CESifo DICE REPORT
Journal for Institutional Comparisons
VOLUME 9, NO. 1 SPRING 2011

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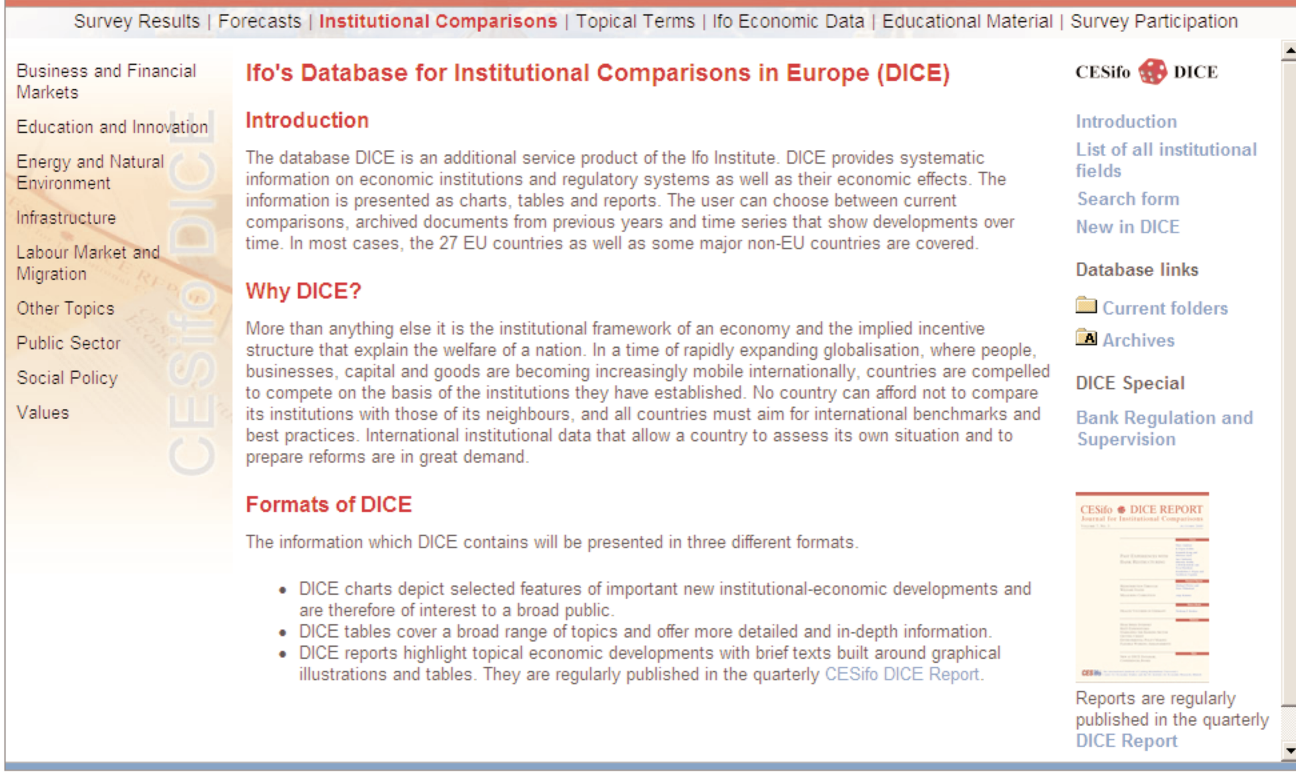

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CESifo DICE Report
ISSN 1612-0663 (print version)
ISSN 1613-6373 (electronic version)
A quarterly journal for institutional comparisons
Publisher and distributor: Ifo Institute for Economic Research e.V.
Poschingerstr. 5, D-81679 Munich, Germany
Telephone ++49 89 9224-0, Telefax ++49 89 9224-1462, e-mail ifo@ifo.de
Annual subscription rate: €50.00
Editors: Silke Friedrich, Christa Hainz, Wolfgang Ochel
Editor of this issue: Silke Friedrich (friedrich@ifo.de)
Copy editing: Anne Heritage, Paul Kremmel
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Lobbying

Lobbying: Private Interests and Public Conduct

Andreas Polk*

It is a basic tenet of democratic rights that those affected by policies have the chance to be heard. Participation also improves the decision-making process. Those affected are usually specialists closer to the issue than are generalist politicians. Well-informed decisions are not made in ivory towers, and the willingness of political actors to listen to the public is a necessary precondition of good-decision making. Otherwise there is a substantial risk that important information will not be included in the decision-making process. As a consequence unbalanced or at worst unrealistic policies emerge.

At the same time, one of the most controversial aspects of politics is lobbying and how private actors can take control of the political decision-making process. The public generally believes that influence seeking leads to biased policies catering to the interest of a few at the expense of the general public. Often this leads to the perception that certain groups ("big business", for example) unduly influence or even "buy" politics. Examples abound in many countries – I will consider two recent ones from Germany.

In the year 2000, the red-green coalition of Chancellor Gerhard Schröder reached an agreement with the German nuclear power plant operators on the phasing-out of nuclear energy production in Germany. This "nuclear consensus" supposedly ended a long-standing debate about the peaceful use of nuclear power generation, which began in the 1970s and has divided the German public for many decades. In 2009/10, the conservative coalition of Chancellor Angela Merkel decided to end this consensus and extend the deadline for phasing out nuclear power.

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Surveys indicate that the great majority of the public rejects this policy change. One reason seems to be ideas about who will profit the extension: a majority believes that the policy change benefits the four nuclear power generating companies, whereas a clear minority thinks that the lifetime extension benefits the ordinary citizen (Infratest dimap 2010a, b).

From a lobbying perspective, the circumstances surrounding the decision-making process might have spurred the idea that the lifetime extension of nuclear power plants was not justified. Aspects relating to transparency apparently played a crucial role in creating this impression. First, the government based its decision on a scientific report by the Institute of Energy Economics (EWI) at the University of Cologne (and two others). The financial structure of the EWI led to doubts about its scientific independence. Important financiers of the EWI are E.ON and RWE, which benefit greatly from the lifetime extension. The institute has never published detailed information about their financial dependency on E.ON and RWE, not even upon request. Second, the parliamentary process that ensued made the impression that urgent action was necessary. Leading members of the opposition stated that crucial participatory rights were ignored, that an orderly parliamentary process did not take place and not all relevant issues were thoroughly discussed in the parliamentary committee meetings. Third, during the debate it was revealed that the government had secretly bargained an agreement with the nuclear power industry, which provided for the redistribution of part of the extra profits generated by the lifetime extension to state finances, thereby anticipating a parliamentary decision which at that time had not yet been voted on. The existence of the agreement was made known to the public by coincidence and only subsequently revealed by the government.

These circumstances provoked numerous remarks about politicians catering too much to lobbying interests and having lost their focus on good decision making. It was not only opposition party leaders who accused the government of biased policies but also representatives of the governing coalition parties themselves. For instance, the president of the German

parliament, who is the second highest representative of the German state and a member of the governing Christian Democrats Union, stated that due to governmental pressure there was not sufficient time for consultations, leading to a suspicion of negligence in the parliamentary decision-making process. In his opinion the arguments brought forward in connection with the lifetime extension were devoid of plausibility. Important aspects of the law were negotiated rather than founded in fact (FAZ.net 2010).

A second example which underscores the importance of transparency in lobbying is the employment of external staff members in German ministries. Initiated by a former federal minister of the interior and German companies in 2004, the "Staff Exchange Program" is aimed at an interchange in personnel between the administration and industry in order to gain mutual insights into their structures and procedures and to "increase understanding of their concerns and interests" (Bundesregierung 2006). This practice, which in fact led to industry-paid staff members being lent to ministries for several months, came to the public's attention in 2006. The question arose as to whether the program serves as a means for industry to influence law making at a very early stage of the decision-making process. A supervisory process conducted by the Federal Audit Office resulted in the establishment of rules for the government: since 2008 the federal minister of the interior is obliged to annually inform a parliamentary committee about the staff employed and the terms and duration of their employment. These reports are not disclosed to the public.

These examples indicate that the institutional framework within which lobbying takes place is important. It affects substantially the welfare of the country and the acceptance of politics by the general public. Economics can provide a good tool to analyze the mechanisms underlying lobbying and how it affects welfare. But the institutional framework is also important and needs to be investigated. This puts a more country-specific aspect in the research agenda.

Is lobbying good or bad?

The question whether lobbying is harmful or beneficial is closely related to its channel of influence. First, lobbying may occur as a kind of trade, an exchange of benefits. In a seminal paper (Grossman and Helpman 1994), the politician is posited as being interested in maximizing aggregate welfare, for instance because he cares for the general public or hopes to be re-elected. He is ready to deviate from this welfare-maximizing policy in exchange for private benefits, i.e., money for his own or the party's use or anything else beneficial to him like the mobilization of swing voters. An interest group donates these benefits in exchange for policy deviation in line with the interests of that group. As a by-product aggregate welfare decreases. If lobbying occurs through this channel of influence, it is not welfare enhancing for at least two reasons.

One reason lies within the logic of the model. Without special interest groups, the politician does not face incentives to deviate from the welfare-maximizing policy. It is the existence of interest groups which brings these incentives into play, and this does not increase welfare. How harmful it is depends on different factors like the degree of organization of competing interests, the ability of the politician to favor special interests or the policy instrument at hand. If lobbying competition is strong, it does not tend to reduce welfare significantly. All interest groups try to influence politics in their favor. Since all do so, everyone is trapped in a prisoner's dilemma paying contributions just to avoid unfavorable policies in case of absence. In fact, with strong competition between opposing interests, we are tempted to take a more relaxed view of lobbying even if it involves an exchange of benefits. The opposite applies if lobbying competition is weak. Interest groups may then influence policies at low costs, resulting in effective lobbying and reduced welfare. Next consider the likelihood of the politician catering to special interests and the policy instrument at hand. If the politician cares a great deal about welfare, compensation payments for policy deviations must be high. Then lobbying is costly and less influential. That politicians care about aggregate welfare is likely to depend on the policy instrument and on the institutional framework. Suppose the general public prefers reliable and welfare-oriented politicians, and assume their behavior is easily observed. For the politician alignment with special interests bears the risk of being perceived as unreliable and greedy. It may also play a role if the policy is technically difficult to understand or can be communicated without difficulty. In the latter case, transparency is high, and lobbying tends to be less harmful.

The second reason why lobbying may be harmful, if it is carried out as a trade, is beyond the scope of the model. It is of no less importance and takes into ac-

count the responsibilities and duties of politicians and bureaucrats alike. State representatives receive their mandate from the general public, conferred through elections or by a service commitment to the state. They are agents on behalf of the general public, a role which is coincidently accompanied by power. It is not the power of a private person acting in a private sphere, but that of an agent committed to the tasks and duties for the best of the citizens. It is bestowed upon the person and temporarily awarded, but not deserved. As a result of this relationship between the agent and the general public, it is presupposed that personal benefits are not gained from office and expected that dignitaries adhere to this principle. If lobbying occurs as an exchange of public benefits for the official's own or the party's benefits, he violates the implicit contract between himself as an agent and the citizen as the principal. Not only is it detrimental to the participants of the contract, it also involves a more general implication. Democracy rests on participation and relies on the identification of the citizen with government representatives. If lobbying exploits this relationship, identification may deteriorate and lead to a general disenchantment with politics. In a worst-case scenario lobbying could undermine democracy. Of course, it is impossible to legislate personal integrity, but a transparent institutional framework will no doubt promote openness and discourse.

This view of lobbying changes if it takes place through its second channel of influence – the transmission of information (Potters and van Winden 1992). Politicians are generalists who rely on information which experts provide. Since independent and reliable information is not always available, it may be beneficial to listen to information even though it is most likely biased. Information transmission may occur in vastly different forms, for instance as mass movements like demonstrations (indicating public preferences) or as statements, scientific reports or face-to-face communication. If the politician is able to extract the reliable part of the content, lobbying tends to be welfare enhancing. It reduces the risk of misaligned policies and increases the quality of the decision-making process. The beneficial effect tends to be stronger with intense lobbying competition. Political institutions should thus be open and provide fair, equal and timely access to all involved groups.

Lobbying still has shortcomings even within the second channel of influence and with open institutions. Since Olson (1965) made his famous statement about the group formation process, we should be skeptical about the idea that anyone with a specific interest will be able to formulate his view and participate in the political process. Small groups with strong and focused interests find it easier to overcome the free-rider problem associated with political action than do large groups with minimal cohesion. Thus, even if lobbying occurs as information transmission and tends to be welfare enhancing, issues of participation are crucial. Underlying asymmetries in political representation and the unequal distribution of power, for example, are often (though not always) manifest as business interests versus those of consumers or environmental interests.

Institutions matter: The role of transparency

Open and transparent institutions governing influence-seeking activities promote welfare. They enhance the decision-making process and strengthen the reliability of the political system. But there are other, unresolved issues: first, even with the best possible degree of transparency, there is still the problem of the inherent asymmetry of interest representation as referred to by Olson. Second, although it is clear that a high degree of openness and transparency is beneficial, the question of how to best implement it institutionally is not easily answered. Third, the fact that the political system and the institutions governing influence-seeking activities differ across countries hamper a uniform empirical and institution-based research approach, especially for Europe. Many contributions refer to the US, and thus the insights for European countries are relatively sparse. Institution-related research may be less attractive for a profession which earns its spurs in international publications. However, it is of no less importance.

I would like to discuss some transparency-related issues in the institutional context of Germany. Let us examine transparency within the first channel of influence: additional incomes earned by members of parliament (MPs). In 2005, the German parliament made the decision to increase transparency with respect to the additional incomes of its members. According to this rule, which came into effect in 2007 after the failure of a group of MPs to question its constitutionality, every MP is required to provide a report about his additional income. Any activity which takes place outside parliament is reported as well as the amount of income generated. There are no details given, but the amounts range from EUR 1,000

to 3,500 (step 1), EUR 3,500 to 7,000 (step 2) and more than EUR 7,000 (step 3). Although publication of the data increases transparency, the decision not to break down income above EUR 7,000 appears arbitrary and less transparent. (Nor is there a justification for this restriction in the wording of the law.) As it is likely that the incomes of influential MPs lie substantially above these amounts, the law obscures the real income situation. A higher degree of transparency would be possible at very low costs.

The publication of this data has led to research with the aim of identifying patterns of payments. (It also reveals that, exceptions aside, most of the members did not receive excessive outside earnings). Personal characteristics of the MPs, like party affiliation, explain the differences in activities and earnings (Mause 2009). For instance, MPs from the Christian Democrats Union and the Liberals engage more often in economic-related activities than members of other parties, but they differ according to average earnings. The average earnings of the ruling parties do not differ much and are significantly higher compared to those of the parties presently in the opposition. The question of whether these are party-specific effects or related to the individuals in office cannot be determined, since there are as yet no time series available. The duration of parliamentary membership also plays a role and is positively correlated to earnings. The extent of electoral competition influences outside activities as well (Beckers et al. 2009). MPs facing less political competition tend to engage in more outside activities.

We will now examine the second institutional aspect, the creation of a lobbying register. It relates to the second channel of influence and aims at increasing transparency by publishing data about lobbyists and their activities. The question is how to design an institution that allows for the publication of meaningful and timely information at reasonable costs. The existing practice, a list of registered lobbyists at the federal parliament, does not provide useful and timely information about lobbying activities (for instance statements provided to politicians). At the European level, the same applies to the creation of a transparency register, even though the Joint Working group of the European Parliament and the European Commission recently agreed to a draft proposal for publishing data which also includes aggregate money expenditures.

To obtain a better understanding of the issues at hand, timely access to relevant lobbying activities are important. (Publication in retrospect is interesting in terms of research, but less appropriate in terms of critically monitoring good decision making and public participation.) To a substantial extent, lobbying takes place as the provision of information, often informal and in bilateral talks. How can a lobbying register cover these activities and be feasible? Is it suitable to make any paper written by an interest group available to the public? What about accessibility – information covering who meets whom? Would it be beneficial, for example, for government members to inform the public about who attends their meetings? If so, who should be affected by such a rule – just the executive branch of the government or ordinary members of parliament as well? Successful lobbyism not only occurs at top levels but also to a substantial extent at the lower levels of administration. There are good reasons to make more information available, but the details of appropriate procedures are difficult to determine and require debate.

A third institutional issue also relates to the practice of “revolving doors”. As the employment of external staff members in German administrations indicated, there are good reasons to believe that lending paid staff does more harm than good, especially if the public is not informed. If the administration needs external expertise, it could use alternative means like expert hearings or consulting services. This may create costs, but employing staff who only pretend to be objective is considerably worse. The revolving door practices also affect the activities of officials after their terms end. The free choice of the employer is a basic right which former politicians and bureaucrats enjoy as does everyone else. However, it is likely that an official will have gained access to confidential information, such as business secrets. If a general phase-out period is needed, what is best in terms of duration and coverage? Institutional questions are rife with lobbying issues. They are difficult to solve, but crucial for the quality of the decision-making process and the effect that lobbying may exert.

Conclusions

Lobbies, whether business or grass-root organizations, represent particular interests. Whatever strategy appears best from a group’s perspective, the public conduct of a lobbyist is likely to be that of someone pretending to act on behalf of the general public. We should be critical of this, but there are good reasons to take a more relaxed stance if lobbying is transparent and open to all interests.

The discussion of political institutions is country specific, but transparency plays an important role. First, the availability of comprehensive and timely information about who receives money from whom is crucial. This applies both to party donations and MP's additional incomes. Second, there is a need for effective rules governing the revolving door practice, specifically the trade-off incentives for those officials catering to special interests during their terms and the freedom of choice after their terms have expired. Third, there is a need to improve transparency concerning who has access to whom and the information provided to politicians. Modern communication technology may offer a new perspective on this issue.

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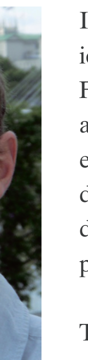

The Power of K Street: New Research on the Economics of Lobbying

Jordi Blanes i Vidal*,

Mirko Draca* and

Christian Fons-Rosen**

Introduction

Political lobbying is as old as government. Indeed, in the United States, lobbying is protected under the right of petition in the First Amendment of the Constitution. While the term originated in Britain – where it was used to describe the cajoling of MPs in the lobbies of the House of Commons – nowhere have lobbyists reached a more evolved state than on "K Street" in Washington, DC.

In this article we review new research on the economics of lobbying in the US, focusing on activity at the Federal level. Significant improvements in data availability are promising to make this topic a new focus for empirical political economy research in the next decade. This promise is also enhanced by Washington's dynamic political environment, which offers many opportunities for defining novel research designs.

The comprehensive reporting of lobbying expenditure first began with the passing of the 1995 Lobbying Disclosure Act (LDA). Since this time the US federal lobbying industry has experienced startling growth. Between 1998 and 2009, lobbying expenditures approximately doubled, reaching USD 4 billion a year. Most recently, the Obama administration's attempts to reform the health care and financial services industries have stimulated lobbying spending in those sectors. In turn, these recent debates on health care and financial reform have been marked by sharp criticisms of the role of staffers-turned-lobbyists in watering down the bills.

A secondary outcome of the LDA has been that it has made new data available on both the organisations that spend on lobbying and on the professional profiles of lobbyists themselves. Independent non-partisan organisations such as the Center for Responsive Politics (CRP), the Sunlight Foundation and Legistorm have played an important role in consolidating the raw data released under the LDA and promoting its availability. So far, we can classify research using this LDA-derived data into two areas: work on the economics of legislative reform and research on the professional careers of lobbyists. We consider each of these areas in turn.

The economics of legislative reform

The 2008 financial crisis provides a good setting for studying the links between lobbying spending and legislative change. The IMF study by Igan, Mishra and Tressel (2009) provides a significant contribution here. They study the relationship between lobbying by financial institutions and trends in mortgage lending in the period leading up to the 2008 crisis. Their analysis has two main strands. Firstly, Igan et al. (2009) examine whether mortgage lenders who engaged heavily in lobbying also had an ex ante association with risk-taking. The propensity for risk-taking is measured in terms of loan-to-income ratios, proportion of loans sold and mortgage loan growth rates (i.e., credit expansion). They find that lobbying is associated with each of these measures. In the second strand of the analysis the authors look at lobbying and the ex post performance of mortgage lenders. Here they study area-level delinquency rates and abnormal stock returns during four financial crisis events between 2007–08. In both cases they find associations between lobbying lenders and the given outcome variables.

Overall, the findings of Igan et al. (2009) are consistent with a moral hazard story, that is, lenders pursuing a strategy of rent-seeking lobbying combined with subsequent risky lending. This could be sup-

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ported either by mechanisms such as (i) the expectation of preferential treatment by lenders in case of a crisis (i.e., higher bailout probabilities); or a strategy of "short-termism". In the latter strategy lenders lobby to create weak regulatory environments that open up opportunities for short-term gains based on risky lending structures. While alternative explanations to the moral hazard approach can be advanced (for example, that lobbying lenders were also specialised in riskier areas of the market) additional evidence by Igan et al. (2009) suggests these alternatives are less plausible. In summary then, Igan et al. (2009) provides an in-depth empirical illustration of lobbying as a rent-seeking activity.

Other recent research in this area has focused on campaign contributions as a measure of special interest activity. The work by Mian, Sufi and Trebbi (2010) tracks how mortgage industry campaign contributions were associated with congressional voting behaviour on financial bills. This pattern of contributions occurred in tandem with the district-level distribution of sub-prime borrowers – the mortgage industry targeted those legislators whose constituent interests lined up with their own policy preferences. The paper by Maheshri (2010) takes a more general look at the legislative process, again using campaign contributions as a measure of special interests but also focusing on agenda setting. He argues that the obstruction of bills in Congressional committees is a major engine of legislative influence by special interests.

Professional careers and the "revolving door"

The movement of political staffers from roles in the government to lucrative jobs in the lobbying industry is often described as a "revolving door". This flow of money and staffers towards Washington's lobbying firms has led to concerns that corporations and other organisations are able to buy influence and acquire privileged access to serving politicians.

The existence of the revolving door raises several concerns. Firstly, career concerns in the lobbying industry can potentially affect the actions taken by serving government officials (Leaver 2009). Secondly, the prospect of post-government monetary windfalls can change the type of people that are attracted to public service (Casselli and Morelli 2004; Besley 2005; Keane and Merlo 2007; Matozzi and Merlo 2008; Kaiser 2009). Thirdly, the disparity of access and influence over elected representatives creates ethical issues and perpetuates the impression that political decision-making is controlled by a tightly knit elite, thus undermining popular support for democratic institutions.

The most common criticism of former staffers is that they are simply trading on their political connections. But lobbyists often dispute this notion. They claim instead that their earnings reflect expertise on policy issues and the inner workings of government in general. In other words, they argue, it is "what you know" not "who you know" that matters. Salisbury et al. (1989) use a survey to argue that policy and process knowledge are regarded by lobbyists as more important than personal connections.

Empirically, the issue of separating the "what you know" from the "who you know" is a challenge for researchers. A plausible argument can be made that former staffers would be high earners even if political connections did not matter. The specific problem here is separating the effects of ability and expertise on earnings from those of acquired political connections. Generally, earnings or revenue data only allow us to observe the effects of both factors together.

In a recent paper, Eggers (2010) provides some evidence that connections to the ruling political party are particularly valuable. In particular, he finds that the share of total lobbying revenue pocketed by lobbyists with political connections to the Democratic party is higher when the Democratic party controls Congress and the White House. For ex-staffers, this is particularly the case in non-ideological issue areas, whereas for ex-congressmen, the correlation between control of government and the partisan composition of lobbying occurs across all issue areas.

One alternative way to identify the effect of revolving door connections is to look at the impact of a serving politician's exit on the lobbying revenues of his or her former staffers. The point at which a politician leaves office provides a window for examining the specific role of political connections. If a politician is no longer serving in Congress, then the political connection held by their former staffers should be in effect obsolete.

This is because the politician in question no longer has direct influence over legislative outcomes or the content of congressional debates. In turn, this means that in cases where gaining access is a goal of special interest groups, lobbying spending will move away from lobbyists affiliated with exiting politicians and towards those with still current connections.

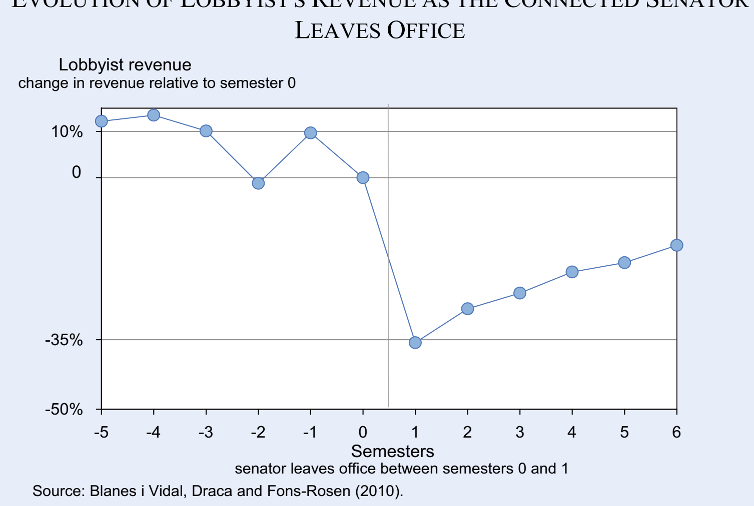
Blanes i Vidal, Draca and Fons-Rosen (2010) use this "identification strategy" to estimate the value of political connections. They find that lobbyists suffer an average revenue loss of over 20 percent when their former political employer leaves Congress. In dollar terms, this translates into USD 177,000 per year for the typical lobbyist's practice. Furthermore, this effect is persistent for at least three years – it seems that it is difficult for lobbyists to offset the impact of a lost political connection.

This impact is demonstrated in the Figure which shows the semester-by-semester change in lobbyist revenues for the periods before and after a senator leaves office. The Figure shows that there is a sharp drop in revenues in the period immediately after the senator's exit (more than 25 percent). Furthermore, there is only a limited "mean reversion" over the next five semesters.

A key concern of this approach is that their may be "shared trends" between politicians and their former staffers-turned-lobbyists. For example, low ability staffers could sort towards employment with low ability politicians whose political fortunes may be in decline. In turn, the revenue shock observed may be the result of an ongoing downward trend associated with a particular politician. However, the clear discontinuity observed at the point of exit rules out the presence of such trends.

Further results indicate that that proximity to power matters for lobbyists. Specifically, the size of the revenue effects increases with the importance of a politician. For instance, senators are more valuable than representatives and, even within the two chambers of Congress, more senior politicians – defined in terms of either tenure or committee status – are more valuable than their junior counterparts. Unsurprisingly, ex-staffers turned lobbyists are more likely to exit the lobbying industry when their previous employer has left Congress.

Figure



Source: Blanes i Vidal, Draca and Fons-Rosen (2010).

Conclusions and future research

In the US, new data released under public disclosure laws – in particular Lobbying Disclosure Act (LDA) of 1995 – has facilitated the development of empirical research on lobbying and special interest politics. Notably, non-partisan organisations like the Center for Responsive Politics (CRP), Sunlight Foundation and LegiStorm have done further important work improving access and promoting usage of the data. This data can potentially be used to provide a check on the use of power by government officials.

Researchers now have the possibility of combining datasets across a number of sources to search for statistical patterns such as those we find for politically connected lobbyists. As a result, this takes public scrutiny to a new level. We can try to find important information and behaviours "hidden" in the data. Hence, one major consequence of laws such as the 1995 Disclosure Act is that they make independent research and evaluation of political questions possible.

Though its focus is on Washington, the emerging research agenda on lobbying and special interests is relevant to policy-makers and regulators in other countries. However, this is impeded by a lack of data. For example, the type of research surveyed in this article would not be possible in the UK since the government simply does not demand the registration and reporting of lobbying activity at the same level as in the US. This has allowed lobbying in the UK to take place as a sort of shadow economy, as the recent "cab-for-hire" scandal – where Ministers were secretly recorded selling their service – showed. While their have been efforts to improve disclosure in the UK, Australia and Canada the relatively long history of disclosure in the US means it will remain the main focus of research.

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Lobbying versus Corruption

Francesco Giovannoni*

Lobbying and corruption – A general framework

Lobbying and corruption are important features of many societies and political systems as they constitute the main means, other than voting, through which private citizens can influence certain parts of the state apparatus. Yet, for all the vast literature in economics (Grossman and Helpman 2001; Potters and Sloof 1996; Aidt 2003) or political science (Treisman 2007) dedicated to each of these two phenomena, a clear understanding of the similarities and differences between them seems to elude us.

A possible explanation for this is that differences between lobbying and corruption, if any, are unimportant. Indeed, this is a view that has had some implicit backing from theoretical work in economics: its most successful model of lobbying (Grossman and Helpman 1994) could equally be a model of corruption. In it, lobbyists influence politicians' policy-making decisions by providing them with resources. The model only assumes that politicians care about these resources, but it does not need to specify what they are or why politicians are interested in them. In particular, these resources could equally be money that politicians use to finance their campaigns or, more simply, bribes.

A more plausible explanation, however, is simply that for most people the difference between lobbying and corruption lies in the fact that lobbying is a way of seeking influence which is accepted within the laws of a given country while corruption is illegal (see the discussions in Lambsdorff 2002 or Begovic 2005). In trying to understand the underlying differences between these two phenomena, the fact that something is legal or not, does not seem a useful distinction in itself, particularly as different legal systems will disagree on specific examples, but it does suggest that the underlying difference between lobbying and corruption might be in the means used to obtain influence.[1] Therefore, lobbying might be defined as a series of activities that influence the decision making of state representatives but which do not provide these representatives with direct gains. Corruption, on the other hand, consists precisely of those activities that provide direct gains. Thus, providing politicians with expert advice in order to influence their vote on a specific piece of legislation will be interpreted as lobbying while paying the same politicians to vote in a certain way will be defined as corruption.

Useful as this distinction may be, it is still capable of generating confusion. Going back to our previous example of campaign contributions versus straightforward bribes, one could ask to what extent campaign contributions really differ from bribes as they provide politicians with a direct benefit, especially if those politicians are really more interested in the power provided by the offices they are elected to than in the money.

If discriminating between lobbying and corruption by the means they employ can sometimes generate confusion (because in many cases it is not clear how different these means really are), another possibility is to distinguish lobbying from corruption by the targets of their rent-seeking activity. In recent work (Damania, Fredriksson and Mani 2004; Campos and Giovannoni 2007 and 2008; Harstad and Svensson 2010), the distinction proposed is one where corruption is defined as all of those rent-seeking activities directed at rule enforcers while lobbying is rent-seeking activity directed at rule makers. Of course, this distinction does not necessarily correlate well with a distinction based on the means employed in rent-seeking: it would be possible, for example, to define lobbying as paying bribes to politicians, which many would define as (political) corruption. The distinction proposed here is, however, very useful for several reasons, some con-

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[1] Begovic (2005), however, emphasises that there are important consequences stemming from the fact that lobbying is legal while corruption is not. For example, the latter will require higher transaction costs, or be less transparent than the former. The distinction between what is legal and what is illegal, nevertheless, must be determined by the underlying characteristics of the two phenomena, not by the source of such characteristics.

ceptual, others that relate to the possibility of resolving substantial issues in the empirical literature on both lobbying and corruption.

At the conceptual level, the distinction is important because it raises a natural question: if lobbying and corruption are both risk-seeking activities which operate with different targets, are they complements or substitutes? The argument that they should be complements (Damania, Fredriksson and Mani 2004) is based on the notion that lobbying is mostly directed at laws that undermine law enforcement, so as to make corruption easier. The argument that they should be substitutes (Harstad and Svensson 2010) relies instead on the idea that lobbying enables the lobbyist to change the rules, thus making corruption redundant.

In the final section, I will discuss the empirical evidence which provides some support to the notion that lobbying and corruption are indeed substitutes. In light of this, it is worth exploring some of the consequences of these findings. In the Harstad and Svensson (2010) framework, the choice between lobbying and corruption is driven by two contrasting forces. On the one hand, corruption is inherently cheaper because, for example, lobbying politicians to change a given tax law can be a significantly more expensive activity than paying bribes to a tax inspector. On the other hand, once lobbyists have succeeded in influencing politicians to their advantage, they can be confident that the law will be difficult to modify. Similarly, we can assume that a corrupt tax inspector will be probably be asking for another bribe at every opportunity. In other words, lobbying will be more expensive, but will also be more effective. The consequence is that lobbying will tend to be chosen over corruption by larger firms and in more developed countries. However, additional consequences of this substitutability can be explored by taking political institutions into account.

Lobbying, corruption and political institutions

Specific political institutions, by making it more or less difficult to pursue lobbying, will have an impact on rent seekers' decisions to lobby or choose corruption. This link between political institutions, lobbying and corruption (Campos and Giovannoni 2008) is of particular interest because it provides a new twist on the significant literature dealing with political corruption.

One of the main issues is that the most popular measure of corruption that are used in these studies (country-levels perception of corruption) can include both what we define as corruption but also what we define as lobbying.[2] The implication is that in many cases these previous studies cannot really address the question of whether political institutions matter for lobbying and corruption. This is because the measure of corruption utilised may not actually capture the ability of rent seekers to influence politicians but may instead be more related to lower level corruption. If rent seeking at the political and at the enforcement level are substitutes, then there is a significant risk of confusing the two issues because a particular institution which makes lobbying (or political corruption) more difficult might actually end up encouraging corruption at the law enforcement level. This leads to another advantage of the distinction between lobbying and corruption proposed here: by focusing on the level at which rents are being sought, it allows for predictions for the effect that political institutions have on lobbying and, through substitutability, on corruption.

One of the most important questions in the literatures that link lobbying and corruption with political institutions is whether the strength of the institutions themselves impacts on lobbying or corruption. In other words, how do the strengths and weaknesses of the democratic process interact with lobbying and corruption? At first, the answer to this question seems to be straightforward: stronger democracies have stronger checks and balances, voters are better able to monitor what happens at the political level, respect for the rule of law is stronger and so democratisation should help reduce both lobbying and corruption. It is easy to see, however, that there must be some caveats to this simple statement. In particular, one can make the argument that in the initial phase of democratisation, corruption might be encouraged because more democracy means less law enforcement effectiveness. Also, democracy might bring new forms of corruption, such as vote buying, which would be quite unnecessary in an autocratic regime. More generally, many have argued (Treisman 2007; Montinola and Jackman 2002; and Sung 2004 are just three examples) that the relationship between democratisation and corruption may be non-linear. To complicate matters further, the aforementioned issue of what type of

[2] Treisman (2007), who provides a summary of the empirical results with regard to the relationship between political institutions and corruption, discusses this issue.

corruption is really intended must be taken into account. With the distinction between lobbying and corruption as defined here, it is clear that these arguments tend to have more relevance for lobbying rather than corruption. Democratisation is more likely to have an impact on lobbying because this is the phenomenon where the relationship between firms and politicians is direct and more sensitive to democratic institutions: bureaucrats are only very partially accountable even in the most developed democracies, while the difference between accountable and unaccountable politicians has an enormous impact on their willingness and ability to receive rents from firms.

Another democracy-related variable of interest here is whether the country has a more or less independent media. Theoretical work (Besley and Prat 2006) has emphasised the positive effect of independent media on the level of political corruption. Empirical work (e.g., Brunetti and Weder 2003) finds evidence of that relationship. Here too, however, the country-level measures of corruption used so far do not capture the distinction between lobbying and corruption proposed in our paper. When this distinction is made, we would expect independent media to have a stronger negative effect on lobbying than on corruption as the former is the much more likely target for media interest.

It is clear that many of the issues that apply to the interaction between democratisation and lobbying/corruption also apply to the notion of the stability of the political system itself (Olson 1965). There is, however, a separate notion of political stability and that has to do with how much alternation between political parties there is in the system. As pointed out above with reference to the Harstad and Svensson (2010) framework, lobbying gains effectiveness whenever there is less alternation because then legislative commitments taken by ruling politicians are more reliable. Della Porta (2004) makes the point that in a system where party identification amongst voters is low, political corruption will tend to be higher. If these two observations are put together, one might identify two opposing effects: a political system where ideologies do not matter very much is inherently more favourable to lobbying, but if we assume (as is natural to do) that weak ideologies will lead to frequent change in personnel, this will lead to less lobbying, not more. Which of these effects will dominate is an issue for empirical analysis to resolve.

One particular important class of institutions is that of government forms. Bennedsen and Feldmann (2002) argue that in congressional systems lobbying is easier because policy making is made by forming coalitions on a specific policy and lobbying might be useful in clarifying benefits and costs to different policy makers. The consequence is that it becomes easier for the policy supporters to set up a supportive coalition. In a parliamentary system, where there is a confidence procedure, it is much more difficult to set up ad-hoc coalitions for different pieces of legislation and so the information that lobbies may provide is less useful. Helpman and Persson (2001) study how the internal organisation of parliaments affects lobbying efforts. They argue that in (US-style) congressional systems, policies tend to be more unevenly distributed than in parliamentary systems and that lobbying reinforces this effect. To the extent that one can imagine lobbyists to be more likely to be the winners in the process of legislative bargaining, one can conjecture that congressional systems provide more incentives for lobbying. Kunikova (2006) and Persson, Roland and Tabellini (1997 and 2000) both address the impact of an independent executive (a president) on lobbying. The former argues that presidents are not accountable to a coalition because they cannot be removed by the legislature and because the legislature also needs their cooperation for the policy making process. Therefore, presidents can find it relatively easy to pursue rent-seeking activities. The latter, on the other hand, argue that checks and balances reduce the opportunities for lobbyists to seek special favours because i) they make it more clear to voters who is accountable for policy-making decisions and ii) they provide a process whereby it is more difficult for different politicians to collude at the general public's expense.

Another major institutional component that has been explored is the role of the electoral system. There is substantial literature documenting that the main mechanism through which electoral systems affect lobbying opportunities is again that of political accountability. Persson, Tabellini and Trebbi (2003) argue that decreasing district magnitude is associated with more lobbying because as district magnitude decreases, fewer and fewer parties can hope to challenge. This gives voters less choice and makes it harder to hold politicians accountable. At the same time, closed-party lists where voters do not have a direct choice of candidates and can only vote for a given party also reduce accountability and make lobbying relatively more effective. Kunicova and Rose-

Ackermann (2005) agree that closed-party lists are inherently more amenable to lobbying but also argue that in majoritarian systems politics is more adversarial and less consensual because of the small number of parties and so monitoring of one side by another is stronger. In other words, in majoritarian systems we are less likely to see parties covering each other's backs and therefore we are likely to have more accountability. Moreover, the large number of parties reduces accountability because it also makes it more difficult to attribute responsibility to specific parties or politicians. So, we should expect an unambiguously positive effect of closed lists on lobbying. Higher district magnitude (which correlates highly with proportionality) is expected to have a negative effect on lobbying if the effect highlighted by Persson, Roland and Tabellini (2003) dominates and a positive effect if the effect highlighted by Kunicova and Rose-Ackermann (2005) dominates.

A third major institutional characteristic is the level of (de)centralisation in a given country. The recent literature, both theoretical and empirical, has so far given contrasting results in analyzing the relationship between federalism on the one hand, and lobbying and corruption on the other. Once again, one of the main problems has been that the literature has not taken into account the distinction between factors that have a strong relationship with political institutions and factors for which this relationship is weaker because the counterparts are bureaucrats, not politicians. This is particularly important here because some arguments that have been put forward in discussing the relationship between federalism and lobbying or corruption, critically depend on this distinction. Thus, for example, one could argue that decentralisation has a negative impact because it reduces the quality of bureaucrats. Or one could argue that yardstick competition between different local entities has a positive impact. Clearly, the first theory is more relevant to what we have defined as corruption, which would be likely to increase, while the second theory would be more relevant to our notion of lobbying because politicians are more vulnerable than bureaucrats to pressure from voters if their locality is underperforming. Thus, we would expect a reduced ability to lobby. Furthermore, a decentralised system should make lobbying more difficult because a politician's ability to commit to certain policies is more limited when others up and down in the hierarchy can change things.

The evidence

We have already mentioned that Campos and Giovannoni (2007) show that the effect of corruption on lobby membership is very important and supports the notion in Harstad and Svensson (2010) that lobbying and corruption are substitutes. They do this in the context of the transition countries, so that countries at different levels of development are considered. The result that corruption and lobbying are substitutes can be reconciled with that of Damania, Fredericksson and Mani (2004), who suggest the opposite because they are unable to capture the impact of lobbying specifically and thus the link between political instability and corruption they discover may not be mediated by lobbying. In addition, Campos and Giovannoni (2007) can take advantage of data at the disaggregated level, while Damania, Fredericksson and Mani (2003) utilise country level data.

Campos and Giovannoni (2008) focus primarily on political institutions. They show that lobbying is more likely in democratic countries, where the media are independent and in contexts in which the overall political process is more democratic. The opposite scenario is true for corruption. Political instability does not have much of an effect on lobbying but it has a positive effect on corruption. If we consider the relationship between lobbying, corruption and political institutions, one of the main concerns is the impact that forms of government have on the choices firms can make in terms of lobbying and corruption. The evidence suggests that lobbying is favoured when the executive has fewer veto powers while corruption is more prevalent when the executive has greater veto powers. There is also evidence that federal or decentralised states favour lobbying over corruption. In general, lobbying seems to be more effective than corruption in pure parliamentary and presidential systems. The reverse is true in semi-parliamentary and semi-presidential systems. The most natural explanation for this phenomenon is that the latter systems are inherently less stable.

With respect to electoral rules, there is evidence that systems with closed lists reduce accountability for politicians and thus are more conducive to lobbying. But systems with closed lists are not less conducive to corruption. This case contradicts the hypothesis that corruption and lobbying are substitutes. For district magnitude, the results seem to be in line with Persson, Tabellini and Trebbi (2003), who emphasise the positive effect of district size on reducing lobby-

ing: these results again emphasise substitutability in that the effect on corruption is reversed. Finally, Campos and Giovannoni (2008) also show that firms in their sample systematically point to lobbying as the most effective way of exerting political influence.

Conclusions

Based on our discussion of the relationship between lobbying and corruption, we argue that the fundamental difference between these two phenomena has to do with where influence is being sought. In particular, we think lobbying is a rent-seeking activity aimed at rule makers whereas corruption is a rent-seeking activity aimed at rule enforcers. Our discussion emphasises the advantages of this distinction and, in particular, the fact that thus defined, lobbying and corruption are substitutes. The main advantage is that by focusing on this particular feature, it is possible to understand the relationship between lobbying and corruption on the one hand, and political institutions on the other.

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Campaign Contributions – What Do They Buy and Should They be Capped?

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Quite predictably, stories surrounding scandals about money in politics keep resurfacing in the headlines of newspapers. In 2009, for example, two peers were suspended from the House of Lords for six months after being accused of offering favors for cash. A Lords committee found them guilty of being willing to change laws in exchange for cash. Another example comes from the US, where in 2005 Representative Randy "Duke" Cunningham pled guilty to bribery and resigned from office. Cunningham had sold his house to a defense contractor for USD 1.6 million, at which point the contractor immediately sold the house again for a loss of USD 700,000. The transaction was said to be payback for Cunningham, who had previously influenced the awarding of a Pentagon contract in favor of the contractor. Obviously the question arises whether these anecdotes are merely stories of a few renegade legislators who broke campaign finance laws, or whether these stories represent just the tip of the iceberg of a corrupt system in which contributors and legislators exchange money for political favors.

In the US, concern about the influence of special interests on politics, through the vehicle of campaign contributions, is amplified by the rapid rise in the campaign expenditures of candidates running for office. The rising campaign expenditures are especially noteworthy in US presidential campaigns. While President Bill Clinton and Republican challenger Senator Robert Dole spent USD 80 million altogether in 1996, just four years later, candidates George W. Bush and Albert Gore spent USD 307 million campaigning for the presidency. By 2004 the expenditures of Senator John Kerry, the opponent of incumbent Bush, amounted to more than USD 550 million and in the 2008 election, Democrat Barack Obama and Republican John McCain spent over USD 1.1 billion on their election campaigns. And it is all but certain that these record amounts will be easily surpassed in the 2012 election.

The topic of campaign contributions and campaign spending has received new scrutiny since the 2010 US Supreme Court decision *Citizens United v Federal Election Commission* (130 S.Ct. 876, 2010), which allows corporations and unions to spend unlimited sums on advocating the election – or the defeat – of a candidate. The Citizens United decision was so controversial that President Obama explicitly criticized the Supreme Court justices about this landmark decision during his 2010 State of the Union address.

Theory is useful in helping us examine under what conditions political favors are granted in return for campaign contributions (for example, Grossman and Helpman 1994, Austen-Smith 1987, Coate 2004). However, depending on the assumptions in the models, theory can also lead to conflicting predictions regarding the role of money in politics. Theoretical predictions about the effect of contributions on policy are very sensitive to assumptions about the objectives of candidates, whether their positions are immovable or not, to what extent the voters are rational, the type of electoral competition and electoral institutions, the goals of contributors, and the role of advertising in inducing voters to change their voting behavior, and to what extent voters can punish candidates for not following their platforms.

One of the perhaps oldest lines of research in the area of campaign contributions and special political favors is the examination of the effect of campaign contributions on voting behavior. Academic work started out by analyzing the influence of campaign contributions on policy decisions by correlating campaign contributions with the voting record of legislators. This research agenda faces several challenges. One is that of causation. Do contributions cause changes in voting behavior or do contributions simply reflect the policy positions held by legislators? In the latter case, a positive correlation between contributions and voting for the contributor's interest merely re-

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flects that the contributor donated money to those who have the same policy positions as the contributor.

Some studies address the causation issue using instrumental variable methods. But both studies – those that address the causality issue via instrumental variables and those that do not explicitly address this issue – have found mixed evidence for the hypothesis that contributions have a corruptive effect on voting behavior in the legislature (Ansolabehere et al. 2003). A meta analysis of a large number of studies on these issues has found, however, that contributions influence legislative voting behavior (Stratmann 2005).

Nonetheless, the mixed findings suggest that legislative voting behavior is not primarily determined by special interest contributions. Especially on issues that are visible to the public and where the public has an interest in the issue, such as abortion legislation or gun control, money has probably little influence on legislative voting behavior and especially here, the interested parties give to those politicians who they know will support their cause. When voters are aware of an issue, and thus closely monitor their representatives, contributions are unlikely to affect anything as visible as a vote in a legislature. An effect of money on voting behavior is more likely to be found with issues that are not of high salience to voters. Further, it would be advisable to look at issues where the benefits of the decision are concentrated and costs disbursed. When the costs of decisions are disbursed, voters face a weaker incentive to monitor their representatives.

One way of overcoming the nagging causation issue – that the allocation of campaign contributions may simply reflect legislators' positions – is to hold representatives' positions constant, and examine whether they alter their vote for or against special interests when they receive higher or lower contributions from these interest groups. Stratmann (2002) does so by examining votes on financial services legislation. Financial services legislation is an issue of relatively low salience, especially prior to the financial meltdown in 2008, and an issue area where voters do not necessarily closely monitor how their representative votes. Stratmann (2002) investigated the repeal of the Glass-Steagall Act, which separated commercial banking from investment banking. He identified two nearly identical bills, one from 1992 and one from 1998, to repeal this act. US House representatives had voted on the repeal of this act in those years. Banking interests favored the repeal of the Glass-Steagall Act, while investment banks and insurance companies opposed it. Between 1992 and 1998 some legislators received an increase (or decrease) in contributions from the special interests favoring or opposing the repeal of the act. The results of the study show that legislators who received an increase in banking contributions from the time the first vote was cast to the time the second vote was cast had a higher probability of favoring banking interests on the second vote than on the first. And representatives who received an increase in contributions from insurance and investment bank interests were more likely to oppose the repeal of the act in 1998 than in 1992.

But voting is only one dimension of legislative work. Voting is studied because it is easily observable, but also because it is the best measure of interest group influence. Other aspects, not as easily observable as voting, such as talking to bureaucrats, spending time advancing the agenda of special interests behind closed doors, and inserting specific language into bills, are clearly important and because they are less likely to be observed by voters, it may be in this area that money has the largest influence on politics.

Money donated to advocate the election or defeat of a candidate is different from contributing to the candidate. While the winning candidate may be grateful to the corporation that advocated defeat of his opponent, a direct quid pro quo may be less likely if the corporation gives the money directly to the politician.

Another approach for testing the importance of contributions is to link contributions to stock market performance. Scholars have started to examine the effect of corporate campaign contributions on the fortunes of the contributing firms. These works include an interesting study by Jayachandran (2006). Using the unexpected departure of Senator Jim Jeffords from the Republican Party in May 2001, which resulted in a shift in the Senate majority, Jayachandran examined the effect of this change on the market value of firms contributing soft money to the Republican and Democratic parties. It was shown that in the week after Jeffords left the Republican Party, firms lost 0.8 percent of market capitalization for every USD 250,000 contributed to Republicans. The stock price gain to firms with Democratic contributions was smaller, but not statistically different in magnitude. Cooper, Gulen and Ovtchinnikov (2010) studied stock-market returns for companies that gave contributions and

found that a firm's future stock returns increased with the number of candidates the firm supported for political office. The authors report that this effect was particularly strong when a firm supported candidates in its own home state, candidates in House races, and Democratic Party candidates.

Discussions about money in politics often center on the tension between providing information and corruption. Independent expenditures and expenditures by candidates can provide voters with the necessary information to cast an informed vote at the ballot box. On the other hand, politicians may engage in an explicit or implicit quid pro quo for contributions received or for independent expenditures that advocated their election.

According to the US Supreme Court, the main justification for capping contributions is that large contributions may result in corruption. More specifically, that the incumbent will hand out favors to the contributor. For the court, one argument that weighs against the capping of contributions is that contributions are a form of speech, and free speech is protected by the US constitution.

Before thinking from an economic perspective about whether contributions should be capped, it is necessary to consider benefits and cost of contributions, regardless of whether or not the constitution justifies the capping of contributions. Campaign contributions help candidates to finance their election campaigns and to advertise their positions. Thus campaign spending, fueled by campaign contributions, provides information to voters. With this information, voters can infer which candidate is most closely aligned with their own policy positions and subsequently cast appropriate votes. Having more information may also increase turnout, and thus participation, in the election. With adequate disclosure of who contributed to candidates, voters also receive information about who supports the candidate, and this may help voters to make inferences about candidate positions. For example, if a candidate receives large contributions from the gun control lobby, this may indicate that that the candidate favors gun control. Although there are some informational gains from campaign spending, some of these gains may be lost if voters believe that the candidate has accepted contributions for future favors. In this case turnout may be lower than it would be otherwise (Houser, Morton and Stratmann 2011).

One concern regarding the capping of contributions is that caps are an incumbent protection device. Since incumbents have an advantage over challengers because they have the power of their office, connections and receive free press coverage, challengers have to raise large sums to be competitive in a race. Because of the lack of connections, challengers may rely on only a handful of large contributors and by capping contributions, challengers cannot raise enough money to defeat an incumbent.

In particular, capping contributions too low may have adverse effects. If limits were set to zero, in a private campaign financing system, challengers could not rely on contributors for the financing of campaigns. While the same is true for incumbents, they, however, have the power of their office to advertise for themselves and receive free coverage by the media. Thus very low contribution limits could tilt the competitive advantage more towards the incumbent. In fact the US Supreme Court struck down a Vermont law which set the contribution cap at USD 200 per person because the court thought that the caps were too low, potentially leading to uncompetitive elections because challengers cannot mount a viable campaign.

However, the concern that low contribution limits lead to uncompetitive elections may not be justified. A recent study for the American states examined whether contribution limits of USD 500 and below have uncompetitive effects (Stratmann 2010). That study showed that low limits do not have uncompetitive effects, and that states with limits of USD 500 and below have more competitive elections in races to state assemblies relative to states with contribution limits of USD 1,000 or higher. Thus this study suggests that some caps can reduce the incumbency advantage. One explanation for this finding is that contribution caps primarily adversely affect the fundraising ability of incumbents, pulling them down closer to the fundraising capacity of challengers.

But the consequences of caps of more than that may limit corruption and, at least over some range, reduce the incumbency advantage. This is because voters obtain information through campaign spending, and campaign advertising allows voters to make a more informed choice. Contribution caps can lead to lower campaign spending and thus capping contributions may limit the information flow to voters, leading voters to make suboptimal choices.

Besides capping contributions, some have advocated the capping of campaign expenditures of candidates. The US Supreme Court, however, struck down such expenditure limits because they considered this an inappropriate curtailment of free speech. From an economic perspective, expenditure limits could be efficiency-enhancing if campaign spending is a zero sum game, and all that expenditures do is to offset each other. However, expenditures may serve as useful signals to the candidate's ability because high quality candidates may be able to attract more contributions. Specifically, if those candidates who propose the most efficient policies receive the most contributions, then by observing the size of the expenditures voters are informed about which of the candidates has the most efficient policies. That being said, it should be noted that although the idea that candidates with the best policies receive the most contributions is interesting, this hypothesis has not yet been tested.

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Measuring Information Sharing in Credit Markets[1]

Christa Hainz*

Introduction

Access to finance is an important determinant of economic growth (Rajan and Zingales 1998; Beck, Levine and Loayza, 2000). But it is also thought to advance democracy and human rights, as the Nobel Committee stated in 2006 when it awarded the Nobel Peace Prize to Muhammad Yunus and his Grameen Bank "for their efforts to create economic and social development from below" (Nobel Prize Committee, 2006). The fact that group lending schemes, such as that of Grameen Bank, have become so important in developing countries demonstrates that in these countries there is market failure on the credit market. The source of market failure is asymmetric information between borrowers and lenders, which makes lenders reluctant to extend credit. There are institutions that help to overcome these problems of asymmetric information and support a functioning credit market. They, however, are often lacking in developing countries.

Asymmetric information on credit markets

The fundamental problem on the credit market is related to asymmetric information between borrower and lender. The resulting problems are classified as adverse selection, ex ante and ex post moral hazard. Adverse selection arises because the borrowers can, at the time they apply for a loan, better evaluate the risks of their venture and thereby their own creditworthiness. After a loan is granted, the borrowers decide whether to spend the loan in the way agreed upon with the bank or not. However, since the lenders cannot oversee how the borrowers deal with the money, an ex ante moral hazard problem arises. When the repayments are due and the borrowers have the financial means to repay the loan, they decide whether to repay or to default strategically. Since the lenders cannot determine whether the borrowers are not able to repay or do not want to repay, there is ex post moral hazard.

Of course, many remedies have been developed to overcome the problems resulting from asymmetric information by designing a particular contract structure. One of them is collateral (see, for instance, the papers by Bester 1985; Besanko and Thakor 1987; Boot, Thakor and Udell 1991). However, this requires that the borrowers possess sufficient pledgeable assets. All those potential borrowers that do not have sufficient collateralizable wealth will not receive loans. This argument shows that contractual features are not able to fully solve the problems resulting from asymmetric information. Therefore, the solution should be to at least reduce the underlying "evil", asymmetric information.

Through the business relationship between the bank and the firm, the bank obtains more and more insight into the borrower's business conduct and can better evaluate the firm's creditworthiness (for a review of the literature, see Boot 2000). Thus, a relationship reduces the degree of asymmetric information between these two parties. At the same time, the relationship bank is better informed about the firm than other, so-called outside, banks are. This means that the offers outside banks make are based on the information asymmetry between them and the borrower. However, the offer the relationship bank makes will be influenced by the offers a borrower can find on the market. Consequently, the relationship bank can exploit its information advantage by demanding higher interest rates than it could otherwise, given the information it possesses about the borrower – the borrower is "held up" by the bank. Thus, to fundamentally improve the situation on the credit market one must reduce asymmetric information between a borrower and all its potential lenders.

[1] I would like to thank Martin Brown for helpful discussions.
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Information-sharing arrangements as a solution

The idea underlying information sharing it that "the best predictor of future behaviour is past behaviour" (Miller 2003, p. 25) In practice, it is an arrangement by which lenders contribute information about their customers to a common pool which is accessible to all lenders that contribute. Economists focus on information asymmetries in credit markets but so far have paid little attention to its institutional aspects, which is information sharing (Miller 2003).

In the literature the effects of information sharing on adverse selection and on moral hazard have been studied. The first paper on the exchange of information through private credit registries was published by Pagano and Jappelli (1993). In an adverse selection model, the banks, which are local monopolies, benefit from an information exchange through declining default rates. The authors also show that bank competition makes information sharing less likely because it reduces the informational rent a bank can extract in the "hold-up" situation. Incumbent banks can influence the degree of market entry by their decision to share information either on the borrower type or on his performance in the past, such as project outcomes or defaulting. In fact, banks will choose the type of information they provide strategically to deter entry (Boukaert and Degryse 2006). For instance, for intermediate degrees of adverse selection, the relationship bank can limit the scope of entry by revealing the outcome of the first period, but not the type of firm.

Padilla and Pagano (1997) use a moral hazard framework in which banks generate rents from high quality borrowers in the first period of a two-period lending relationship. In this setup, the bank has an incentive to reveal information about the firm's type after the first period. The reason is that banks compete more fiercely in the second period if there is information sharing. Thus, the firms receive a higher return and, therefore, they have a stronger incentive to exert effort. This increases their quality, and the rent a bank extracts in the first period rises. In a companion paper, Padilla and Pagano (2000) study the case where rents are competed away ex ante. In this case, it is better to show information only about the outcome of a project but not the borrower type because the firms' incentives to work hard are thereby the strongest.[2]

[2] However, the incentive effects of information sharing may diminish over time as the borrowers build up a credit history (Vercammen 1995).

The effect of information sharing can best be observed in a laboratory. Brown and Zehnder (2007) find that information sharing disciplines borrowers if repayments are not enforceable. However, if there is a bilateral bank relationship, information sharing has no additional effect on the repayment behavior. Thus, it does not perform better than relationship banking. Kallberg and Udell (2003) use data at the firm-level from the world's largest private credit bureau, Dun & Bradstreet. They show that the information from the credit bureau has significant predictive power in a failure prediction model and goes beyond the information contained in the firms' financial statements. More indirect evidence comes from firm- or country-level studies that show how the presence of information-sharing arrangements influences access to finance. Using firm-level surveys from transition countries, Brown, Jappelli and Pagano (2009) show that information sharing is positively correlated with access to credit and its perceived costs. They also find that for access to finance accounting transparency of the individual firm and the existence of information-sharing arrangements are substitutes. At the country level information sharing seems to be a substitute for the protection of creditor rights. Similar results are obtained in cross-country studies of aggregate credit. Jappelli and Pagano (2002) demonstrate that information sharing is positively associated with bank lending to GDP. They can also determine whether information is about a borrower's default, being in arrears or includes additional information, such as debt exposure. Both types of information seem to influence financial intermediation positively. Djankov et al. (2007) use a large data set for 129 countries showing that information-sharing arrangements are associated with a higher ratio of private credit to GDP. They also study the effect of introducing information-sharing arrangements and find that subsequently the ratio of private credit to GDP rises.

Measuring information sharing on credit markets

The Doing Business initiative of the World Bank provides an excellent source of information for many business regulations and also for information sharing. For the information-sharing arrangements Doing Business gathers these data in two steps. In a first step, they find out whether there is a public credit registry or a private credit information bureau present in a country by contacting bank supervision authorities and public information sources. If this is the case, then in a second step, the credit registries

and credit bureaus are surveyed with respect to their structure and their legal basis. The information obtained from the surveys is checked by the Doing Business team (World Bank 2010).

There are two quantitative measures of information-sharing arrangements: the private credit bureau coverage and the public credit registry coverage. There is also an indicator summarizing qualitative information: the depth of credit information index. We use the World Bank's terminology to differentiate between private and public information-sharing arrangements. "A private credit bureau is defined as a private firm or nonprofit organization that maintains a database on the creditworthiness of borrowers (persons or businesses) in the financial system and facilitates the exchange of credit inormation among banks and financial institutions. Credit investigative bureaus and credit reporting firms that do not directly facilitate information exchange among banks and other financial institutions are not considered. […] A public credit registry is defined as a database managed by the public sector, usually by the central bank or the superintendent of banks, that collects information on the creditworthiness of borrowers (persons or businesses) in the financial system and makes it available to financial institutions" (World Bank 2010). The information of the public credit registries is also used by the supervisory authorities. The role information sharing plays in bank supervision goes beyond the scope of this article.

The coverage provided by either a private credit bureau or a public credit registry varies between 0, if a credit bureau or a credit registry is not in place, and 100. The coverage in the Table "reports the number of individuals and firms listed by a private credit bureau [or a public credit registry] with information on repayment history, unpaid debts or credit outstanding from the past five years. The number is expressed as a percentage of the adult population (the population aged 15 and above according to the World Bank's World Development Indicators 2009)" (World Bank 2010).

In addition to the quantitative indicators, there is also the index capturing the depth of credit information. It measures "rules affecting the scope, accessibility and quality of credit information available through either public or private credit registries. A score of 1 is assigned for each of the following six features of the public registry or the private credit bureau (or both):

- Both positive credit information (for example, loan amounts and pattern of on-time repayments) and negative information (for example, late payments, number and amount of defaults and bankruptcies) are distributed.

Table

Information sharing

	Private credit bureau coverage		Public credit registry coverage		Depth of credit information index	
	2005	2010	2005	2010	2005	2010
Austria	39.3	39.2	1.1	1.4	6	6
Belgium	0.0	0.0	53.3	56.5	4	4
Bulgaria	0.0	6.2	1.3	34.8	3	6
Cyprus		0.0		0.0		0
Czech Republic	24.9	73.1	2.1	4.9	4	5
Denmark	7.1	5.2	0.0	0.0	4	4
Estonia	9.5	20.6	0.0	0.0	5	5
Finland	14.8	14.7	0.0	0.0	5	5
France	0.0	0.0	1.7	32.5	4	4
Germany	85.6	98.3	0.6	0.8	6	6
Greece	11.1	46.9	0.0	0.0	4	5
Hungary	3.3	10.3	0.0	0.0	5	5
Ireland	100.0	100.0	0.0	0.0	5	5
Italy	57.1	77.5	7.9	12.2	6	5
Latvia	0.0	0.0	0.6	46.5	2	5
Lithuania		18.4	4.4	12.1	3	6
Luxembourg		0.0		0.0		0
Netherlands	64.5	83.5	0.0	0.0	5	5
Poland	38.0	68.3	0.0	0.0	4	4
Portugal	7.9	16.4	63.7	81.3	5	5
Romania	0.0	30.2	0.4	5.7	4	5
Slovak Republic		44.0	0.6	1.4	3	4
Slovenia	0.0	0.0	2.5	2.7	3	2
Spain	6.5	7.6	39.4	45.3	5	5
Sweden	98.0	100.0	0.0	0.0	4	4
United Kingdom		100.0	0.0	0.0	6	6
Croatia	0.0	77.0	0.0	0.0	0	4
Macedonia		0.0	0.6	28.1	3	4
Norway	100.0	100.0	0.0	0.0	4	4
Switzerland	23.3	22.5	0.0	0.0	5	5
Turkey	30.0	42.9	3.2	15.9	5	5
Australia	95.4	100.0	0.0	0.0	5	5
Canada	100.0	100.0	0.0	0.0	6	6
Japan	61.5	76.2	0.0	0.0	6	6
New Zealand	97.8	100.0	0.0	0.0	5	5
United States	100.0	100.0	0.0	0.0	6	6

Empty cells: Data not available.

Source: World Bank (2010).

- Data on both firms and individuals are distributed.
- Data from retailers, trade creditors or utility companies as well as financial institutions are distributed.
- More than two years of historical data are distributed. Registries that erase data on defaults as soon as they are repaid obtain a score of 0 for this indicator.
- Data on loans below 1 percent of income per capita are distributed. A registry must have a minimum coverage of 1 percent of the adult population to score a 1 for this indicator.
- Regulations guarantee borrowers the right to access their data in the largest registry in the economy" (World Bank 2010).

Accordingly, the value of this index ranges from 0 to 6. The higher the value of the index, the more credit information is available from the private or the public information-sharing arrangements. In countries without any information-sharing arrangements the index is set at 0.[3]

In the Table we list the three indicators for 36 OECD and EU countries for the years 2005 and 2010. Among these countries seven do not have a private credit bureau. In eight countries the whole population is covered by a credit bureau. The other countries are spread in between without any particular pattern. Compared with the year 2005 the coverage of private credit bureaus increased significantly in several countries. In particular, in the new EU member states in eastern Europe the credit bureaus that did not exist before transition started in 1989 expanded their coverage (often significantly).

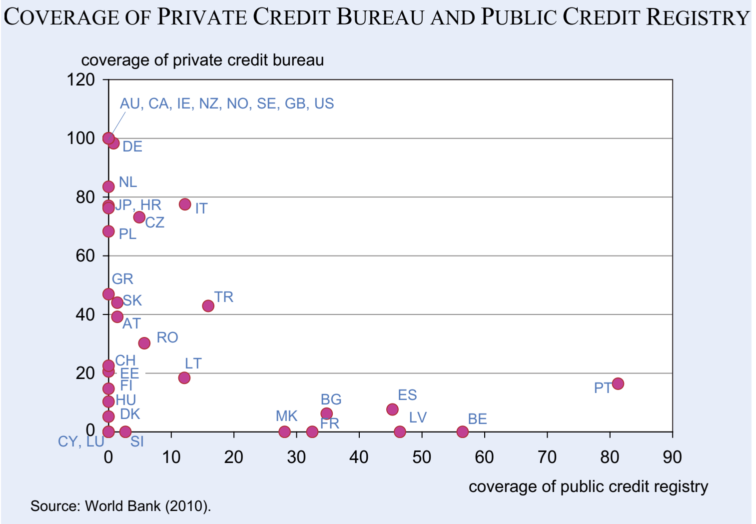
The figures for public credit registry coverage are quite different from those of the credit bureau. In 20 out of the 36 countries a public credit registry does not exist. There is no country in which the total population is covered by a credit registry. Coverage is highest in Portugal with 81.3 percent. In many countries the coverage is at the one-digit level. This probably reflects the fact that the threshold levels above which loans must be reported to the credit registry are quite high (Jappelli and Pagano 2003). There seems to be a clear influence of legal origin because in the Anglo-American countries no public credit registries exist. The coverage of the public credit registries has increased relative to 2005. Again, coverage went up in the new EU-27 member states. But the figures for France, Italy, Portugal and Spain are higher in 2010 than in 2005, too.

One could ask whether private credit bureaus and public credit registries are complements or substitutes. There is no clear answer to this question. Miller (2003) argues that they are complements, whereas Pagano and Jappelli (2003) that they are substitutes. Figure 1 illustrates the relationship between the two information-sharing arrangements for our set of 36 countries. There are some countries (Cyprus, Luxembourg, Slovenia) which have hardly any information sharing. In all the other countries there is at least one form of information sharing. In those countries that do not have a private credit bureau a substantial fraction of the population is covered by a public credit registry.

For the depth of credit information index most countries have a score between 4 and 6. Values below are due to the (nearly complete) absence of information arrangements in these countries. Those with a score of 4 include some new EU-27 members, some Scandinavian countries, Belgium, France and Portugal.

Figure 1

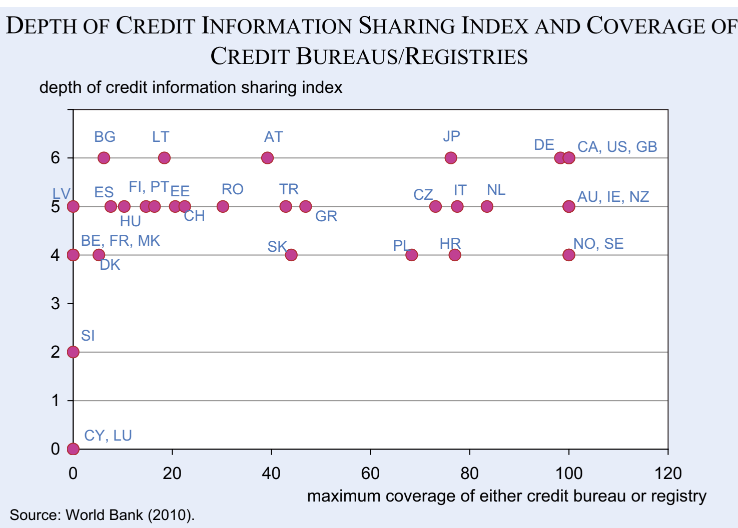
COVERAGE OF PRIVATE CREDIT BUREAU AND PUBLIC CREDIT REGISTRY



Source: World Bank (2010).

3 The World Bank (2010) explains the functioning of the indicator as follows: "In Turkey, for example, both a public and a private registry operate. Both distribute positive and negative information (a score of 1). The private bureau distributes data only on individuals, but the public registry covers firms as well as individuals (a score of 1). The public and private registries share data among financial institutions only; no data are collected from retailers or utilities (a score of 0). The private bureau distributes more than two years of historical data (a score of 1). The public registry collects data on loans of $ 3,493 (44 percent of income per capita) or more, but the private bureau collects information on loans of any value (a score of 1). Borrowers have the right to access their data in both the private and the public registry (a score of 1)."

Figure 2



DEPTH OF CREDIT INFORMATION SHARING INDEX AND COVERAGE OF CREDIT BUREAUS/REGISTRIES

Source: World Bank (2010).

Except for the new EU-27 member states, which have improved the quality of their information-sharing arrangements, the values of the index are rather stable. But how are the qualitative and quantitative features of information-sharing arrangements related to each other? Figure 2 captures the maximum coverage by either the private credit bureau or the public credit registry (x-axis) and the depth of credit information index (y-axis). The Figure shows no relation between these two different characteristics of information sharing.

Further improving the measurement

In contrast to many other institutional features, there are both quantitative and qualitative indicators for the extent of information sharing. This provides a very good basis for research. The depth of the credit information index summarizes six different features of the information-sharing arrangement, including whether positive or negative information is distributed. In the literature it has been shown that it matters whether positive or negative information is shared. Therefore, it would be helpful if data underlying the depth of credit information index and how they have changed since the start of the survey became publicly available so that this information can easily be used for research.

The Doing Business data are unique since they cover most countries and have been available since 2005. Previously Jappelli and Pagano (2002) made the effort to collect data on selected countries. Interestingly, for some countries the Doing Business figures and their figures diverge significantly. For instance, for Denmark Jappelli and Pagano (2002) report for the year 1996 a coverage by private credit bureaus of 50.3 percent whereas it was only 7.1 percent in the Doing Business database in 2005 and went down to 5.2 percent in 2010. For Italy, Jappelli and Pagano report that in 1996 4.6 percent were covered by private credit bureaus whereas it is 77.5 percent according to the Doing Business data for 2005. The change for Italy is most likely due to an increase in coverage as was shown for other countries in our sample (see Table). However, it is surprising that the coverage by private credit bureaus went down in some countries (for example, in Denmark). The difference might be related to the way the coverage is calculated. When more than one credit bureau operates in a country, their coverage rates must be aggregated. The method used for aggregation might differ between Jappelli and Pagano (2002) and World Bank (2010). Thus, it would be helpful if more details on the method of aggregation were provided.

In order to create value, the credit bureaus/registries must, of course, provide reliable and correct information. Their reputation will suffer if inaccuracies occur and data quality is poor. In emerging markets complaints about the reliability of information are more frequently found (for Russia, see Skogoreva 2005), but this problem is receiving more and more attention in economies with well-developed institutions as well (for the US, see Cassady and Mierzwinski 2004 or for Germany, see Bundesministerium 2009). Due to the nature of the problem, it is difficult to measure the mistakes on a comprehensive basis. However, there have been more and more attempts to evaluate the degree to which data are misreported. In a very small control sample of the biggest credit bureau in Germany, data were missing or wrong in more than 40 percent of the cases (Bundesministerium 2009). It would be helpful if these data were collected on an international basis and made available for research. One way to improve data quality is to have regulations that guarantee the population the right to access their data, which would allow them to detect mistakes and report them. Actually, the depth of credit information index captures this regulatory provision, which thus might serve as a proxy for data quality.

In most of the 36 countries we look at there is some information-sharing arrangement in place. However, in many less developed countries, this institution is still missing. An important piece of information about a firm's creditworthiness is whether it is bankrupt. This information is made publicly available. In this particular aspect, information-sharing arrangements and a registry recording that a firm is bankrupt are substitutes. In some countries the information about bankrupt firms is accessible online and thus should be readily available. It would be interesting to collect more information about the way in which the fact that a firm is bankrupt is made public as it influences creditors and ultimately the whole credit market (Hainz 2009).

Information-sharing arrangements and research

Information-sharing arrangements are one of the important institutions that significantly influence the functioning of the credit market. The availability of qualitative and quantitative measures of information-sharing arrangements for a large set of countries has made it possible to analyze this institution. But not only the indicators of the information-sharing arrangements are used for research. Credit bureaus or registries also provide an often excellent database for research, depending on what features are collected about the borrower and potential individual loans and loan applications. There are already some important studies using data from the Spanish public credit registry. These studies have investigated, for instance, how access to credit and the terms of a credit contract are influenced by firm- and bank-specific characteristics but also how macroeconomic conditions and monetary policy influence them (Jiménez and Saurina 2004; Jiménez et al. 2009 and 2010). Also for developing countries data from public credit registries can be very insightful. Ioannidou and Ongena (2010), for instance, use data from the Bolivian credit registry to show how a bank relationship influences lending conditions over time. For Pakistan, there is evidence that Islamic loans default less often (Baele et al. 2010).

In these examples, there is one central and public credit registry covering a broad universe of borrowers. In most OECD countries, however, there are several firms operating private credit bureaus. It would therefore be interesting to learn how competition between private providers of information-sharing arrangements influences the market outcome. Moreover, the factors driving the development of information-sharing arrangements are not yet properly understood. These questions are only two examples of what can be investigated in future research.

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Good Institutions are not Enough: Ongoing Challenges of Eastern German Development[1]

Wendy Carlin*

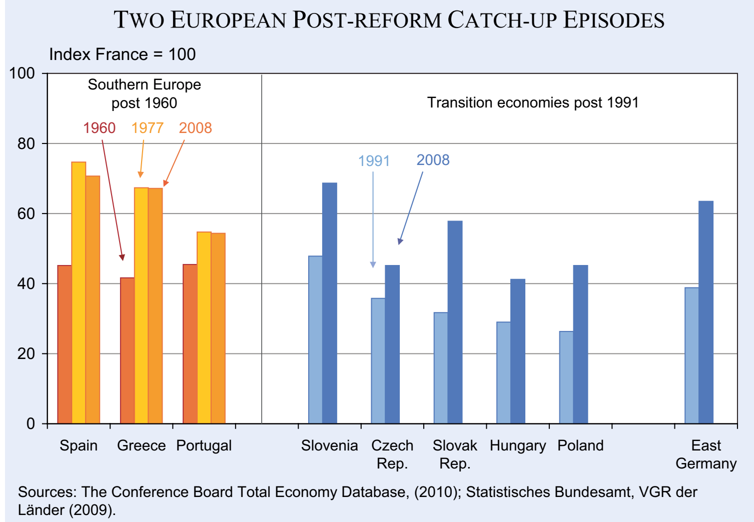
The two decades following the fall of communism have provided economists with a remarkable opportunity to study the consequences of radical changes in economic institutions, i.e., in the rules of the game and norms that underpin economic interaction. Transition has proved more protracted than anticipated – a rapid catch-up by the central and eastern European transition economies to European Union levels of productivity has not occurred. A useful standard of comparison is with the phase of rapid catch-up by the southern European economies that began following the liberalisation reforms around 1960.

Figure 1 presents PPP data on value added per employed worker, a broad measure of economy-wide labour productivity. It takes France as the comparator for two exercises: first for the catch-up of the southern economies from 1960 and second, for the post-communist catch-up from 1991. Several points emerge from the comparison. First, with the exception of Slovenia, the eastern European countries were further behind France in 1991 than were the southern countries behind France in 1960 at the beginning of their catch-up. Second, the southern catch-up in the subsequent 17 years was mostly more rapid than that in the 17 post-transition years. Third, the southern productivity catch-up had virtually stopped by 1977 – in the subsequent 31 years, the labour productivity gap with France scarcely changed. Against the performance of its eastern European comparators, eastern Germany's performance was reasonably good and its catch-up to France was similar to that achieved by Greece from 1960 to 1977.

A substantial research effort has attempted to discover why well-educated labour forces with good levels of physical infrastructure in an era of financial globalisation and trade integration were unable to take advantage of the apparently "low-hanging fruit" available by introducing existing technologies and to reap the reward of rapid catch up. Much of this research has pointed to the neglect at the outset of the transitional period of market economy institutions.

The eastern German transition provides a useful comparative case study. Unlike other transition economies, eastern Germany acquired high quality and credible market institutions by virtue of unification. Yet its performance was in many ways similar to that of its central and eastern European comparators: a transitional recession followed by slow convergence. eastern Germany's experience of transition highlights the limited extent to which good institutions alone can overcome 40 years of missing market ex-

Figure 1



Sources: The Conference Board Total Economy Database, (2010); Statistisches Bundesamt, VGR der Länder (2009).

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[1] This article is based on the keynote lecture delivered at the conference "20 years German Unification – From Transition to European Integration" of the Halle Institute for Economic Research (IWH). The lecture is published in Carlin (2010), where a full set of references can be found.

perience, especially during a period of increasingly integrated global markets.

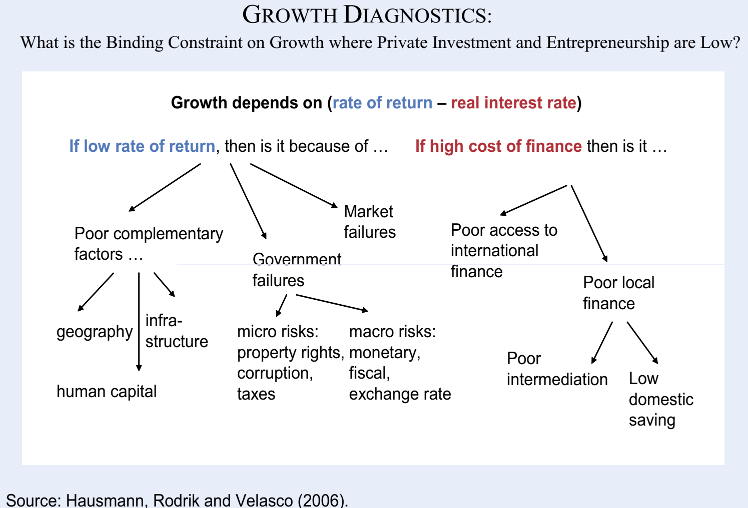
What was the binding constraint on catch-up?

The framework of growth diagnostics proposed by Hausmann, Rodrik and Velasco (2006) can be used to analyze the reasons for a slow catch-up in the transitional period. The initial distinction is between a situation in which the growth of private investment and entrepreneurship are inhibited by (a) too low a rate of return on private investment and (b) too high a cost of finance. If there is evidence of an abundance of profitable projects but the high cost of finance prevents them from being undertaken, the question arises of whether it is poor access to international finance or poor local finance that is at fault. In the case of poor local finance, this could be due to weak intermediation or because of low savings.

In the left-hand side of the tree (Figure 2), the availability of finance is not binding – rather, it is the low rate of return on investment that is the problem. This could be because of the effect of poor complementary factors such as unfavourable geography, inadequate physical infrastructure or weak human capital in reducing expected private returns. Alternatively, government failures could be responsible by raising micro or macroeconomic risk. The final branch points to market failures and the associated lack of good projects.

It is difficult to argue that the catch-up speed of transition economies was hampered by lack of access to finance. On the contrary, a striking feature of transition was that unlike typical developing countries, the CEEC transition economies defied the so-called Lucas Paradox: capital flowed to these economies and they did not have repeated balance of payments crises (e.g., Prasad et al. 2007). Moreover international banks largely took over local banking networks, providing expertise and access to international capital markets. For the CEECs and eastern Germany, it seems reasonable to presume that we are in the left-hand part of the decision tree: the rate of return, not the cost of or access to finance was the problem.

Figure 2



GROWTH DIAGNOSTICS:
What is the Binding Constraint on Growth where Private Investment and Entrepreneurship are Low?

Source: Hausmann, Rodrik and Velasco (2006).

We can also rule out poor complementary factors – these countries were situated contiguous to the European Union market and a positive legacy of communism was to leave levels of human capital and skills, and physical infrastructure higher than those of the market economy benchmark at similar levels of GDP per capita (e.g., Mitra et al. 2010, chapter 5).

A large body of research literature has emerged in the past decade arguing that it was institutional weakness (government failure) that hampered the rapid catch up of the CEECs (e.g., Rodrik 2006). Effective legal systems, reliable and predictable tax and customs administration, norms and rules to control corruption, and so on were not created overnight. New owners had to be found for large enterprises and it became clear that privatisation in the absence of adequate corporate governance failed to lift the performance of privatised enterprises above that of state owned ones (Estrin et al. 2009). Foreign owned firms performed notably better than those privatised to domestic owners.

Recent evidence suggests that political integration in the European Union helps explain why the CEECs defied the Lucas paradox (Friedrich et al. 2010). A plausible channel is that by creating expectations among foreign investors of a commitment to institutional reform, political integration facilitated the positive role of financial integration in promoting catch-up. If government failure or institutional weakness was a likely cause of slow catch-ups in the CEECs, it was prima facie less plausible as a binding constraint in eastern Germany because of the transfer of western German institutions. Eastern Germany is at the extreme end of the political integration contin-

uum. However, institutions do not only involve "rules on the books" but also norms, and recreating market economy norms was not immediate even in eastern Germany. Alesina and Fuchs-Schuendeln (2007) showed that eastern Germans continued to have different attitudes to state intervention than western Germans, and argued that such differences were likely to persist for another generation.

It is also possible that western German – as compared with generic – market institutions were mismatched with the needs of the transitional eastern German economy (e.g., Carlin 1998). The core export-oriented sector of the western German economy is characterised by a number of specialised institutional arrangements involving among others unions, employers' associations, works councils, the commitment to transferable skills training by companies, technology transfer institutions and various state-, quasi-state and private organisations at the federal, Land and local level. For example, it is argued that unions, employers' associations and works councils play important roles in delivering wage compression and employer commitment to training that lie behind the high-skills "equilibrium" of the western German core economy (e.g., Hall and Soskice 2001).

The most well-known example of institutional transfer to eastern Germany was the recruitment of eastern German workers by western German unions, and the participation of the Treuhandanstalt in wage-setting. Combined with the extension of social security entitlements, this placed a high floor under wages. This rendered unprofitable much of the capital stock, producing the rapid deindustrialisation of eastern Germany and raised the bar for the required productivity level of new projects if they were to be profitable. Once western German companies rapidly revised downwards their initial expectations of accessing buoyant markets in the former Soviet bloc via the expansion of production facilities in eastern Germany, it proved impossible to replicate the western German core economy and its institutional context in the new Bundesländer. Eastern Germany was left with the cost burden of the wage-setting and social security system without its micro-institutional benefits.

The federal government was forced to step in to deal with problems arising from the failure of the western German model to operate in the east. Combined with the associated fiscal burdens, this led to important changes in policy and institutions in the Federal Republic as a whole, culminating in the Hartz IV welfare reforms. Nevertheless, the export-oriented core of the western German economy retained its self-organizing capacity (as reflected in the substantial restructuring and real depreciation achieved over the post 2000 period; Carlin and Soskice 2009). Yet in spite of the formal transfer of institutions, the export-oriented core did not extend its scale through replication in eastern Germany. The experience of eastern Germany over the past two decades was one of institutional adaptation – most obviously in the low membership of eastern German companies in employers' associations and the associated limited coverage of collective wage agreements in eastern Germany (Paqué 2009).

In spite of these caveats, institutional quality, in the sense of the credibility and efficiency of the core market economy institutions of a functioning legal system, control of crime and corruption, and the efficient administration of taxes and customs were established quickly in eastern Germany. We are therefore led to turn to the final branch in the diagnostic tree diagram – market failures – in order to pin down the binding constraint on eastern German growth.

Hausmann et al. (2006) explained the "market failure" problem in a less advanced economy as follows: "The development process is largely about structural change: it can be characterised as one in which an economy finds out – self-discovers – what it can be good at, out of the many products and processes that already exist" (p. 18). In eastern Germany's case, this problem was compounded because the floor on real wages set by the political settlement (including the need to prevent mass migration to western Germany) meant it needed to "self-discover" at a point much closer to the technology frontier than typical for a developing or transition country. New ideas for tradeables were required in order to replace the old activities rendered unprofitable by the real exchange rate and by openness to international competition. Opening up to international trade and capital flows does not automatically generate knowledge of profitable niches. Self-discovery is inhibited by learning and coordination externalities. In the core of the western German economy, a complex institutional matrix promotes the spillover of technological and marketing information and the coordination of lumpy upstream and downstream investments. But as noted above, this was not reproduced in the east.

Moreover, eastern Germany faced problems of self-discovery even in non-tradeables. Normally in the sheltered sector, domestic firms have the opportunity to benefit from monopolistic innovation rents. But even in non-tradeables, the first-mover advantages for local suppliers in eastern Germany were often taken by western German firms – eastern German firms immediately faced "foreign" suppliers and hence lower profits from "innovation" in such markets.

What is the scale of the problem still faced by eastern Germany? The evolution of the "export base"

Transition economies left the planning era with oversized industrial sectors relative to a market economy benchmark. Eastern Germany's rapid deindustrialisation following unification led it to overshoot the market economy benchmark. One reflection of this is its very low employment rate in industry. Figure 3 compares employment rates in industry (excluding construction) in eastern Germany with a number of transition economies, and with western Germany.

There is a scarcity in eastern Germany of "export-base" jobs: these jobs are involved directly or indirectly in the production of goods and services sold beyond the region. A lagging region lacks sufficient jobs of this kind and is characterised by dependence on the central government to support living standards. Support arises from benefit payments and from the financing of government employment, where pay scales are set nationally. In principle there are two ways to eliminate such regional economic weakness – potential workers move to the other region, i.e., to western Germany and/or new jobs are created in eastern Germany.

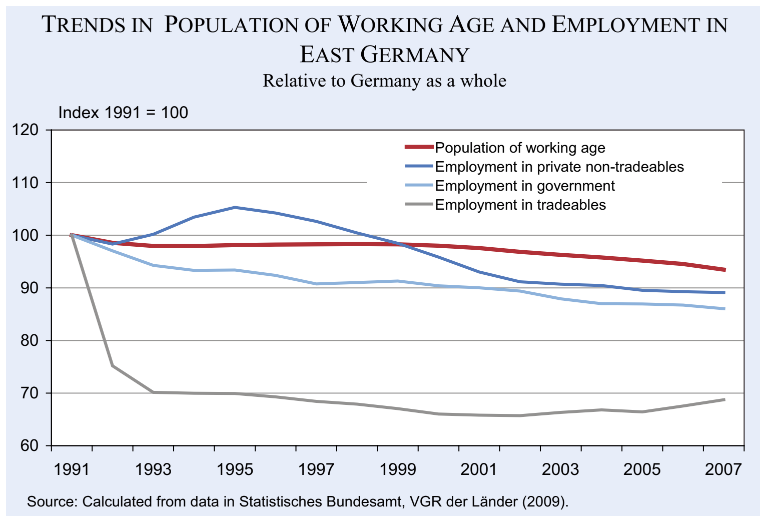
Figure 3

For political reasons, it is implausible for the entire adjustment to take place through the movement of population, and for economic reasons, it is infeasible for it to take place through the creation of new export base jobs. A satisfactory adjustment path would therefore be likely to involve both processes (Rowthorn 2000). What is an unsatisfactory outcome? An unsatisfactory outcome is a Mezzogiorno scenario where excess population remains in the lagging region and local economic development is too weak to absorb it: productivity fails to converge and living standards are sustained by federal transfers. After a brief burst of adjustment in the 1960s, the Italian south was characterised by the Mezzogiorno scenario (Boltho et al. 1997).

Using regional data for Germany, it is possible to make a crude calculation of the development of employment in tradeables, private non-tradeables and the government (i.e., non-market non-tradeable) sector. Employment in tradeables is defined by employment in agriculture, mining and manufacturing plus "extra" employment in finance and business services. For each year, the region in Germany with the lowest ratio of employment in finance and business services to population was used to define the share of employment in this sector that could be viewed as non-tradeable, i.e., producing services required to support the local population. The remainder of employment in finance and business services in each region was defined as part of the "tradeable" sector. Employment in the government sector was defined as that in "public administration, defence and social security". The results highlight the differences in the deployment of resources in eastern and western Germany – the employment rate deficit of eastern Germany is large in tradeables at some 8 percentage points. The employment rate in private non-tradeables is also markedly lower in eastern Germany.

Using 1991 as the base year, Figure 4 plots the evolution of the working-age population and employment in eastern Germany relative to Germany as a whole. The working-age population in eastern Germany fell by 5 percent relative to Germany over the period. The chart makes clear that employment fell by much more. Following the end of the con-

Figure 4



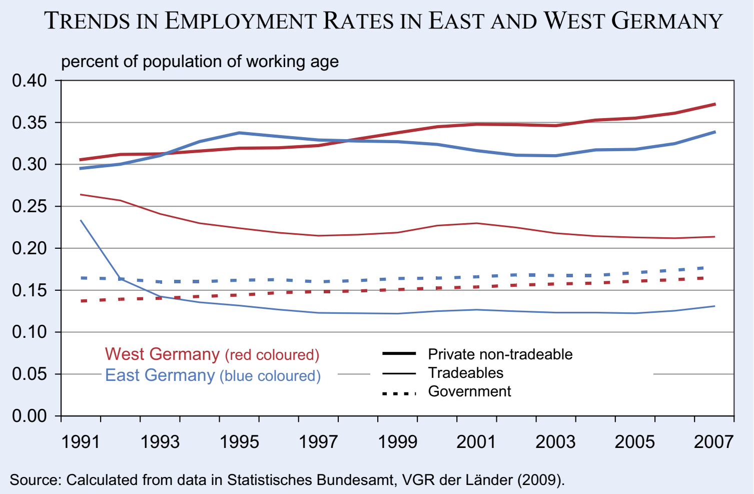
TRENDS IN POPULATION OF WORKING AGE AND EMPLOYMENT IN EAST GERMANY
Relative to Germany as a whole

Source: Calculated from data in Statistisches Bundesamt, VGR der Länder (2009).

struction boom (reflected in the bulge in eastern Germany's share of employment in private non-tradeables), relative employment growth in both the government and in private non-tradeables evolved in line with relative population. This is what would be expected since employment in non-tradeables serves the local population. The normalisation of the eastern German economy would involve bringing the employment in tradeables and population lines closer together: either by population draining from eastern Germany and/or by rising employment in tradeables, which would tend to stabilise the working age population and the associated non-tradeables employment. Given the loss of "export base" jobs in the initial phase of the eastern German transition, this remains a substantial task. Nevertheless, Figure 4 indicates that both adjustment processes discussed above were present in eastern Germany from around the year 2000.

Figure 5 presents the employment rates in eastern and western Germany for tradeables and the two components of non-tradeables. In western Germany the rising overall employment rate was driven by private non-tradeables and a steady rise in the employment rate in the government sector. The upturn in eastern Germany's employment rate over recent years was the result of the recovery of the employment rate in private non-tradeables to a level similar to the peak achieved during the post-unification construction boom, the stabilisation and slight upturn in tradeables, and the continued rise in the employment rate in the government sector.

Figure 5



TRENDS IN EMPLOYMENT RATES IN EAST AND WEST GERMANY

Source: Calculated from data in Statistisches Bundesamt, VGR der Länder (2009).

A similar exercise can be conducted for each Land (Carlin 2010). The clearest contributions to the amelioration of the regional problem are in Thüringen and Sachsen where employment rates in tradeables are rising toward the western German norm. However, Mecklenburg-Vorpommern appears to have the emerging characteristics of a Mezzogiorno region with little sign of closure of the huge employment rate gap in tradeables. It would appear that emigration is too weak to remove the surplus labour, and local economic development is too weak to absorb the "stayers". The high employment rate in the government sector in this region is consistent with the decline of the region and its dependence on transfers.

Although the employment rate gaps in tradeables remain large, the achievements of eastern German development are tangible and suggest that designating eastern Germany as a whole as trapped in a Mezzogiorno scenario may be premature. Nevertheless, the challenges to creating an adequate export base remain substantial.

Buch and Toubal (2009) provide evidence of persistent differences between eastern and western

Germany in their integration in international trade. They show that eastern German Länder trade much less with the rest of the world than western German ones, had fewer parents of multinational companies and a lower share of inward FDI. Buch and Toubal (2009) showed that there was only a slow convergence of eastern to western German levels. The methodology is well-designed to show a causal effect from lower openness to lower GDP per capita, highlighting the consequences of eastern Germany's limited success in discovering its sources of comparative advantage.

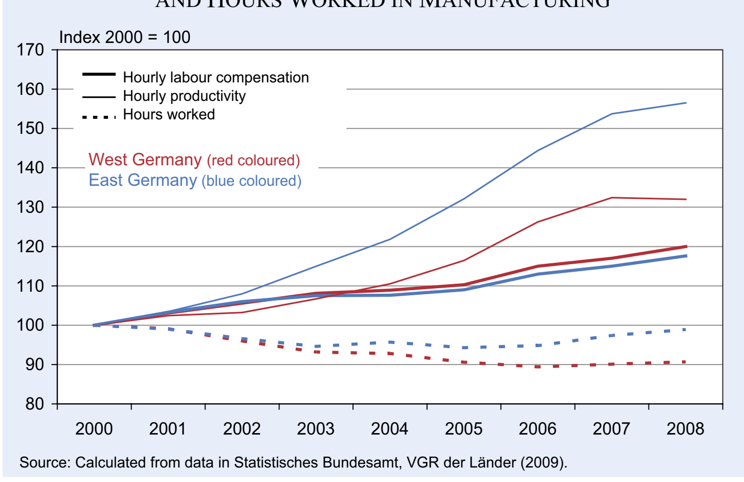
In the absence of policy instruments directly able to remove the market failures inhibiting the development of eastern Germany's export base, real depreciation is essential. Figure 6 shows that nominal wage restraint and more rapid hourly productivity growth both contributed to eastern Germany's improved competitiveness in manufacturing since 2000. It is productivity catch-up that made the greater contribution. The chart also makes clear that productivity improvement was accompanied by the stabilisation of hours worked in manufacturing in eastern Germany. Money wage growth was below but close to that in western German manufacturing – reflecting the outcome in wage-setting of the conflicting pressures of a persistently weaker labour market in eastern Germany and the much more rapid growth of relative productivity.

The success of eastern Germany in achieving a substantial real depreciation vis-à-vis western Germany is all the more notable in the light of Germany's improved competitiveness versus other members of the eurozone since 1999. Figure 7 shows the evolution of real exchange rates among the EU-27 countries. Germany's real depreciation is evident both as compared with southern European eurozone members in the left panel and as compared with central and eastern European transition economies in the right panel.

The difficulty of achieving lower unit cost increases without the help of nominal depreciation is reflected in the cumulative competitiveness gaps (and associated widening of trade deficits) that now exist in a number of eurozone countries. The adaptation of the wage-setting system and productivity improvements achieved in eastern Germany are a notable success.

Figure 6

EAST AND WEST GERMAN PRODUCTIVITY, LABOUR COMPENSATION AND HOURS WORKED IN MANUFACTURING



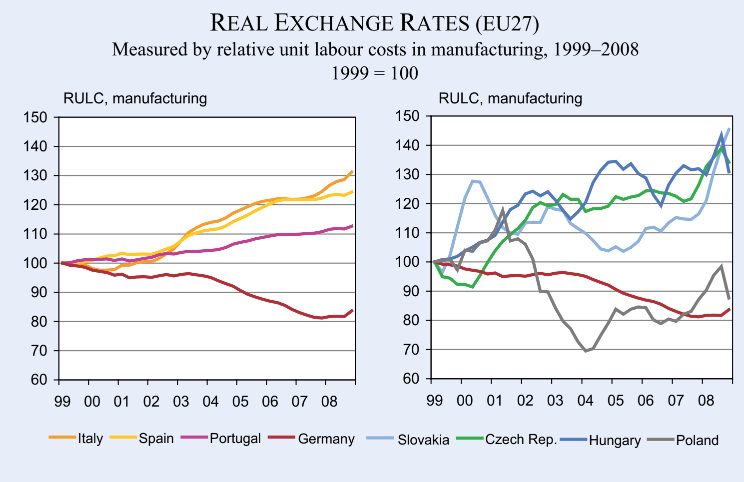
Source: Calculated from data in Statistisches Bundesamt, VGR der Länder (2009).

Figure 7

REAL EXCHANGE RATES (EU27)

Measured by relative unit labour costs in manufacturing, 1999–2008

1999 = 100



Source: Eurostat (2010), Quarterly Real Effective Exchange Rates.

Conclusions

Eastern Germany's experience of transition highlights the limited extent to which good institutions alone can overcome 40 years of missing market experience, especially during a period of increasingly integrated global markets. The eastern German case brings to the fore the problem of finding a niche in the international division of labour. However, there are signs of slow improvement in eastern German performance. For the region as a whole, it does

not seem that the Mezzogiorno scenario is an appropriate characterisation.

Setting eastern Germany's performance within a broader context highlights the contrast between its success in raising competitiveness and the erosion of competitiveness among a number of southern eurozone members. However, the speed of catch-up of eastern Germany is very slow and its continuation depends on the steady growth of its small poles of tradeables success. Given the evidence that agglomeration and networks are important, well-designed industrial policy to foster investment and job creation in the nodes of development that have established themselves is more likely to be successful than the application of "watering can" support to the region as a whole.

Finally, eastern German catch-up would be assisted by a more balanced pattern of growth in western Germany than was characteristic of the 2000s before the global economic crisis. A shift toward growth less reliant on net exports in western Germany associated with stronger growth of real wages, consumption and investment would help reduce tensions and constraints on growth in the eurozone (where 40 percent of Germany's exports are sold). If the decoupling of eastern Germany's wage-setting system is successfully maintained, the region could gain in such a scenario from a further boost to its competitiveness and from more buoyant growth of markets in Germany and in the eurozone more broadly.

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Women on Boards – Experience from the Norwegian Quota Reform

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Norway was the first country in the world to pass legislation specifying gender representation on company boards. The Norwegian Parliament in December 2003 passed a new regulation that required at least 40 percent of each gender on company boards. The law's aim was to create more gender equality and to increase companies' profitability. Especially managers and owners in the business sector met the law with significant resistance. In the ensuing heated debate, they maintained that not enough willing, competent women existed to fill the specified quota (Teigen 2002; Cvijanovic 2009).

The law, which went into force in the beginning of 2008, has led to major changes in the gender composition of corporate boards. In 2002, only about 4 percent of board members were women, while in 2009, all boards had reached the goal of 40 percent women. The law's successful implementation is due to its fairly tough sanctions for non-compliance. After several warnings, legal authorities have the power to dissolve those firms not following the rules. Nevertheless, no firm has been dissolved as a result of the law.

This article will look at the competence of new female directors. This will be done in two ways. First we shall look at formal competence, such as type and level of education and main occupation. Secondly, we shall see how board members themselves evaluate the competence of the new women on the board, which will provide information on both the formal and informal aspects of qualifications. The main empirical source for this article is a questionnaire sent to all board members in public limited companies at the beginning of 2009, one year after the reform was implemented. In all 990 board members replied, a reply rate of 62 percent (for more information about the questionnaire, Heidenreich and Storvik 2010).

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Background

While Norway is one of the countries with the highest rates of working women and the highest percentage of women in politics, the representation of women in positions of power in work organisations is one of the lowest in the West. This has been named the Norwegian paradox (Kvande 1998) and it still persists. In 2002 one year prior to the law, about 4 percent of top managers in the most influential companies were women (Skjeie and Teigen 2003). Parallel statistics show the number of female managers in similar positions in the United States to be 14 percent, in the United Kingdom 17 percent and in Germany 8 percent at the time (International Labour Office 2004). The new quota regulation can be seen, at least partly, as a reaction to the low stable level of female managers in Norway. While it was nearly impossible for the government, via the law, to increase the number of female managers in the private sector, it was possible to target female representation on company boards (Teigen 2008).

The new quota regulation is an amendment to the Companies Act. It requires that both genders are represented according to the following principles:

- Where there are only two or three board members, both genders should be represented.
- Where there are four or five board members, both genders should be represented by at least two members each.
- Where there are six to eight board members, both genders should be represented by at least three members each.
- Where there are nine or more board members, each gender should be represented by at least 40 percent each.
- These rules also apply to the election of deputy board members.

The quota regulation applies to all publicly-owned companies and to public limited companies in the private sector. In this way the quota regulation targets central parts of the Norwegian economy (Storvik and Teigen 2010). A public limited company is a company in which none of the members is personally liable for the company's debts. This type of company usually has many shareholders and rather strict rules regarding the composition of the board and the amount of share capital. The law requires that a company registered as a public limited company is also listed on the Oslo Stock Exchange. These companies are the elite of the Norwegian economy. There are approximately 450 public limited companies in Norway. The government has not yet proposed a quota regulation for privately-owned limited liability companies. Most of these companies are very small family enterprises with few owners, and the owners are themselves members of the boards. The legal rules that applies to this type of company are not as strict. In Norway there are 164 000 private limited companies. In 2005, Norwegian public limited companies averaged EUR 136 million in sales, while private limited companies averaged EUR 2 million in sales (2009).

The quota regulation applies to what is elsewhere termed "the supervisory board". In contrast to countries in central Europe, Norway has a so-called one-tier system (Hagen 2010), which means that companies only have one board consisting of owners' representatives and employee-elected representatives. Norwegian companies do not have an executive board of managers; the company instead delegates the task of management to one person, a general manager (CEO). The board of directors appoints the general manager. The general manager is responsible for the day-to-day management of the company's activities. However, the board still has the final responsibility for the management of the company, and the general manager must follow the guidelines and orders issued by the board of directors. The board of directors ensures that the business activities are soundly organized. It must be informed of the company's financial position and is obliged to ensure that its activities, accounts and asset management are subject to adequate control.

When the Norwegian government introduced the quota rule, it was unique; no other country had implemented similar regulations. Since its introduction, a diffusion process seems to be taking place. All over Europe, the Norwegian corporate boards' quota rule has sparked debates about the persistent male dominance in economic decision-making and about the possibility and feasibility of adopting similar quota arrangements (e.g., The Economist, 13 March 2010). The Spanish government has committed itself to achieving board representation of least 40 percent for each gender by the year of 2015 (De Anca 2008). Iceland has recently followed suit and will require companies with more than 50 employees to have board representation of least 40 percent for each gender from 2013.[1] Similar policies are also either being implemented or intensely debated in many countries, including the Netherlands[2], France[3], Sweden, Belgium and Germany.

Formal competence of the new female directors

How do the new female board members differ from male board members and other female board members who have served on boards before the reform? It is not quite clear exactly when the reform started to work because it was put into force step by step. However, from 2006 the law was made mandatory for all new companies and the already established companies were given a transitional period of two years. Therefore we shall consider board members who have been at the board before 2006, i.e., more than three years, and board members with less than three years experience.

As Table 1 shows, the new female board members clearly have a higher level of education than the three other groups. Nearly twice as many of the new female board members have six or more years of education compared to male board members who entered the board after the reform. If we compare the new female board members with women who were on the board before the reform, we see that the newcomers also have a higher level of education. The Table also shows that women who were on the board before the reform also have more education than the male board members do, but the difference is not significant. In general, the study shows that female board members have higher education than men, a finding in line with studies of Hillman et al. (2002) and Singh et al. (2008). If we compare the

[1] http://www.nikk.no/?module=Articles;action=Article.publicShow;D=10542 (accessed Feb. 2011).
[2] In December 2009, the government of the Netherlands decided that all companies with more than 250 employees should have at least 30 percent women on their boards. If this goal is not reached by 2016, the company must prepare a plan to reach the goal. Whether this can be implemented is, however, not clear.
[3] http://www.toutpourlesfemmes.com/conseil/IMG/pdf/egalite-hommes-femmes.pdf (accessed Feb. 2011).

Table 1

Education level of board members (in %)

	Reform women	Pre-reform women	New men	Pre-reform men
Primary school/ lower secondary school/ vocational upper secondary school	4	5	9	10
General upper secondary school	4	5	3	4
Higher education, three years or less	13	23	17	19
Higher education, four or five years	40	41	52	42
Higher education, six years or more	40	27	19	23
Total	100	100	100	100
N	278	88	256	240

Notes: Question asked: What is your highest completed education? Reform women: 0–3 years on the board, pre-reform women: more than three years on the board, new men: 0–3 years on the board, pre-reform men: more than three years on the board. The difference between reform women and the other groups is significant at the 1 percent level for the category "Higher education, six years or more". The difference between pre-reform women and men is not significant for this category of education.

Source: Storvik (2010).

Norwegian directors' level of education with their English and French colleagues in the top 100 companies in each country (Maclean et al. 2006), we find that the Norwegians have higher education than the English and at least comparable education level to the French.

Among all groups, most directors report that their highest degree is in economics. The next most frequent education is in engineering and the natural sciences. This is also the main education for board directors in the top 100 companies in France and England, as Maclean et al. (2006) show. In our study, more men than women have a degree in engineering or in the natural sciences but the difference is not large. The third most common educational background is law for both the new women and all men. Somewhat more new women than men have this education, and the difference is significant. If we look at men and new women who are educated in the social, humanities or aesthetic disciplines there is no significant difference.

As we see in Table 2, there are clear tendencies in the educational background of board members. The new women have more education than the other groups do and their types of education are similar to that of the men. We do not know anything about the education of the men who left the board because of the reform. However, there is no reason to believe that the best-educated men or the men with the most relevant educations left to make room for the new female board members.

More of the reform women than of the men state that their main occupation is manager. It is not possible to distinguish between different management levels in the study, and it is likely that many women are at a lower management level than male board members are. There are very few female CEOs in Norwegian business enterprises (Heidenreich 2009) and according to Ahern and Dittmar (2009), the number of CEOs on the boards has gone down as a result of the reform. As Table 3 also shows, significantly more men than women report that their primary occupation is owner, part owner or partner. The fact that women are generally less often owners (Spilling 2002) might be what causes this difference. If we compare the new board women with the women who have been at the board before the reform, we find that more of the new

Table 2

Fields of education of board members (in %)

	Men	Reform women	Pre-reform women	All
Law	8	14	8	10
Economy	50	46	58	50
Other social sciences/humanities/aesthetic disciplines	5	6	11	6
Engineering or natural sciences	30	26	17	27
Else	8	8	5	8
Total	100	100	100	100
N	502	279	88	877

Notes: Question asked: What type of education do you have? In what discipline do you have your highest degree? Reform women with 0–3 years on the board, pre-reform women with more than three years on the board and men. The only difference between men and reform women significant at the 5 percent level is for the category "Law". For the category "Economics" there is a significant difference at the 5 percent level between reform women and pre-reform women. There are no other significant differences between these two groups of women.

Source: Storvik (2010).

Table 3

Main occupation of board members (in %)

	Men	Reform women	Pre-reform women	All
Board membership is my main occupation.	15	11	9	13
Owner/part owner/partner	39	20	27	32
Manager	43	53	62	48
Other employee	15	21	12	17
Other	6	5	4	5

Notes: Question asked: What is your main occupation? Multiple answers possible. Reform women 0–3 years on the board, pre-reform women with more than three years on the board and men. There are significant differences at the 1 percent level between men and reform women for the category "Owner, part owner, partner" and for the category "Manager". There is a significant difference at the 5 percent level between reform women and pre-reform women for the category "Other employee", otherwise there are no significant differences between these groups of women.

Source: Storvik (2010).

women choose the category "other employee" as their main occupation.

According to Huse (2007), ownership appears as a "qualification" for board membership. It might be arguable that ownership is a form of motivation rather than a qualification, and many owners want to be on the board. As shown above, significantly more men than women say that ownership is there main occupation (Table 3). In addition, many more men than women report that they or someone in their nearest family represents owner interests in the company where they are board members. While 35 percent of the men state this, only 11 percent of the women do so (table not shown). Ownership therefore appears to be a type of "qualification" that women lack. If we look at the number of shareholders who are elected board members and are also owners in the companies after the reform, we find that this applies to 25 percent of the directors. In a study carried out in 2003 before the quota reform, Econ (2003) found that this applied to 35 percent of all directors in this type of companies. This implies that the number of directors with ownership interests appears to have dropped after the reform.

Board members' own evaluation of the new women's competence

How do board members themselves think that the new women have influenced the boards work after the reform? As we shall see, the answers to this question also tell us about how board directors evaluate the new women's board competence. If the new female directors are noticeably better or less qualified, it is likely that this also should have an impact on board work. All board members were therefore asked if they had experienced changes in board performance after the reform.

As Table 4 shows, a clear majority, 48 percent, say that they have not experienced any noticeable change in the boards' work after the reform. In total, 16 percent have experienced a positive change and 6 percent have experienced a negative change. If we weigh the group that has experienced a positive change against the group that has experienced a negative change, we find that the positive experiences outweigh the negative ones. Based on the board members' own experiences, the reform has had overall a slightly positive effect on the board's work.

It is possible that companies in sectors with few female employees and few female managers have experienced the reform as more problematic than companies in other sectors. Few women in the sector might limit the pool of potential female board members. Both Hillman et al. (2007) and Grosvold (2009) show that a positive correlation exists between the number of women in the sector and the number of women board members in the sector. However the analysis shows no connection between reform expe-

Table 4

Changes in the board's work after the reform (in %)

	Men	Women	All
A positive change	12	20	16
No noticeable change	60	33	48
A negative change	11	1	6
The reform did not target us.	8	10	9
Other	2	3	2
Do not know	7	34	19
Total	100	100	100
N	500	366	872

Notes: Question asked: The quota reform has led to a considerable increase in the number of women on boards. Have you experienced changes in the board's work after the reform? The difference between the group who have experienced a positive change and the group who have experienced a negative change is significant at the level of 1 percent. The difference between men and women who have experienced a positive change is significant at the level of 1 percent.

Source: Storvik (2010).

Table 5

Improvements after the reform (in %)

	Men	Women	All
More pleasant atmosphere	39	26	32
The new female board members are particularly clever.	36	19	27
The new female board members have important board competence which previously was missing.	48	37	42
More weight is placed on knowledge and analysis.	16	37	27
More discussion takes place.	62	71	67
New perspectives have been introduced.	77	78	78
N	61	73	135

Notes: Question asked: How do you think the board's work has improved after the reform? Respondents: only those who think that board work has improved. Multiple answers possible. The difference between men and women is significant at the level of 5 percent for category two and four. Figures show the actual number of respondents who have chosen the alternatives.

Source: Storvik (2010).

rience and the number of female managers in the sector (table not shown). For nearly all sectors, we find a positive effect of the reform.

Board members who stated that they had experienced a positive change were asked what kind of positive change they had experienced (Table 5). Most mention the introduction of new perspectives and that more discussion takes place. Slightly fewer mention that the new female board members have important areas of competence the board previously lacked, and even fewer mention that board work has become more pleasant. The two most seldom mentioned alternatives are that the reform has increased the weight put on knowledge and analysis and that the new female board members are particularly clever. Clearly, the main positive effects of the reform are the introduction of new perspectives and that more discussion takes place.

Among the few board members who have experienced a negative change, nearly all say that the new female board members lack important areas of competence and insight (Table 6). Nearly no one says that more disagreement occurs or that less weight is placed on knowledge or analysis. Very few board members mention more discussions or more misunderstandings as a negative consequence. This shows that to a large extent board members agree about what the negative consequences of the reform are.

Viewpoints about the consequences of the quota reform can, of course, also stem from personal interests and ideological persuasions. It is possible that primarily the new women report these positive experiences, because they see that the reform is in their own personal interest. From Table 4 we see that more women than men say that the reform has had positive effects. Barely any of the women report that the work has become heavier after the reform. Among the men, nearly the same number have noticed positive changes as those who have noticed negative changes. This shows that mainly the women have experienced positive effects, while for the men the gains balance the losses.

With this perspective, it is also interesting to look at a group of respondents who appear especially qualified to have an opinion, namely the ones with four years or more of board service. These respondents have experienced the development from before the reform's implementation, when the number of women on the board was low, until spring 2009 when 40 percent of board members were female. If we first look at the group serving before the reform, we find that 20 percent have experienced a positive impact and 12 percent have experienced a negative impact.

Table 6

Troublesome developments after the reform (in %)

	Men	Women	All
New female board members lack important competence and insight	96	100	100
Less weight is put on knowledge and analysis	15	0	15
More disagreement	2	100	12
More misunderstandings	24	16	24
Too much discussion	30	3	33
N	52	6	58

Notes: Question asked: How do you think the board's work has become heavier after the reform? Respondents: only those who think that board work has improved. Multiple answers possible. The difference between men and women is significant at 1 percent level for category three and five. The percentage who replied that the board's work had worsened after the reform is not quite identical in Tables 1 and 4. The reason is that some respondents who were instructed to skip this question chose not to do so and instead replied. Figures indicate the actual number of respondents who have chosen the alternatives.

Source: Storvik (2010).

The analysis shows that not only women who became board members as a result of the reform are positive towards it. Amongst both men and women who served on boards before the reform we find that the number of positive experiences appears to outweigh the number of negative experiences.

So what does this tell us about the new female directors' competence? As we only asked respondents who had noticed a change in the boards' work after the reform to elaborate what these were means that only changes of a certain impact are reported. That most board members have not experienced any change in board work at all after the reform indicates that the new female directors appear to be at least approximately as competent as their predecessors. It is also interesting to note that almost exactly the same number of respondents report that the new female board members lack important competence and insight, as those number who say that the new women have important board competence previously lacking. Judged on the basis of the board members own experiences, we therefore conclude that the reform has not led to a noticeable decrease in the overall competence of the directors.

Discussion and conclusion

As stated, it was suggested prior to the reform that there were not enough willing and competent women so sit on the boards. Judged on the basis of formal qualification and the other directors' evaluation of the new women's competence, this is not the case. The new female board members appear to be and are perceived as being as competent as the other board members.

The survey indicated that in terms of formal qualifications the new women have, in general, the same types of education and occupations as the rest of the directors have. Furthermore, the new women clearly have a higher level of education. This might indicate that the competence on the boards has in fact increased as a result of the reform. However, it is likely that the new women are managers at lower levels that their male colleagues. As mentioned before, Ahern and Dittmar (2009) find that the number of CEOs at the boards has gone down as a result of the reform. Further we do not know if the new female directors work experiences are as relevant as the other directors. Our survey does not tell us what kind of management experience the new female directors have had or in what sector their work experience is from. Earlier research has shown that female managers more often than male managers are found in administrative management positions (Kanter 1977). In addition, Terjesen, Sealy and Singh (2009) reported that female directors are more often managers from less successful companies and tend to have had an earlier career in public or non-profit organisations (Singh, Terjesen and Vinnicombe 2008). To be on the safe side it is therefore best to conclude that the formal qualification of the new female board members indicate that they appear to be equally competent when compared with the other board members.

If we consider the board members' own experience about how the boards' work has developed after the reform this impression is strengthened. The large majority of directors say that they have not experienced any change in the board's work. Among the few who have noticed a change, more have noticed a positive rather than a negative development. The positive experience that most directors mention includes the introduction of new perspectives and increased discussion. On the negative side the most mentioned experience is that the new female board members lack important competence and insight. However, nearly the same number who report that the new women lack important competence say that the new female board members have important competence previously lacking on the board. On the basis of these findings it can be concluded that all in all the new women are perceived as being as competent as their predecessors.

In the 18 months prior to the quota law's going into force, more companies than usual changed their registration form from public limited companies to private limited companies. This might appear to be a reaction to the new law. As part of the research project, we conducted telephone interviews with CEOs or chairs for these companies (Heidenreich and Storvik 2010). The study showed that of the five hundred companies which existed before 2006, only 2 percent changed their registration form because they could not find competent women. All in all it is thus possible to conclude that nearly all companies had no problems finding qualified women.

The opposition against the quota proposition that characterised Norwegian political and public debate for close to ten years has now more or less vanished. One important reason for this is probably that it has proved possible to recruit a sufficient number of com-

petent women. Furthermore, nothing indicates that the quota policy has negatively affected the running and profitability of firms. In consequence, the opposition seems to have disappeared. The symbolic effect of the changes in the gender composition of company boards should not be underestimated. Even though only a small number of companies were targeted by the reform, they are the largest and most influential companies in the country. The board rooms which were previously occupied primarily by men are currently very close to having achieved gender balance. The long term consequences of the reform are, however, not yet visible.

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Autonomy or Regulation of Schools

Most countries allow both public and private schools to provide compulsory education. Out of the 28 OECD countries for which data are available, four out of five allow government-dependent and independent institutions to provide such schooling. Over 70 percent of OECD countries also report that home schooling may be allowed.

In practice, however, most compulsory schooling is provided by public institutions. Enrolments in government-dependent private schools exceed 10 percent in only seven countries – Belgium, Chile, Denmark, France, the Netherlands, New Zealand and Spain. For independent private schools they exceed 10 percent only in Mexico and Portugal. Half of countries reported figures for home schooling; on average, it accounts for just 0.4 percent of total enrolments (Figure).

The autonomy of schools is examined here across five areas (Table):

Requirement to follow standardised curriculum: At the lower secondary level, 93 percent of OECD countries reported a standard or partially standardised curriculum in public schools. For government-dependent private schools, the percentage was 91 percent; for independent private schools 59 percent; and for home schooling 61 percent. The picture is similar at the primary level.

Requirements for students to sit national exams: At the lower secondary level, 36 percent of OECD countries had mandatory national exams for public schools. For government-dependent private schools, the percentage was 32 percent; for independent private schools 30 percent; and for home schooling 18 percent. Such exams are less prevalent at the primary level, ranging from 14 percent of OECD countries for public schools to 5 percent for families that home school.

Promotion of religion or religious practices: The religious profile of schools is an important driver of school choice. At the lower secondary level, 46 percent of OECD countries allowed public schools to promote religion or religious practices. But for government-dependent private schools, this proportion rose to 83 percent; for independent private schools it was 95 percent; for home schooling 83 percent. The picture is similar at the primary level.

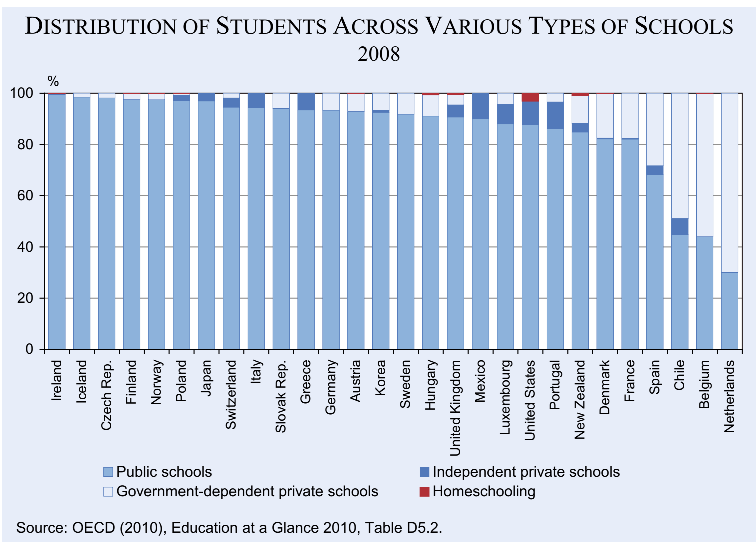
Employment and certification standards: With the exception of Chile, all countries reported having employment and certification standards for personnel working in public schools at primary level; all but Denmark reported that this also applied to government-dependent private schools. These standards were less often obligatory for independent private schools – ranging from 14 out of 20 at the lower secondary level. Of the countries that permitted home schooling, the Czech Republic, the Slovak Republic and Switzerland also had standards for personnel who instructed students in the home.

Restrictions on staffing and class size: These exist in around 70 percent of OECD countries for public schools compared with around half for government-dependent private schools and around a third for independent private schools. Only Switzerland reported such restrictions for home schooling. Restrictions were slightly more prevalent for primary than for lower secondary schools.

W. O.

Figure

Distribution of Students Across Various Types of Schools
2008



Source: OECD (2010), Education at a Glance 2010, Table D5.2.

Reference

OECD (2010), *Highlights from Education at a Glance 2010*, Paris, 82–85.

Table

Government regulation of schools at the lower secondary level, 2008

	A standard curriculum or partially standardised curriculum is required				Mandatory national examination is required				Schools can promote religion or religious practices				Personnel must meet employment and certification standards				There are restrictions on staffing and class size			
	P.S.	G.P.S.	I.P.S	H.	P.S.	G.P.S.	I.P.S	H.	P.S.	G.P.S.	I.P.S	H.	P.S.	G.P.S.	I.P.S	H.	P.S.	G.P.S.	I.P.S	H.
Austria	√	√	x	√	x	x	x	x	√	√	√	√	√	√	x	x	√	√	x	x
Belgium (Fl.)	√	√	m	a	x	x	m	a	x	x	m	a	√	√	m	a	√	√	m	a
Belgium (Fr.)	√	√	m	a	x	x	x	x	x	√	m	a	√	√	m	a	√	√	m	a
Chile	√	√	√	x	x	x	x	x	√	√	√	√	√	√	√	x	x	x	x	x
Czech Rep.	√	√	a	a	x	x	a	a	√	√	a	a	√	√	a	a	m	m	a	a
Denmark	√	√	√	√	√	x	x	x	x	√	√	√	√	x	x	x	√	x	x	x
England	√	√	x	x	x	x	x	x	√	√	√	√	√	√	x	x	x	x	x	x
Finland	√	√	a	√	a	a	a	a	√	√	a	√	√	√	a	x	x	x	a	x
France	√	√	√	√	√	√	√	x	x	x	√	a	√	√	x	x	x	x	x	x
Germany	√	√	m	a	√	√	m	a	x	√	m	a	√	√	m	a	√	√	m	a
Greece	√	a	√	a	√	a	√	a	m	a	m	a	√	a	√	a	√	a	√	a
Hungary	√	√	x	x	x	x	x	x	√	√	m	a	√	√	m	a	√	x	m	a
Iceland	√	√	√	√	x	x	x	x	√	√	√	√	√	√	√	x	x	x	x	x
Ireland	√	a	√	a	√	a	√	a	√	a	√	a	√	a	x	a	√	a	x	a
Italy	√	a	√	a	x	a	√	a	x	a	√	a	√	a	√	a	√	a	√	a
Japan	√	a	√	a	x	a	x	a	x	a	√	a	√	a	√	a	√	a	√	a
Korea	√	√	a	a	x	x	a	a	x	x	a	a	√	√	a	a	√	√	a	a
Luxembourg	√	√	x	√	√	√	x	a	√	√	√	a	√	√	√	a	√	x	x	a
Mexico	√	a	√	a	x	a	x	a	x	a	x	a	√	a	√	a	x	a	x	a
Netherlands	x	x	x	x	√	√	√	√	x	√	√	a	√	√	√	a	x	x	x	a
New Zealand	√	√	x	x	x	x	x	x	√	√	√	x	√	√	x	x	x	x	x	x
Norway	√	x	x	√	√	√	x	x	x	√	√	√	√	√	√	x	√	√	√	x
Poland	√	√	√	√	√	√	√	√	√	√	√	a	√	√	√	x	√	√	√	x
Portugal	√	√	√	√	√	√	√	√	√	√	√	a	√	√	√	a	√	√	m	a
Scotland	m	m	x	x	m	m	x	x	m	m	√	√	√	m	√	x	√	m	x	x
Slovak Rep.	√	√	a	a	x	x	a	a	√	√	a	a	√	√	a	a	√	x	a	a
Spain	√	√	√	a	x	x	x	a	x	√	√	a	√	√	√	a	√	√	√	a
Sweden	√	√	a	√	x	x	a	x	x	x	a	x	√	√	a	x	x	x	a	x
Switzerland	√	√	√	√	x	x	x	x	x	√	√	√	√	√	√	√	√	√	√	a
United States	x	a	x	x	x	a	x	x	x	a	√	√	√	a	m	x	√	a	x	x

P.S. = Public schools; – G.P.S. = Government-dependent private schools; – I.P.S. = Independent private schools; H. = Homeschooling.
a = not applicable; – m = not available; – √ = yes; – x = no.

Source: OECD (2010), Education at a Glance 2010, Table D5.4.

Net Neutrality

Net neutrality denotes the neutral transmission of data via the Internet, i.e., every packet of data, regardless of its content, origin and the application that created it, is treated the same way and the best effort should always be made to forward it. This concept is often regarded as a fundamental characteristic of the Internet. However, the amount of data that is transported via the Internet is increasing rapidly, especially because of applications like music and video downloads, Internet TV, and Internet telephony. All these applications require large capacities. This may lead to a capacity overload and delays of data transmissions. The current technological state allows for assigning different priorities to different data packets. Therefore, the discussion has emerged whether network operators should be allowed to treat different data packets differently, e.g., time sensitive data transmission like Internet telephony or video streaming differently than less time sensitive data transmission like e-mails. One possible scenario would then be that network providers demand a higher price for fast data transmission.

Proponents of net neutrality demand net neutrality to be legally enforced. They claim that otherwise the free exchange of information that makes the Internet the most democratic medium is at risk. They fear that if net neutrality is not maintained, this may lead to a two-class system and even to censorship and blocking of inopportune websites. Further it is argued that net neutrality ensures the innovativeness of the Internet sector, by allowing the free transmission of content, products and services, which is of special importance for small and new firms.

In contrast, opponents of strict net neutrality rules are mainly network operators that make investments to roll out broadband networks. They argue that net neutrality allows other firms to use their network capacities extensively without compensating adequately for them. Network operators therefore claim that they should be allowed to charge for extensive usage and high speed transmission within their networks. Otherwise further investments in the network infrastructure would not be profitable and further roll out of high speed networks would not be undertaken.

In the US there is currently a debate whether net neutrality should be regulated by law, following a lawsuit between the Federal Communications Commission (FCC) and Comcast, the second largest network operator. In October 2007, Comcast was accused of secretly deploying filtering technologies to manage its network in order to keep some peer-to-peer traffic from overloading its network and hence affecting the accessing speeds of its other Internet subscribers. The FCC deemed it unreasonable for Comcast to discriminate against particular Internet applications and not to disclose its practice adequately to its customers and therefore ruled against Comcast's practices of throttling Internet traffic and delaying peer-to-peer traffic. Comcast appealed to the US Court of Appeals, claiming that no legally enforceable standards or rules on the matter existed. In April 2010 the federal appeals court ruled that the FCC had limited power over Internet traffic under current law. This decision allows network operators to block or slow specific sites and charge sites to deliver their content faster to users. In the EU in contrast, near consensus was reached on the importance of preserving the openness of the Internet at the public consultation held on "The Open Internet and Net Neutrality in Europe" in 2010. The need for further EU legislation was not seen, but expectations were voiced that additional guidance may be needed in the future.

Instead of imposing net neutrality by regulatory interventions, two other means are currently preferred to ensure net neutrality: competition and transparency. Competition between network providers and free customer choice of ISP (Internet service provider) are expected to ensure net neutrality. However, to support this process, transparency over the traffic management practices of network operators is needed. Several countries, e.g., Canada, Japan and the UK, have understood this need and issued rulings that require network operators to disclose all network management practices.

N. C.

Table

Net neutrality

Country	Previous Developments	Current Situation/Discussion
Australia	Volumetric pricing of internet by ISPs: Internet use is currently capped and usage above monthly plans is throttled or charged at a pre-determined rate. It is argued that this practice reduces incentives for ISPs to block or throttle content unaffiliated to the ISP or generated by users, and encourages them to promote extra use of content from any source.	The ACCC decided against imposing a net neutrality ruling in 2004, arguing that enforcing certain net neutrality rules would negatively affect competition in the market. To address the issue of lack of equal access to infrastructure, the Australian government announced in 2009 that it would establish a new, government-controlled entity to build, own and operate a new high speed national broadband network.
Canada	The principle of "common carriage" requires communication networks to provide non-discriminatory treatment of data and neutral access to other networks. This principle originates from railways and was then also applied to telegraph and telephone networks. The Telecommunications Act of 1993 stated: "No Canadian carrier shall, in relation to the provision of a telecommunications service or the charging of a rate for it, unjustly discriminate or give undue or unreasonable preference toward any person, including itself, or subject any person to an undue or unreasonable disadvantage."	Although the common carriage regulation was intended for telephone services, the principle now serves as a basis for regulation of new technologies and services, including broadband Internet access. After several violations of the principle of net neutrality such as traffic shaping, bandwidth throttling and blocking of websites, the CRTC issued an internet traffic ruling requiring ISPs to disclose all network management practices.
EU		As part of the 2009 Telecoms Reform Package, the EU Commission committed itself to scrutinising the open and neutral nature of the Internet and reporting on the current state to the European Parliament and the EU's Council of Ministers. The public consultation on "The Open Internet and Net Neutrality in Europe" ran for 3 months in 2010, as part of the Commission's preparations for the report. There was near consensus on the importance of preserving the openness of the internet. The need for further EU legislation was not seen, but it is expected that additional guidance may be needed in the future.
France	The principle of net neutrality is not codified in legislation but the best-effort practices that have developed over the past several years are chiefly the result of unwritten rules. The current legal framework requires "neutrality with respect to the content of transmitted messages"; however, this notion pertains primarily to non-discrimination between users and provides a rather limited basis for regulatory intervention.	ARCEP believes that it is in everyone's interest for the principle of net neutrality to continue to exist, for technical, economic and social reasons. In September 2010, ARCEP published ten proposals on the Internet and network neutrality. Network neutrality can only be achieved if Internet access is neutral with regard to the type of content, service, application, device or the address of the stream's origin or destination. Furthermore, transparency and the monitoring of traffic management techniques are necessary.
Germany	In 2009, the coalition agreement between the CDU, CSU and FDP stated that competition currently ensures net neutrality. However, the continued development will have to be observed closely and, if necessary, countermeasures taken to preserve net neutrality. In March 2010, a committee of enquiry on the Internet and the digital society was set up to investigate, among other things, the current state of net neutrality.	The EU Telecoms Reform Package and the draft for the new German telecommunication law allow for the national regulators to define a minimum quality. This addresses the concern that prioritisation of certain services may significantly slow down other services. The German regulator Bundesnetzagentur is considering this option. It further states that discrimination is present two service providers offering the same services are treated differently. This kind of discrimination can already be counteracted by the existing competition or telecommunication law. However, different treatment of different services, e.g., services that require a certain quality, is not considered to be discrimination as long as all providers of that service are treated equally and in a transparent manner.

(Table continued)

Country	Previous Developments	Current Situation/Discussion
Japan	Several pre-existing conditions, such as service- and facilities-based competition, have created an environment in which net neutrality discordances are less likely to occur. However, after a warning given by the Fair Trade Commission in 2000 about the treatment of the incumbent NTT, the MIC forced NTT to lease out its unused fibre optic infrastructure ("dark fibre") at low prices to competitors and to grant access to its local "last-mile" infrastructure. Another step taken by the MIC was to define transparency as a guiding principle for broadband services and net neutrality.	Broadband internet is growing rapidly, especially as a result of an increase in peer-to-peer file sharing, which is affecting the speed of the network as a whole. Therefore, traffic management practices have become an important issue for ISPs, regulatory bodies, and the public at large. In 2007, the MIC formulated packet-shaping guidelines and ways to prevent discriminatory behaviour: packet shaping was deemed reasonable under certain circumstances. In 2008, four associations of telecommunications providers elaborated guidelines such that some restriction of traffic in the case of excessive bandwidth demand was allowed. No blocking of high-bandwidth applications or users was permitted, however. Furthermore, ISPs should disclose all traffic shaping policies to users in advance and make this information publicly available online.
United Kingdom	Ofcom mandated the incumbent British Telecom to separate its retail internet access services from its wholesale arm. As a result, since 2006, wholesale Internet has been provided by Openreach on an open access basis. Since Openreach ensures that last-mile infrastructure is neutrally available to other ISPs, there is less incentive for BT, as well as competing ISPs, to participate in discriminatory practices.	In 2010, Ofcom began examining the traffic management practices of ISPs, as media companies had raised concerns about net neutrality and the ISPs' traffic management practices. Ofcom is reluctant to undertake any regulatory interventions, arguing that net neutrality legislation would be harmful to investment and growth. Rather, Ofcom supports transparency and the responsibility of consumers by giving them information about ISPs' traffic management practices and enabling a straightforward process to change ISPs.
United States	In 2005, the FCC published the Broadband Policy Statement which states that in order to encourage broadband deployment and preserve and promote the open and interconnected nature of the public internet, it would adhere to the following pro-consumer principles in its ongoing policymaking activities: (a) consumers are entitled to access the lawful Internet content of their choice; (b) consumers are entitled to run applications and use services of their choice, subject to the needs of law enforcement; (c) consumers are entitled to connect their choice of legal devices that do not harm the network; and (d) consumers are entitled to competition among network providers, application and service providers, and content providers.	In October 2007 it was reported that Comcast Corporation, the largest cable television operator and the second largest ISP, secretly deployed filtering technologies to manage its network in order to keep some peer-to-peer protocol traffic from overloading its network and hence affecting the access speeds of its other internet subscribers. The FCC deemed it unreasonable for Comcast to discriminate against particular internet applications and not to disclose its practice adequately to its customers. In July 2008, the FCC condemned Comcast's practices of throttling Internet traffic and delaying peer-to-peer traffic. However, the FCC was overruled by the US Court of Appeals on the basis that current legislation does not give authority to stop violations of net neutrality. In December 2010 the FCC adopted new guidelines for net neutrality that impose neutrality also for mobile networks and transparency for network management.
Abbreviations: ISP: Internet Service Provider; – ACCC: Australian Competition and Consumer Commission; – CRTC: Canadian Radio-television and Telecommunications Commission; – ARCEP: Autorité de régulation des communications électroniques et des postes; – NTT: Nippon Telegraph and Telephone; – MIC: Japan Ministry of Internal Affairs and Communications; – OFCOM: Office of Communications; – FCC: Federal Communications Commission		

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Degree of Liberalisation and Competitiveness of the EU Member States' National Gas Markets

In 2003 the European Commission issued a directive (2003/55/EC) aimed to usher in an integrated, efficient, competitive European gas market. All member states were to open their gas (and electricity) markets to competition by 1 July 2007. By the end of 2008 most member countries, with the exception of Hungary and Portugal, had opened their gas markets (see Table). Although some liberalisation has occurred since then, there is still a long way to go for real national gas markets – not to mention a truly pan-European one – to be in place. While some progress could be observed in terms of gas market liberalisation, the concentration on wholesale gas markets is still high. According to the European Commission's 2010 benchmark report, the market share of the three largest wholesalers is still about 90 percent in 10 member states.[1]

One reason behind the sluggish development of the gas markets is the presence of powerful political forces which – loath to having their national champions lose power – resist any reforms. As a result the

[1] European Commission (2010a). Unfortunately, a thorough evaluation of the gas retail markets is hindered by the lack of data for 11 member states.

Table

Competitiveness indicators of the national gas markets of the European member states

	Gas Market opening (% of eligible consumption)	Annual Switching Rate Gas (by volume)				End-user price regulation				Number of companies with more than 5 % share of available gas	Share of 3 biggest companies by available gas (in%)
		Whole retail market	Large industry	Medium industry	Small industry and households	Existence of price controls		Number of customers supplied under end-userprices			
		in %				House-holds	Non-House-holds	House–holds	Non-House-holds		
Austria	100	3.30	NA	4.20	0.70	No	No	0	0	4	86.00
Belgium	100	NA	NA	NA	NA	No	No	0	0	4	92.00
Bulgaria	100	0.00	0.00	0.00	0.00	Yes	Yes	3,334	46,187	1	89.00
Cyprus	0	NAP	NAP	NAP	NAP	No	No	0	0	NAP	NAP
Czech Rep.	100	NA	NA	NA	NA	No	N0	0	0	2	NA
Denmark	100	16.00	NA	25.00	2.50	Yes	Yes	NA	NA	3	NA
Estonia	100	NA	NA	NA	NA	Yes	Yes	51,306	NA	2	99.00
Finland	0	NAP	NAP	NAP	NAP	No	No	0	0	1	100
France	100	NA	NA	NA	NA	Yes	Yes	9,940,000	473,000	2	88.00
Germany	100	4.35	6.82	6.49	2.57	No	No	NAP	NAP	7	61.82
Great Britain	100	NA	NA	NA	NA	No	No	0	0	NA	NA
Greece	90	0.00	0.00	0.00	0.00	Yes	Yes	187,730	11,390	1	100
Hungary	34.04	14.20	91.30	56.30	11.80	Yes	Yes	3,294,883	208,194	4	86.90
Ireland	100	NA	NA	NA	NA	Yes	Yes	594,169	21,904	5	81.64
Italy	100	34.90	40.00	6.80	1.40	Yes	No	17,597,115	813,686	3	85.20
Latvia	NAP	0.00	0.00	0.00	0.00	No	No	0	0	1	100
Lithuania	100	0.00	0.00	0.00	0.00	Yes	Yes	544,400	5,710	2	100
Poland	100	0.00	0.00	0.00	0.00	Yes	Yes	6,500,642	57,631	1	100
Portugal	42.99	0.00	NAP	NAP	NAP	Yes	Yes	1,082,930	4,353	0	0.00
Romania	100	NA	NA	NA	NA	Yes	Yes	2,674,407	157,735	3	83.19
Slovak Rep.	100	0.00	0.00	0.00	0.00	Yes	No	1,400,943	73,683	1	100
Slovenia	100	0.52	1.52	2.72	0.03	No	No	0	0	2	100
Spain	100	6.00	9.00	8.00	4.10	Yes	No	3,862,235	0	4	66.00
Sweden	100	NA	NA	NA	NA	No	No	0	0	NA	NA
Netherlands	100	NA	NA	NA	NA	Yes	Yes	6,559,000	161,000	1	87.80

NA = Not available. – NAP= Not applicable.

Source: Europäische Kommission (2010b).

national gas markets of the EU member states are still highly concentrated and inefficient, and a European internal gas market is still far from becoming a reality.

A further obstacle is the use by most member countries of direct end-user price controls – allegedly to protect vulnerable consumers (see Table). The coexistence of an open energy market and regulated energy prices is not exactly a rarity in the EU: in 15 of the 25 states presented in the Table, end-user price regulation was in place for household consumers and in 12 of the EU member states for non-household consumers. In France, for example about one million households and about half a million non-households are supplied under regulated end-user prices. Where price controls exist, the prices are set with varying degrees of (in)transparency by political bodies. While protecting vulnerable consumers from excessive gas prices is surely important, there are far better instruments to accomplish this, such as special social benefit schemes that do not distort price signal mechanisms.

Consumers themselves are also to blame. Although every consumer is free to choose his supplier, the switching rates are still typically very low. Switching levels vary considerably across member states, with countries like Denmark or Italy experiencing relatively high rates, while most of the others show little or no activity at all. At the large and medium-sized industry levels the propensity to change the gas supplier is much higher than at the household level. According to the results of the Eurobarometer survey FL243,[2] fully 80 percent of respondents had the chance to switch suppliers, but only 7 percent did so. One-third of the consumers surveyed chose not to switch because “comparison of offers was very or fairly difficult”. Two-thirds reported that in the period considered their gas prices had increased, and fully 70 percent of those who did switch suppliers obtained a lower price.

J. A.

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[2] European Commission (2009).

Neutrality of tax systems

Families can choose among different labour supply options to procure a desired level of disposable income. Tax systems are defined as "neutral" if they provide equal incentives to work for both partners. Often, men are the main earners in couple families. In practice, therefore, this indicator is associated with gender equity in the distribution of paid work within households.

The nature of the tax unit is an important factor in determining the extent to which tax systems favour dual earner couples or single breadwinner families. Under "joint" taxation systems, the marginal tax rate of the second earner will be the same as the marginal tax rate of the primary earner. If the taxation system is progressive, this rate will be higher than the marginal rate for a single person at the same level of earnings. This causes adverse incentives for the second earner (most commonly the female partner) to participate in the paid labour market. With progressive tax rates, individual taxation means that a second earner will be taxed less heavily than the primary earner for the same level of additional earnings, implying that couples can achieve higher levels of disposable income by becoming a dual-earner family. Most OECD countries have individual based tax systems, those with joint tax systems are listed in Table 1.

The OECD uses tax models to simulate the effects of the differences in tax systems across countries. Table 2 summarizes the results of one of these simulations. The Table shows how tax systems may affect the distribution of earnings among spouses in couple families. It looks at how couple families with incomes of 133 percent of average earnings may best allocate earnings among themselves. Three alternatives are considered at two earnings levels:

1. "Single-earner couples" – one earner with 133 percent of average earnings;
2. "Dominant dual-earner couples" – the main or primary earner with an average or 1.5 times average earnings and a second earner with one-third or half of average earnings; and
3. "Equal dual-earner couples"– both spouses earn the same, either average earnings or 67 percent of average earnings.

For each of these cases, Table 2 shows how much "net taxes" (the difference between taxes paid and family and other benefits received) would be paid by the household to the government. For example, at 133 percent of average worker earnings, the net transfers for an Australian single-earner family amounts to almost 18 percent of gross earnings, while this is 5 percentage points lower for couples, both partners having the same level of earnings. In other words, at the given levels of household income, the Australian tax system favours dual-earner couples over single-earner families.

When looking at the net tax transfers, families have to make to the government at the same earnings level (compare columns 1, 2 and 3 in Table 2), it appears that the proportion of net transfers to the government by families in most countries diminishes with a more equal distribution of earnings across spouses. In other words, most tax systems favour dual-earner over single-earner couples. This is also shown in the last column of Table 2 which presents the difference in net transfers by single and equal-dual earner couples as a percentage of net transfers to government by single earner couples. The majority of values are positive which indicates that single-earner families generally pay more in net transfers to the government than equal dual-earner families with a similar level of household earnings. In the Czech Republic, Estonia, France, Iceland, Poland and the Slovak Republic, the tax systems appear to be largely neutral (within 5 percentage points either side of zero) between dual and single-earner couples. Only in Germany the tax system significantly favours single breadwinner couples over dual-earner families.

On the whole, the calculations above indicate that tax systems in most OECD countries provide strong

Table 1

OECD countries with joint taxation or with an option for joint taxation[a)]

Country	Regulation holds for
Czech Republic	Couples with children
France	Families
Germany	Married couples
Ireland	Married couples
Luxembourg	Married couples
Norway	Optional
Poland	Married couples
Spain	Optional
Switzerland	Married couples
US	Married couples

[a)] Not included are countries with individual based tax systems that exhibit some "joint elements", such as tax reliefs and tax credits which are transferable between partners. This is the case, for example, in Denmark, Iceland and the Netherlands.

Source: OECD (2009).

Table 2

Incentives to share paid work in OECD countries, 2008

	Single-earner couples	Dominant dual-earner couples	Equal dual-earner couples	Difference in net transfers to government: single and equal dual-earner couples
Gross income	133–0 1	100–33 2	67–67 3	133 4 (1–3)/1)*100
Australia	17.6	14.3	12.6	28.5
Austria	27.6	21.1	19.6	29.0
Belgium	30.2	26.2	27.1	10.4
Bulgaria	14.4	15.6	14.4	0.1
Canada	17.8	15.4	13.6	24.0
Czech Rep.	4.8	6.4	4.9	-0.5
Denmark	35.9	33.5	33.4	7.0
Estonia	8.5	8.5	8.5	0.1
Finland	29.6	21.1	18.7	36.8
France	19.7	17.9	20.0	-1.7
Germany	27.5	28.9	28.9	-5.2
Greece	35.2	27.8	24.4	30.7
Hungary	32.9	22.9	17.8	45.9
Iceland	13.6	13.7	13.7	-1.1
Ireland	10.2	3.3	4.4	57.2
Italy	25.0	18.2	18.2	27.0
Japan	16.7	15.5	15.1	9.3
Korea	12.8	9.5	8.8	31.5
Latvia	19.1	18.2	18.1	5.0
Lithuania	20.0	17.3	17.3	13.6
Luxembourg	9.8	7.1	7.1	27.3
Malta	12.3	12.8	9.8	20.1
Mexico	10.7	0.9	-1.4	112.9
Netherlands	28.4	23.1	22.4	21.2
New Zealand	15.7	11.2	9.7	38.1
Norway	27.5	22.7	21.7	20.9
Poland	19.0	18.3	18.3	3.7
Portugal	15.9	11.8	11.8	25.3
Romania	24.5	21.6	21.3	13.2
Slovak Rep.	11.7	11.7	11.7	-0.2
Slovenia	20.2	18.7	19.6	3.0
Spain	16.5	14.5	11.1	32.5
Sweden	27.4	18.9	18.3	33.3
Switzerland	11.8	10.4	10.4	12.2
Turkey	28.2	27.1	26.7	5.5
United Kingdom	22.8	18.1	18.1	20.8
United States	12.0	12.0	12.0	0.0
OECD	20.5	16.8	16.0	22.7

Note: The table shows how much net tax would be paid by couples with incomes of 133 percent of average earnings.

Source: OECD tax models.

financial incentives for both adults in couples to engage in paid work. These results vary with income level and with the age and number of children.

S. F.

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Renewable Energy Use and Policy Targets in the EU

Increasing the use of renewable energy sources is one of the key goals of European environmental policy. Renewable energy includes various sources such as hydroelectricity, biomass, wind, solar and geothermal energy. Political efforts to promote a switch from fossil fuels to renewables have increased in recent years as a measure to reduce CO_2 emissions and slow down climate change. Adding renewables increases energy security by broadening the energy mix and reducing dependency on imported fuels. Also it is hoped that supporting demand for renewable energy will spur the creation of jobs, new technologies and increase competition in the long run.

In 1997 The European Commission set out a goal to increase the average share of renewable energy to 12 percent by the year 2010. Now, as a part of EU climate and energy policy (Directive 2009/28/EC), the aim is to drive renewable energy up to 20 percent by the year 2020. The new target is divided among the member countries as shown in the Table.

The share of renewable energy in gross final energy consumption in EU countries was 10.3 percent in 2008.[1] Final energy consumption comprises three sectors: heat production, electricity generation and transportation. Currently renewable energy is used more extensively in heat and electricity production. Renewable energy used in the transport sector amounts to only 3.5 percent (Eurostat 2010b).

Biomass and hydroelectricity are the most important sources of renewable energy. Currently other sources such as wind, solar, geothermal and marine energy make up only a marginal portion of supply; however, their use is growing fast (IEA 2010).

Hydro energy makes up of 60 percent of electricity generation from renewables. Wind energy and biomass generate 21 and 17 percent of renewable electricity, respectively. Of renewable heat energy 81 percent is generated from biomass, wood, waste and biogas. In the transport sector renewables comprise biogasoline and biodiesel that are blended with fossil fuels (Eurostat 2010b).

EU member countries use renewable energy at very different levels (Table). Differences between countries are due primarily to differences in the national endowment of resources. For example, in heat production Sweden, Finland and Latvia biomass is used extensively due to a large forest paper industry which generates wood, wood waste and other combustible

Table

Share of renewable energy in gross final energy consumption, in percent, 2006–2020

	2006	2007	2008	2020 target
Sweden	42.7	44.2	44.4	49.0
Finland	29.2	28.9	30.5	38.0
Latvia	31.3	29.7	29.9	40.0
Austria	24.8	26.6	28.5	34.0
Portugal	20.5	22.2	23.2	31.0
Estonia	16.1	17.1	19.1	25.0
Denmark	16.8	18.1	18.8	30.0
Lithuania	14.7	14.2	15.3	23.0
Slovenia	15.5	15.6	15.1	25.0
France	9.6	10.2	11.0	23.0
Spain	9.1	9.6	10.7	20.0
Bulgaria	9.3	9.1	9.4	16.0
Germany	6.9	9.0	8.9	18.0
Slovak Republic	6.2	7.4	8.4	14.0
Greece	7.2	8.1	8.0	18.0
Poland	7.4	7.4	7.9	15.0
Czech Republic	6.4	7.3	7.2	13.0
Italy	5.3	5.2	6.8	17.0
Hungary	5.1	6.0	6.6	13.0
Cyprus	2.5	3.1	4.1	13.0
Ireland	3.0	3.4	3.8	16.0
Belgium	2.7	3.0	3.3	13.0
Netherlands	2.5	3.0	3.2	14.0
United Kingdom	1.5	1.7	2.2	15.0
Luxembourg	0.9	2.0	2.1	11.0
Malta	0.1	0.2	0.2	10.0

The indicator is calculated on the basis of energy statistics covered by the Energy Statistics Regulation. It is an estimate of the relevant indicator described in Directive 2009/28/EC, as the statistical system for some renewable energy technologies has not yet been fully developed to meet the requirements of this Directive. However, the contribution of these technologies is at the moment rather marginal.

The indicator presented is calculated with "SHARES", an informatics application developed by Eurostat and the national energy statistics authorities for the calculation of renewable energy shares on the basis of detailed national energy statistics covered by the Energy Statistics Regulation. This application was also used to transmit to Eurostat additional information (where available) required for the calculation of renewable energy indicators not covered by the Statistical Regulation.

Source: CESifo DICE Database, data from Eurostat, Data in Focus 30/2010, Luxembourg.

[1] Gross final energy consumption is defined in Directive 2009/28/EC as the sum of final energy consumption, i.e., energy delivered to industry for manufacturing processes, to the transport sector, including international aviation, and to other sectors (households, services, agriculture, etc.); consumption of electricity and heat by the energy branch for electricity and heat generation (own use by plant); and losses of electricity and heat in transmission and distribution (Eurostat 2010b).

fuels. In electricity generation Sweden and Austria benefit from hydro energy. Typically biomass and hydro energy are very cost effective so they are used where available.

Some countries have advanced towards their targets by adapting new technologies early, but nevertheless their share of renewables remains modest. For example Denmark, France, and Germany have invested heavily in wind power, but as it comprises only a small part of total energy consumption, these countries show only an average ranking among member countries (Table).

Renewable energy use varies considerably from year to year. From the Table we can see that despite policies to increase the use of renewables, some countries have experienced drops in their share of renewables. Some of this variation can be explained simply by changes in weather. For example precipitation affects river flows and therefore the availability of hydroelectricity.

J. I.

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Tuition Fees in Europe 2010/2011

This topic was discussed in the CESifo DICE Report before (2005/3, 55–57, 2007/4, 56–58). But the tuition fee regulations in Europe have changed again significantly. As of 2010/2011, 14 countries of 29 (present EU countries plus Norway and Switzerland) are charging tuition fees in public universities whereas in 2007/08, 18 of the selected 29 countries had tuition fees (2005: 15 out of 27). In the meantime, Austria has eliminated tuition fees for students who finish their studies within the designated study time; Hungary abolished all fees by referendum in 2008; Greece eliminated tuition fees for Greeks and EU citizens; and Slovenia also eliminated tuition fees for graduate studies (undergraduate studies were already tuition free). In addition, the number of German Länder that charge tuition fees fell in comparison to 2007/08. As in the past there are no fees for national and EU/EEA-citizens in the Scandinavian countries and for state universities in the Czech Republic, France, Ireland, Malta, Poland and Slovakia. Cyprus, Denmark, France, Greece, Hungary, Ireland and Malta charge tuition fees only for foreign students. The Swedish government passed a law to enable a general tuition fee of EUR 97 per semester for foreign students (non-EU/EEA or Switzerland citizens) from autumn 2011 on. A special system has been introduced in Lithuania: the new law on higher education of 2009 introduced the “student’s basket”. This is a higher-education-voucher provided by the government. Students can use this voucher to pay for public or private schooling. In private education institutions the student has to pay extra fees if the tuition set by the private institution is higher than the one set by the state, which is fixed to the tuition amount that is covered by the voucher. The students who do not get “student baskets” can get support with the help of state-guaranteed loans. The students’ right to receive a “basket” is based on their school results (matura examination and study results), additional points that candidates are given, candidates’ choice priorities, other candidates’ choices, and additional tests organised by higher schools.

Also – as was indicated in previous editions of this journal – in 2010/2011 the regulations for tuition fees in Europe vary considerably. In Luxembourg students pay the same countrywide fee. But in the Netherlands (for foreigners), Portugal, Belgium, Switzerland, and in Italy, the universities determine the fees. In Spain the fees are regional and in some cases staggered according to subject. In the United Kingdom students in England, Northern Ireland and Wales are required to pay GBP 3,290 p.a. in tuition fees; Scottish students on the other hand can study free of charge – only if they study in Scotland, however.

As observed in recent years the tuition fees in most of Europe are considerably lower than in the US. In the Netherlands, for example, fees amount to EUR 1,672 (2007/08: EUR 1,538; 2005: EUR 1,476) and in Luxembourg the fee is EUR 100 per semester. The tuition fees in the US average between USD 12,000 and 16,000 p.a. In Harvard graduate studies cost up to USD 53,000 p.a. However, the range of fees at public universities for national and EU citizens in Europe is large and ranges from just EUR 200 per study year in Luxembourg to more than GBP 25,500 (EUR 29,000) for graduate programmes at the UK’s top universities, Oxford and Cambridge. Tuition fees in Europe for foreigners or in private universities are considerably higher and in some cases close to the fees in the US. In Grand Écoles or private universities in France the tuition fees can amount for this group to as much as EUR 34,000 per year. In Ireland – where the universities are free for nationals and EU citizens – foreigners from non-EU countries face fees up to EUR 36,000 p.a., the highest fees in Europe. Furthermore some countries charge different fees for programmes not held in their national language. A course held in, i.e., English or German in Hungary or in English in the Czech Republic, Poland or Slovakia, can amount up to USD 10,000 p.a., even if there are no tuition fees otherwise.

In the countries where tuition fees are charged, the governments offer loans or grants to help students finance them (see the Table). For instance in the United Kingdom, the fees are paid by a government agency during the course of study and the graduate has to pay it back after starting work and earning a certain amount of money.

N. H.

Table

Tuition fees in Europe 2010/11

	Tuition fees	Remarks/exemptions
Austria	None. Tuition fees of EUR 363.36 per semester only for students who exceed the designated duration of study courses by more than two semesters. Fees for some private universities.	General tuitions fees abolished 2009.
Belgium	Approx. EUR 600 p.a. (dependent on university and course of studies)	Flanders: scholarships offered by government, scholarships and loans offered by universities. Walloon: scholarships and low-interest loans are offered by the government.
Bulgaria[a)]	Public universities: every year the government sets a maximum number of student places. A portion of them are allocated to the students who do not pay fees ("state quota"). For the remaining places tuition fees range between BGL 100 and 400 (EUR 50–200) p.a. Foreigners: EUR 2,200–5,500 p.a. (depending on university and course of studies). Private universities set their own fees.	The government determines who and how many students will receive scholarships or student loans for public universities. The government does not offer student loans for private universities.
Cyprus	None (non-EU foreigners max. EUR 6,830)	
Czech Republic	None (for courses in English USD 3,000–10,000 p.a.)	
Denmark	None (non-EU foreigners: EUR 6,000–16,000 p.a.)	
Estonia	EUR 1,023–6,730 p.a. (higher fees for some programmes). For exchange students: none.	The government offers a number of scholarships.
Finland	None	
France	Universities: none. Grand Écoles and private universities: up to EUR 34,000 p.a. (for non-EU foreigners)	Enrolment fees between EUR 160 and EUR 512 p.a.
Germany	None in some Länder, in others between EUR 100 and 500 per semester	In Länder with tuition fees a low-interest loan offered that is paid back after completion of the course of studies. Tuition fees have no effect on Bafög (federally funded scholarship).
Greece	None for Greek and for foreigners from countries in which Greek students do not have to pay fees. For other foreigners: fees set by universities	Grants offered.
Hungary	None for Hungarian students. (for foreigners: fees set by universities).	Abolished by referendum in 2008.
Ireland	None (non-EU foreigners: up to EUR 36,000 p.a.)	
Italy	Mind. EUR 750 p.a., universities set the fees.	Students who receive a public loan based on need or a performance-related scholarship are exempt from the fees.
Latvia	EUR 1,400–8,900 p.a. (non-EU foreigners pay EUR 2,800–8,900 p.a.)	Loans and scholarships are available.
Lithuania	EUR 434–6,950 p.a. (set by universities). Non EU-foreigners: EUR 1,000–5,000 p.a.	New system introduced 2009: student basket. The students who received the best marks in their tertiary education graduation examinations study free of charge at a higher education establishment of their choice; others are granted access to studies upon creation of an efficient system of state-funded loans. No fees for students receiving an ERASMUS scholarship granted by the EU.
Luxembourg	EUR 100 per semester	
Malta	None (foreigners: EUR 1,250–1,500 per semester)	
Netherlands	EUR 1,672 p.a.	Considerably higher fees – determined by the university – for students from non-EU countries and those who do not have their main residence in the Netherlands, Belgium, Luxembourg or some German Länder.
Norway	None	

(Table continued)

	Tuition fees	Remarks/exemptions
Poland	Public universities: none (except for courses held in foreign languages). Private universities: EUR 4,000–14,500 p.a.	
Portugal	EUR 500 p.a. (private universities: EUR 150 per month)	
Romania	EUR 375–2,000 p.a. for public and private universities. Foreigners: Depending on course of studies between USD 3,200 and 7,600 p.a.	Government scholarships for students with good academic performance and in cases of need.
Slovak Republic	None (for courses in English or other foreign languages USD 5,000–8,000 p.a.).	
Slovenia	Public universities: none. Private universities EUR 2,000 to more than EUR 10,000 p.a.	Scholarships and grants available.
Spain	Public universities: dependent on region and course of studies between EUR 550 and EUR 900 p.a. Private universities: up to EUR 6,000 p.a.	Fees are reduced for students from large families.
Sweden	None (from autumn 2011 general fees of EUR 97 per semester for non-EU/EEA foreigners)	
Switzerland	EUR 750–3,001 p.a. (for foreigners up to EUR 6,002 p.a.)	The universities set the fees. The cantons set the requirements for grants.
United Kingdom	Public universities in England/Wales/ Northern Ireland (NI): up to GBP 3,290 p.a. Private universities and graduate programmes: up to GBP 25,500 p.a. Scotland: none.	England/Wales/NI: universities set fees. There is a Student Loan for Fees to cover these costs. After completing the course of studies and taking up work the graduate repays these loans. This is done only after earning an income of GBP 15,000 p.a. The amount paid monthly depends on the income of the graduate. A massive increase in the fee is set for the year 2011/2012. Scotland: tuition fees are paid by the Student Awards Agency.
Russia[a)]	15% of students at public universities pay fees (those who are working towards a second degree or did not quite fulfil the entry requirements). The amount is geared to the market value of a program and the prestige of the institution rather than to the actual costs. Fees vary depending on university and course of studies between USD 2,500 and 8,000 p.a.	Government scholarships and student loans are available.
United States	Universities and colleges set the fees. These vary from USD 2,000 p.a. (community colleges) to over USD 53,000 p.a. (graduate programmes in Harvard). The average amount is between USD 12,000 and 16,000 p.a.	A broad range of loans and scholarships are available.

[a)] 2007/2008.

Sources: http://www.studieren-in-holland.de/index.php?idcat=25&idlang=1, accessed 13 Oct. 2010; Deutscher akademischer Austauschdienst (www.daad.de), accessed 13 Oct. 2010;
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New at DICE Database

Recent entries to the DICE Database

In the months December 2010, January, February, March and April 2011 the DICE Database received about 440 new entries, consisting partly of updates of existing entries and partly of new topics. Some topics are mentioned below:

- Anti-discrimination laws
- Competition policy
- Control of corruption
- Democracy index
- Energy taxes
- Government energy R&D expenditures
- Mandatory public old-age pension schemes
- Monetary assistance to families
- Policies to support renewable energies
- Regulation of capital transactions.

Forthcoming Conferences

CESifo Area Conference on Employment and Social Protection 2011
21 May 2011, in Munich

The purpose of the workshop is to bring together CESifo members to present and discuss their ongoing research, and to stimulate interaction and cooperation between them. The focus is on the domains employment and social protection. The former including, in particular, issues of the organisation of labour. The latter domain, in turn, includes not only governmental institutions of the welfare state, but also other non-governmental institutions of the welfare society.

Scientific organizer: Kai A. Konrad

Taxation, Transfer and the Labour Market

16–17 June 2011, at the Université catholique de Louvain in Belgium

Particular emphasis of the workshop will be placed on such topics as optimal redistributive taxation, taxation and labour market participation, optimal social insurance and taxation in an imperfect labour market. The keynote lecture will be delivered by Robin Boadway, Queens University.

Scientific organisers: Christian Holzner, Andrey Launov, Bruno Van der Linden

Globalization and Labour Market Outcomes
23–24 Juni 2011, at the International Labour Office in Geneva

This workshop is co-sponsored and co-organized by the International Labour Organization, the World Bank, CESifo and EFIGE. It will bring together leading economic researchers from the theoretical and empirical sides of the discipline to stimulate interaction and instigate innovative research that combines new theory with new empirics.

Scientific organisers: Sascha O. Becker, Marc-Andreas Muendler

New Books on Institutions

Environmental Tax Reform (ETR), A Policy for Green Growth
Paul Ekins, Stefan Speck
Oxford University Press (May 2011)

The Concrete Euro – Implementing Monetary Policy in the Euro Area
Paul Mercier, Francesco Papadia
Oxford University Press (March 2011)

DICE

Database for Institutional Comparisons in Europe

www.cesifo-group.de/DICE

The database DICE was created to stimulate the political and academic discussion on institutional and economic policy reforms. For this purpose, DICE provides country-comparative information on institutions, regulations and the conduct of economic policy.

To date, the following main topics are covered: Business and Financial Markets, Education and Innovation, Energy and Natural Environment, Infrastructure, Labour Market and Migration, Public Sector, Social Policy, Values. Information about Basic Country Characteristics is provided for the convenience of the user.

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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