1996). It is important to note that even when different forms of insurance are available, as is the case in the US, the family is still the main LTC provider. In the US, a country exhibiting high LTC insurance development, the value of informal care is estimated to be USD 375 million, whereas the cost of paid services is USD 230 billion, while public expenditure on LTC is 2.9 percent of GDP (Gleckman 2010). Hence, it appears that family ties can crowd out the development of LTC insurance coverage (Costa-Font 2010).

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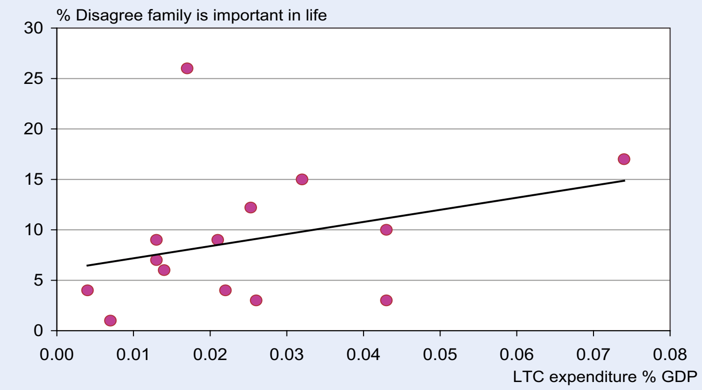
The evidence

Figure 1 shows a negative association between "familism" and LTC expenditure as a percentage of the GDP in a set of European countries where data were available. Furthermore, the 2007 special Eurobarometer survey containing data on long-term care reveals that 30 percent of Europeans believe that the best option for the elderly parent is to live with one of their children; 27 percent believe that elderly individuals should stay at home and receive regular care visits, from either a public or private care-service provider, and about one-quarter of the sample believe that children themselves should provide the care. Consistently, agreement with the idea that close relatives should care for dependent people, even if that means that they have to sacrifice their careers to some extent, ranges from only 7 percent in Sweden to 77 percent in Turkey.

Figure 2 plots the expectations of private and public LTC insurance coverage in different European countries against a measure of familism, namely distance to children. In all cases we observe a negative association between familism and support for insurance schemes for LTC, although the association is steeper for social insurance than for private health insurance. This evidence is supplemented by complementary evidence from Costa-Font (2010) suggesting that family ties reduce the likelihood of individuals to expect both public and private insurance coverage of LTC.

Figure 1

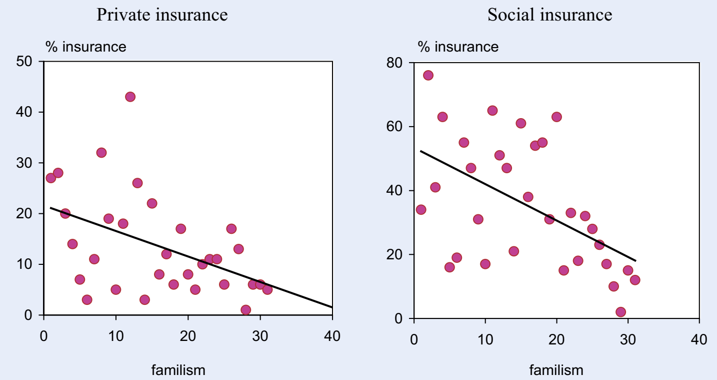
FAMILISM AND LTC EXPENDITURE
Question: % agreeing that the family is important in life



Sources: World Values Survey (2000); OECD data, 2007.

Figure 2

FAMILISM AND INSURANCE[a)] EXPECTATIONS



a) Private and public.
Source: Costa-Font (2010).

Conclusion and implications

In light of the evidence we conclude that a stable contract to fund LTC should attempt to circumvent both public and family (or social) crowding out (see Costa-Font 2010 for more details) .That is, insurance designs need to accommodate existing regimes of intra-household transfers.

Two examples of models where such accommodation can take place are the partnership models proposed in the UK and the partnership systems existing in the US. The former refers to a proposal (LeGrand 2003) endorsed by the 2005 Wanless Report *Securing Good Care for Older People*, whereby the state is asked to provide a certain level of coverage, and individuals are encouraged to fund extra care themselves with matched government funding up to the "benchmark" level of public financing.

Partnership models have been extensively implemented in the US from 1980 onwards to allow states to promote the purchase of private LTC insurance by offering consumers access to public insurance (Medicaid) under special eligibility rules, should additional LTC coverage (beyond what the policies provide) be needed. The original demonstration model has been underway since 1992 in California, Connecticut, Indiana and New York and has since expanded to other states.

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School Choice in the Netherlands

Harry Anthony Patrinos*

Introduction

The Dutch education system is characterized by school choice, made possible by public funding. Most schools are run by private school boards, a trend that has been increasing over the past century and a half. Publicly-funded school choice promotes competition between schools, resulting in efficiency as measured by high test scores in international student achievement assessments such as PISA and TIMSS. The country achieves high scores even after controlling for national income and expenditure per student. The substantial degree of competition in the system is one determinant of its high academic achievement rates. Thus, a large school choice system can promote efficiency and equity without necessarily leading to privatization or to reduced public scrutiny.

The organization of schooling

The origins of the Dutch education system can be traced back to the 1917 "schools to the parents" movement (James 1984; Patrinos 2002). A series of social and political changes in the country resulted in parents being able to choose whatever school they wish for their children while the state pays most of the cost. Article 23 of the Dutch Constitution ended the state monopoly in education. At the time, all parts of social life were segmented – often referred to as "pillarization" in the literature – for a period as long as 1870 to 1960 as part of a political compromise. Not only were schools organized along political and religious lines, but so too were other aspects. While the segmentation has ended, schools continue to be oriented in a particular way. Thus, freedom of education was originally based on principles of freedom of religion.

The school system combines centralized education policy with decentralized administration and management of schools. Policy is determined centrally in the Dutch education system, but the administration and management of schools is decentralized to the school level. The central government exercises ultimate control over both public and private schools and sets national standards for all schools. Nevertheless, how to teach is left up to schools to determine. In fact, school discretion is limited only by employment laws; teacher qualifications, pay and conditions; and building standards. Funding mechanisms are designed to control national expenditures. Poor schools try to cut costs by improving efficiency, such as using more extensive methods of teaching.

Central control is exercised over both public and private schools. The system is characterized by a large central staff; many school advisory services and coordination bodies; a strong Education Inspectorate; and stringent regulations. The central government, through the Minister of Education, Culture and Science, controls education by means of legislation, taking account of the provisions of the Constitution. Its prime responsibilities with regard to education relate to the structuring and funding of the system, the management of public-authority institutions, inspection, examinations and student support. Control may be exercised by imposing qualitative or quantitative standards relating to the educational process in schools and attainment results, by means of arrangements for the allocation of financial and other resources, and by imposing conditions to be met by schools. The central government decides what types of school may exist; the length of courses in each type of school; standards for teaching staff; number of teaching periods; salaries; examinations; and the norms for the establishment and closure of schools.

Most schools are private, and most private schools are managed by a religious organization, while public schools are managed by municipal authorities. All

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schools are governed by a legally recognized authority (school board). The school board is responsible for implementing legislation and regulations in schools. There is, despite school choice and diversity of supply, no significant elite school sector (Karsten et al. 1995). Primary and secondary schools receiving public funds must be not-for-profit. Nevertheless, school boards are able to retain surplus earnings. There are a few for-profit schools, representing less than one percent of total enrollments (Hirsch 2002), but they are too small to receive government funds.

Competition and funding

Competition and equal funding are hallmarks of the Dutch education system. Under article 23 of the Constitution, all educational institutions – public and private – are funded equally. This means that government expenditure on public educational institutions must be matched by expenditure on private, government-funded educational institutions. Schools qualify almost automatically for funding, provided they meet the quality standards and funding conditions imposed by law for the school system as a whole. Funds are channeled from the Ministry to educational institutions both directly and indirectly. Schools receive a block grant to cover their staffing costs in addition to the block grant already allocated for running costs. As a result, school boards now receive a single sum of money, which they are free to spend at their own discretion, giving them more scope to manage the school as they see fit.

There is relative ease of entry for new providers. A small number of parents can and do start a school. The requisite number of parents required to set up a school varies according to population density, from 200 for small municipalities to 337 for The Hague. The central government provides initial capital costs and ongoing expenses, while the municipality provides buildings. Schools also receive a small fund for operating expenses that they may allocate at their discretion among activities such as maintenance, cleaning, heating, libraries and teaching aids. The sum is determined separately by each municipality, which must then give all public and private schools the same per capita amount.

Students and their families are entitled to choose the school – public or private – they wish to attend. The main impediments to choice are distance, although parents are free to choose a school anywhere in their city of residence or indeed anywhere in the country since there is no catchment area. Public schools must admit all pupils, and most pursue non-restrictive admissions policies. A school cannot refuse to admit a child if parents are unable or unwilling to pay. Once it is certain that a child is to be admitted to the school, a written contract between the school and the parents is written and signed, stating what the parental contribution is to be used for and what will happen if it is not paid in full.

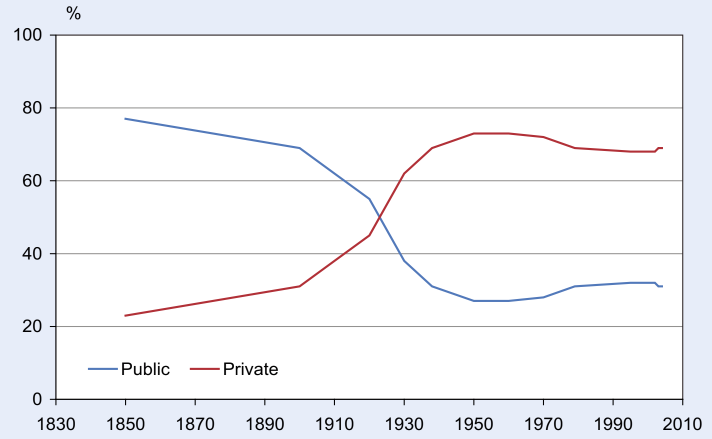
School funding is on a per capita basis. That is, money follows students and each school receives for each enrolled student a sum equivalent to the per capita cost of public schooling (Patrinos 2002). The school that receives the funds is then entitled to funding that will cover specified amounts of teacher salaries and other expenses. The number of teachers to which a school is entitled depends on its number of students. Private schools can and do supplement this funding by charging ancillary fees; however, this right is severely limited. There is no evidence of refusing at-risk students (Karsten and Meijer 1999). Municipal schools charge small fees during the 12-year compulsory stage of schooling. Schools are fully accountable to the parents for the use of fees collected. Moreover, parents can claim back their child's travel costs if there is no school (or no school of the denomination or educational character sought by the parents) within a radius of six kilometers along a route considered safe and accessible to children. Parents apply to the municipal authorities, who draw up rules on this matter.

Other private contributions and sponsorship are allowed, but no advertising materials are permitted, and schools may not become dependent on sponsors (Droog 2001; de Vijlder 2001). The central government pays most of the running costs. Limited local government discretion is allowed. Municipalities organize and pay for minority language teaching. Salaries are based on fixed scales that take into account education and experience. While the freedom to organize teaching means that schools are free to determine how to teach, the Ministry of Education, Culture and Science does, however, impose a number of statutory standards in relation to the quality of education. These prescribe the subjects to be studied, the attainment targets and the content of national examinations. There are also rules about the number of teaching periods per year, teacher training and teaching qualifications, the rights of parents and pupils to have a say in school matters, and the planning and reporting obligations of schools. As a rule, schools enjoy considerable freedom in the choice of textbooks and materials, and in the way they manage their affairs. The Education Inspectorate is charged by the Minister of Education with supervising the manner in which schools fulfill their responsibilities. The financing procedure is somewhat different at the secondary level. All teacher salaries and building costs are covered directly by the municipality. In addition, municipal and private secondary general schools that are included in the Minister of Education's three-year plan receive the same discretionary fund per capita. Since 80–90 percent of all current school expenditures are for teacher salaries, this immediately places the bulk of budgetary decisions in the hands of the central government.

Most children in the Netherlands attend private schools (Figures 1 and 2) and the trend over the past 150 years is increasing. While 35 percent of schools are public, 29 and 27 percent are Catholic and Protestant (Hupe and Meijs 2000). There are also private non-denominational schools that are run by an association or foundation but are not based on any specific religious or ideological beliefs. Like some public schools, many privately run schools base their teaching on specific educational principles.

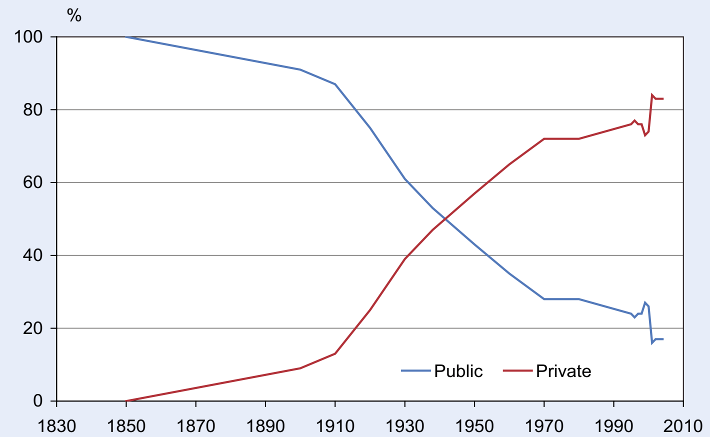
Education in the Netherlands is free for the compulsory, first ten years of schooling. At all levels of education, the Dutch government spends the OECD average (OECD 2009). Education spending as a proportion of GDP is 4.8 percent. Thus, achievement levels are high, while relative costs are low. To deal with disadvantage, a weighted funding formula is used. For every ethnic minority student, a school receives 1.9 times the amount paid for other children. This is extra funding for personnel. Native children from disadvantaged backgrounds receive 1.25 times the amount (Ritzen et al. 1997; see Leuven et al. 2007 for an evaluation).

Figure 1



Sources: James (1984); M. K. Justesen (2002); Ministry of Education.

Figure 2



Sources: James (1984); M. K. Justesen (2002); Ministry of Education.

Achievements

The Netherlands scores high in international academic achievement tests. For example, in Trends in International Mathematics and Science Study (TIMSS), Netherlands scored near the top in both subjects in 2007, repeating its performance in earlier years, such as in 2003, 1999 and 1995. The Netherlands consistently scores in the top ten in math and science. As based on TIMSS in 2008, the Netherlands was the second best performing country in mathematics and science achievement in the final years of secondary school. In comparison to other countries the Netherlands also achieves high TIMSS scores, even when controlling for level of national income (as well as expenditure per student).

In the OECD's Programme for International Student Assessment (PISA), the Netherlands does very well. In all three subjects, math, science and reading, the Netherlands

Table

PISA 2009 results

	Math		Science		Reading	
1	Shanghai-China	600	Shanghai-China	575	Shanghai-China	556
2	Singapore	562	Finland	554	Korea	539
3	Hong Kong-China	555	Hong Kong-China	549	Finland	536
4	Korea	546	Singapore	542	Hong Kong-China	533
5	Chinese-Taipei	543	Japan	539	Singapore	526
6	Finland	541	Korea	538	Canada	524
7	Liechtenstein	536	New Zealand	532	New Zealand	521
8	Switzerland	534	Canada	529	Japan	520
9	Japan	529	Estonia	528	Australia	515
10	Canada	527	Australia	527	**Netherlands**	508
11	**Netherlands**	526	**Netherlands**	522	Belgium	506

Source: OECD (2007).

consistently scores above the OECD average (Table). Research has found that confessional schools perform better than public schools (see, for example, Dijkstra et al. 2001). Despite the fact that there is no elite school sector, there is some evidence of higher quality in private schools, especially Catholic and Protestant secondary schools (Dronkers 1995). A careful analysis of school performance in the Netherlands shows that Catholic schools out-perform other schools, especially public schools (Levin 2002). The superior performance holds even after controlling for educational practices and selection. The results show that Catholic schools perform better, when schooling choice is available and affordable for the majority of families.

In the latest analysis of Dutch education performance, Patrinos (2011) uses an instrumental variable approach. The estimate of the impact of private school attendance is associated with higher test scores in math, reading and science achievement equivalent to 0.19, 0.31 and 0.21 of a standard deviation, all large and significant effects. Therefore, not only is private school attendance contributing to achievement in the Netherlands, but it is made possible because of the school financing model.

Conclusions

There is significant freedom of education in the Netherlands. Parents have the opportunity to choose schools, to establish schools, to organize teaching and to determine the principles of the school. This has resulted in a large number of non-public schools financed by the state. Moreover, parents can typically choose among several schools. Parents have access to a variety of schools, access is not selective, all schools are publicly financed and receive equal funding, there is ease of entry for providers into the market, and information flows. Most children in the Netherlands attend privately-managed schools. Private schools are not for profit and usually managed by a foundation or church.

The Netherlands shows that a large private sector with equal public funding does not necessarily mean decentralization and a weak central role. Choice can coexist with a strong center. Interestingly, as the center has moved away from any direct provision of education services its role in policy making, evaluation and information dissemination increased. Therefore, the fear of the state's retreat from matters of importance in education policy with the introduction of market forces is not founded.

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Financial Inclusion: Reforms in the Areas of Consumer Protection and Financial Literacy

During the recent financial crisis both household investors and borrowers were confronted with unpleasant surprises. Individual investors learned that the financial products they bought were much riskier than they had perceived. Borrowers found themselves overindebted and unable to service their loans. How did this come about? Investors were looking for high-yield investments and banks began offering newly designed products with the promise of higher returns. In addition many households were interested in more and higher loans to finance consumption, for example, and banks were often willing to grant them. Thus, for both investors and borrowers the demand for a financial service or product and its supply had an impact on the outcome. Both situations show how far-reaching financial decisions can be if mistakes are made – not only for the individual household but for the entire economy as the following statement shows: "Lack of effective disclosure and deceptive advertising on the part of providers and failure to understand financial products on the part of consumers contributed to the collapse of the subprime mortgage market in the United States" (CGAP/WB 2010, 23).

This implies that the institutional environment in which financial services and products are offered plays an important role. Improving institutions should thus help to prevent negative outcomes in the future. The Table provides some information on the reforms carried out in different countries. Financial inclusion is, of course, a topic of high priority in development economics. In this context it has many more aspects than the two we focus on here. But these two aspects are highly relevant for industrialised countries as well – as the financial crisis has shown. The information comes from a survey conducted on financial inclusion in a joint initiative by the Consultative Group to Assist the Poor (CGAP) and the World Bank Group among financial regulators on the agenda under purview of their agency.

Consumer protection aims at protecting consumers against unfair or deceptive practices by financial service providers, at improving transparency by complete disclosure of clear, adequate and comparable information about prices, terms and conditions of financial products and services, and at establishing a recourse mechanism to address complaints and resolve disputes quickly and inexpensively (CGAP/WB 2010, 24). "Financial literacy refers to the need to inform the public about the basics of financial services and ensure individuals' ability to make informed judgments and effective decisions about the use and management of their finances." (CGAP/ WB 2010, 17).

In both areas many countries initiated reforms in 2009. In the area of consumer protection the most common reforms aim at disclosure requirements and dispute resolution systems. In some countries, among them the Czech Republic and Finland, fraud protection is also improved. The extension of deposit insurance is sometimes also considered to be consumer protection. Reforms in the area of financial literacy comprise, for instance, the creation or update of financial education school programs, the establishment of financial literacy weeks and the launch of financial learning centres. As the Table shows, nearly all countries in our sample have introduced reforms that contribute to consumer protection. From the Table we also see that only a few countries have improved financial literacy (CGAP/WB 2010).

Table

Financial inclusion: areas of reform in 2009

	Consumer protection	Financial capability
Austria	+	
Belgium	+	
Bulgaria	+	+
Czech Republic	+	
Finland	+	
France	+	
Hungary	+	
Ireland	+	
Italy	+	
Latvia		+
Lithuania	+	
Portugal	+	
Slovak Republic		+
Spain	+	+
United Kingdom	+	+
Croatia	+	+
Macedonia		
Switzerland	+	
Turkey		
Canada	+	+
Japan	+	
New Zealand	+	+
United States	+	

Source: CGAP/WB (2010).

Numerous countries have put in place reforms related to consumer overindebtedness. Here measures on the supply as well as the demand side should help to improve the situation. On the supply side, requiring stricter risk management and improving transparency in credit markets were the first measures. In this respect, the rules under which credit bureaus and credit registries operate are of particular importance (see Hainz 2011 for a more comprehensive treatment of information sharing arrangements). Portugal, for example, makes credit bureau consultation mandatory. But, of course, the demand side for loans must also be addressed by providing better education on how to make financial decisions (CGAP/WB 2010).

The distortions that became evident during the financial crisis clearly indicate that the scope for improving the institutional environment is huge. Thus, we can expect to see many more reforms in the two areas investigated here in the coming years.

C. H.

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Health Insurance Cost Sharing and Differences in Healthcare Access and Cost by Income in Eleven Countries

The level of health insurance cost sharing varies internationally and so does the importance of out-of-pocket healthcare spending. Deductibles and co-payments are two main cost sharing mechanisms. A deductible determines the amount a patient has to pay out of pocket before insurance coverage takes effect. Deductibles usually refer to annual expenditure but can also be by case. For instance, someone with a USD 1,000 annual deductible would have to pay for all healthcare accessed in that year until the USD 1,000 limit is reached. Insurance would cover any additional costs. Co-payments accrue at the point of service. For instance, in Germany, patients covered under the Statutory Health Insurance system pay EUR 10 for the first doctor visit in each quarter, EUR 10 for each of the first 28 days in hospital care, and 10 percent of the cost of prescribed medications (up to a maximum of EUR 10 per prescription). A third determinant of out-of-pocket spending is the comprehensiveness of benefit packages. While most countries tightly regulate insurance markets to ensure that a comprehensive package is offered under all insurance types, some – for example the United States – are less restrictive.

The aim of cost sharing is to increase cost awareness among patients which, ideally, limits wasteful healthcare use without incentivizing patients to forgo necessary care (Cutler und Zeckhauser 2000). The RAND Health Insurance Experiment 1974–82 empirically tested the effects of cost sharing schemes on healthcare use and health outcomes for the US (Newhouse 2004). The results showed that healthcare use declined across all income levels when cost sharing increased. At the same time, however, the healthcare use reductions negatively affected the health of the poor, putting in into question the usefulness of cost-sharing as a cost containment instrument.

In a recent empirical study, Schoen et al. (2010) examined the differences in healthcare access and cost between individuals with above and below-median incomes in 11 countries with different cost sharing provisions. The international differences in provisions are shown in Table 1. With the exception of the US, Switzerland and the Netherlands, where the standard insurance is private, none of the 11 countries has a deductible in its primary health insurance scheme. To avoid catastrophic health costs, Switzerland and the Netherlands, however, cap the deductible and require private insurers by law to offer a comprehensive benefit package. At the other end of the spectrum, the tax-financed British public health system provides healthcare free of deductibles and exempts low income households from the limited co-payments. Canada's national healthcare system also has no deductibles, but benefits are less generous than in other countries – prescription drugs and dental care are not part of the core benefit package. In France, almost all buy supplementary private insurance to cover the co-payments accruing in the public health system. Germany, Norway, Sweden and Switzerland avoid catastrophic health costs by placing annual income-related or absolute spending caps on co-payments, and Australia and New Zealand subsidize co-payment expenditure above a certain limit.

Table 2 summarizes Schoen et al.'s (2010) analysis for six measures of healthcare access and cost for respondents with below and above-median incomes. The percentages are adjusted for differences in age, health status and – for the US – whether the respondent has health insurance.

The above-median income group is more confident to receive the most effective treatment available across all countries. The difference between individuals with above and below-median incomes is smallest and not statistically significant in the UK, followed by Germany and France. In contrast, in the US the difference is 17 percentage points.

Confidence in being able to afford necessary medical treatment is also more common among individuals with higher incomes in all countries. The UK again has the smallest gap between individuals with high and low incomes. Public, tax-financed healthcare, however, does not seem to remove income differences in perceived affordability by itself as the largest difference – 28 percentage points – is found in Canada.

The third access measure is the share of respondents who did not fill a prescription or skipped a dose, had a medical problem but did not visit a doctor or had skipped a test, treatment or follow-up for cost reasons. With the exception of the UK, forgone care due

Table 1

Cost sharing in 11 high-income countries, 2010

Country (2008 per capita spending on health care; population)[a)]	Benefit package				Role of private insurance	Provisions for low-income patients
	Deductible	Annual out-of-pocket maximum	Medication: core benefit	Cost sharing for primary care visits		
France (USD 3,696; 61.8 million)	No	No	Yes	Yes	90% buy coverage for suppl. cost sharing and some extra benefits	Supplements cost sharing; exemption for chronic disease
Germany (USD 3,737; 82.1 million)	No	2% of income; 1% for patients with chronic diseases and low incomes	Yes	Yes	Approx. 20% buy coverage for suppl. cost sharing and amenities; 10% buy a substitute and opt out of social insurance	Income-related contribution for insurance; out-of-pocket maximum 1% of income
Netherlands (USD 4,063; 16.4 million)	EUR 165–665 (USD 219–883)	No	Yes	No	Private plans provide core benefits; 80% buy extra benefits	Income-related premium assistance (approx. 40% receive)
Sweden (USD 3,470; 9.2 million)	No	SEK 900 (USD 127) for health services; SEK 1,800 (USD 254) for pharmaceuticals	Yes	Yes	Fewer than 5% buy coverage for faster access and use of private providers	None
United Kingdom (USD 3,129; 60.5 million)	No	No	Yes	No	Approx. 10% buy coverage for benefits and private facilities	Cost-sharing exemption
Norway (USD 5,003; 4.8 million)	No	NOK 1,615 (USD 271)	Yes	Yes	Fewer than 5% buy coverage for faster access and use of private providers	None
Switzerland (USD 4,627; 7.6 million)	CHF 300–2,500 (USD 289–2,405)	CHF 700 (USD 673) maximum after deductible	Yes	Yes	Private plans provide core benefits; 70% buy extra benefits	Income-related premium assistance (30% receive); deductible exemption
Australia (USD 3,353 in 2007; 21.4 million)	No	80% out-of-pocket subsidy if exceeds AUD 1,126 (USD 1,033)	Yes	Yes[b)]	50% buy coverage for suppl. cost sharing and access to private facilities	Lower cost sharing; lower out-of-pocket maximum before 80% subsidy
Canada (USD 4,079; 33.1 million)	No	No	No [c)]	No	Approx. 67% buy coverage for extra benefits	Some cost-sharing exemptions; varies by province[c)]
New Zealand (USD 2,683; 4.3 million)	No	Subsidies after 12 doctor visits or 20 prescriptions in previous year	Yes	Yes	Approx. 33% buy coverage for suppl. cost sharing, private facilities, and specialists; small share of total spending	Lower cost sharing
United States[d)] (USD 7,538; 304.5 million)	Yes, no limit	No	Yes for Medicaid, Medicare w/supplement	Yes	66% have private primary insurance; supplements and substitutes for Medicare	Medicaid separate; 2010 reforms lower premium and cost sharing starting in 2014

Notes: Currency converted to US dollars using http://oanda.com on 9 August 2010.
[a)] Spending adjusted for cost of living. – [b)] To make services free or low cost to patients, the majority of Australian primary care providers bill the government direct for the covered amount (referred to as “bulk billing”). – [c)] Varies by province; there is no national requirement for core Canadian Medicare benefits. – [d)] Before passage of the Affordable Care Act.

Source: Schoen et al. (2010).

to cost is more prevalent among individuals with below-median incomes in all countries. The relative difference is largest in Norway, where individuals with below-median incomes are more than four times more likely to forgo care. In absolute terms, the difference is largest in the US where 39 percent of below median income respondents have forgone care for cost reasons. Despite its capping of co-payments, Germany has the second largest share of individuals with both above and below-median incomes who have not used health services because of cost.

With regards to out-of-pocket healthcare spending, the United Kingdom, Sweden and France have the lowest share of respondents with annual spending above USD 1,000. The highest share is found in the US, Switzerland and Australia, where the differences between above and below-median income earners are also large. Higher out-of-pocket spending, however, only appears to translate into widespread payment problems in the US, where they are reported for 24 percent in the below-median income group. In all other countries, the percentage is below 13 percent. The lowest percentage is again found in the UK, where only 3 percent report payment issues.

S. N.

Table 2

Healthcare access and cost by income-level in 11 countries, 2010

Country, income level (sample size)	Percent who were confident or very confident that they would receive most effective treatment	Percent who were confident or very confident that they would be able to afford needed care	Percent who experienced at least one access barrier due to cost	Percent who had out-of-pocket spending of USD 200 or less	Percent who had out-of-pocket spending of USD 1,000 or more	Percent who had serious problems paying or were unable to pay medical bills
France						
Above average (619)	88	78[a]	8[a]	41[a]	5	2[a]
Below average (508)	85	67	17	53	5	13
Germany						
Above average (289)	82	77[a]	17[a]	40[a]	10[a]	1[a]
Below average (223)	78	62	27	52	5	7
Netherlands						
Above average (488)	88[a]	87[a]	3[a]	37	11	2[a]
Below average (224)	81	65	13	42	7	11
Sweden						
Above average (917)	70[a]	79[a]	5[a]	52	2	2[a]
Below average (598)	58	61	14	49	2	9
United Kingdom						
Above average (342)	95	93[a]	4	88	0	2
Below average (274)	92	87	4	86	0	3
Norway						
Above average (638)	72[a]	79[a]	4[a]	30[a]	16	1[a]
Below average (201)	63	57	21	39	15	10
Switzerland						
Above average (354)	91[a]	86[a]	7[a]	19[a]	34[a]	2[a]
Below average (569)	86	67	12	26	20	9
Australia						
Above average (855)	79[a]	77[a]	12[a]	23[a]	31[a]	5[a]
Below average (1,649)	73	56	22	44	16	10
Canada						
Above average (1,155)	80[a]	79[a]	6[a]	48	17[a]	2[a]
Below average (1,161)	71	51	18	51	12	9
New Zealand						
Above average (296)	87[a]	85[a]	8[a]	56[a]	11[a]	2[a]
Below average (419)	78	67	15	68	6	6
United States						
Above average (853)	82[a]	74[a]	20[a]	24[a]	45[a]	9[a]
Below average (861)	65	50	39	38	29	24

Note: Percentages were adjusted based on logistic regression to control for health status, age, and – in the US – insurance status. Average is the median.
[a] Indicates significant within-country differences with below-average income ($p < 0{:}05$).

Source: Schoen et al. (2010).

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Pension Policies – Pensionable Age and Life Expectancy

Increasing life expectancy is generally praised because people live longer and healthier lives. For pension systems, however, a longer life expectancy constitutes a serious economic and political challenge.

As life expectancy increases, people spend more time in retirement if the pensionable age, the age at which people can cease work and receive full benefits, is left unchanged. The longer duration of retirement leads to increasing costs of pension systems. The OECD (2011) draws attention to this problem by giving an overview of the development of pensionable age and life expectancy over time in the OECD countries and presenting how governments deal with longer retirement durations.

Some key indicators are summarised in Table 1. The first six columns show the pensionable age for men and women in 1958 and 2010, respectively, as well as a forecast for the pensionable age in 2050.[1]

In most countries the pensionable age is set out explicitly. In others, however, the eligibility to draw a pension does not depend on age but on years of contribution (e.g., 37 years in Greece or 25 years for male

[1] A more detailed presentation of the development over time is provided in the OECD (2011) report.

Table 1

Pensionable age and life expectancy

	Pensionable age						Life expectancy after pensionable age					
	Men			Women			Men			Women		
	1958	2010	2050	1958	2010	2050	1958	2010	2050	1958	2010	2050
Australia	65	65	67	60	62	67	12.5	18.6	19.7	19.4	24.3	23.3
Austria	65	65	65	60	60	65	12	17.5	21.1	18.6	25.1	24.5
Belgium	60	60	60	60	60	60	15.3	21.1	24.8	18.5	25.8	29.8
Canada	69	65	65	69	65	65		18.3	21.4		21.4	24.8
Czech Republic	60	61	65	60	58.7	65	15.4	17	18.1	18.5	23.8	22.5
Denmark	65	65	67	60	65	67	13.7	16.4	17.2	19.3	19.8	21
Finland	65	65	65	65	65	65	11.5	16.8	19.8	13.7	21	24,7
France	65	60.5	61	65	60.5	61	12.5	21.7	24.8	15.6	26.5	29.5
Germany	63	65	65	60	65	65	14.2	17	20.3	18.1	20.7	24.4
Greece	57	57	60	57	57	60	19.9	24	24.1	21.5	27.1	28.3
Hungary	60	60	65	55	59	65	15.6	16.5	16.3	22.6	22.6	21.1
Iceland	67	67	67	67	67	67		16.8	19.8		19.2	22.9
Ireland	70	65	65	70	65	65	7.6	16.9	20	9.4	20.6	24.3
Italy	60	59	65	55	59	65		22.8	20.9		27.4	25.5
Japan	60	64	65	55	62	65	14.8	19.8	21.6	22.8	26.7	27.7
Korea		60	65		60	65		20.2	19.3		25.2	24.5
Luxembourg	65	60	60	65	60	60	12.5	20.8	24.6	14.5	24.9	28.6
Mexico	65	65	65	65	65	65	14.2	17.2	18.9	14.6	19.4	21.9
Netherlands	65	65	65	65	65	65	13.9	17.3	20.6	15.3	20.4	23.5
New Zealand	60	65	65	60	65	65		18.1	21.2		20.9	24.3
Norway	70	67	67	70	67	67	9.5	15.7	18.9	11.1	18.9	22.5
Poland	60	65	65	60	60	60	15.9	14.4	17.2	18.7	23.1	26.6
Portugal	65	65	65	65	65	65	12.4	16.3	19.2	14.5	20.2	23.6
Slovak Republic	60	62	62	60	57	62	16.6	14.9	18.6	18.4	24.9	23.9
Spain	65	65	65	65	65	65	13.1	17.9	21.4	15.3	21.8	25.1
Sweden	67	65	65	67	65	65	11.7	17.9	21.1	13.3	21.1	24.2
Switzerland	65	65	65	60	63	64	12.9	18.9	22.4	19	24.1	26.6
Turkey		44.9	62.3		41	60.8		31.1	22.5		36.9	23.2
United Kingdom	65	65	68	60	60	68	11.9	16.9	16.9	18.9	24.5	21.9
United States	65	66	67	65	66	67	12.8	16.8	17.7	15.8	19.3	21.9
Average	63.9	62.9	64.6	62.3	61.8	64.4	13.4	18.5	20.3	17	23.3	24.6

Note: Germany refers to West Germany for 1958. Czechoslovakian data are used for the Czech and Slovak Republics where appropriate. Where there is more than one value per calendar year, these have been averaged. The recent change in pensionable age in the UK is not reflected in the Table.
Life-expectancy is calculated using data from 1960 for the pensionable age in 1958.

Source: OECD (2011, 25–26, 29–30).

workers in Turkey). For the sake of comparison, it is assumed that each individual started to work at the age of 20 and works uninterruptedly until retirement (e.g., leading to a pensionable age of 57 in Greece and 45 in Turkey). Although there are different pension programmes for different groups of workers, the OECD (2011) focuses on private-sector workers. Earlier retirement ages for workers in public sectors or hazardous and arduous occupations are not taken into account.

The cross-time view shows that for 14 countries men's pensionable age in 2010 is the same as in 1958, seven countries have a lower and seven countries have a higher pensionable age for male workers. The average pensionable age for men was lowered from 64.3 to 62.9 years between 1958 and 2010. A more detailed picture of the development between 1958 and 2010 shows that following an average low point of 62.4 years in 1993, the majority of countries increased the pensionable age up to 2010 or set up reforms to do so in the future.

The 2050 forecast predicts that 18 countries will keep pensionable age for men at the level of year 2010, either because they already increased it (e.g., Germany) or because pensionable age was considered to be high enough without a reform (e.g., Austria). Meanwhile, twelve countries will experience an increase in pensionable age from 2010 up to 2050. There is no OECD country planning to lower the pensionable age for men facing further increases in life expectancy.

The trend indicates that governments aim to equalise the retirement ages of men and women by increasing women's pensionable age faster than men's. The difference in average was 1.6 years in 1958, but decreased to 1.1 years in 2010. It is forecasted to be only 0.2 years in 2050 when Poland, Switzerland and Turkey are projected to be the only countries with pensionable age lower for women than for men. In 2010, gender differences could still be found in eleven countries.

A key question is whether increases in pensionable age can keep up with the increase in life expectancy. An indicator is the life expectancy after pensionable age presented in the second half of Table 1.

Between 1958 and 2010, no country compensated the increasing life expectancy by setting up a higher pensionable age. Therefore, life expectancy at pensionable age increased in all OECD countries. The average duration of retirement rose from 13.4 years in 1958 to 18.5 years in 2010 for men and similarly from 17 to 23.3 years for women. Obviously, higher life expectancy caused people to spend more time at the receiving end, heaping cost pressure on the pension systems. Future changes in pensionable age, described above, have to cover future increases in life expectancy and perhaps even compensate for the past increases in retirement duration.

Based on the OECD (2011) forecast drawn from current reform plans, men's retirement duration will increase on average by another 1.8 years up to 20.3 years in 2050 while women in 2050 will spend 24.6 years on average in retirement, indicating an increase of only 1.3 years against 2010. Current and future reforms in many OECD countries will compensate for larger parts of the future increase in life expectancy in contrast to the pension system changes in the second half of the 20th century.

In Hungary, Italy, Korea and Turkey the retirement age will be increased by an amount that will even overcompensate higher life expectancy and therefore reduce the time in retirement for both men and women.[2] Australia, Austria, the Czech Republic, the Slovak Republic and the UK will reduce years of retirement for women, but not for men. All other countries will still face higher retirement duration, but generally to a smaller extent than in the past. Therefore, reforms in many countries appear to be promising, but changing the pensionable age is not the magic bullet for pension systems under increasing life expectancy.

Besides the explicit setup of pensionable age, governments have developed ways to link pension systems' parameters directly to life expectancy. According to Table 2, seven countries have introduced a mandatory defined-contribution plan. Under this scheme, contributions and investment returns accumulated during work life are converted into a regular pension payment ("annuity"). This annuity depends on the retirees' life expectancy at the time of retirement. Under notional-accounts schemes accumulated contributions and notional interest are also converted into a regular benefit payment. Here, the conversion rate is linked directly to life expectancy.

In this manner pension benefits are linked directly to life expectancy. Under defined-contribution plans, which was most common in the 20th century, bene-

[2] These reforms should be viewed, however, in light of the fact that Turkey, Italy and Greece had the lowest pensionable age and the longest average retirement duration in 2010.

Table 2

Ways to link pensions to life expectancy

	Mandatory defined-contribution plan	Notional accounts scheme	Benefits linked to life expectancy	Qualifying conditions linked to life expectancy	DB-to-DC shift in voluntary private provision
Australia	x				
Austria					
Belgium					
Canada					x
Czech Republic					
Denmark				x	
Finland			x		
France				x	
Germany			x		x
Greece					
Hungary	x				
Iceland					
Ireland					x
Italy		x			
Japan					
Korea					
Luxembourg					
Mexico	x				
Netherlands					
New Zealand					
Norway	x	x			
Poland	x	x			
Portugal			x		
Slovak Republic	x				
Spain					
Sweden	x	x			x
Switzerland					
Turkey					
United Kingdom					x
United States					x

DB=Defined-benefit. – DC= Defined-contribution.

Source: OECD (2011, 84).

fits depended on contribution years and level of earnings, but life expectancy was not taken into account.

As can be seen in Table 2, Germany and the Slovak Republic have linked benefits to life expectancy in more complex ways, and Denmark and France did so for retirement qualifying conditions. Other countries shifted from a defined-benefit to a defined-contribution scheme in a voluntary private provision.

In order to reduce the duration of retirement, governments can also reduce the incentives to retire early (i.e., tighter qualification conditions and higher decrements for early retirement) and set better incentives to stay in work even when people have reached the age at which they could cease work and receive full benefits.[3]

[3] The role of incentives in retirement decisions are covered in Chapter 3 of the OECD (2011) report.

It is obvious that most OECD countries have noticed the pressure which increasing life expectancy exerts on pension expenditures and established reforms to solve the financial problems arising. Increasing the pensionable age is one important factor, but many countries have also linked pension systems parameters directly to life expectancy.

M. W.

Reference

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Work-family Balance in an European Comparison

A new study on reconciliation of work and family life conducted by the Cologne Institute for Economic Research by order of the Federal German Ministry for Family Affairs, Senior Citizens, Women and Youth and the Robert Bosch Stiftung ranks family-friendliness as important in most companies in Europe. Furthermore it is observable that a flexibilisation of working hours and of working organisation (e.g., child care or home care schemes) gives parents more time to attend to family commitments. Especially in a period of demographic change associated with an observable decrease in the number of available skilled workforce it is important for young parents and for those who care for the elderly to have the possibility to participate as much as possible in working life.

From the end of October 2009 until December 2009, more than 5,000 executives and personnel managers were surveyed via computer-based interviews in six European countries (France, Germany, Italy, Poland, Sweden and the United Kingdom). It was a randomised sample. For representative indications, the results were projected by a 3x2 matrix. The sample was divided into three classes of company size (5–49, 50–249, 250 and more employees) and two sectoral groups (manufacturing companies and service sector). More than 1300 firms were surveyed in Germany, while in the other countries the number of surveyed companies was about 750 each. This was necessary to ensure comparability with the 2006 Company Survey on Reconciliation of Work and Family Life in Germany.

The key findings of the study are:

- Family-friendliness is important.
- Many companies show a positive attitude towards reconciliation of work and family life.
- Family-friendly companies are highly dedicated to work-life balance.
- Flexible working time arrangements, support for employees on parental leave and caring for children and other dependants are used to reconcile work and family life.
- Family-focused services are more the exception than the rule.
- Stimuli for companies to introduce family-friendly measures are similar.
- Regulatory basis for human resources policy measures differs from country to country.
- Family-friendliness in spite of the economic crises.

In more detail, family-friendliness is an important issue in the reconciliation of work and family life. In Sweden 86 percent and in the United Kingdom more than 93 percent of the companies regarded family friendliness as important or rather important (Table). In comparison with the other four European countries, in Sweden and the United Kingdom the importance of family friendliness is significantly higher. Regarding other control variables, such as the importance of family friendliness for both employees and executives, again Sweden and the United Kingdom generate the highest values. For France, Germany, Italy and Poland the significance of family friendliness is lower.

Table

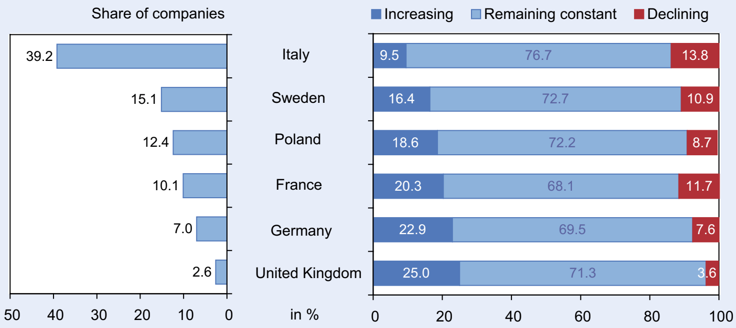
The importance of family-friendly policies for the respondent companies
Share of companies, in %

	For the company			
	Important	Rather important	Rather unimportant	Unimportant
France	48.1	35.2	10.7	6.1
Germany	58.2	21.5	15.1	5.2
Italy	43.5	38.4	14.7	3.4
Poland	22.8	59.5	14.0	3.7
Sweden	62.1	24.1	9.6	4.3
United Kingdom	52.5	40.9	5.1	1.6
	For employees			
	Important	Rather important	Rather unimportant	Unimportant
France	61.0	32.5	3.9	2.5
Germany	59.1	22.0	13.3	5.7
Italy	49.7	39.7	9.8	0.8
Poland	32.3	53.2	12.2	2.2
Sweden	67.0	23.6	6.7	2.7
United Kingdom	59.4	36.5	3.3	0.8
	For executives/experts			
	Important	Rather important	Rather unimportant	Unimportant
France	52.8	31.9	10.3	4.9
Germany	50.7	17.9	21.4	9.9
Italy	42.2	44.4	10.7	2.7
Poland	27.8	53.3	16.3	2.6
Sweden	63.7	22.6	11.0	2.7
United Kingdom	54.6	39.6	4.3	1.4

Source: Federal Ministry for Family Affairs, Senior Citizens, Women and Youth (2010, 11).

Figure

WITHDRAWAL OR POSTPONEMENT OF WORK-LIFE BALANCE
AND EXPECTED SIGNIFICANCE OF WORK-LIFE BALANCE POLICIES
IN THE NEXT FIVE YEARS



Source: Federal Ministry for Family Affairs, Senior Citizens, Women and Youth (2010), p. 32.

The survey was conducted during the economic crises. Hence, it was assumed that companies lost their willingness to introduce or continue human resources policies for a better work-life balance. But according to the Figure it was only in Italy that the companies (around 40 percent) withdrew or postponed policies affecting work-life balances. In Germany just 7 percent and in the United Kingdom less than 3 percent of the companies reacted similarly. This low proportion of companies indicates that the reconcilability of work and family life has a high significant weight for companies. The companies were also asked about their expected significance of work-life balance policies in the next five years. Apart from Poland, in all countries the expectation of an increase in the significance of reconciling work and family life is higher than the expectation of a decrease.

A. R.

Reference

Federal Ministry for Family Affairs, Senior Citizens, Women and Youth (2010), *Final Report: European Company Survey on Reconciliation of Work and Family Life*, in collaboration with the Robert Bosch Stiftung and the Cologne Institute for Economic Research.

Free Movement of Labour in the EU

Following enlargement of the EU to 27 members by the accession of ten countries in 2004 and the accession of two more countries in 2007, the 15 former member states (EU-15) agreed on transitional periods that limit the free movement of workers from these member states.[1] Until 2006, access to the labour markets of the EU-15 was exclusively dependent on national policies. After mid-2006, the EU-15 could choose to maintain national restrictions or allow free movement of workers and after 2009 they were required to obtain authorisation to continue applying national measures for two more years. This was granted only if a country experienced "serious disturbances" in its labour market. Free movement between all member states was to be guaranteed by May 2011 at the latest for the citizens of the countries that joined in 2004, and by January 2014 for citizens of Bulgaria and Romania.[2]

Delegating the decision on transitional periods to the national level has had important consequences: While Ireland, the United Kingdom, and Sweden opened up their labour markets to migrants from the new eight member states (NMS-8) in 2004, Germany and Austria retained restrictions on immigration from the NMS-8 countries until 31 April 2011. The other EU-15 countries stopped national measures that restrict migration from the NMS-8 between 2006 and 2009 (Table).

Now that the transition period affecting migrants from the NMS-8 is over, a change in migration dynamics is expected. The EU eastern enlargement has already led to an increase in the migration flows from the NMS-8 to the EU-15 countries. From 2004 to 2009, an average of 250,000 citizens from the NMS-8 migrated to EU-15 countries per year. These migration flows abated during the financial crises. While more than 60 percent of the migration streams from the NMS-8 to EU-15 countries went to Germany and Austria before the eastern enlargement, this fraction has decreased to 20 percent thereafter. The percentage of migration flows to the UK and

[1] Nations that joined the EU in 2004: Czech Republic, Cyprus, Estonia, Hungary, Latvia, Lithuania, Malta, Poland, Slovak Republic, Slovenia). Nations that joined in 2007: Bulgaria, Rumania.
[2] Malta and Cyprus are excluded from these migration restrictions.

Table

Free movement of labour in the EU-15, 2009–11

	New regulations for employees from the central and eastern European new member states since 1 May 2006	Restrictions
Austria	Restrictions remain valid.	New EU citizens wishing to work in Austria still need a work permit, which the employer must apply for. The Labour Market Service will confirm freedom of movement once the worker has been legally employed for one year.
Belgium	No limitations on workers for EU-8. Restrictions on workers from Bulgaria and Romania.	Nationals from Bulgaria and Romania are obliged to hold a work permit up to 31 Dec. 2011. Nationals from these states benefit from an accelerated procedure for obtaining a work permit in a profession with a labour shortage. Under this simplified procedure, the work permit is granted within 5 days of the request being lodged by the competent regional authority.
Denmark	No restrictions since 1 May 2009.	Work and residence permit is no longer required, and citizens from these countries enjoy the same rights as other EU citizens.
Finland	As of 1 May 2006 all restrictions were lifted regarding workers from new member states.	
France	No regulations on workers from EU-8 countries. For workers from Bulgaria and Romania there are restrictions during the second transitional period from 1 Jan. 2009 until 31 Dec. 2011.	For Bulgaria and Romania: French employers can use a simplified procedure for introducing foreign labour for 61 occupations from 7 major fields of activity. For these occupations, foreign labour departments will not use the job situation in France as an objection.
Germany	Restrictions on access to the German labour market will remain in force until 30 April 2011 for those countries which joined the EU on 1 May 2004 (EU-8), and until 31 Dec. 2012 for the countries which joined on 1 Jan. 2007 (Bulgaria and Romania).	Employees from EU-8 countries must apply for a work permit. Only after a labour-market examination, in which citizens of the EU-8 are treated preferentially vis-à-vis applications from third-party countries, can a permit be granted.

Table continued

	New regulations for employees from the central and eastern European new member states since 1 May 2006	Restrictions
Greece	As of 1 May 2006 all restrictions were lifted for workers from the EU-8 and in January 2009 for workers from Bulgaria and Romania.	
Ireland	No special limitations on workers from EU-8 (since 2004). Restrictions on workers from Bulgaria and Romania.	Bulgarian and Romanian Job Seekers will continue to require a work permit. However, any of these citizens who were in Ireland on 1 Jan. 2007 for a period of 12 months or more and holding a valid work permit for that time will no longer have any restrictions and will, along with their spouses, have unrestricted access to the labour market and state employment services.
Italy	Since 27 July 2006 no restrictions concerning the free movement of workers from EU-8 are in force, thus giving full effect to the free entry of all nationals from the new member states to the Italian job market. Restrictions on workers from Bulgaria and Romania.	There is a transitional arrangement for a period of one year prior to allowing citizens of Romania and Bulgaria to have full access to paid employment (except self-employment). The transitional arrangement has opened the following sectors: agriculture and hotel and tourism, domestic work and care services, construction, engineering, managerial and highly skilled work, and seasonal work. Any employer who wishes to hire a Romanian or Bulgarian worker for one of the above sectors must comply with the employment regulations currently in force and notify the job centres as well as the competent social security and welfare institutions.
Luxembourg	The restrictions on workers from EU-8 were abolished. Limitations on workers from Bulgaria and Romania only.	For Bulgarian and Romanian workers the labour market is generally suspended. However, a transitional regime from 1 Jan 2007 in some sectors work permits will be readily granted to Bulgarian and Romanian nationals under a minimal and simplified procedure, without, however, abolishing the need for a work permit. The sectors concerned are agriculture, viticulture, and the hotel and catering sector. For the financial sector, people with specific qualifications for which there is a need that is not met on the labour market, the same flexibility measures will be applied. In other sectors, depending on the labour market situation, the procedure for granting work permits will be simplified and the deadlines reduced.
Netherlands	Since 1 May 2007: No special limitations on workers from the EU-8 but restrictions for workers from Bulgaria and Romania.	For workers from these 2 countries a work permit will be issued whenever there are no workers available in the Netherlands or other EU member states and the employer concerned can offer proper working conditions and accommodation.
Portugal	No restrictions since January 2009.	
Spain	No restrictions since January 2009.	
Sweden	No special limitations on workers from the new member states (since 2004).	
United Kingdom	No special limitations on workers from the EU-8. Restrictions on workers from Bulgaria or Romania	At the heart of the new regulations is the restriction of low-skilled workers to existing quota schemes in the agricultural and food processing sectors. Skilled workers will continue to be able to work in the UK if they qualify for a work permit or under the Highly Skilled Migrant Programme.
Most countries of the EU-15 have bilateral agreements with the individual new member states that allow specific labour migration (seasonal work, contingents for specific industries, etc.) or temporarily limit this migration.		

Source: Ifo DICE Database: “Free Movement of Labour in the EU-15, 2009–2011”, data from the European Commission: EURES, The European Job Mobility Portal.

Ireland, on the other hand, has gone up to more than 60 percent after the EU eastern enlargement (Baas and Brücker 2010, OECD 2010). This suggests that the migration flow to Germany and Austria will increase now that these countries have also opened their labour markets to immigration from the NMS-8.

While Germany and Austria were the only EU-15 countries still restricting immigration from the NMS-8 at the beginning of this year, several countries still impose restrictions on the two countries that joined the EU in 2007 – Bulgaria and Romania (Table). Hence, one last change in migration dynamics can be expected once all migration restrictions have been eliminated.

Even though there will soon be no more restrictions on labour migration in Europe, it is still crucial to design policies so that the international mobility of workers can unlock mutual benefits for all parties involved.

S. F.

References

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European Commission, EURES: The European Job Mobility Portal, http://ec.europa.eu/eures/main.jsp?&countryId=&accessing=0&content=1&restrictions=0&step=0&acro=free&lang=en,accessed April 2011.

OECD (2010), *International Migration Outlook, SOPEMI* 2010, Paris.

Pension Accounting

Pension accounting is a complex task. National pension accounting rules vary and comparing them is difficult. Glaum (2009) compares standards for accounting pensions in the US, the UK and six continental European countries.

While UK and Dutch pension accounting rules are similar to the International Accounting Standard (IAS) 19 and Financial Accounting Standard (FAS) 87, French, German, Italian, Spanish and Swiss rules are clearly different (Table). For example, in German accounting law, there are no explicit rules for the valuation of pension obligations, and French and Swiss accounting standards do not generally require the recognition of pension liabilities. Furthermore, disclosure rules also vary across countries, with requirements generally being much less extensive in continental Europe than in Anglo-Saxon countries, or in comparison to International Financial Report-

Table

National pension accounting rules: overview

	1. Specific standard for pension accounting	2. Recognition in the balance sheet		
		2.1. Recognition of liability mandatory	2.2. Smoothing mechanism for balance sheet	2.3. Presentation in balance sheet (gross/net)
France	No; recommendation, but no obligation to apply IAS 19 (however: application of SoRIE option not allowed).	Recognition of liability for pension obligations is not mandatory; if companies recognise a liability, application of IAS 19 is recommended (without SoRIE option); in case of voluntary recognition, IAS 19 defines minimum liability.	n.a. (see 2.1)	n.a. (see 2.1)
Germany	Currently only rudimentary rules in German Commercial Code (HGB), paragraph 249 and paragraph 253; reform of HGB in preparation, planned: market-based valuation of pension obligations.	Yes; if internally financed (except for pre-1985 liabilities); optional for funding deficits in case of external financing.	No	Gross (net in case of funding through separate legal units).
Italy	No; Codice Zivile, paragraph 21.20 applies only to severance payments (TFR); no specific rules for defined benefit obligations (which are uncommon in Italy).	n.a. (see 1.)	n.a. (see 1.)	n.a. (see 1.)
Netherlands	Dutch Accounting Standard (RJ 271); alternatively, companies may opt to apply IAS 19 or FAS 87; it is also allowed to adopt IFRS completely on a voluntary basis; DB pensions in multi-employer funds may be accounted for as DC plans; new Dutch standard 271 to be published in 2009.	Yes	Corridor approach (optional; SoRIE option not allowed under RJ 271).	Net
Spain	Yes; new rules to be applied as of January 2008; special rules for financial institutions.	Yes	Until 2007: same as IFRS, immediate recognition in P&L was common practice; since January 2008: only SoRIE-option allowed.	Net
United Kingdom	FRS17 "Retirement Benefits".	Yes	No	Net in case of plan assets.
Switzerland	Yes; FER 16 and 26.	No; only, if pension fund is actuarially underfunded.	Yes; due to actuarial valuation.	Net
IFRS	IAS 19 "Employee Benefits".	Yes	Corridor (optional).	Net in case of plan assets.
United States	FAS 87/158 "Employers' Accounting for Pensions".	Yes	No	Net in case of plan assets.

Table continued

	3. Valuation of liabilities					
	3.1. Specified method	3.2. Guidance on assumptions	3.3. Interest rate	3.4. Salary rate	3.5. Benefit rate	3.6. Mortality rate
France	n.a. (see 2.1)	n.a. (see 2.1)	n.a. (see 2.1)	n.a. (see 2.1)	n.a. (see 2.1)	n.a. (see 2.1)
Germany	No; mostly entry age normal cost method ("Teilwertverfahren") or projected unit credit method.	Yes	No explicit rule; traditionally adoption of interest rate specified in tax code 6% p.a..	No projections required.	No projections required.	No; actuarially determined.
Italy	n.a. (see 1.)	n.a. (see 1.)	n.a. (see 1.)	n.a. (see 1.)	n.a. (see 1.)	n.a. (see 1.)
Netherlands	Yes; projected unit credit method.	Yes	Yes; market based.	Yes	Yes	No; actuarially determined.
Spain	No; recommended: projected unit credit method.	No	No; actuarially determined.	No; actuarially determined.	No; actuarially determined.	No; actuarially determined.
United Kingdom	Yes; projected unit credit method.	Yes	Yes; market based, high quality corporate bonds.	Yes	Yes	No; actuarially determined.
Switzerland	No; actuarially determined.	No	No; actuarially determined.	No; actuarially determined.	No; actuarially determined.	No; actuarially determined.
IFRS	Yes; projected unit credit method.	Yes	Yes; market-based, high quality corporate bonds.	Yes	Yes	No; actuarially determined.
United States	Yes; projected unit credit method.	Yes	Yes; market-based, high quality corporate bonds.	Yes	Yes	No; actuarially determined.

	4. Valuation of assets	5. Pensions costs	
		5.1. Explicit rules	5.2. Smoothing mechanism
France	Same as IAS 19: fair value.	n.a. (see 2.1)	n.a. (see 2.1)
Germany	Cost; fair value or actuarial value in case of external financing.	No	Yes; implicit in traditional (tax-based) valuation practices.
Italy	n.a. (see 1.)	n.a. (see 1.)	n.a. (see 1.)
Netherlands	Fair value or allocated fair value for joint, multi-employer pension funds.	Yes	Corridor (optional).
Spain	Fair value.	Yes (but only SoRIE approach for actuarial gains and losses).	Only for prior service costs.
United Kingdom	Fair value.	Yes	No
Switzerland	Fair value.	No	Yes; implicit in actuarial valuation.
IFRS	Fair value.	Yes	Corridor (optional).
United States	Fair value.	Yes	Corridor (optional).

DB = Defined Benefit; – DC = Defined Contribution; – IAS = International Accounting Standard; – IFRS = International Financial Reporting Standards; – P&L = Profit & Loss; – SoRIE = Statement of Recognized Income and Expense.

Source: Glaum, M. (2009), 300-01.

ing Standards (IFRS). The lack of precise rules for the recognition and valuation of pension obligations and pension costs, combined with relatively lenient disclosure requirements, opens up wide scope for managerial discretion and earnings management. As a consequence, it is likely that both the relevance and the reliability of pension accounting information will vary across countries.

Following the European Union's IFRS Regulation of 19 July 2002, all publicly traded companies in the European Union are required, in most cases since 2005, to prepare their consolidated financial statements in accordance with IFRS. Hence, the above-discussed national accounting standards have lost their importance for stock-listed companies. Hence, since IAS 19 is very similar to FAS 87, one could expect pension accounting, in particular, to have become homogeneous, or at least very similar, for European and US stock-listed companies. However, there are serious reasons to expect that the very different institutional environments across Europe will continue to bring about country-specific accounting practices, despite the introduction of a single set of accounting standards.

Corporate pension systems differ across countries. This may affect how companies account for pension obligations, and it may have bearings on the way pension accounting information is processed. Glaum (2009) summarises important features of the occupational pension systems of the US, the UK, and of six continental European countries. Form the viewpoint of accounting, characteristics of occupational pension systems differ across countries. There are pronounced differences in funding practices. Variation in funding ratios is partly the result of differences in pension fund regulation. Another driving force is taxation. These institutional differences have consequences for how pension obligations are accounted.

W. O.

Reference

Glaum, M. (2009), "Pension Accounting and Research: A Review", *Accounting and Business Research* 39(3), Special Issue International Accounting Policy Forum, 273–311.

New at DICE Database

Recent entries to the DICE Database

In May 2011 the DICE Database received about 80 new entries, consisting partly of updates of existing entries and partly of new topics. Some topics are mentioned below:

- Admission channels for the immigration of foreign investors
- Anti-trust policy
- Burden of government regulation
- Competition advocacy in telecommunications
- Corporate income tax rates
- Fiscal balances
- Institutional models of governance on climate change
- Taxes on international trade
- Wage replacement in case of sickness
- World competitiveness of economies.

Forthcoming Conferences

VENICE SUMMER INSTITUTE 2011
18–23 July 2011, in Venice

- **Globalisation, Trade, FDI and the Multinational Firm**

  Scientific organisers: Sjoerd Beugelsdijk, Steven Brakman, Hans van Ees and Harry Garretsen

- **China and the Global Economy Post Crisis**

  Scientific organisers: Peter Egger and John Whalley

- **The Economics of Conflict – Theory and Policy Lessons**

  Scientific organiser: Karl Wärneryd

- **Global Interdependence, Decoupling and Recoupling**

  Scientific organisers: Yin-Wong Cheung and Frank Westermann

- **Lessons from the Economics of Crime: What Works in Reducing Offending?**

  Scientific organisers: Olivier Marie and Philip J. Cook

CESifo Area Conference on Economics of Education
2–3 September 2011, in Munich

The keynote lecture will be delivered by Michael Kremer (Harvard University).

Scientific organisers: Eric A. Hanushek and Ludger Woessmann

CESifo Area Conference on Energy and Climate Economics
14–15 October 2011, in Munich

The keynote speaker will be Ujjayant Chakravorty, University of Alberta.

Scientific organiser: Michael Hoel

CESifo Area Conference on Behavioural Economics
28–29 October 2011, in Munich

The keynote lecture will be delivered by David Laibson (Harvard University) and Sendhil Mullainathan (Harvard University).

Scientific organisers: Klaus Schmidt and Ernst Fehr

New Books on Institutions

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The information of the database comes mainly in the form of tables – with countries as the first column – but DICE contains also several graphs and short reports. In most tables, all 27 EU and some important non-EU countries are covered.

DICE consists primarily of information which is – in principle – also available elsewhere but often not easily attainable. We provide a very convenient access for the user, the presentation is systematic and the main focus is truly on institutions, regulations and economic policy conduct. Some tables are based on empirical institutional research by Ifo and CESifo colleagues as well as the DICE staff.

DICE is a free access database.

Critical remarks and recommendations are always welcome.
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