

# CESifo DICE REPORT

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# ACCESS TO HIGHER EDUCATION

## GLOBALIZATION AND ACCESS TO HIGHER EDUCATION – POLICY IMPLICATIONS

MARCEL GÉRARD<sup>1</sup> AND  
SILKE UEBELMESSER<sup>2</sup>

### Introduction<sup>3</sup>

The Bologna Process was launched in 1999. Its philosophy is well summarized in the Bologna Declaration, which states that “A Europe of Knowledge is now widely recognized as an irreplaceable factor for social and human growth and as an indispensable component to consolidate and enrich the European citizenship, capable of giving its citizens the necessary competences to face the challenges of the new millennium, together with an awareness of shared values and belonging to a common social and cultural space” (Bologna Declaration 1999). In other words, the main aim of the Bologna Process has been to create a European Higher Education Area (EHEA) based on international cooperation and academic exchange that is attractive to European and non-European students and staff.

This article focuses on one key element that has been neglected in the Bologna Process: the financing of higher education when students and graduates, i.e. (potential) tax-payers, are mobile. More precisely, it deals with the central issue of who will pay for the education of mobile students. This, in turn, raises the questions of: What share of higher education costs should be publicly (viz. privately) financed and which jurisdiction(s) should be taken into account in the financing process?

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<sup>3</sup> This article is based on research partly conducted in the framework of Project IAP 6/09 of the Belspo agency of the Belgian Federal Government.

### Imbalanced migration

Ultimately, the Bologna Process should lead to a single market for high skilled labor. Whether this also leads to spill-over effects or externalities and endangers the efficiency of the higher education system in the Europe Union (EU) depends on the extent of student and graduate mobility; and even more on the link between them. Do students who have graduated in one country embark upon their professional career, earn their wage income and pay their taxes in that country? Or do they join the workforce in their country of origin or in another country? There is empirical evidence that mobility increases with the skill level of workers (see, for example, Ehrenberg and Smith 1994, for the US, or Uebelmesser 2006, for Germany). This would suggest that university graduates are comparably mobile. Besides, the mobility of graduates is incentivized by mobility before and during tertiary education (see, for example, Dreher and Poutvaara 2011; Parey and Waldinger 2011; and most recently Voin and Gérard 2013). This means that foreign students are fairly likely to move on after graduation.

In terms of the financing of higher education, graduate, and thus tax-payers', mobility would not present any problem if migration flows were balanced. As illustrated in Table 1, however, the mobility of students is imbalanced. A negative sign means that the country is a net importer of young people – or raw human capital – and a net exporter of graduates – or enriched human capital – if most intra-EU migrant students do not stay after their studies.

Those countries that face a negative balance can be separated into two different groups: one group comprising Austria, Belgium, the Czech Republic, the Netherlands and Denmark, and the other group featuring the United Kingdom.

The members of the first group all have large neighboring countries – France for Belgium, Germany for the other countries – that are quite selective regarding admissions to medical and paramedical studies. Students who fail at the entrance examination level in their own country, either France or Germany, enroll in the



Table 1

## Imbalanced mobility of students in the European Union

Country	Foreign students (%)	Balance of mobility (%)
Austria	11.36	-8.02
Belgium	6.98	-4.62
United Kingdom	4.06	-3.63
Czech Republic	5.21	-3.01
Netherlands	4.17	-2.41
Denmark	2.70	-1.18
Sweden	2.03	0.11
Germany	2.61	0.26
Spain	0.75	0.30
France	1.60	0.33
Hungary	1.20	0.36
Italy	0.54	1.06
Finland	0.74	1.37
Poland	0.11	1.43
Portugal	0.68	2.50
Greece	0.15	4.06
Ireland	1.92	7.47
Slovak Republic	1.59	9.73
Luxembourg	37.00	232.70

Note: Foreign students: fraction of students coming from abroad. Balance of mobility: the number of outgoing students minus the number of incoming students, divided by the total number of students (Erasmus students excluded).

Source: Gérard (2012) based on Eurostat and own calculation.

equivalent programs of their small neighboring countries where language is the same or similar, access to studies is formally easier – no entrance examination – and tuition fees are generally low – they do not exist in Austria, Denmark and the Czech Republic (in the Czech Republic, a EUR 1,000 per term fee is charged to students following courses taught in a language other than Czech), and amount to EUR 830 per year in Belgium and up to about EUR 2,500 in the Netherlands.<sup>4</sup> As a result of EU laws, the nationality of the degree does not preclude practice in another country. So, one could conclude that France and Germany free ride on their small neighbors. The latter face a net inflow of students who are not the best in their field and cohort.<sup>5</sup>

The other group comprises the UK alone. In that country, the language is country specific, but used in the entire world as *lingua franca*, access to studies is intellectually demanding – admission is very selective – and tuition fees are very high by European standards, reaching up to GBP 9,000 a year. The UK, therefore, can be

<sup>4</sup> See <http://www.studyineurope.eu/tuition-fees>.

<sup>5</sup> It is worth noting that Denmark is also a net importer of students from other Nordic Countries. We will come back to this case later. We would like to point out that the negative sign for the Czech Republic should be seen together with the positive one observed for the Slovak Republic.

expected to face a different, rather able, group of students.

We can conclude from the stylized facts presented above that the cross border flows of students are imbalanced. In a decentralized world like the EU, where higher education is extensively financed by the government of the jurisdiction that hosts the students, and where tuition fees must not discriminate between EU residents on the basis of their country of origin, imbalanced transfers, and thus externalities, undermine the efficient functioning of the Bologna process. This is *per se* an argument for allocating the responsibility of higher education to the level of the EU, something that is already the case when it comes to the definition of cursus norms, but which seems to be impossible in terms of financing.

The focus in the following is therefore on a decentralized system of financing higher education, whose outcome comes closest to that of a centralized one. We will, in particular, address the question of whether higher education should be financed via taxes or fees. A two-step procedure is called for to arrive at the optimal financing regime with open borders. In a first step, the private and social benefits and the corresponding share of costs which should be borne through fees or taxes have to be determined. In a second step, the specific implementation of the regime has to be considered. This involves the private part and the question of whether tuition fees should be levied at the time of studying or after graduation (as graduate taxes or income-contingent loans). This also concerns the public part and how it should be allocated between the country of education and the country or countries where the social benefits arise. In fact, with migration, the financing would have to be split up among four parties: the graduates, according to their private returns, the country of higher education (the host country), that of previous education (the origin country, possibly identical to that of birth), and the working-country or countries, which benefit from the improved skills of the worker.<sup>6</sup>

<sup>6</sup> For a more detailed analysis, see Gérard and Uebelmesser (2013).

## The private and public parts in a closed economy

As Table 2 illustrates, both the public, i.e. society at large, and the individual benefit in a significant way from higher education. Private and public benefits, as detailed in the table, refer to the difference between benefits that can be claimed by people who have attained a tertiary education and benefits obtained by those who have attained an upper secondary or post-secondary non-tertiary education. Private benefits include differences (positive or negative) in net earnings, transfers and grants; public benefits comprise differences in income tax and social contribution payments, transfers and grants.

We observe that the private and public benefits from higher education are significant in all countries with private ones ranging from EUR 82,000 in Turkey to EUR 365,000 in the United States and public ones from being as low as EUR 26,000 (Estonia) and amounting up to EUR 215,000 (Hungary). With the exception of Belgium and Hungary, public benefits fall short of private benefits in all countries. Comparing public and private benefits could provide some indication of the relative contributions to the financing of higher education by the public and the student. On average, public benefits amount to 36 percent of total returns when the latter are measured by summing up private and public returns. On the contrary, the public expenditure share is almost twice as large at 70 percent.<sup>7</sup>

It is worth making two remarks at this point. Firstly, we have implicitly abstracted here from any market failure. Secondly, we have neglected any further social ben-

<sup>7</sup> Public expenditure refers to subsidies, while its counterpart, private expenditure, comprises mostly tuition fees paid by private households. Data are after transfers from public sources, i.e. subsidies attributable to payments to educational institutions received from public sources are included as private expenditure.

Table 2

Private and public benefits and expenditure for higher education				
Country	Private benefits*	Public benefits*	Public benefits / total (in %)	Public expenditure / total (in %)
Australia	166,171	93,958	36	45
Austria	236,476	159,110	40	88
Belgium	140,903	177,439	56	90
Canada	183,575	86,318	32	63
Chile				23
Czech Republic	222,826	107,484	32	80
Denmark	106,617	89,239	46	95
Estonia	90,610	26,723	23	80
Finland	173,811	113,999	40	96
France	196,484	101,687	34	83
Germany	184,918	177,091	49	84
Hungary	174,960	215,674	55	
Iceland				92
Ireland	263,123	162,856	38	84
Israel	168,558	88,638	34	58
Italy	173,002	148,338	46	69
Japan	219,138	75,263	26	35
Korea (South)	239,529	47,196	16	26
Mexico				69
Netherlands	226,635	177,804	44	72
New Zealand	99,297	50,303	34	68
Norway	149,158	92,805	38	96
Poland	210,093	106,521	34	70
Portugal	320,627	117,196	27	71
Slovak Republic	187,571	70,037	27	70
Slovenia	222,633	165,223	43	85
Spain	167,788	72,709	30	79
Sweden	114,866	69,956	38	90
Turkey	82,176	38,000	32	
United Kingdom	260,237	115,103	31	30
United States	365,591	204,132	35	38
Average (unweighted)	190,978	112,529	36	70

Note: Data for benefits are from 2008 or latest available year; data for expenditure are from 2009 except for Canada (2008) and Chile (2010).

\* Net-present value in equivalent USD converted using PPPs for GDP (mean of men and women).

Source: OECD (2012, Tables B3.2b, A9.3 and A9.4).

efits. Let us briefly consider the implications of these restrictions.

Firstly, in the absence of any market imperfections, i.e., particularly if the credit market is perfect, it is straightforward that there is no justification for additional public intervention if not related to social or public benefits. Additional interventions, however, are called for (independently of benefit considerations) when there are market imperfections related, for example, to borrowing constraints. If there is a mark-up to the interest rate, for instance, which reflects the moral hazard problems (von Weizsäcker and Wigger 2001; Jacobs and van der Ploeg

2006) or the riskiness of the human capital investment, what would then be the optimal financial regime? If the distortions on the credit market are not too large, there is still an argument for a positive fee level (albeit smaller than in the absence of this market imperfection – and combined with a subsidy from the public sector) in order to induce the optimal number of students with the optimal ability. A pure tax-financing regime can only arise if the distortions are very large. So, distortions on the credit market justify (additional) intervention by the government via tax-financing.

Secondly, among other limitations of the data, the public benefits displayed in Table 2 only comprise of the additional tax revenues from individuals with tertiary education relative to those with non-tertiary education, as well as saved transfer payments. There are other positive public benefits of a more educated population like those related to productivity gains and thus to economic growth. Similarly, many other positive (causal) effects of education have been established, for example, a reduction in crime (Lochner and Moretti 2004) and an improvement in the health status (Webbink, Martin and Visscher 2010).

If these two points were to be relevant, the public expenditure share would increase. Importantly, however, it is very unlikely that, even in such a case, full tax-financing of higher education would be justified (on efficiency grounds). So, in a closed economy, we would expect the tax share in the financing of higher education to roughly reflect the share of public benefits in total benefits from higher education (Table 2). This would point towards a mixed financing system.

The question is whether these conclusions have to be adjusted in an open economy with mobile students and / or mobile graduates.

### **The specific design in an open economy**

Whatever the conclusions may be for a closed economy, it is obvious that a financial regime that relies heavily on taxes is not sustainable in the presence of significant mobility of graduates, i.e. high-skilled and high-wage tax-payers (Justman and Thisse 2000; Demange, Fenge and Uebelmesser 2013). With tax-financing, students receive their education free-of-cost at the time of studying, as it is financed by tax-revenues from those working at that time. This is based, however, on the implicit understanding that in the subsequent period those former-

students-and-now-workers finance the next student generation with their tax-payments. But this requires that a sufficient number of those or other graduates is present in the country at that time. If migration is unbalanced (see Table 1), a tax-based regime is only sustainable if there are transfer agreements between the countries affected, in particular between the host country providing higher education and the working-country or countries benefitting from the graduates' increased productivity. If there are no transfer agreements, the sustainability of the public budget requires that the students bear a larger share of the costs involved.<sup>8</sup> Otherwise, the host country will have an incentive to underprovide higher education to foreign students, but also – in the absence of any way of discriminating – to their own native students.

### ***Sharing of education costs among the governments of affected countries***

We now discuss the current system of financing the higher education of cross border students in the EU and investigate alternative avenues (Gérard 2007). Currently, in most EU member states except for England, higher education for native and foreign students from other EU countries is mainly publicly funded by the local government of the host country, and thus by the tax-payers of that country (Table 2). Moreover the tuition fees are either zero or equal to a very moderate amount compared to those charged in England or the US (or in the EU to non-EU residents). These features characterize what is referred to here as the Host Country Principle.

A first alternative is the Origin Country Principle. According to that mechanism, the country of origin of a student, say, the country where she/he received secondary education, is responsible for her/his higher education, irrespective of whether the latter takes place at home or abroad. In both cases, it is up to the origin country to pay – and to decide on the number of students it sends abroad. From the perspective of the host country, the incentives to underprovide higher education are reduced.

A system based on the Origin Country Principle can be implemented through the provision of vouchers by the government of a given country to potential students who are residents of that country. Those vouchers may be used for, say, one year of studies in a particular field in an university located at home or abroad, provided it is

<sup>8</sup>Of course, nothing is said here about the relevance of special schemes, scholarships, etc. deemed to alleviate the burden and guarantee equality of chances independent from individual financial resources. See below for further discussion.

recognized as an institution of high quality by the issuer of the voucher. Those vouchers should either cover the actual cost of studies, or a standardized benchmark cost. It is up to the issuer of the voucher to decide whether the vouchers are distributed upon request, or are allocated through a competition; and whether they are made available for free or subject to a present or future (re)payment. Vouchers could also finance the cost of living during the studies or be targeted at certain socio-economic groups, or may even be used as instruments to incentivize young people to study for jobs which are not very attractive or poorly compensated, although socially highly desirable.

Provided that other countries commit to not admit students without a voucher, this device expands the geographical area of sovereignty to the set of those participating countries, for example, the Bologna Area or the EU. As an example, let's imagine that Germany limits the number of students admitted to the first year of medicine in German universities in order to optimize the supply of medical services in the future; those young Germans who go to Austria and enroll in the schools of medicine there try to bypass the German numerus clausus – at least in cases where they plan to return to Germany after they have obtained their MD degree. If we move to the Origin Country Principle, only those young Germans with a voucher issued by the German authorities will be admitted to Austrian schools of medicine; thus the decision to admit those students for studies in medicine, even outside Germany, is in the hands of the German authorities, who are then in a position to expand the application of their numerus clausus rules and thus their area of sovereignty. Similarly, Austria has the opportunity to sell the quality of its medical schools while being in accordance with German public health policy.

Although the vouchers depicted above channel the transfer implied by the Origin Country Principle through students, that transfer may alternatively be directly operated by governments. This is already the case in Switzerland and in the Nordic Countries. In Switzerland, cantons that do not have universities pay for the studies of their residents in universities located in other cantons.

Among Nordic Countries, a similar transfer system is at work. To illustrate the Nordic system, based on a four country agreement, it is worth noting that: “the previous agreement was signed in 1996, and the new agreement will be effective from 1 January 2013 for Denmark,

Finland, Norway and Sweden (...) The new agreement means that the yearly compensation per student for Denmark will be DKK 22,000 (USD 3,800) in 2013 – the same as it was in 2012 – rising to DKK 30,000 (USD 5,200) in 2014. The compensation will be regulated according to the consumption index calculated each year by Statistics Denmark. Under EU regulations, Denmark is obliged to treat citizens of the EU and the European Economic Area the same as Danish citizens, which means that European students are entitled to free higher education in Denmark. The compensation agreement has been concluded despite this, with the cost to be carried by governments rather than by individual students.”<sup>9</sup> This quotation seems to indicate that direct transfers between governments are a way of bypassing EU legislation.

Implementing transfer systems either via vouchers to students or via inter-governmental transfers would alleviate the problems related to open economies and to the sustainability of public budgets. This would make it possible to maintain the cost sharing and the corresponding tax-fee mix as derived above. As far as we know, however, the inter-cantonal transfer systems at work in Switzerland and in the Nordic Countries are among the very few such mechanisms implemented so far. This means that most countries do not have a compensatory system. Globalization and increased flows of students and graduates then require a shift of the cost share to the students if the public budget is to be sustained, and if a race to the bottom in terms of educational quality or, in general, an underprovision of higher education is to be avoided.

### *Shift towards fee-financing*

The main question is how a larger financial contribution by the students should be implemented when graduates are potentially mobile and the negative consequences of this shift towards fee-financing for equality of chances are to be avoided.

A new application of the Bhagwati Tax, proposed by Bhagwati (1976) and again by Wilson (2008), is one possible such mechanism. Those who have studied at the expense of one country and currently work in another country have to compensate the former for the cost of their higher education. In practice, that may take the form of a transfer by the government of the latter coun-

<sup>9</sup> See University World News, 03 November 2012, <http://www.universityworldnews.com/article.php?story=20121031163939447#UJOYFr7pNiM.email>.



Table 3

Benefits and costs for the host, origin and working countries			
Country	Host country of higher education	Origin country	Working-country
Host Country Principle	Benefit = remaining graduates Cost = Studies	Benefit = returning graduates Cost = Opportunity	Benefit = attracted graduates No cost
Origin Country Principle	Benefit = remaining graduates No cost	Benefit = returning graduates All costs	Benefit = attracted graduates No cost
Origin Country Principle + Bhagwati Tax (BT) or Contingent loan	Benefit = remaining graduates Cost = BT on remaining	Benefit = returning graduates Cost = All - BT	Benefit = attracted graduates Cost = BT on attracted

Source: The authors.

try to the government of the former within an agreement similar to the Nordic one mentioned previously, although the compensation now occurs *ex post*. If the Host Country Principle applies for the financing, the transfer is to that country; but then the opportunity cost supported by the country of origin is not offset – by opportunity cost we mean the loss of domestic GDP generated by people studying instead of working. If the Origin Country Principle applies, the transfer is to the origin country and may include the compensation of the opportunity cost. In fact, that latter case, which combines the Bhagwati Tax with the Origin Country Principle, might be better since a transfer may offset both the opportunity cost and the cost of studies in that case. Table 3 summarizes the arguments developed so far.

If the compensation is borne by the students, the question once again is how to implement it. Given that students are subject to credit constraints at the moment of their studies, an instrument to remedy the negative repercussions from an efficiency and distributional point of view is to turn the vouchers described above into contingent loans (see, for example, Barr 2012; Del Rey and Racionero 2012). Payments would then only be due if the graduates' earnings were to exceed a given threshold. So, upfront fees are changed into fees after graduation; and in addition, they include an insurance element whereby successful graduates (and, depending on the specific design, also all other tax-payers) cover the contribution due by unsuccessful students.<sup>10</sup>

<sup>10</sup> Whether all students – also the best ones who expect to earn income above the threshold – have incentives to voluntarily participate in such a scheme or whether the scheme has to be made compulsory is not addressed here.

If payments associated with the contingent loans are deductible against personal income tax liabilities – imagine a tax credit – in the country of residence, this mechanism is similar to the Bhagwati Tax, except possibly for its timing. Alternatively, when the graduate stays abroad, the charge of the loan might be isolated by the local tax administration and transferred to the country of origin deemed to have made the loan.

### Some empirical relations

Taking all of this into consideration, it is interesting to see the extent to which the financing-mix of higher education reflects these observations. What can be said is that the systems differ significantly between countries in terms of the relative importance of public and private financing (Table 2). At one end of the spectrum, we find the Nordic Countries with a public share of close to 90 percent and above. In Germany, the share is 84 percent and in France 83 percent. At the other end, there are the United Kingdom, South Korea and Chile, each with a public share of less than 30 percent, followed by Japan with 35 percent and the United States with 38 percent. Comparing public expenditure for higher education as a share of total expenditure between 2000 and 2009, a trend towards more private contributions can be identified (OECD 2012, Table B3.3). This holds, in particular, for the United Kingdom where the public share in 2009 is less than half of what it was in 2000. Exceptions are the United States, Ireland and Spain where the private share decreased by more than five percentage points.

So, the financing schemes differ between countries, but do they also differ in a systematic way? We have dis-

cussed above that we would expect a positive association between the tax-fee mix of financing higher education and the public-private mix of benefits on the one hand, and a negative association between that tax-fee mix and graduate (tax-payer) mobility on the other hand. Of course, there are many additional relevant factors that we do not take into account here. The correlations below are, therefore, only intended to highlight some basic relations, which can be observed in a cross-country perspective.

Considering first the relation between public benefits from higher education and public expenditure on higher education (both as shares of the respective totals), we find a positive and highly significant association (Figure 1). So, a larger share of public benefits goes hand in hand with a larger share of public expenditure, although to a lesser degree than one-to-one.<sup>11</sup> In Germany, for example, the public benefit share is 49 percent and the public expenditure share is almost twice as large at 85 percent, while in France, the difference is even more important with a public benefit share of 34 percent and a public expenditure share of 81 percent.

As countries are affected differently by student and graduate mobility, the second point of interest is how graduate mobility relates to the public share of total expenditure for higher education. The hypothesis is that with a high level of graduate out-mobility, a system of financing higher education that relies mostly on taxes (and not on tuition fees) is not sustainable as a (net) out-

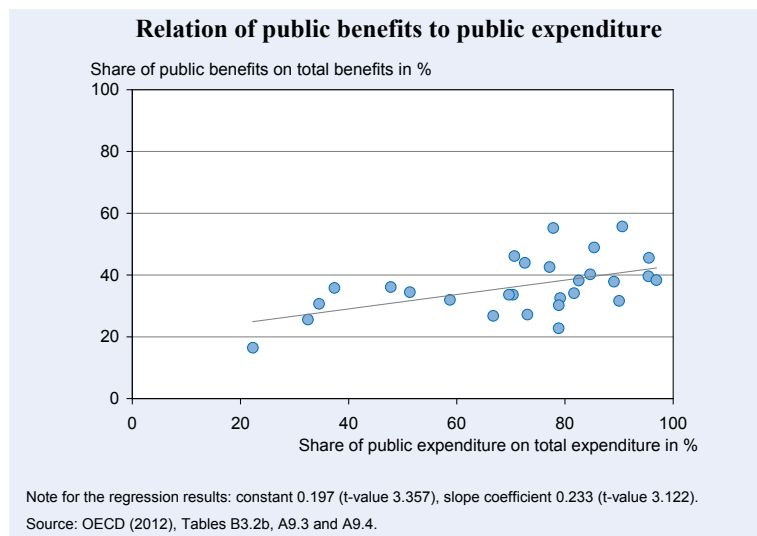
flow of graduates also reduces the number of (potential) tax-payers.

As data about graduate mobility are not available, we make use of data about the net brain gain (Docquier and Marfouk 2005). Figure 2 shows that there is a negative, but insignificant relation. This result also holds if the Nordic Countries are excluded. Following our arguments above, one could have expected that, for these countries, the mobility of students and graduates should not affect the choice of the financing mix as much as for the other countries given their inter-governmental transfer system.

A negative brain gain, i.e. a net outflow of highly educated workers is not associated, on average, with a larger share of private expenditure on total expenditure for higher education in the sending (host) country. Countries with comparable net outflows of between 0.4 and 0.6 percent have very different financing regimes with only the United Kingdom relying much on private contributions (public share of 35 percent), while Italy, the Czech Republic and Austria have large public shares of, respectively, 70, 79 and 85 percent.

On the other hand, the importance of public expenditure in immigration countries is relatively modest. Australia, with a net brain gain of 11.4 percent, relies on private and public financing in a very balanced way (public share of 48 percent). The public contributions to the financing of higher education are slightly larger for Canada with 59 percent and a net inflow of highly educated migrants of 10.7 percent, while the United States, with a net inflow of 5.4 percent, has the smallest public expenditure share of these three immigration countries with 37 percent.

Figure 1

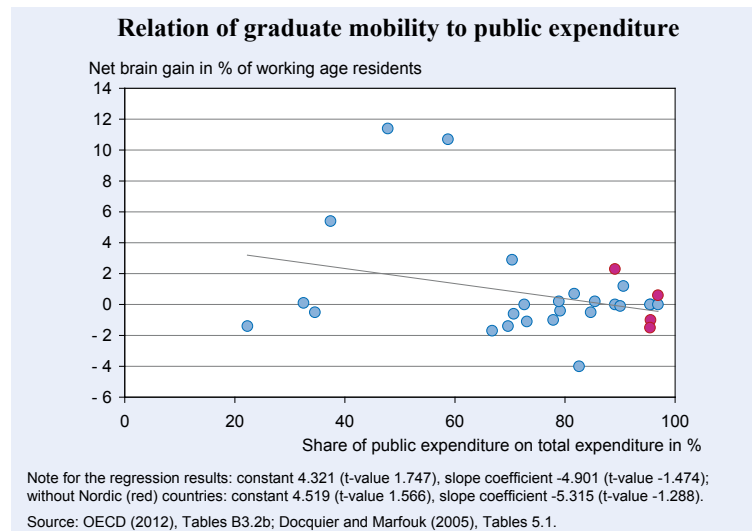


<sup>11</sup> Remember, however, that public benefits do not include (positive) externalities and are, therefore, underestimated.

**Policy conclusions**

The analysis conducted in this article might lead to the following policy conclusions. Given the externalities related to the public provision of higher education with mobile students and graduates, their internalization calls for a system as close as possible to a centralized one. The system should include cross border transfers

Figure 2



aimed at compensating the country that finances higher education without sharing in the benefits – mostly the host country. Otherwise, there are strong incentives for that country to underprovide higher education if it is (mostly) publicly financed or to shift the financing-mix towards fee-financing. A compensatory system might be implemented as a (comprehensive) Bhagwati Tax where the transfer is from government to government. If the compensation relies on transfers by the students, income-contingent loans might be considered.

To date, compensatory transfer systems have not been implemented in Europe – with the notable exception of the Swiss system of inter-cantonal transfers and the Nordic one. Neither have the national systems of financing higher education been adjusted to increased student and graduate mobility.

It remains to be seen when the most concerned countries will put these issues on their agenda. If they plan to do so, this contribution is meant to provide some guidelines.

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## INCREASING ACCESS TO HIGHER EDUCATION THROUGH STUDENT LOANS<sup>1</sup>

ADRIAN ZIDERMAN<sup>2</sup>

### Four aspects of 'access'

While an accepted, generic definition of access is “a process of enabling entry into higher education” (Harvey 2004, 13), this paper approaches the issue of access more widely, from four differing perspectives. It then moves on to consider how the availability of government-sponsored student loans may impinge, positively, on access.

### *Broadening of access*

Firstly, let us consider the broadening of access. This aspect of access relates to policies facilitating the entry of larger numbers of potential students into higher education. Many countries around the world have long-term policies aimed at increasing the percentage of the relevant age cohort (say 18–24 years old) that enrolls in higher education. Underlying this trend is the recognition of the importance of a larger higher-educated population for economic and social development, particularly in the context of a more competitive, global environment. The focus is not so much on the socio-economic composition of the student population, but rather on the relative size of this enrollment. Some sixty years ago, the fear that a substantive expansion of the higher education system in the UK would lead to falling academic standards (“more means worse”) was countered by the view that there was a large “pool of untapped ability” that was not attached to tertiary learning at the time (Robbins Report: Committee on Higher Education 1963).

### *Deepening of access*

In contrast, we may define the deepening of access as “ensuring that significant proportions of students from non-traditional areas (such as working class, ethnic minorities) enter higher education (Harvey 2004, 13). Here the emphasis shifts from the need to increase the number of students in higher education, to that of changing their composition in order to achieve a more socially acceptable balance amongst the various socio-economic groups. This is achieved through reaching out to those, usually disadvantaged, groups who do not customarily pursue higher education studies. The central motivation here is clearly social, and aimed at improving the life-chances of these groups.

### *Retention and successful completion*

More widely, the “concept of ‘access’ is understood to encompass not only entry into higher education, but also retention and successful completion” (National Office of Equity of Access to Higher Education 2008). Dropout from learning is not only (or perhaps mainly) the result of academic weakness. Unforeseen financial difficulties may play a role in many cases, particularly when brought on by such factors as tuition fee increases or a downturn in the economy (with less student employment opportunities). In such circumstances, the availability of student loans (for tuition fees or for living expenses, as appropriate) may be important in mitigating potential student dropout.

### *Maintaining freshman enrollment levels*

Similarly, the advent of tuition fee increases or an economic slowdown may persuade many potential students to decide against enrolling in higher education. Student loans can offset these financial barriers.

### *Access and student loan schemes*

What role may the availability of student loans play in facilitating these forms of access? Government-sponsored student loan schemes around the world differ in the central objective pursued. Identifying the under-



<sup>1</sup> This paper draws heavily on the author's previous writings, particularly Ziderman (2013).

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lying objective of a particular loan scheme is therefore important because this will have implications for many central aspects of the scheme. These include: whether loans are offered for tuition, living expenses or both; the appropriate level of loan subsidy (if any); the need for targeting (confining eligibility to particular student categories); loan allocation and rationing procedures where loan funding is limited. But the objective of a given scheme, and how this effects the operation of a scheme, will also have strong implications for the effect of the loans on access.

We may distinguish three types of loan schemes: cost sharing, social targeting and student independence.<sup>3</sup>

#### *Cost-sharing model*

We begin with an elaboration of the cost-sharing model. In many parts of the world, university systems are facing a financial crisis. Resources available to universities have been eroded due to a combination of a dramatic and continuing expansion of student enrollments unmatched by public expenditure on higher education. Universities have attempted to alleviate these financial pressures through the development and extension of non-government sources of funding. Cost-sharing, (or, greater cost-recovery), where a larger and significant share of the costs of university education is shifted onto the main beneficiaries of university education – students and their families – is the dominant path that is pursued for revenue augmentation. In particular, this has taken the form of the introduction of tuition fees or of raising them to realistic levels; in fewer cases, cost sharing takes the form of charging for hitherto highly subsidized dormitory and living costs.

Due to the fact that substantially higher tuition fees will cause hardship for enrolled students and are thought likely to impede university access, tuition hikes have been accompanied by the introduction of a state-sponsored student loan scheme in many countries. The disincentive effects of up-front tuition fee increases may also be offset by the availability of loans for students that will cover these augmented costs. Loans enable student-borrowers to avoid up-front payments for higher education (whether for tuition or living expenses) by delaying payment, which will be rendered in manageable installments out of enhanced earnings after graduation. State intervention is necessary because banks are loath to make commercial loans to students to finance tuition

costs, given the higher risk, lack of collateral and the nebulous nature of the human capital asset that the loan will generate.

The availability of student loans helps to make tuition fee increases more acceptable, both politically and socially. In Singapore, the 1988 university tuition fee rises were accompanied by subsidized loans equivalent to about half the value of the new tuition fees. The much-discussed Australian loan scheme was introduced in tandem with the imposition of university tuition fees in 1989. In the early 1980s, large tuition fee increases in Chile were accompanied by the introduction of student loans administered by the universities.

#### *Social targeting mode*

Student loan schemes may serve the more deliberate role of increasing the accessibility of the poor and of other marginal groups to higher education. When targeted specifically at such disadvantaged groups, loan schemes (particularly in cases where they are substantially subsidized), may lead to greater access of the poor to university education, thus contributing to social equity. In many countries the relatively low enrolment of poor and disadvantaged youth in tertiary education (and also in non-compulsory secondary education) is a cause of social concern. Increasing the access to university education among these segments of the population has become a major element in educational and social policy. While the cause of low access of the poor is multi-faceted (and a full discussion is beyond the scope of this paper), financial constraints evidently play a role. There is now a broad consensus on the need to offer clear financial incentives to poor, potential students, not only to overcome the burden of fee payment and living expenses, but also to offset both parental resistance to reductions in family income and the fear that the benefits of the educational process may not be sizeable. The provision of financial aid therefore may be regarded as a necessary, though not sufficient condition for achieving greater participation of the poor.

But what form should this financial assistance take? The traditional, and most effective, method of enhancing the educational access of the poor has been through the provision of means-tested grants to cover tuition fees (where schooling is not free) and, often, to cover living expenses as well. However, a widespread grants scheme is likely to be expensive. The use of loans, rather than grants, proactively targeted at the poor, offers a method that may both increase access for the poor and reduce, or

<sup>3</sup>See Ziderman (2002) for a fuller taxonomy of loan scheme objectives.

at least contain, public expenditure on student support over the longer term, as loan repayments build up. To be effective in increasing the higher education access of the poor, loans may need to be made available under “soft” lending conditions.

Subsidized loan policies can have a limited effect on raising access of the poor; but this role needs to be complemented by appropriate action far earlier on in the education process. Insufficient academic preparation and the lack of willingness of large numbers of the poor to enroll in higher education have their roots much further upstream in the education system.

### *Student independence model*

Even when tuition fees are minimal, students (both the more affluent and the disadvantaged) may face considerable financial burdens: potential earnings are foregone while studying, and living expenses may be sizeable, especially when the student does not attend a university near home. Financial pressures may have negative effects on a student’s academic performance (and thus compromise the process of human capital investment); the fear of such pressures will act negatively on decisions to enrol in tertiary education. These pressures can be mitigated by the broad availability of student loans for living expenses. While such burdens may fall relatively heavily on the poor, in principle loans for this purpose could be made broadly available, to more affluent as well as poorer (current and potential) students, as long as these loans are not unduly subsidized.

Eligibility, and the extent of loan support, is determined by parental income in many loan schemes. The concept of parental support is a central element in loan schemes in many European countries, including Austria, Germany, France, Italy, Portugal, Spain, and the UK. However, parents are not legally required to make the designated “parental contribution”. Thus many students, including those from non-poor backgrounds, may face financial difficulties during study, while potential students may not enroll if they feel that the parental contribution will not be forthcoming. A very different approach is taken in a number of countries, which base student support on the concept of student financial independence; student entitlement to loan support is based on student, not parental, income. Such arrangements exist in Denmark, Finland, Norway and Sweden; in these Nordic countries, where tuition is free, grants and loans are made for living expenses only.

Table 1 provides a matrix of selected national loan schemes, in which loan scheme coverage is mapped against loan scheme purpose (i.e., the three types of loan models, outlined above). The cost-sharing model is illustrated, principally, from experiences of how the Australian scheme and the new scheme in England work. Examples of the social targeting model are drawn from five UNESCO-supported Asian case studies.<sup>4</sup> The student independence model is illustrated mainly from a cluster of European countries where typically no tuition fees are charged and loans cover living expenses only.

<sup>4</sup> The regional study, a joint endeavor of UNESCO-Bangkok and the International Institute for Educational Planning in Paris, consisted of five in-depth studies on the functioning of student loan schemes in Asia: China, Hong Kong, the Republic of Korea, the Philippines, and Thailand. A synthesis study is provided in Ziderman (2004).

**Table 1**

#### **Type of access and loan scheme objective / coverage, country examples**

Loan scheme objective	Loan scheme coverage		
	Tuition fees only	Living expenses only	Tuition and living expenses
Cost-sharing	Australia		England, New Zealand
Student independence	Hong Kong (NLS) <sup>a)</sup> Korea (GECP) <sup>b)</sup>	Denmark, Finland, Hungary, Norway, Sweden	Canada
Social targeting	The Philippines	Hong Kong (LSFS) <sup>c)</sup> Korea (MOE) <sup>d)</sup>	China, South Africa Thailand <sup>e)</sup>

<sup>a)</sup> Hong Kong: non-subsidized scheme (NLS), <sup>b)</sup> Korea – Government Employees scheme, <sup>c)</sup> Hong Kong: subsidized scheme (LSFS), <sup>d)</sup> Korea – Ministry of Education scheme, <sup>e)</sup> Thailand – Student Loan Scheme (SLS)

Source: Ziderman (2013).

**Loan scheme objective and expectations**

A clear distinction may be drawn between the cost-sharing model and the other two models (Table 2). While loan schemes conforming to all three objectives will have implications for access, it is only the social targeting model that focuses predominantly on increasing access. Cost-sharing is concerned mainly with facilitating tuition fees increases and generating funding for the university sector; it has constituted the major rationale for the spread of student loan schemes in industrialized countries. The other two objectives are not concerned with augmenting university funding as such, but are wider in scope, with a clear social perspective. Loan schemes aimed at cost recovery would be restricted to universities in the public sector, while in meeting the other two objectives loans should, in principle, be available to students enrolled in public and private universities, on an equal basis. Most loan schemes are highly subsidized, mainly because they are offered at below market interest rates; however, in most cases, such subsidization cannot be justified (loan subsidization is dealt with subsequently). While the aim should be near full loan recovery, loan schemes targeted at the poor may constitute an acceptable exception.

In Table 3, type of access (as discussed in section *Four aspects of 'access'*) is mapped against loan scheme objective. Cost sharing and student independence loan scheme affect positively the broadening of access, while social targeting schemes may lead to the deepening of access. All three loan scheme categories affect student retention positively, while cost sharing loan scheme may

also help maintain new student enrolment levels when fees increase.

**Financial viability**

Almost all government-sponsored student loans schemes are highly subsidized by governments. This means that, unlike commercial loans, a sizeable proportion of the total loans outlay by the loans body, be it government department, loan scheme authority or commercial bank, will not be received back in repayment. A large and sustained gap between disbursements and recovery implies continuing governmental financial support for the scheme. Given pressures on government budgets, the continuation of these subsidies may not be assured, thus compromising the viability of these schemes over the longer term.

**Loan repayment and loan recovery**

But why (unlike commercial loans) do government-sponsored student loans schemes fail to recover the sums loaned out through the scheme? A number of factors militate against full recovery of loans.

Firstly, there are built-in subsidies, incorporated into the design of the loan scheme. While these lighten the burden of repayment falling on the individual student-borrower, they reduce repayment income accruing to the lending body. These “soft” loan conditions include zero or below-market interest rates on the loan, periods in which no interest is levied on outstanding debt (both

**Table 2**

Student loan schemes: objectives and expectations			
Expectations	Loan scheme objective		
	Cost-sharing model	Social targeting model	Student independence model
Loans will facilitate increased tuition fees	Yes	No	No
Loans will generate additional university funding	Yes	No	No
Loans are restricted to public universities	Yes	No	No
Loans are highly subsidized	No	Probably	No
Loans are confined to a target group	No	Yes	No

Source: Ziderman (2013).

Table 3

Loan scheme objective	Type of access and loan scheme objective			
	Type of access			
	Broadening access	Deepening access	Student retention	Maintaining freshmen enrollment levels
Cost-sharing	X		X	X
Student independence	X		X	
Social targeting		X	X	

Source: The author.

during study and in grace periods after study completion) and repayments not linked to the rate of inflation. The effect of these built-in subsidies is amplified where amortization periods are long. The *loan repayment ratio* indicates how much of the loan an average borrower is required to repay. It is measured by the ratio of total (discounted) required payments for each borrower, to total (discounted) loan sums received.<sup>5</sup>

Secondly, there are inefficiencies in running the scheme as a whole, in terms of substantial repayment default and high administration costs that are not passed on to the borrower. The repayment ratio relates to the typical borrower; it fails to show the full extent of recovery to the loan fund, from the overall perspective of the scheme as a whole. Even if student loans were not subsidized, and the individual student was required to repay in full, not all of the sums loaned would be recouped by the loan authorities.

Thus, overall loan recovery depends not only on the total of all individual cash repayments. It also takes account of administrative costs that are not passed on to the student borrowers and of the extent of non-repayment, including both default and 'loan forgiveness', for reasons like low graduate earnings that fall below a designated income threshold, disability, death, academic performance (South African, Norwegian and Dutch schemes) and the encouragement of graduates to enter skills-shortage occupations (Korean Ministry of Education Scheme for Engineering graduates) or to practice in underserved geographical areas (teachers and doctors in the US).

The *loan recovery ratio* is measured by the ratio of total (discounted) repayments to total (discounted) loan scheme outlays. Clearly, the recovery ratio is always

lower than the repayment ratio, because the latter takes no account of the probability of repayment default and does not include general administration costs.

#### ***Repayment and recovery ratios: international comparisons***

How large are these gaps in practice? A joint paper by the author probes this issue for 44 loan schemes in 39 countries (Shen and Ziderman 2009, updating Ziderman and Albrecht 1995). The analysis shows considerable variation in the size of the repayment and recovery ratios across schemes. Many loan schemes exhibit sizeable built-in subsidies accruing to student borrowers. The average repayment ratio is 61 percent (so that, on average, borrowers are required to repay only about 60 percent of the total loan received).

The distribution of repayment ratios across the 44 schemes is shown in Table 4. 13 schemes (about 30 percent of the sample) have relatively high repayment ratios, in excess of 80 percent. However, most schemes contain large built-in subsidies: the repayment ratio in 18 schemes (over 40 percent of the loan schemes examined) is less than 60 percent.

Overall loan recovery is considerably lower. No scheme has a loan recovery ratio exceeding 80 percent. Only five programs (above 20 percent of the sample) display recovery ratios higher than 60 percent, for the most part loan recovery is not high; 80 percent of the schemes display recovery ratios of 60 percent or less. In a third of the cases, loan recovery does not rise above 20 percent. Overall, the average recovery ratio is 39 percent.

Two noteworthy points emerge from the results reported in Table 4; both dispel prevalent myths about the financing of loan schemes. The first relates to the shortfall from full recovery in almost all government-sponsored

<sup>5</sup> Both measured in terms of present values.



Table 4

**Loan repayment and recovery ratios: international comparisons**

Ratio	Number of schemes	
	Repayment ratio	Recovery ratio (with default and administration costs)
Above 80 percent	13	0
61–80 percent	13	5
41–60 percent	8	11
21–40 percent	7	2
20 percent or less	3	8
Total number of schemes	44	26
Average repayment ratio: 61%, average recovery ratio, overall 39%		

Source: Shen and Ziderman (2009).

loans (and the very heavy losses in some). The implication of this is that government subsidization is to be seen as an enduring feature of these schemes; the widely-held view that loan schemes can act as a revolving fund which, once capitalized, will finance themselves through repayments of earlier loans, is not consonant with the facts in almost all cases. The second relates to the supposed dominant role played by repayment default and high administrative costs in accounting for low loan recovery. As shown in the bottom section of Table 4, the major factor, by far, accounting for recovery loss is the large, built-in, interest rate subsidy element in most schemes. Excluding default and administration charges, recovery from the amount that graduates are required to repay (i.e., the repayment ratio) is surprisingly low on average. The average repayment ratio is 61 percent, representing a hidden grant to the student and a loss to the scheme of some 40 percent. The addition of default and administration costs reduces recovery by only a further 20 percentage points (ten percent in each case). The following section looks at the issue of whether such large interest rate subsidies can be justified.

#### Can student loan subsidies be justified?

In loan schemes where either cost recovery or student independence constitutes the central objective, the case for heavy built-in student loan subsidies is not strong. For current students, the intended effect of student loans in both of these cases is to reduce the financial burden on students during study and to delay fee payment (through borrowing) until after graduation, when payment is more readily made from the expected enhance-

ment of earnings. For potential students, the availability of a loan programme will encourage access, under the concept of “study now, pay later”.<sup>6</sup> Since the aim should be near-full loan recovery in these two cases, the level of built-in subsidy is often excessive in practice.

It is only where loan schemes are aimed directly at social targeting that a clearer case for sizeable built-in subsidies can be made. However, such subsidies, as we have noted, will entail considerable budgetary costs. Since a grant offers a stronger and more direct incentive for access than a (partially) repayable loan, the apparent advantage of loans over grants is less clear-cut. This highlights a central conundrum in loan policy: at what level of in-built loan subsidy does a grant become a more cost-effective instrument for helping the poor than a subsidised loan (with hidden grants)? This suggests that, in country settings where state budgets are constrained, a more appropriate financial aid program to encourage access of the poor is likely to involve a combination of both loans and grants, with a relatively larger overt grant element for the very poor. This is common practice in the LFS Hong Kong scheme, in England and in many other loan schemes.

In the comparative study of loan schemes in South East Asia, most of the schemes studied were shown to conform to the social targeting model (Ziderman 2004). Yet the evidence did not indicate any high degree of success in increasing the university access of the poor. A number of essential conditions for success were lacking. These included a sufficiently high level of individual support to cover necessary expenses; a broad coverage of poor students to achieve national impact, and careful and deliberate loans targeting so that loans do indeed reach the poor and other disadvantaged groups, otherwise the central objective of the scheme is compromised. Loan schemes aimed at greater participation of the poor are often not effective because these ingredients for success are missing.

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<sup>6</sup>This is the name of the Philippines national loans scheme, a social-targeting scheme that is so limited in coverage that it has little effect in increasing access of the poor. Little attempt is made at collecting due loan repayments, so recovery is minimal; thus the scheme is often (and appropriately) dubbed the “Study Now, Repay Never” scheme.

The upshot of this discussion is that the levels of built-in subsidies, resulting in low repayment ratios, are often excessive. High subsidies may be either unnecessary (cost sharing and student independence models) or not very effective in practice in achieving objectives (social targeting). Since the level of built-in subsidy is fixed by government, these subsidies may be reduced, as appropriate, by government decision. However, vested interests may militate against these desirable changes.

### The repayment burden

Finally, we consider the concern that many student loans schemes saddle graduates with an inordinately heavy level of debt. In particular, it is argued that the fear of entering into student-loan debt acts as a disincentive for prospective students from lower socio-economic backgrounds to apply for university studies.<sup>7</sup> However, the approach adopted here is not concerned with the total size of the debt facing a student on graduation (nor with prospective students' perception of this debt), but rather with the extent to which repayment of the loan does, in practice, constitute a financial burden. The *repayment burden* falling on the borrower each year may be measured by the required annual loan repayment expressed as a percentage of annual income.

In the case of loan schemes where repayment is a fixed percentage of income (income-contingent repayment schemes), this percentage is defined by the conditions of the loan. In the case of the Hungarian loan scheme, this stands at six percent; in the South African scheme repayment varies from between three to eight percent depending on annual income, in New Zealand at ten percent and in the current scheme in England at nine percent. Since the repayment percentage out of income is built into income-contingent schemes, the repayment burden may, by design, be kept within acceptable limits and is the same for all borrowers. Furthermore, low income earners and the unemployed are protected by a minimum income threshold for repayment.

With mortgage-type loan schemes (where the periodic *sum* to be repaid is fixed), the situation is very different. While all borrowers repay the same annual amount, the repayment burden falls over time, as incomes increase. The size of the repayment burden will depend not only

on graduate annual incomes and loan size, but also on the size of loan subsidies and the length of the repayment horizon.

Chinese loans schemes do not carry high subsidies, resulting in heavy repayment burdens. Subsequent loan scheme reforms, notably through increasing the number of years over which loans must be repaid, have led to lower repayment burdens. In the early years of loan scheme operation, the short four-year repayment horizon resulted in a heavy repayment burden of 24 percent on average over each repayment year and high repayment default. The number of repayment periods was subsequently increased to six in 2004, together with a two-year grace period; currently the repayment horizon is ten years, resulting in a more acceptable repayment burden of 8.8 percent in the first year and falling steadily to 2.6 percent.

High levels of state subsidy in the Thai Student Loan scheme (SLS) – aimed at increasing access of the poor – imply a low repayment ratio of only 21 percent and moderate annual repayment obligations. Consequently, the repayment burden is very light: some 2.5 percent for males and, because of their lower earnings, around 3.5 percent for females. However, a recent paper (Chapman et al. 2010) argues that such average estimates are misleading because they do not show the considerably higher repayment burdens borne by low-earning graduates. The repayment burden for graduate borrowers falling in the lowest decile of earners is shown to be nine percent for males and 13.9 percent for females. This may not only enhance repayment default, but may also act as a disincentive for access of those potential students who are pessimistic about their future earnings. The policy response to these findings is to incorporate measures into mortgage-type loan design, to protect low earners from excessive repayment burdens; this may be achieved by the introduction of sufficiently high income repayment thresholds, as is common in income-contingent schemes.

### A concluding comment

Student loans can have a positive, yet limited, role in augmenting access, as defined in this paper; but the general case for heavy loan subsidisation is weak. When the central loan scheme objective is access deepening – reaching out to the poor and other disadvantaged groups – student loans (probably subsidised) can constitute an important element in the available policy toolbox for

<sup>7</sup> This is strongly argued by Callender and Jackson (2005) in the English context; but is not supported from studies in Australia (Andrews 1999) and the Netherlands (Vossensteyn 2005).

increasing access. However, loan schemes need to be well-designed to avoid an excessive repayment burden and default.

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## THE BOLOGNA PROCESS AND FAIRNESS IN UNIVERSITY EDUCATION: EVIDENCE FROM ITALY

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LAURA SERLENGA<sup>3</sup>

### Introduction

Italy was one of the pioneers in the process of harmonising the European higher education system. Together with his British, French and German colleagues, Mr. Luigi Berlinguer, the Italian minister for education, signed the Sorbonne Joint Declaration in 1998. In 1999 the Italian university system embarked on the *Berlinguer reform* that transformed the traditional “unitary one tier” courses scheme, in which four–six year degree courses were the only option at a university level, into a “unitary two-tier” model whereby all students enrol in a three year degree course and can subsequently enrol in a one or two year masters degree. Although the Bologna process was meant to foster student mobility and employability in the European context, in Italy the reform brought a deeper transformation of the educational system and went way beyond the Bologna declaration. However, the process of the reform was far from smooth. Due to political instability in the country, the reform was realised and implemented in a short period of time and met with considerable opposition in the academic community. A rather vast body of literature has attempted to evaluate the effect of the reform and has revealed a number of positive trends following the reform. As the reform took place during a period of rapid expansion of tertiary education in Europe, it is not easy to isolate its effects. However, aggregate data suggest that the reform had a major impact in terms of the enrolment rate in the years following 2001: government data show that the number of graduates doubled from 2001 to 2006. Istat (National

statistical institute) reports a reduction in the early drop-out rate from 2001 to 2004 (Istat 2006). Cappellari and Lucifora (2009) find evidence of a higher rate of access to university, especially for low income and talented students. D’Hombres (2007) and Di Pietro and Cuttillo (2008) show a reduction in drop-out rates following the reform, after controlling for a number of variables that could have influenced the drop-out choice. In a recent study Brunori, Peragine and Serlenga (2012) show a significant improvement in the Italian university system in terms of equality of access opportunity after the reform. However, Brunori et al. (2012) conclude that the long-term effects of the reform were less clear, because although all the inequality of education opportunity measures estimated showed an improvement immediately after the reform (2001), one third of them showed a reduction in equality of access to higher education in Italy between 2001 and 2004. Moreover, after 2004 a persistent decline in the enrolment rate may be considered a symptom of the increase in inequality of opportunity.

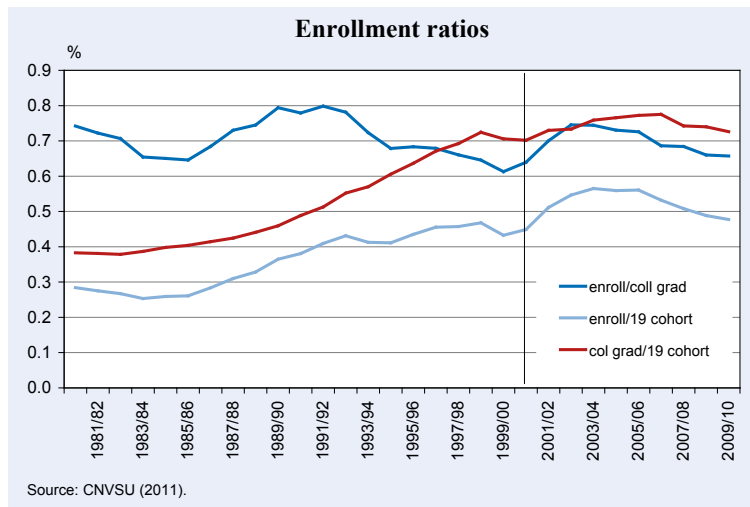
### Basic trends in aggregate data

Figure 1 reports the number of students enrolled in the first year of university over the number of college graduates the year before (*enrol/col grad ratio*). The large increase recorded between 2000 and 2004 is followed by a similar reduction in the following six years. The data shows a similar decline in the 1990s, although this decline was in relative rather than absolute terms. In the same period there was a sharp increase in the number of college graduates: the number of upper secondary school students over the number of 19 year-olds (*col grad/19 cohort ratio* in Figure 1) accelerates dramatically from the early 1990s to the end of the 1990s. The challenge in the 1990s was to get a sufficiently large share of college graduates enrolled in university, given that the number of college graduates was quickly increasing. This goal was essentially achieved, as shown by the third ratio number of enrolled over number of 19 year-olds (*enrol/19 cohort*) which increased over the entire period. After the reform the number of college graduates remained stable and the enrolment rate declined both for college graduates and the 19 year-old cohort.



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Figure 1



Below we propose an analysis of the reform from the point of view of equity: more specifically, we estimate inequality of opportunity in access to university in Italy between 1995 and 2007 and show that inequality of opportunity declined immediately after the reform, but subsequently increased again.<sup>4</sup>

### Inequality of education opportunity

We propose to track access to university before and after the reform, with a focus on inequality of educational opportunity (IEOp hereafter). Firstly, let us define our concept of the equality of educational opportunities. Following on from the recent economic literature on equality of opportunity (Fleurbaey 2008 and Roemer 1998), we model access probabilities as a function of two kinds of variables: variables beyond individual control (called circumstances) and variables of responsibility (called effort). We define IEOp as that portion of inequality in the probability that can be attributed to circumstances beyond individual control and we look at the change in IEOp over time. We are aware that it is not possible to control for all possible sources of change in IEOp; hence, our exercise may not be strictly considered a policy evaluation of the reform. It should be seen instead as an attempt to understand whether the positive effect of the reform vanished in a decade.

To operationalise the concept of IEOp, the first step consists of dividing the possible factors influencing university access into circumstances and effort. In principle,

<sup>4</sup> Hence we update our previous analysis (Brunori et al. 2012) by exploiting a new wave of the Istat dataset on upper secondary graduates.

circumstances are all variables that affect individual outcome, but are not direct or indirect effects of choices. Different characteristics may be considered as fair or unfair sources of inequality depending on the subjective or collective normative beliefs. Race and socioeconomic background are largely agreed sources of unfair inequality; many believe that inequalities due to innate ability, on the other hand, which is definitely a characteristic beyond individual control, are morally legitimate.

Defining a domain for responsibility is particularly complex in the case of education for two main reasons: i) education is a fundamental way of obtaining labour market opportunities, ii) most education takes place in the early years, when individuals have a limited understanding of the consequence of their choices. Supporters of the first argument underline the role of education as an instrumental good: skills acquired in school and university produce income opportunity in the future. Equality of opportunity in the labour market should therefore require full equality in education (Howe 1989). However, if education is clearly a source of opportunities on the one hand, it is itself the result of circumstances and choices on the other, so this paper considers access to tertiary education as an end, and not a means. The second issue challenges the idea that young adult students can be considered responsible for the choice they make. While there is a general consensus that children cannot be held responsible for their choices, it seems instead plausible to hold individuals responsible for their choices at the age of around 19 years.<sup>5</sup>

### Model and data

We measure equality of opportunity in access to tertiary education by looking at the conditional probabilities of access to university for individuals with different circumstances. As discussed above, the outcome is determined by two kinds of variables: circumstances and responsibility variables, where circumstances are all observable variables beyond individual control like gender or socioeconomic background. Responsibility vari-

<sup>5</sup> See Trannoy (1999) and Brunori et al. (2012) for a discussion.

Table 1

Ex-ante and ex-post IEOp measures					
	1998	2001	2004	2007	2010
Ex ante	0,289	0,333	0,275	0,266	0,285
Ex post	0,311	0,356	0,304	0,287	0,304

Source: Authors' elaboration on Istat IIPD.

ables are summarised by a proxy that we will call “effort”. IEOp represents total inequality as a share of the probability of accessing tertiary education due to circumstances. The population of students is divided into groups characterised by identical circumstances (types), and each type is sub-divided into groups of students that exerted the same degree of effort (tranches). To measure IEOp, we build a matrix of probabilities, where the probability of accessing university for students in the same type and same tranche is reported in each element of the matrix. There are also at least two approaches to measuring IEOp in distribution: ex-ante and ex-post. The former focuses on the idea that all inequality due to effort is unproblematic. Ex-ante IEOp is obtained residually: in a first step all inequality due to effort is eliminated (within type), and the residual inequality is subsequently measured. Ex-post IEOp is obtained directly, by measuring for all degrees of effort (hence tranche by tranche) the difference in probabilities due to circumstances. As discussed in Fleurbaey and Peragine (2013), these two approaches differ and although they generally return consistent estimates, they could, in principle, move in opposite directions over time.

To measure IEOp in tertiary education we first define an outcome of access to tertiary education for an upper secondary school graduate. We then identify the variables beyond individual control (circumstances): gender, family socioeconomic background (based on parental education), region of residence (Centre/North, South), and educational attainment at the age of 15 (high, low grades).<sup>6</sup>

Our proxy for effort is related to the grade of the upper secondary final exam. We recognise that this grade cannot be considered a proxy for how hard a student tried, as grades are affected by a student's circumstances. Therefore, like Roemer (1998), we believe that such a measure of effort is only suitable to compare individuals belonging to the same type, as they are all subject to

<sup>6</sup> We consider the educational attainment at the age of 15 a very relevant predictor of the future success in education. We also consider it as a circumstance beyond individual control because due to circumstances and individual choices made at an age in which pupils cannot be held responsible for their decisions; see Brunori et al. (2012) for a discussion.

the same circumstances. In order to make it comparable for individuals of different types, we define effort as the rank in the type specific distribution of observed effort as an ordinal and inter-type comparable measure of effort. Hence, two individuals are declared to have exerted the same degree of effort if they sit at the same position in their respective type specific grade distribution.

In order to implement our measures we use data from “*Indagine sull'Inserimento Professionale dei Diplomati*” (IIPD), a survey published every three years by the Italian National Bureau of Statistics (Istat). The survey focuses on the transition from upper secondary school to work and university of a representative sample of Italian students, who completed upper secondary school. We estimate IEOp in five waves: 1998, 2001, 2004, 2007, and 2010, each containing information on students that completed upper secondary school three years previously. The survey data includes information on students' socioeconomic background, school curricula and access to both university and labour market after upper secondary school.

## Discussion

Our results are in line with what we found in our previous analysis.<sup>7</sup> Table 1 shows the ex-ante and ex-post IEOp measures. The two measures quantify inequality in the probability of enrolling in university, the former between types and the latter within tranches. In both cases inequality is measured by the Gini index.

The ex ante and ex post IEOp show similar trends: they significantly drop in 2004, slightly decrease from 2004 to 2007, and increase somewhat from 2007 to 2010. In fact, both the ex ante and the ex post measures returned to their 1998 level in 2010. Hence, our evidence shows that the 2001 university reform had only a short-term effect in terms of IEOp in the access to tertiary education. This may be due to the fact that the reduction of

<sup>7</sup> Estimates differ in absolute terms from the measures presented in Brunori et al. (2012) because in that case we were controlling for demographic change across time.

inequality might be linked to a number of side-effects of the 2001 university reform such as the sharp rise in the number of university degrees awarded (the number of courses offered by Italian university totalled 2,444 in 2000 and 3,234 in 2001), the spread of university locations across Italy (the number of cities with an university grew from 93 in 1995 to 146 in 2001) and the reduction in the workload required to obtain a degree (Bratti et al. 2007). Given that enrolled rates among students from well-off social background was already very high prior to the reform, the effect of an increase in university degrees and/or locations might have acted as an incentive for students from less advantaged social backgrounds, lowering IEOp in 2004.

Why did the reform have such limited effects? One possible explanation is that, at the time that the reform was introduced, there were high expectations of the opportunities that the new system may bring. Many students who had completed upper secondary school decided to enrol in higher education expecting high returns for a shorter investment in human capital. However, within a few years students and parents learnt that there were lower returns from the new shorter degrees and the enrolment rate declined as a result, especially for less advantaged students. Two facts are in particular consistent with our interpretations: (i) the large percentage of graduates of 3 year courses that enrolled in two-year master degrees varies across universities, but is generally above 60 percent; (ii) growth in the rate of youth unemployment is shown to be even higher for university graduates than for students that completed upper secondary school among individuals aged under 35 years old.

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## ACCESS TO HIGHER EDUCATION: THE SHIFT TOWARDS MARKET- BASED POLICIES IN THE UK

ROGER BROWN<sup>1</sup>

### Introduction

The United Kingdom, and specifically England, now has the most radical, market-based policies of any major higher education system. This article describes what is meant by ‘market-based policies’; looks at the historical background to the current reforms; assesses their impact to date; and suggests some of the lessons to be learned (for a fuller analysis, see Brown (2013) and submitted for review).

### What is meant by market-based policies?

The classic economist’s notion of the market is one whereby the demand for, and supply of, a particular good or service are balanced through the price mechanism. Consumers choose between different producers on the basis of information about price, quality and availability. There is market entry and exit for providers together with regulation to inform and protect consumers and market transactions.

For a variety of reasons, mainly externalities/public goods aspects, higher education is not organised fully on market lines in any country. For the purposes of this discussion, a market-based higher education system is seen as one with the following characteristics:

- A significant amount of institutional autonomy.
- A liberal system of market entry, including both private ‘not for profit’ and ‘for profit’ participants.
- A significant amount of competition between institutions for students, with students having a genuine choice of provider.

- Tuition fees representing all or a significant share of the costs of teaching.
- Private support for those costs representing all or a significant share of institutional funding.
- A substantial proportion of students’ living costs being met privately.

Research nearly everywhere is funded along non-market or quasi-market (Le Grand and Bartlett 1993) lines, but with increasing amounts of private funding and support. Developed systems meriting this description include the United States, Australia, New Zealand and parts of Canada, as well as the UK. Amongst the continental European systems, the Netherlands and some German *Länder* display some market features, although recently there has been some rowing back. Japan and Korea both have substantial private sectors and high levels of private expenditure on both tuition and support. Many other systems are moving in this direction as expansion places public expenditure under greater pressure (Brown 2011a and b; Foskett 2011; Slaughter and Cantwell 2011).

### Current English reforms

With effect from the start of the current academic year (October 2012) the UK Coalition Government has increased the full-time undergraduate tuition fee from GBP 3,375 to GBP 9,000. At the same time, the block grant that institutions used to receive from the Government to support the costs of teaching has been radically reduced, so that there are now direct subsidies only for a few ‘strategically important and vulnerable subjects’ (mainly science and engineering), access, and a small number of specialist institutions. The Government has also relaxed the controls on the number of places it will fund, so that universities can recruit particularly well-qualified students (those obtaining AAB or better grades in the CGE A Level exams, which are the main qualification for university entry) without limit. It has also relaxed the rules for university title, so that specialist institutions with at least 1,000 Full-Time Equivalent students can obtain a university title (the previous threshold was 4,000). This will mean that another ten universities will join the 115 existing ones.



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The Government has summarised the case for the changes in the following terms: “Our reforms tackle three challenges. First, putting higher education on a sustainable footing. We inherited the largest budget deficit in post-war history, requiring spending cuts across government. By shifting public spending away from teaching grants and towards repayable tuition loans, we have ensured that higher education receives the funding it needs even as substantial savings are made to public expenditure. Second, institutions must deliver a better student experience; improving teaching, assessment, feedback and preparation for the world of work. Third, they must take more responsibility for increasing social mobility” (Department for Business, Innovation and Skills 2011, Executive Summary, paragraph 3).

As a result of these reforms, the English system of higher education now conforms quite closely to the market model:

- Universities are legally private institutions with considerable financial and operational autonomy.
- Whilst most providers are ‘not for profit’ institutions, ‘for profit’ providers are beginning to emerge, with considerable official encouragement.
- There is fierce competition for students, with students having a wide choice of subjects, programmes, providers and modes of study, together with a considerable amount of information on which to base their choices.
- Tuition fees now represent all of the costs of teaching for most subjects.
- Students must meet tuition and living costs from their own or their families’ resources, although income contingent loans remain available to full-time students to cover fees and living costs together with a system of non-repayable maintenance grants and bursaries for students from households with incomes of up to GBP 42,000 (part-time students are entitled only to fee loans).

### The historical background

These reforms can be seen as the latest stage in a progressive process of marketisation that began with the Thatcher Government’s decision in November 1979 to end the subsidy for overseas students’ fees. Other major steps have included:

- The separation of public funding for teaching and research, and the introduction of selective research

funding, from 1986.

- The increase in the level of the still-subsidised Home and EU Student Tuition Fee in 1989, and the corresponding reduction in the institutional grant for teaching (partially reversed in 1993).
- The introduction of ‘top-up’ loans for student support from 1990.
- The abolition of the ‘binary line’ between universities and polytechnics in 1992.
- The introduction of ‘top-up’ fees of GBP 1,000 in 1998.
- The changes in the rules for university titles in 2004 to enable institutions without powers to award degrees to obtain a university title.
- The introduction of variable fees of GBP 3,000 in 2006.

We should also note the corporatisation of university governance and the introduction of sector-wide institutional indicators and benchmarks (Brown 2012a and b).

### What has been the impact of these reforms?

There can be little doubt that, through research selectivity, cost-sharing between taxpayers and students/graduates, and the increase in the number of providers, UK higher education is much more efficient in its use of resources than it was even ten years ago. This has enabled public and private funding to go much further. UK universities are also much more responsive to students and other external stakeholders, and much more entrepreneurial (as anyone who has encountered their representatives at overseas student recruitment fairs can confirm). This is reflected in the extent to which they have diversified their revenues away from reliance on the taxpayer, to an extent that was simply unimaginable thirty years ago.

But there has also been a downside. There has been a reduction in institutional diversity and an increase in institutional stratification and inequality. This, in turn, has limited educational innovation, reduced opportunities, and damaged social mobility. The effect on quality has been mixed. In both research and teaching, improvements became increasingly marginal as institutions devoted more resources to compliance and learning to ‘play the game’. Research selectivity has become the pursuit of status, quality assurance has become reputation management, admissions has become marketing, Vice-Chancellors have become entrepreneurs. Above all, marketisation threatens the implicit contract that higher education has with society whereby univer-

sities enjoy certain privileges in return for the public goods that they provide: “The classic justification for the non-profit status of educational institutions is that it redresses information asymmetry between buyers and sellers. Because consumers cannot adequately monitor the quality of educational services, they prefer dealing with institutions they can trust not to take advantage of them to make a profit. But maximising revenue now looks a good deal like making a profit. Private universities now engage in such deceptive practices as awarding less aid to early admission students or front-loading the first year of aid packages (McPherson and Schapiro 1998). Students in the aggregate may gain greater wages through these arrangements, but each student must fend for themselves. Trust in this relationship can no longer be assumed” (Geiger 2004, 171).

It is clearly too soon to be able to evaluate the impact of the current reforms (Brown, submitted for review). The rest of this article looks at the main claims made for market-based policies and considers how far such claims are justified, drawing not only on UK experience, but also on the experience of other systems that have gone down the market route.

### **Marketisation of higher education: pros and cons**

Five main claims are usually made for introducing or increasing market competition in higher education:

- Increased efficiency.
- Increased quality.
- Increased innovation.
- Increased diversity.
- Increased student choice.

#### *Increased efficiency*

The argument is that the introduction or intensification of competition will increase the efficiency of resource use (as can reduced funding, either in aggregate or per student). This is positive because it makes resources go further, and reduces claims on the taxpayer and the economy, thus freeing up scarce capital for other potentially more valuable or important uses. However, increased competition can also lead to significant waste, for example, the amounts spent on marketing and other activities unrelated to the quality of education, the transaction costs of bidding competitions, the additional resources needed for collecting fees, chasing debts, etc. This is, of course, ironic given the rationale for marke-

tisation in the first place, namely to obtain better ‘value for money’ and make resources go further. Of course, regulation in a non-market system can also consume and divert resources. All this points to the need for efficiency to be measured and the effects of the changes monitored.

#### *Increased quality*

Quality of service can be increased if institutions have to take greater account of consumers’ views, enhance service responsiveness, give quicker and better feedback to students, handle complaints more expeditiously, etc. But quality may also be damaged if consumers or consumer pressures have too much purchase (grade inflation, grade grubbing); and especially if quality judgments are taken out of academic hands by the market or by managers acting in response to market conditions/signals (Brown 2009). There are also clear dangers from students adopting a more ‘instrumental’ attitude to their studies (‘commodification’: see Naidoo and Jamieson 2005). This points to the need for quality to be monitored independently of market conditions/controls, but taking account of resourcing levels and uses, and by an agency independent both of the institutions and government.

#### *Increased innovation*

Innovation can increase efficiency, raise quality, expand choice and increase consumer satisfaction, etc. Innovation, however, can also be damaged if institutions don’t wish to be seen to be departing too far from recognised academic models. Innovation is closely linked to differentiation (see below). A lot depends on which institutions are doing the innovating, and it will rarely be the high prestige ones. In any case, innovation on its own is not necessarily good: it can be at the expense of quality. All this points to the need for innovation to be defined and monitored, for example, for its effect on quality

#### *Increased diversity*

Differentiation can occur to extend demand for an institution’s ‘product’ by distinguishing or emphasising special characteristics, creating and occupying special niches, etc. But it can also be reduced if a single institutional model – the large, multi-faculty, research-intensive, selective university – becomes dominant. This is linked to the risk that marketisation will strengthen the dominant institutions, which, in turn, increases the

risk that their needs/interests will distort the system (as, arguably, will research due to the costs of building up research capability). This is almost certainly what has happened in the UK: reputational hierarchy has replaced functional diversity. Diversity can also be reduced through the rationalisation of institutions (absorption of specialist institutions) and/or of programmes (as low demand subjects are curtailed or withdrawn because of cost pressures on providers, ‘cherry picking’ by new entrants, etc). This points to the need for diversity to be defined, monitored and protected, if necessary through state intervention to constrain possibilities for institutional development.

#### *Increased student choice*

Choice can be increased as the number of institutions grows, especially if entrant institutions offer something different (innovation) or existing institutions widen the programmes/subjects/modes on offer (diversity). But it can also be reduced through rationalisation and reduction of differentiation at institutional level and/or rationalisation at a programme level (reduction of cost subsidies). This points to the need for the definition, monitoring and costing of all aspects of student choice.

#### *Equity*

Not even the present British government claims that marketisation improves equity; it is, in fact, far more likely to exacerbate, rather than to reduce inequalities between different socioeconomic or ethnic groups. This can happen in at least three ways: through the increased importance of economic factors in student choice (including the increasing use of ‘merit’ or non-needs based aid), through the unwillingness of prestigious universities to expand places in line with increases in demand, and through stratification (of universities and the social groups they serve). We should also note the (mutually reinforcing) interaction between marketisation at university level and stratification at secondary education levels, not to mention the links between the marketisation of higher education and other policies to introduce market or quasi-market competition into other parts of what used to be called the ‘public sector’. This points to the need for state interventions to protect equity against market competition. Even if the basic causes of differential participation in higher education lie much further back in the education system, we should surely avoid exacerbating them.

## **Conclusions**

This brief review of the shift towards market-based policies in the UK suggests the following conclusions.

Firstly, no claim for or against marketisation can be unqualified. The issues are the balance between market and non-market provision after establishing clear concepts, definitions and categories of evidence.

Secondly, the importance of information. If valid, reliable and accessible indicators of educational quality can be found, so that proper comparisons can be made, and if there is confidence that they will be used in a rational manner by students and others, then we can be more confident about the positive potential of markets and associated activities like marketing as a basis for an efficient and high quality university system. Even then, however, we need to remember that students are not the only beneficiaries of higher education and that the benefits are not limited to economic benefits that can be quantified. In any case, equity will always require some non-market interventions. If we cannot have this information, however, then we should be much more cautious: “If individuals are fundamentally rational and the problems are ... [uncertainty, imperfect information], the potential role for policy would be to try to address these market imperfections by helping students make the decisions they want. If, on the other hand, students are fundamentally irrational then giving them more information or eliminating market imperfections will not necessarily improve outcomes. In the latter case there may not be a need to strengthen consumer choice in higher education, and it might be better to, for example, let educational authorities offer the programmes they deem best for students rather than let student preference drive programme selection” (Jongbloed 2006, 25).

Thirdly, market organisation may help to ease overall funding pressures, but it isn’t a panacea. Systems can be underfunded for longer periods, but at some point quality will be damaged if appropriate levels of funding – whether public or private – can be found. Incidentally, a comparison of different national systems suggests that a significant proportion of public funding is needed if quality is to be maintained (Hotson 2011).

Fourth, decisions need to be made by governments about the appropriate extent and mix of market and non-market provision. Governments need to review system performance against clear objectives for the institutions as a whole. Ultimately, one should determine the mix of

market/non-market provision on the basis of evidence of effectiveness against the objectives being sought for the system as a whole, and in the light of evidence about the effect of different policies so far as this can be found. At one time one might want more competition, at other times less. Of course, this in turn depends upon the government having the necessary information and evidence and being prepared to look at it in an objective fashion.

Fifth, increased competition doesn't mean less regulation: "The more governments strengthen the role of markets in higher education the more they need to give attention to issues such as the quantity and quality of the information available in the system, the consequences of enhanced institutional competition and the level of equity (either at the individual or at the institutional level)" (Teixeira 2009, 57–58).

The UK experience shows that introducing or increasing market competition in higher education can lead to significant increases in efficiency, responsiveness and innovation. These gains, however, need to be set against increases in stratification and reductions in diversity, as well as possible problems for quality; action also needs to be taken to protect equity. This suggests that the introduction or extension of market or quasi-market competition should be carried out gradually and with careful monitoring of the impacts at each stage. In this way, it may be possible to enjoy some of the benefits whilst avoiding or minimising some of the detriments.

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## EQUAL OPPORTUNITY AND LIFE-LONG LEARNING: THE FUTURE OF HIGHER EDUCATION IN GERMANY IS ONLY SECURE WITH MAJOR POLICY CHANGES

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CECILE HOAREAU<sup>2</sup>



### Introduction<sup>3</sup>

Germany is home to a renowned education and research system that features world famous research institutes, highly reputable vocational training, and some of the world's oldest universities. This system prides itself on its tradition of equity through largely tuition-free education with generous support for the parents of learners. Its graduate employment rate was one of the highest in Europe in 2009 according to Eurostat, with 90 percent of graduates in employment three years after graduation.

German higher education has served as a role model across the world. Before the Second World War its universities inspired the design of prestigious US institutions (Flexner 1910; Wildavsky 2010). More recently, its vocational training was emulated in South Korea in the form of the “My Star” – (as a variation on “*Meister*”, the German word for master) schools in 2010 (Lee 2012).

Germany is one of Europe's strongest economies. Its innovation potential is high. In international comparisons it ranks 4th on the Pro-Inno scoreboard (Pro Inno Europe 2011, 4) and 15th in the world according to INSEAD's (2012) global innovation index. A high level of innovation is unthinkable without an excellent higher education and research system.

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Yet Germany's education system is underperforming in some respects. German research universities are under-represented in rankings of research universities relative to the size of the (student) population. Germany also has a comparatively low throughput of universities, namely the ratio between the graduates and total enrolment in comparison to other European countries (Hoareau, Ritzen and Marconi 2012). Similar considerations extend to education levels preceding tertiary education. Germany's results as measured by the OECD's Program for International Students' Assessment did not match its economic level, with reading performance only slightly higher than the OECD average (OECD 2009).

This paper focuses on a key element of the underperformance of the German education system: educational equity. Educational equity matters as an indicator of talent pool use. Greater equity is accompanied by higher economic growth and more innovation (Hoareau et al. 2012). Our observation is somewhat grim. Attainment in German higher education has actually become increasingly *inequitable*. These growing inequities, combined with a reduction of the working age population, may bode ill for the German economy, and in particular for its innovation potential.

The impact of parental education and socio-economic background on attainment in higher education decreased in Germany – as in many other European countries – from 1945 onwards up to the 1980s. Since then, however, the impact of parental education and background has actually become larger (Koucky, Bartusek and Kovarovick 2010, 45).

We use the term higher education here to include universities (*Universitaeten*) and tertiary education to cover the entire post-secondary sector, i.e. *Universitaeten*, *Fachhochschulen* and *Berufsfachschulen*. Inequities in higher education attainment leave several groups vulnerable. Koucky et al. (2010) concentrated on equity related to socio-economic background and the education level of the parents. Specific vulnerable subgroups of the population are those with a migration background and the group of non-traditional students (for example, lifelong learn-

ers). They turn out to be underrepresented in higher education.<sup>4</sup>

Greater equity in the participation of these two groups in higher education could compensate, at least partly, for the negative impact of demographic change on the supply of well-trained workers. A broad pool of higher education graduates with the advanced skills necessary for an innovative workforce is important to guarantee Germany's economic sustainability.

This paper is structured as follows: section *The relevance of equity in higher education for economic innovation* places the issue of equity in higher education in the broader context of the German economy. Section *Equity in higher education, selected trends* subsequently describes the evolution of equity in German higher education. This section unveils the myth that the zero-tuition-fee policy together with a rich, but unfocused student support system contributes to equity. Indeed, the opposite turns out to be the case: the zero-tuition-policy and the unfocused student grant system mainly serve the privileged classes (including the well-to-do middle class) to the detriment of equity. In section *Recommendations*, the paper concludes with three recommendations: it calls for improvements in teaching in primary and secondary education, combined with a more focused student support system, and it challenges universities to improve their performance in terms of equity by adapting the governance structure of higher education. The last section presents our general conclusion: there is scope for Germany to greatly improve equity in higher education. At the same time, a greater emphasis on equity is urgently needed for the economy in view of German demographics.

### **The relevance of equity in higher education for economic innovation**

Equal opportunity in higher education tends to be justified in terms of fairness: all individuals should have an equal opportunity to receive education because of the personal benefits it generates, as well as the opportunities that it provides to acquire skills, expand horizons and promote social mobility. Equality of opportunity is also a prerequisite for sustained economic growth. Economies based on advanced technological developments, like that of Germany, increasingly require

advanced skills (Goldin and Katz 2008). The increase in demand for these skills leads to a growing polarisation in the labour market between those who can provide such skills and those who cannot, leading to growing disparities in unemployment rates and wage differentials. This, in turn, leads to increasing inequalities in several OECD countries, including Germany. According to the OECD (2010, 22–24), the Gini coefficient, a measure of income inequality, increased by four percentage points from the mid-1980s to the late 2000s in Germany. Income inequalities also grew in both Germany and the Nordic countries, more than anywhere else in the world in the 2000s, even although these regions were traditionally low-inequality countries.

Advanced skills are provided by higher education. Hence, equal opportunities in access and attainment to higher education are becoming increasingly crucial for equal opportunities in employment. Equal access to higher education is part of the acquisition of the advanced skills necessary for technology intensive economies (Levy and Murnane 2005).

Demographic change, a European-wide issue, leaves Germany as one of the most affected countries (along with other countries such as Italy or Greece). Germany's rapidly ageing population intensifies the need for a highly skilled population, in order to maximise labour productivity (GDP generated per capita per hour). A highly skilled population would increase the working age population and help to cover the expenses related to the retired population. The population of retired workers in Germany will increase by 21 percent by 2025, according to a report commissioned by the Conference of Education Ministers and the Federal Ministry of Education in Germany (Authoring Group Educational Reporting, 2010). However, the working age population will decrease at the same time by ten percent and the total learner population by 15 percent.

The German economy would need a higher number of highly skilled graduates. Yet, higher education enrolment is 13 percentage points lower than the European average in 2010 according to data from the Federal Statistics Office (2012). The number of first year students looks set to decrease by 25 percentage points from 2012 to 2025. The ensuing decrease in the overall number of students will make increasing equitable access to higher education even more important than ever. Germany needs all of its talent on board in order to smoothly negotiate the demographic transition.

<sup>4</sup> Wolter and Schuetze (1997) and Schuetze and Slowey (2002) cover the under-representation of lifelong learners in German higher education.

### Equity in higher education: selected trends

The German higher education landscape, however, is developing in the opposite direction. Inequities in attainment have actually increased in Germany since plunging to an all-time low in the 1960s, as summarised in Figure 1, and Germany is currently making less use of its pool of talent than previously.

Koucky et al. (2010) compiled an index of inequity in attainment in higher education for European countries by matching parental education and socio-economic background to higher education attainment (the higher the index, the greater the inequities in attainment) for the period 1970–2009. They showed that inequities decreased between the 1970s and the 1980s, but increased again from an index of 41 in 1980 to 48 in 2009.

At the same time, certain groups of the population seemed to be less and less represented in higher education. Table 1 shows the evolution of the odds ratio of migrants with a higher education using European Social Survey (ESS) data. Migrants, who on average have larger families, could partially compensate for the decrease in the proportion of youngsters and individuals of working age.

Table 1 shows that the odds ratio of migrants with a higher education degree to the native population decreased in Germany from 2002 to 2010. Germany is about the 15th country out of 24 in terms of number of migrants with a higher education degree compared to the native population. The odds of getting a higher education degree as a migrant were 13 percent lower than for the native population in 2010. It is worth noting that

the odds ratio of migrant populations with a higher education degree increased in other countries over the period 2000–2010, including the Czech Republic or Poland. Note that Table 1 applies only to migrants born abroad. Hence it represents the combined effect of migration policy and education policy. We can only presume how second and third generation migrants fare. The relatively low PISA scores of second and third generation migrants (compared to the native population) suggest that their higher education attainment will be also (much) lower, as is implied in Table 1.

If the European Social Survey (ESS) provides a representative sample of migration trends in Germany, and if we consider that the overall migrant population has increased from 2002 to 2010 (except for a dip in 2006), the figures in Table 1 imply that the number of migrants with higher education has not grown in proportion to the overall number of migrants in Germany. This might indicate that Germany has simply become less attractive for migrants with a higher education degree, or that migration policy was insufficiently focused on attracting such migrants.

Moreover, the German education system generates less intergenerational mobility than many OECD countries: only one fifth of German youngsters who graduate have a better education than their parents (OECD 2012; Schindler 2012).

### Recommendations

According to the German political myth about higher education, tuition-free education combined with an unfocused student aid system will ensure equity in higher education. This myth is contradicted by the stark reality that higher education equity has decreased since 1980. Previous inequity-correcting policies included direct funding for higher education.

The unfocused part (in the form of parental tax deductions and child allowances) has led to correction mechanisms. These correcting mechanisms took the form of means-tested or merit-based awarding of grants and subsidised loans. The scholarship program ‘*Deutschlandstipendium*’, intro-

Figure 1

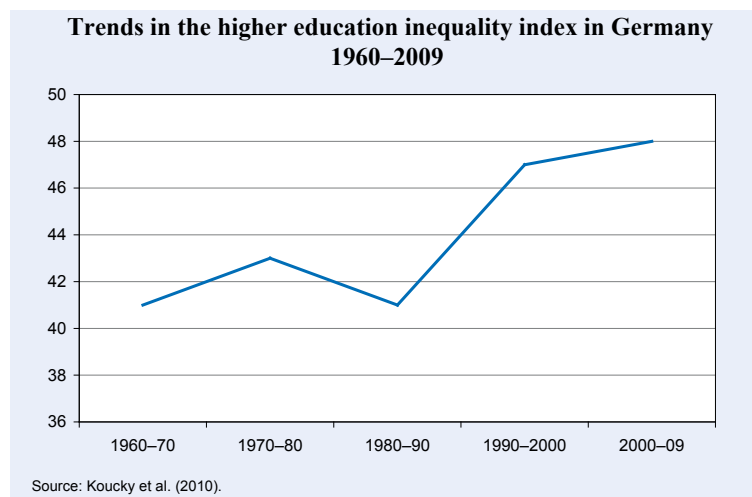


Table 1

## Trends in the odds ratio of migrant / native population across Europe, 2002–2010

Country	Odds ratios of migrants / natives				
	2002	2004	2006	2008	2010
Belgium	0.94	0.79	0.94	0.77	0.75
Bulgaria	n/a	n/a	0.85	0.00	1.83
Croatia	n/a	n/a	n/a	0.52	0.37
Cyprus	n/a	n/a	2.39	0.97	0.57
Czech Republic	1.67	1.70	n/a	0.00	1.97
Denmark	0.88	1.61	1.19	0.71	0.98
Estonia	n/a	0.93	0.97	0.81	0.76
Finland	1.12	1.33	1.27	0.76	0.97
France	0.95	0.94	0.90	0.88	1.50
Germany	0.95	0.56	1.38	0.62	0.87
Great Britain	1.59	1.72	1.55	1.03	1.65
Greece	0.56	0.59	n/a	0.43	0.32
Hungary	1.20	2.48	1.26	1.53	1.46
Ireland	1.34	1.32	1.51	1.08	1.32
Lithuania	n/a	n/a	n/a	n/a	0.96
Netherlands	0.86	1.06	1.13	0.75	1.02
Norway	0.92	0.93	1.54	0.87	0.93
Poland	n/a	n/a	1.18	3.24	2.78
Portugal	1.37	1.15	2.81	1.25	0.46
Slovakia	n/a	0.00	0.00	2.07	2.05
Slovenia	0.00	0.00	1.07	0.30	0.51
Spain	0.64	0.72	1.17	0.58	0.57
Sweden	0.98	0.90	1.28	0.88	0.80
Switzerland	0.86	1.07	1.72	0.89	1.22

Note: Odds ratios are compiled from a sample of the population aged 21–35, and include the ratio of migrant graduates (migrant population with higher education to overall migrant population) to ratio of native graduates (native population with higher education to overall native population). Odds ratios inferior to 1 imply that being a migrant reduces the likelihood of holding a higher education degree; odds ratios superior to 1 imply that being a migrant increases the odds of getting a higher education degree and odds ratios equal to one imply that a migrant has the same odds than a native to obtain a higher education degree. A migrant is a person who is born abroad, regardless of his or her citizenship status. This complies with the definition provided by the International Organisation for Migration (IOM): 'The term [migrant] applies to persons, and family members, moving to another country or region to better their material or social conditions and improve the prospects for themselves or their family'. Higher education includes the completion of a bachelor, master or doctoral degree (excludes short degree courses and vocational education). 2010 includes respondents with bachelor to doctoral degree. 2002–2008 includes respondents with a tertiary education degree. Source: Norwegian Social Science Data Services (2010).

duced in 2011, aims to increase the proportion of scholarship holders among outstanding students. Institutions were also financially supported in setting-up suitable equity mechanisms. For example, the excellence initiative (seen as a shining example across Europe), a multi-billion euro investment in higher education, includes equity policies as a funding criterion.

Germany is very aware of the relationship between the level of funding per student and the quality of higher education. The higher education pact of 2007 provided the financial basis to cover an expansion in student numbers until 2015.

However, funding policies, both at the level of funding places, as well as at the level of funding student financial support, have a limited effect as long as inequities in access at earlier educational levels are not corrected. The early orientation of pupils towards a course of education leading to the pursuit of vocational or academic branches at the higher level is seen by many as contributing to the reproduction of inequities. The differentiated vocational and academic pathways evolve along one of the highest graduate employment rates in Europe (and one of the lowest youth unemployment rates). However, early streaming (at the end of primary education) seems to be a hindrance to social mobility. Selection for the secondary education path that leads to university, namely the gymnasium (grammar school), is correlated with socio-economic background (Kiiver 2010). There are also other pathways (around 40) to university. However, Germany has one of the lowest percentages of students entering higher education through an alternative route, namely four percent versus a European average of 11.9 percent.<sup>5</sup> Alternative routes include, according to Eurostudent (2010,

32), vocational training, work experience, accreditation of prior learning, aptitude/entrance examination and post-secondary (non-higher) education.

<sup>5</sup> Average compiled based on the dataset of Empower European Universities, available at <http://www.empowereu.org/publications> and may differ from the Eurostudent (2010) average because missing data has been imputed.



The referral by teachers in the gymnasium towards higher education may play a role in the social bias related to types of education. A study by the University of Mainz found that 91 percent of children from the upper social classes with top grades received a recommendation for the gymnasium, while only 76 percent of working-class children with similar grades obtained such a recommendation (Eltern Family 2008).

Moreover, equity in achieving a higher education degree still may not be the same as equity in life chances: graduates from families with parents that have a lower level of education also tend to have a lower income and fewer job prospects than the average (Bertschy, Alejandro and Wolter 2009).

Insufficient equity in education has a wide spectrum of causes, but requires policy initiatives targeting different directions. We limit ourselves to three directions in this paper:

- Focus student support on those who – without that support – would not be able to make it to higher education with a student loan/grant system, together with higher tuition fees, to be used to raise the funding of higher education.
- Improve teaching in primary and secondary education.
- Give universities more autonomy and thus more leeway to increase equity, while challenging them on the results.

Germany could improve equity greatly by withdrawing funding for broad-based measures (like child allowances for students or tax deductions for parents with children in higher education) and ploughing it back into increasing targeted student support and raising the quality of higher education. The Dutch and the UK examples of social loan schemes, augmented with merit scholarships, would release money and increase equity. These financial aid schemes, however, would not be sufficient to fully correct inequities, given the inequities stemming from earlier levels of education.

Targeted recruitment campaigns to diversify and rejuvenate the pool of teachers in Germany might help. They may decrease the negative perception bias toward minority groups and facilitate pupils' identification with teachers, possibly increasing the educational success of minority groups. This recommendation is in line with the study from the Authoring Group for Educational Reporting (2010, 16), commissioned by the Federal

Ministry and the State Ministries of Education. This report firstly noted that 40 percent of all teaching staff in Germany and 50 percent of all school teachers were aged 50 or older. Secondly, the report added that only seven percent of teachers within the formal education system had a migration background, even if one quarter of learners were from a migration background. A population of teachers that represents the student demographic would facilitate the positive identification of students and increase their chances of success independently of their background.

The third recommendation aims at a reform of the governance of higher education. The report by the Maastricht-based foundation Empower European Universities (Hoareau et al. 2012) showed that the success of the educational system was not only a matter of funding, but also of institutional organisation. The higher education system of Germany is not homogeneous: there are substantial differences between German states, as education is a competency of the states and not of the federation. Yet, the outward flow of German students to neighbouring countries, including Austria, Belgium, Denmark and the Netherlands, suggests that those who can afford the costs of mobility search for a better quality higher education experience, where they would, for example, have a lower teacher to student ratio. The reputation of German universities may indeed no longer be as glittery as it used to be. German universities are placed in the 'middle performing group' according to the European assessment of higher education by Empower European Universities (Hoareau et al. 2012). When weighed by population, German universities are 12th on average in Europe according to the 2011 ARWU ranking. Students from lower socio-economic groups may not be able to afford international mobility. They may also be the group most heavily affected by teaching quality, since they may require more intensive support (given the acquisition versus the reproduction of additional cultural capital implied by the pursuit of a higher education degree according to Bourdieu, 1986).

Reforms geared toward the improvement of the quality of higher education in Germany would be equity enhancing. The present system of governance of universities in most states of Germany does not encourage change towards a better quality education and greater equality of opportunity. For example, rectors of universities are elected by their peers (the senate). The election system preserves the academic independence of an institution, but also maintains the status quo, marked by the presence of strong lobbies. This could also be the

reason why curriculum changes have been so slow, for example, in offering part-time courses, even although several states provide the opportunity for universities to freely decide on course content. As a result, the match between the demand for course content and supply has been inadequate, according to Schuetze and Slowley (2002). Greater flexibility in the course offering would increase the chances for non-traditional students, including lifelong learners, to participate in higher education. Encouraging a move towards student-centered curriculum and teaching could help to enhance educational equity.

A reform of the governance of universities, which could include the appointment of rectors and the adaptation of curricula to the (changing) needs of society could lead to greater educational equity. These reforms would also bring about an upward social mobility spiral.

## Conclusions

Germany is challenged by growing inequities in higher educational attainment. The demographic change looming during the decade ahead is making this challenge all-the-more intensive. Germany's federal and state governments need to better exploit the nation's talent pool through broader access to and better attainment in higher education.

We suggest three stepping stones to achieve this:

- Improved targeting of student support
- Combined with a correction of perception biases through the targeted recruitment of teachers at primary and secondary education levels, and
- A change in the governance of universities to facilitate an adaptation to student-centered learning and equity.

These reforms would facilitate educational equity and help Germany to utilise its human potential more fully in the forthcoming period of demographic transition and beyond.

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## ECONOMIC FREEDOM, MONEY AND HAPPINESS – WHY DEREGULATION MATTERS BEYOND ITS WEALTH ENHANCING EFFECT

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### Why should we care about the relationship of economic freedom and life satisfaction?

For a long time, the main interest of politicians, individuals and economists has been to analyze the determinants of growth and income. Due to the relative scarcity of resources this is quite a natural starting point: what accounts for the difference between high- and low-performing countries? Why did some countries with a rather low capital stock after World War II face high growth rates, while other countries in seemingly better starting conditions fail to expand? The quality of institutions has been found to be one of the most important factors for long-term growth and development. Numerous contributions show that a market-friendly institutional environment has almost certainly a strong and direct positive impact on income levels and on long-term growth through incentives (for example, Knack and Keefer 1995; Hall and Jones 1999; de Haan and Sturm 2000; Olson, Sarna and Swamy 2000; Pitlik 2002; Dawson 2003; Gwartney, Holcombe and Lawson 2006; Justesen 2008; Rode and Coll 2012; see also surveys by Berggren 2003, de Haan, Sturm and Lundberg 2006 and Doucouliagos and Ulubasoglu 2006).

In that respect, economic research has provided overwhelming empirical evidence that economic freedom and deregulation have a positive impact on growth and

income. The concept of economic freedom as a whole emphasizes the role of freedom of personal choice, voluntary exchange in markets, freedom of entry and competition, and protection of person and property. A prominent and widely-used indicator of economic freedom has been developed by the Fraser-Institute (Gwartney, Lawson and Hall 2012). The Economic Freedom of the World (EFW) summary index estimates the overall market-friendliness of a bundle of five policy areas on a 0–10 scale, whereby higher values are associated with more economic freedom.

Area 1 relates to the size of government. High government consumption, high transfers and subsidies, high tax rates and the extensive occurrence of state-owned firms impede the economic freedom of individuals. Area 2 measures the quality of the legal system and the protection of property rights. Economic freedom requires secure property rights and the legal enforcement of contracts by impartial courts. Sound money (area 3) is important as modern free market economies are not barter economies. Therefore, both persistently low inflation rates and free access to foreign currencies guarantee low transaction costs and foster trade. Area 4 covers restrictions on international trade, such as tariffs, non-tariff trade barriers, capital controls and regulations of the movement of people. Area 5 captures regulations of credit markets, labor markets and business regulations, which hinder all kinds of economic transactions. The comprehensive index score is simply an equally weighted average of liberalization scores in the five policy areas. Data are derived from various international sources, and in total the summary index comprises 42 distinct variables.

Figure 1 clearly illustrates a positive relationship between economic freedom, as measured by the EFW summary index, and income (PPP converted per capita GDP at 2005 constant prices, in logs), taken from the Penn World Tables. Notwithstanding possible reverse causalities, a higher GDP per capita is associated with greater economic liberties. The EFW summary index as a single explanatory variable explained 45 percent of the variation of GDP per capita in 122 countries in 2010.

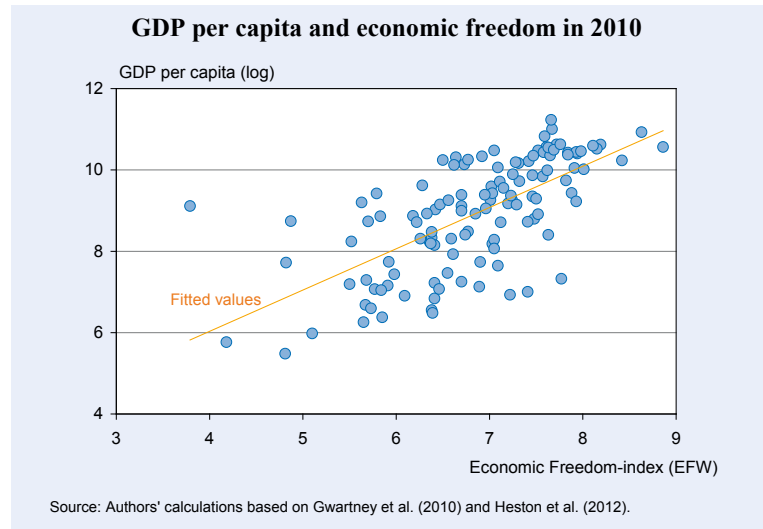


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Figure 1



Carlsson and Lundström (2002) look at each dimension of the economic freedom index separately. They find a positive correlation between growth and the use of markets, the freedom to use alternative currencies, the security of property rights and the freedom of exchange in capital markets; whereas the size of government and the freedom to international trade are negatively correlated with GDP per capita growth.

GDP, however, is often seen as an imperfect, flawed and even misleading measure of welfare. In addition, improved material well-being in industrialized societies have changed people’s attitudes towards income. Post-materialistic societies give more weight to non-pecuniary aspects of the economic order. Together with the recurrent critique of GDP, this value change is partly reflected in attempts to look for alternative indicators measuring quality of life like, for example, the work of the Stiglitz-Sen-Fitoussi Commission (2009). In the same vein, the German Bundestag’s “Study Commission on Growth, Well-Being and the Quality of Life” proposes a set of indicators that adds information on the social (employment, education, health and freedom) and ecological status of the society to the usual growth measures (German Bundestag 2010).

Research on life satisfaction likewise employs a broader concept of individual well-being that makes it possible to identify the non-pecuniary effects of economic environments and events on the subjective well-being of individuals. Many social surveys ask respondents about their overall life satisfaction. The World Values Survey, for example, asks the question “All things considered, how satisfied are you with your life as a

whole these days?” on a scale from 1 to 10. Other studies (for example, General Social Survey, European Social Survey, German Socio-Economic Panel, British Household Panel Survey) employ similar formulations, in part on a different scale. This measure covers all individual and social determinants of subjective well-being.

Research on life satisfaction identifies a whole array of factors impacting subjective well-being. In that respect, one of the most important determinants is income. On average, richer people report higher degrees of life satisfaction

than poorer people. The result, that higher GDP per capita and average life satisfaction levels are correlated positively is replicated in numerous empirical studies (for example, Sacks, Stevenson and Wolfers 2013).<sup>4</sup> Figure 2 displays the strong positive association between per capita income and country averaged life satisfaction, based on data from the most recent World Values Survey/ European Values Study.

In a sample of 91 countries worldwide, GDP per capita accounts for almost 40 percent of the variation in average life satisfaction levels. Provided that people expect to benefit from higher average incomes caused by market-friendly policies, we also expect them to be happier in general with more economic freedom.

Nevertheless, happiness studies frequently feature policy implications recommending more government interventions instead. Unemployment is found to be detrimental to life satisfaction to a far greater degree than merely implied by the loss of income (Frey and Stutzer 2002a, 419–22). Environmental quality contributes considerably to people’s life satisfaction, even if they do not report any willingness to pay to avoid damages (for example, Silva, de Keulenaer and Johnstone 2012). As a result, the economics of happiness tends to favor government interventions over market friendly policies for the sake of raising citizens’ subjective well-being. The positive effects of economic freedom appear to be limited to

<sup>4</sup> Estimations using cross-sectional micro data also confirm a positive correlation between income and life satisfaction. However, simple OLS-estimations suggest a rather weak relationship (Frey and Stutzer 2002a, 408–418). A few studies address the potential endogeneity by using natural experiments (Frijters, Haisken-DeNew and Shields 2004; Gardner and Oswald 2007) or an instrumental variable approach (for example Luttmer 2005; Powdthavee 2010).

the benefits that are incorporated in the price system and enhance people's income. Regulations and restrictions of economic freedom may reduce available resources and disposable income; yet, in addition to the potential correction of market failures, regulatory activities still seem to provide additional non-pecuniary benefits.

This kind of reasoning systematically overestimates the welfare effects of government interventions and underestimates the real advantages of economic freedom and deregulation for individual well-being. A more balanced consideration of economic freedom, therefore, should examine both the pecuniary and the non-pecuniary effects of such government intervention on life satisfaction.

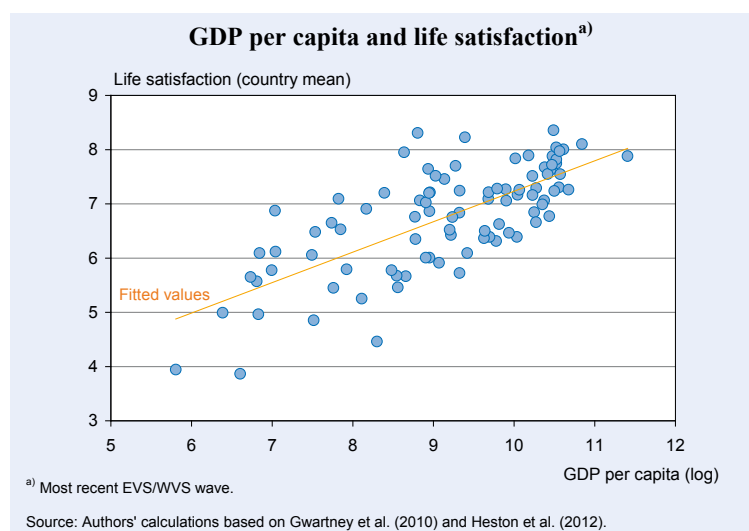
**Pecuniary and non-pecuniary effects of (de-) regulation and economic freedom on life satisfaction**

Economic freedom can have both positive and negative effects on individual life satisfaction. Some of these effects are related to individual income: On the one hand, economic freedom is conducive to prosperity in general. Individuals can, on average, expect to benefit from productivity gains and to earn more money on average in freer markets. On the other hand, risk aversion may put an individual's subjective perception of economic freedom into perspective. One might associate economic freedom with higher volatility of income streams and business cycles. Free markets could amplify economic instability as it promotes innovative activity and creative destruction.<sup>5</sup> Given such a relationship between income volatility and economic freedom, risk lovers would face extra gains from freer markets because economic freedom creates extra opportunities for gambling. On the contrary, risk-averse individuals prefer constant and secure income streams, even at the cost of a lower expected lifetime income.

Other explanations for non-pecuniary effects relate to ideological beliefs and the procedural utility of insti-

<sup>5</sup> From a theoretical perspective, however, the relationship is not clear. Weak institutions and a lack of economic freedom make contractual arrangements insecure. As a result, the cooperation of market participants may be more susceptible to exogenous shocks and therefore macroeconomic instability could rise (Dawson 2010, 189).

Figure 2



tutions. Economic freedom contributes to freedom of choice, and people may feel happier if they have more control over their own business. Many people, however, also favor governmentally imposed restrictions of choice, in cases where they believe that this promotes a social goal such as the diminution of inequality or an improvement in the environment. Voters sometimes dislike competition and free markets, as they directly benefit from regulations that generate and protect rents. Such self-interest cannot always be separated from ideology, as ideological convictions often shape perceived subjective self-interest and attitudes towards economic policy issues (Pitlik et al. 2011). On a different level, not all individuals believe that they stand to benefit from economic freedom, even if they do so from an 'objective point of view'. A priori, it is therefore unclear whether more economic freedom has a positive effect on the subjective well-being of people who have a different model of the world in mind.

Increasing freedom of choice may also have both positive and negative effects on subjective life satisfaction. It promotes subjective well-being as it makes it possible to link economic success with personal endeavor. Having more alternatives to choose from may also be of value in itself. Instead of merely looking at the outcome of an economic activity, people are likely to derive some procedural utility from fair institutions and procedures (Frey and Stutzer 2002b). Again, this very much depends on personal normative beliefs and on what kind of economic order is seen as "fair". People who live in a society with fair procedures (according to their own moral framework) can be expected to be more satisfied with their personal outcomes in terms of income and social status.

Choosing freely among a great number of alternatives, however, can also be costly and thus unattractive in itself (Veenhoven 2000; Schwartz 2000). Some people feel unable to cope with the complexity of decision making, especially if decisions have far-reaching consequences for their own life. If individual decision-making involves high psychological costs stemming from market-driven uncertainty, more detailed regulations and stronger restrictions of individual freedom appear as a ‘happiness enhancing policy’ option, provided that interventions reduce the choice set, give orientation and simplify decision-making. Individuals have very different perceptions of how much control they have over the outcome of economic decisions. Correspondingly, they value freedom of choice differently. Those who believe that outcomes are driven primarily by external factors that are beyond their control have a lower interest in large choice sets compared with those who think that their own choices and actions determine outcomes. Non-pecuniary effects may arise if people’s ideological positions are taken into account. Depending on an individual’s ideological position, s/he subjectively appreciates freedom regardless of being in a better economic position or not.

### Studies on the country level

Several empirical studies address the question of how economic freedom affects life satisfaction using cross-country data at an aggregate level. Veenhoven (2000), for example, reports that economic freedom is positively correlated with happiness and life satisfaction, whereas the relationship between subjective well-being and political freedom is less clear. Moreover, he finds that economic freedom has a relatively large effect in poor countries, whereas political freedom tends to dominate in rich countries. Later studies confirm these results.

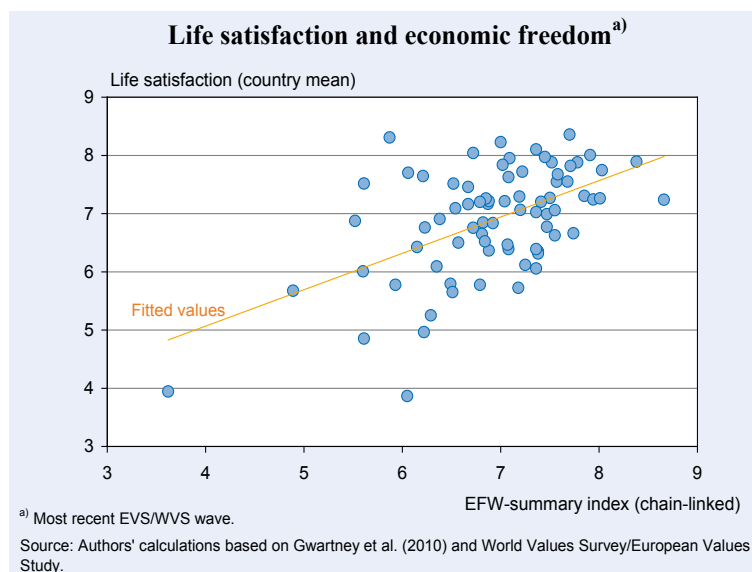
Figure 3 shows the positive relationship between economic freedom and life satisfaction using data from the fifth wave of the World Values Survey and the Economic Freedom of the World-index from the corresponding years. If one controls for GDP or growth, the positive effect of economic freedom on well-being is considerably smaller, indi-

catting that the positive relationship of economic freedom to life satisfaction can partly be explained by the growth-enhancing channel. Nevertheless, a significant and positive impact remains (for example, Ovaska and Takashima 2006). This result is in line with the idea that economic freedom contributes to life satisfaction beyond the narrowly defined pecuniary effect.

One might be concerned that these results suffer from reverse causality and cannot be interpreted as causal for this reason. Rode (2012) asks if economic freedom contributes to higher life satisfaction, or if societies with happier citizens vote for a more economically free market-order. He uses average national consumption of cigarettes per capita and average national alcohol-use disorders rates as an instrumental variable for life satisfaction, as this index explains life satisfaction levels, but should be independent from a country’s institutions. Economic freedom is instrumented by dummy variables for a country’s legal origin, which should have no direct impact on life satisfaction. He finds that economic freedom can be confirmed as having a positive effect on life satisfaction, but not the other way around.

Some papers document research into singular components of economic freedom. No clear consensus has been reached yet in this field. While Veenhoven (2000) finds no evidence for the hypothesis that the size of the welfare state is related to a country’s average life satisfaction level, Bjørnskov, Dreher and Fischer (2007) show a decreasing effect of government consumption on life satisfaction. Studies that focus on single instruments of the welfare state (like unemployment insurance, for

Figure 3



example) find that these instruments have a positive effect (beyond the pure income effect for the addressees of these measures). Rode (2012) and Gehring (2012) use Economic Freedom of the World-data to disentangle the effects of each dimension of economic freedom separately. Both papers confirm a positive relationship between life satisfaction and areas 2–5; no effect is found for government size.

Gropper, Lawson and Thorne (2011) include an interaction term between GDP per capita and economic freedom because they argue that the impact of economic freedom on happiness may be contingent to the level of development and vice versa. In a very parsimonious estimation model, they find a positive relationship between country happiness level and economic freedom, as measured by the EFW summary index. GDP per capita also has a strong positive impact. Moreover, the well-being effect of both economic freedom and GDP per capita diminishes as the other increases, but the combined effect of simultaneously higher economic freedom and GDP per capita is positive, particularly for poorer and economically less free nations. This is also an indication that there is more to the well-being effects of economic freedom than its pure income effects.

### **Who benefits (most) from economic freedom?**

Cross-country studies using country averages cannot capture asymmetric effects across individuals. As argued above, there are some theoretical reasons why economic freedom has different effects on different groups in society. This holds true both for income and the subjective well-being of individuals. Verme (2009) provides empirical evidence for the hypothesis that there is an intrinsic value of economic freedom for people. He shows that an individual's perceived degree of control over his/her own life course determines how individuals value freedom of choice. Moreover, perceived freedom of individual choice is a robust and strong predictor for reported life satisfaction levels.

Bavetta and Navarra (2011) combine available information on perceived personal decision-making autonomy from the World Values Survey with economic freedom data from the Heritage Foundation's Index of Economic Freedom for a worldwide sample of about 60 countries. Subjective well-being is measured by the WVS data on happiness and on life satisfaction. Bavetta and Navarra distinguish between opportunity to choose, which is reflected by the Heritage/Wall Street-index of economic

freedom, and autonomy to choose. The latter reflects the survey respondents' view of the extent to which they have control over their own life. Employing a multi-level logit model for estimation, the authors find that both perceived autonomy (individual-level variable) and economic freedom (country-level variable) have a positive impact on the probability of experiencing more happiness and higher life satisfaction. Moreover, a higher degree of economic freedom not only increases the probability of happiness. An increase in perceived life autonomy also makes a greater contribution to life satisfaction and happiness, the higher the level of economic freedom in a country is. Bavetta and Navarra, however, do not control for GDP per capita and individual income positions. Thus, it is impossible to conclude directly from their analysis that economic freedom has a positive impact beyond material well-being effects.

From a theoretical perspective it is not clear, however, who benefits most from economic freedom. Redistribution obviously has asymmetric effects on donors and receivers of state transfers. Simple median voter theories predict that government size tends to be inefficiently large as the median voter's income level is below the mean income and the median voter therefore prefers to raise high income taxes and redistribute income to medium and low-income earners (Meltzer and Richard 1981). These models would be in line with the observation of large income losses and the low life satisfaction of the rich and corresponding gains in income and happiness of the poor. If one accounts for altruism of the rich, a redistribution of income does not necessarily lead to losses in terms of their life satisfaction.

Regulations and the provision of public goods may also have different income and life satisfaction effects across the population. Here, it seems less clear whether the poor or the rich benefit more from government activities. According to the standard interest group theory of Olson (1965) workers and consumers may not be in the best position to enforce their interests in the political process. Small and well organized special interest groups (for example, small industry lobby groups) with large resources are likely to be more effective rent-seekers and to be more successful in requesting regulations that are beneficial to their members. If special interest groups' regulations and government activities dominate over the social-policy oriented measures of the welfare state, large governments and highly regulated markets are compatible with high-income earners benefiting more from lower economic freedom compared to low-income individuals.



As life satisfaction may depend on individuals' attitudes towards markets, some papers explicitly account for the ideological convictions of respondents. Dreher and Öhler (2011), for example, analyse whether the self-reported political left-right-orientation has an impact on life satisfaction. They find that the individuals who describe themselves as left-wingers report lower levels of happiness than right-wingers.

Similarly, Knoll, Pitlik and Rode (2013) account for freedom-related value statements. Some specifications show unexpected results: those who dislike economic freedom benefit most if they live actually in an economically free market order compared to self-reported proponents of economic freedom.

The study uses data from the combined dataset of the World Values Survey and the European Values Study from 1981–2008 for information on subjective well-being, individual characteristics and preferences over (de-)regulation. Individual attitudes towards economic deregulation are measured by various questions. Respondents answering that “Competition is good. It stimulates people to work hard and develop new ideas” instead of “Competition is bad. It brings out the worst in people” on a 10-point-scale are considered to have pro-market views. “Private ownership of business and industry should be increased” is also considered as a proxy for a pro-market view, whereas “Government ownership of business and industry should be increased” indicates disapproval of deregulation. Alternative proxies use information on attitudes towards income inequality and respondents' self-assessment on a political left-right-scale. Actual regulation levels are measured by the EFW-sub-index on regulation.

Controlling for a standard set of individual characteristics, GDP per capita, government size and political freedom and

deregulation reveals that these country characteristics have a strong and significant impact on life satisfaction.” This effect remains after inclusion of the policy preferences. Specifications with interactions of the deregulation index and attitudes towards market-friendly policies suggest that individual approval or disapproval for free markets matters. One may expect the proponents of deregulation to benefit more from actual deregulation policies. However, this relationship is confirmed only if policy attitudes are measured by opinions on private ownership (see Figure 4). Somewhat paradoxically, using left-right ideology or inequality preferences as proxies for policy attitudes, the sign of the interaction term turns negative (Figure 5).

Figure 4

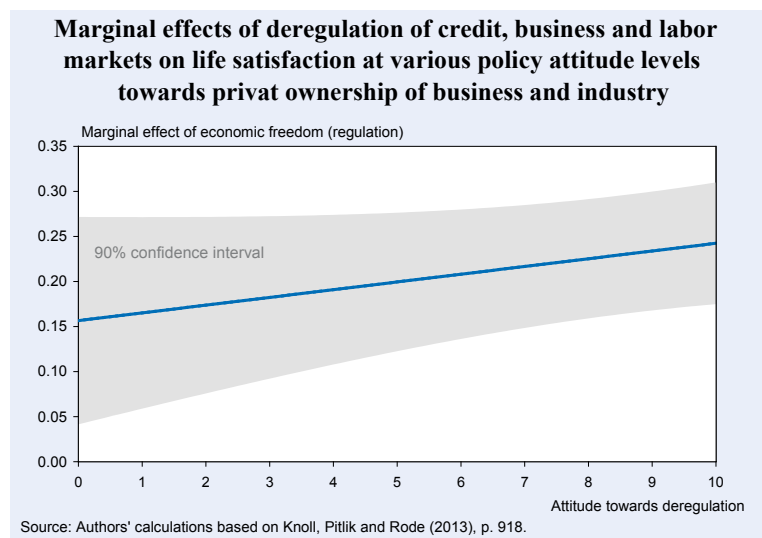
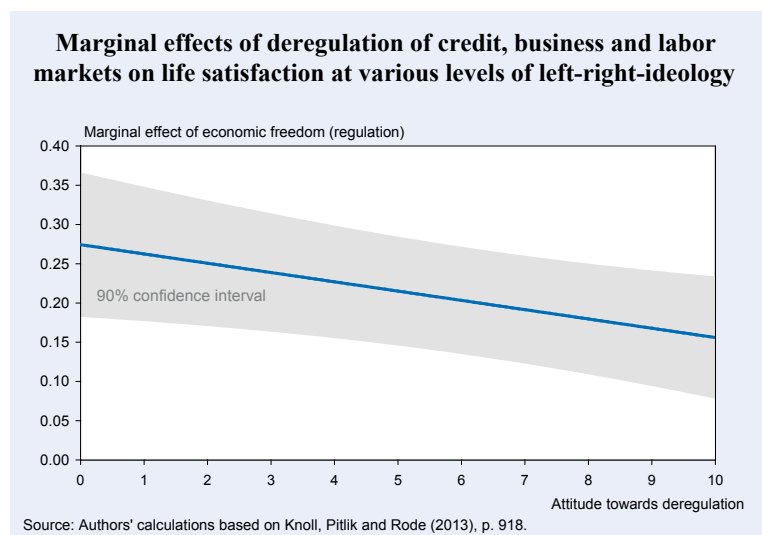


Figure 5



## Conclusion

For a long time economic happiness research has focused on the question: “Does money make people happy?” In recent years, some researchers have broadened the scope of this question by asking if (economic) events and situations can have effects that go beyond pure pecuniary effects. Periods of unemployment are detrimental for subjective well-being to a far greater extent than the loss of labor income and the reduced consumption levels of the unemployed. Institutions matter for two reasons: (1) Free markets are an important determinant of growth, thereby contributing to life satisfaction via higher income levels. (2) In addition, ideology, risk aversion and freedom of choice as a value in itself may explain why positive or negative effects on life satisfaction remain even after controlling for the individual income position. These non-pecuniary effects seem to be unequally distributed within societies. Further research is needed to address endogeneity issues and to fully understand some of the paradoxical results that have emerged from previous empirical studies.

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## THE INFLUENCE WIELDED BY LAND DEVELOPER LOBBIES DURING THE HOUSING BOOM: RECENT EVIDENCE FROM SPAIN

ALBERT SOLÉ-OLLÉ<sup>1</sup> AND  
ELISABET VILADECANS-MARSAL<sup>2</sup>

### Introduction

Housing construction grew at an extraordinary pace during the last economic boom. In the period 2003–07 over 18 million housing units were built in the US, roughly 15 percent of its historical record (American Housing Survey 2009). In Spain, growth was of a similar magnitude, with 4.3 million new housing units built during the same period, representing 17 percent of the housing stock. At the peak of the boom, Spain built more housing units (around 800,000 per year in 2006) than Germany, France and the UK together.

This big expansion in housing supply was not able to contain housing prices, which since the mid-1990s have also experienced growth of an unprecedented magnitude. In the US, housing prices rose by around 86 percent (in real terms) between 1997 and 2006 (and by around 50 percent in the six-year-period ending in 2006). In Spain the boom was even more spectacular, with a real price increase of about 150 percent for the whole period, and of 90 percent in 2000–06.<sup>3</sup> In Spain, this generated a serious housing affordability problem, only mitigated by the ease of access to credit.

The consequences of these developments for the Spanish economy are already well-known: the housing bubble burst, activity in the construction industry stopped abruptly, unemployment skyrocketed, foreclosures multiplied, many savings banks (with businesses

overly concentrated on the mortgage industry) had to be bailed out, and the public deficit plummeted due to the sudden disappearance of the huge construction-related revenues available during the boom. The main causes of the situation were external to the country: the increasing flow of credit as a result of the introduction of the Euro, huge demand for second-home residences from foreign nationals, and the massive immigration inflow experienced during those years.

Besides these economic drivers of growth, however, a more critical assessment needs to consider the possibility that bad governance has exacerbated the problem. Did the influence wielded by the economic sectors profiting from the construction-intensive boom (i.e., developers and the real-estate industry, public works, the tourist industry and savings banks) block appropriate policy responses to the growing bubble? Some authors have already suggested that governance in Spain deteriorated severely as a result of the introduction of the Euro (Villaverde, Garicano and Santos 2013), and that this contributed to the “prolongation of the credit boom, delaying the response to the bubble when the speculative nature of the cycle was already evident”. Here we follow this line of reasoning by also suggesting that bad governance in itself was responsible for the intensity of the boom and for its consequences. Our point is that due to the poor quality of institutions (for example, low transparency of government, lack of regulation of lobbying activities and of campaign finance, as well as the inefficiency of the courts and the partisanship of the media, etc),<sup>4</sup> rent-seeking activities by development-related interest groups in Spain were unconstrained during the boom years. We contend that this state of affairs was partly responsible for the bad outcomes generated by the housing bubble, from excessive development to corruption scandals.

Development-related interest groups probably had too much influence over government at all levels. At the central level, pressure from real-estate firms and the banks lending to them had probably some influence over



<sup>1-2</sup> Universitat de Barcelona & Institut d’Economia de Barcelona (IEB).  
<sup>3</sup> Ministerio de Fomento, [www.fomento.es](http://www.fomento.es).

<sup>4</sup> See Transparency International (2012) for a report identifying the institutional failures in fighting corruption and money influence in Europe; the report identifies the aforementioned problems for the case of Spain and other southern European countries.

several policies, including the favourable tax treatment of housing ownership, the bad oversight of exposure to the housing bubble by financial institutions (Villaverde et al. 2013), the basic legislation on land-use matters<sup>5</sup> and on protection of forests and the shoreline, or the decision to build certain development-promoting infrastructures such as highways and water pipelines. The influence wielded by land-related interest might be felt with more intensity at the regional level, with impact on the basic framework under which local land-use regulations operate and/or on the intensity of oversight of these local policies.<sup>6</sup> However, perhaps the strongest impact occurred at the local level, where powerful land-related interests found it very easy to bribe local politicians in exchange for amendments to local land-use plans (Transparency International 2007; Fundación Alternativas 2007).

The rest of the contribution is organised as follows: In the next section we briefly explain how land-use policies work (in Spain and elsewhere) and discuss the possible role of several political players in their design. In the section that follows we present some indirect empirical evidence on the influence wielded by developers (and/or land-related interest groups in general) over local land-use policies, relying on our own work for Spain. Some descriptive evidence is subsequently presented that documents the involvement of land-re-

<sup>5</sup> When the Partido Popular was elected to lead the central government (1996–2004) it made several attempts at liberalising the regional regulatory framework. The main acts were the ‘Law of Land’ (Ley 7/1997), and the ‘Law of liberalisation of the building sector’ (Ley 10/2003).

<sup>6</sup> Among the most criticised regional laws was the Valencian law on urbanism (Ley 16/2005), which enhanced the role of private developers in land use policies.

## Box 1

### Land use regulations in Spain

Land-use regulations in Spain adhere to a very detailed and rigid system, although they do not greatly differ from the zoning regulations operating in some parts of the US or in other European countries. A key characteristic of the Spanish system is that, although an individual might own the land, the government is empowered to control and implement all the processes of urban development. Landowners are not permitted to develop their land without the prior agreement of the local administration. It is not that they need a building license (which is granted automatically in most cases): before reaching this step, the government must have declared the land ‘developable’ and must define precisely the conditions for such development. The main tool that the government uses to do this is the urban plan. So town planning in Spain is essentially a municipal responsibility, but as there are over 8,000 municipalities, the system is highly fragmented.

Municipalities draw up a ‘General Plan’, which provides a three-way classification: built-up land, developable land (the areas of the community where future development is allowed), and non-developable land (the rest of the territory – agrarian or other uses, where the development process is strictly prohibited, at least until a new plan is approved). The ‘General Plan’ includes very detailed regulations regarding many other aspects: land zoning (residential, commercial, industrial), minimum floor-to-area ratio for each plot, the reservation of land for streets, green spaces for public facilities, etc. In theory, the ‘General Plan’ has a length of eight years, but the land classification can be quite easily modified by a majority vote in the municipal council. The amendment plan, known as a ‘Partial Plan’, is also a legally-binding document.

The local institution responsible for passing these regulations is the city council. The city council is elected every four years. The candidates are included in party lists (usually using the brands of national or regional parties) and voters are allowed to select one of these lists, without the possibility of marking any specific name. Besides urbanism, municipalities have many other responsibilities, so residents must take into account many different aspects when casting their vote (including ideological attachment to the party). The council elects the mayor (usually from the most voted list) and the mayor chooses the executive and acts as the agenda setter. To facilitate scrutiny by the residents, a number of participatory or transparency requirements apply to the land-regulation process. These requirements are stricter in the case of the initial introduction of the ‘General Plan’, but the transparency of the system is heavily dependent on the will of local politicians. To implement the plan, politicians can resort to a variety of means to introduce the desired amendments, without these changes being exposed to much scrutiny from residents or the media. A good example of this are the contractual arrangements made between local governments and developers (the so-called ‘*Convenios urbanísticos*’, which are permitted under the Spanish law. Such contracts might modify the status of a plot, its floor-to-area ratio, involve the renegotiation of developers’ fees or swaps between land plots located in different areas.

Source: The authors.

lated interest groups in many of the corruption scandals that have broken out in Spain in the recent past. The then following sections discuss the influence of land-related interest over the land-use policies implemented by parties with differing ideologies, again using evidence from Spain. The last section provides some conclusions and suggests potentially interesting topics to study in the future.

### Politics of land use regulations

In many countries, local housing and land markets are heavily regulated. In the US, urban growth boundaries restrict the amount of land available for development, zoning ordinances limit the amount of land for specific uses, and obtaining a building permit often entails a lengthy process subject to many other regulations (Gyourko, Sáiz and Summers 2008). In Europe, urban planning encompasses many of these instruments, generating a very detailed and sometimes rigid regulatory system, which specifies what can and cannot be done with a specific plot of land (Cheshire and Sheppard 2004). In particular, the Spanish system of land-use regulations is extremely rigid and interventionist. In Spain, local urban plans determine whether it is allowed to build on a given land plot or not, specifying in a very detailed way how this development should proceed (see Box 1 for a description of the workings of local land use regulations in Spain). A growing body of empirical research shows that these land-use regulations account for a sizeable proportion of housing prices (Glaeser, Gyourko and Saks 2005a; Cheshire and Sheppard 2004). Some authors even suggest that stringent regulations helped amplify the size of the recent housing bubble (Glaeser, Gyourko and Saiz 2008).

There is very little empirical evidence on how these regulations are enacted, and most of it focuses on the US case. Traditionally, the urban economics literature has assumed that land-use regulations are designed in the interest of the homeowners (Fischel 1985 and 2001). Homeowners would oppose growth because it reduces the quality of life in the community and/or reduces the value of housing (Brueckner and Lai 1996; Ortalo-Magne and Prat 2011). The fact that in many areas of the US the median voter is a homeowner would account for the observed restrictions placed in the US. Yet, the empirical evidence in favour of this hypothesis is scarce and restricted to specific types of communities, like the suburbs (Dehring, Depken and Ward 2008; Hilber and Robert-Nicoud 2012).

This has led other authors to suggest that the owners of undeveloped land might also be interested in influencing the political process, in order to increase the price commanded by these assets. These actors might be individuals or families owning huge tracts of rural land, firms in the real-estate industry that have acquired these lands and have plans to develop them (i.e., developers). This group might also include other sectors that have their scale of activity and profit levels conditioned by the supply of land (for example, the building industry, the tourist and recreation industry), or sectors whose activities are closely interlinked with those mentioned above (for example, banks lending to developers or the building industry). These groups represent a coalition advocating development, or the so-called 'growth machine' in the classical study by Molotch (1976) on urban development politics.

These interest groups will use all of the instruments at their disposal to influence policy decisions that might either push for growth or deter it. These instruments may include: (i) advocating the virtues of growth (for example, job creation) through the media, (ii) lobbying bureaucrats and politicians, (iii) promoting development-based parties and/or running as candidates in elections, (iv) making campaign donations to political parties, or (v) bribing politicians. In many countries in Europe, and certainly in Spain, in which the lobbying business is not well regulated and legal campaign donations are either prohibited or opaque, options (ii) and (iv) are fairly limited. Especially at the local level (which is where regulations are mostly enacted), the main ways to exert influence are by directly bribing politicians or running for election. Advocating through the media and informational lobbying may be more important activities at the regional and national level (or even at the EU level in Spain). These are the levels of government responsible for basic legislation regarding land development and for other policies that might limit local autonomy in the design of development strategies (for example, national parks and protected areas, the location of major infrastructures, availability of water supply, forest fires, etc.). In the remainder of this section we discuss some empirical evidence from Spain regarding the use by land interests of these different channels to influence local land-use regulations and other development-related policies designed by higher layers of government.

### Lobbying and land development: empirical evidence

Some authors have already suggested that these special interests do influence land-use regulations in the US at the local level (Glaeser, Gyourko and Saks 2005b and Hilber and Robert-Nicoud 2012), although the evidence they present is rather anecdotic. Obviously, the hypothesis is difficult to test, since the influence activities of these groups are really difficult to measure. In a recent paper (Solé-Ollé and Viladecans 2012) we overcome this difficulty by employing an indirect approach. The intuition of our approach is as follows: in a system of representative democracy (like the one used in Spain to elect local politicians, who will afterwards be responsible for passing these regulations), the incumbent party will tend to cater for the preferences of the median voter when it expects the next local election to be highly competitive. If voters are mainly homeowners (as 92 percent of families in Spain are), this means that when electoral competition is stiff, development incentives are low. On the contrary, when the incumbent expects to be re-elected without much opposition, it might be tempted to accept the payments from the lobby of land developers in order to boost the rents received while in office. In theory, these payments could be legal, but in Spain – as already explained – there is no legal way to channel monies from interest groups to the parties, so these payments end up being opaque and illegal and can therefore be qualified as bribes.

In the paper, we focus on the main regulatory decision Spanish local governments are empowered to take: the delimitation of land between the developable and non-developable categories. Our prediction is that stiff election will limit the amount of land newly declared as developable during a given term-of-office. This simple intuition is developed with the help of a simple theoretical model in which we assume that the local incumbent maximises a weighted sum of the political rents it will obtain in the present term-of-office and the effect of his decision regarding land use regulations on the probability of re-election. Rents are higher if more land is allowed to be developed, since the developer's profits increase the greater the amount of land they are allowed to build on, and so do their contributions to the politicians. Some of these rents might be non-monetary and others monetary, and some of the monetary rents might entail politicians pocketing some money personally, while others may actually be directed towards financing politicians at the regional or national level. The probability of re-election is reduced when more land is allowed to be developed because we assume that development entails

costs for the representative voter. The incumbent chooses the amount of new land to develop so as to equate the value of additional rents and the loss of utility derived from not being elected. The weight put on the voter's welfare rises (and the weight put on rents obtained when satisfying lobby's interests decreases) with the degree of political competition (measured in the model as the proportion of swing voters, i.e., voters that are indifferent between the incumbent and the challenger). This means that an increase in political competition decreases the amount of new land that is allowed to be developed. A finding like this would thus provide indirect evidence that developers do have influence on the land use policies enacted by local governments.

We test this hypothesis with data on a sample of over 2,000 Spanish local governments during the period 2003–07, which coincides with one municipal term-of-office and with the peak of the last housing boom. This is the kind of situation where we expect these influences to be more important, since developers are more willing to bribe politicians when they expect a huge demand for building in the community. The variable analysed is the amount of new land allowed to be developed during the term and political competition is measured as the incumbent's margin of victory at the 2007 local elections. To deal with endogeneity problems, this variable is instrumented using vote results for the incumbent parties measured either at a higher geographical level of aggregation or in a distant past. With this method, we find that more political competition means less development: an increase in one standard deviation in the vote margin generates an increase in the amount of developable land or around 17 percent of the standard deviation in the growth of developable land during the period analysed. We also find that the effect is stronger in the suburbs and in places where there are a lot of commuters, homeowners and left-wing voters. These are the places where it is most probable that the representative voters really dislike growth, which is the main assumption behind our prediction. Overall, the results seem to confirm our hypothesis.

### Corruption in land-use regulations

During the housing boom there was an upsurge of corruption scandals related to land-use regulations. So it is not only that we are able to infer the possibility of undue firm influence by observing specific regulatory decisions that benefit land-related interest groups. In fact, many of the deals between developers and local

politicians have been brought to light by newspapers and/or judicial investigations. A recent paper compiles all of these corruption scandals and studies their impact on the vote for local incumbents (Costas, Solé-Ollé and Sorribas 2012). The database used in that paper builds on a previous effort made by Fundación Alternativas (2007), a Spanish think tank. In 2007, and shortly after the surge in corruption scandals that occurred in 2006, this organisation commissioned a survey of local corruption in order to gauge quantitatively the magnitude of the phenomenon. They hired a journalist in each Spanish province with the task of compiling all corruption related stories involving municipalities in the province between 1 January and 1 February 2007. The authors of the above mentioned paper completed the database for corruption stories published before (since beginning of 1996) and after that date (until late 2009). Between January 1996 and November 2009 politicians in 814 municipalities were engaged in allegedly corrupt acts. This number was very small before 1999, with just 46 municipalities affected, and started to grow as the boom intensified: 288 municipalities were affected during the term 1999–2003 and 408 during the term 2003–07. Just 72 cases were found for the 2007–09, perhaps due to arrival of the crisis. In any case, new scandals have broken out during the crisis, so an update of the database would find plenty of new cases.

The vast majority of these corruption scandals refer to politicians accepting bribes from landowners or developers (usually individuals or small local or regional firms) in exchange for amendments in land use regulations. In this respect, the most problematic aspect of Spanish land use regulations seems to be the existence of a ‘development border’, a line between plots of land on which developers are allowed to build and plots where developed is banned. In periods of high demand this border creates a rent differential, which might fuel rent-seeking by developers who try to convince local politicians. A large number of corruption scandals involve local officials amending the land plans to allow huge tracts of land to be developed. Permitting higher densities than the ones specified in the plan or allowing building in places where it has been previously prohibited (Fundación Alternativas 2007). Many of the cases are also related to questionable contracts between developers and the city council, as a recent report identified (Transparency International 2007). Finally, in some cases corruption arose because land owned by the municipality was sold at below market prices or because payments made by developers for basic infrastructure were lower than those provided under the law.

These corruption scandals were concentrated along the coast and in booming urban areas. This is natural, since the rent differential between rural and urban uses of land that fuels the bribes paid by developers to politicians arises as a consequence of a shortage of vacant land (land already classified as developable) relative to boom in housing demand experienced by the municipality, which was much stronger in these places. Obviously, the existence of these rents is a necessary, but not sufficient condition for corruption to happen. Some of the areas experiencing this problem with a higher intensity had experienced a boom in the demand for land, but also had weaker governance. For example, some of the most prominent scandals affected entrenched incumbents. The two scandals also followed more closely in the press during the boom years (i.e., Marbella, in Andalucía, and Andratx, in the Balearic Islands) the incumbent accumulated several landslide electoral victories before corruption was detected.<sup>7</sup>

#### Political parties and local land-use regulations

Are some political parties more prone to cater to the interest of land-related interest groups? The results obtained in Solé-Ollé and Viladecans (2012a) suggest that the effect of electoral competition on land conversion is much stronger when the incumbent belongs to a left-wing party (in our sample, this means in most cases belonging to the socialist party, PSOE). This means that socialist incumbents are more sensitive to electoral competitiveness: when elections are really competitive they do cater to the interest of the median voter, but when vote margins grow they change their mind regarding the appropriateness of development. In contrast, right-wing incumbents (mainly the Partido Popular, PP) are not that sensitive to the electoral conditions. In a recent paper (Solé-Ollé and Viladecans 2012b) we study what happens in close elections. Using a Regression Discontinuity Design, we are able to document that in close elections right-wing local governments allow much more land to be developed than the left-wing ones. The difference is striking: a left-wing local government would allow approximately 65 percent less land to be developed than a right-wing local government facing a similarly competitive election.

<sup>7</sup> In Marbella, the GIL populist party won 80 percent, 76 percent, 70 percent and 64 percent of the seats at the local elections of 1991, 1995, 1999 and 2003, just before all the mayors serving during this period were sent to jail after the MALAYA crackdown in 2006. In Andratx, the governing coalition won the local elections in the same years by 75 percent, 80 percent, 70 percent and 64 percent, respectively, before the 2007 crackdown which sent the mayor to jail. In both cases, accusations were related to accepting bribes and to other charges related to land use regulations.



In that paper we explain that right-wing parties in Spain are very much in favour of deregulation of the land market and do not consider that the urban growth is bad per se. By contrast, left-wing parties are in favour of controlling urban growth in order to limit its negative effects. Left-wing parties also do not buy the idea that expanding the amount of developable land will have an effect on housing prices. Their preferred solution to the problem of housing affordability was the reservation of land for the provision of social housing. What this paper does not discuss is the possibility that these seemingly different ideological preferences in favour or against growth of the two main political parties in Spain are due to differences in the degree of influences that land-based interests have in the two parties. There is anecdotal evidence suggesting that people with economic interests in development tend to enrol in the Partido Popular, both at the local and regional levels and also at the national level. Firstly, although the PP is now the main party in most of Spain, some of its strongholds (for example, Valencia, Murcia, Madrid) are located in regions where the housing boom was particularly intense and/or where tourism and construction are the main industries. Secondly, some of the local politicians affiliated to this party are themselves developers or the owners of real-estate firms<sup>8</sup> – or have family or friends with these occupations – or have a direct interest in the tourist industry,<sup>9</sup> and some of the individuals involved in corruption scandals also have this trait. Thirdly, one might generally expect rich people and, in particular, landowners to choose a right-wing party in order to defend its interests. Clearly, one of the reasons for getting involved in politics at the local level is to advance personal interests; in Spain, it is quite common, for instance, to find contractors, or real-estate agents running for the local council and eventually having executive responsibilities related to urban planning. Our guess is that although this selection mechanism might affect all parties, it is much more natural for the right-wing parties to accept this type of person, given its ideology which is more favourable to development.

<sup>8</sup> One notable example is the former mayor of Santiago de Compostela, Gerardo Conde Roa, popularly known as the ‘mayor-developer’, who had to resign in 2012 after a corruption scandal broke out. The mayors of the two most prominent corruption scandals (Marbella and Andratx) also were owners of real estate agencies. Even some very prominent politicians of the PP (for example, former regional president of Madrid, Esperanza Aguirre, and some ministries of the actual government) are known because they or their family have direct interest in the sector.

<sup>9</sup> There are examples of politicians who are family of owners of hotel and tourism firms in the Balearic Islands. This is the case of Stella Matutes, daughter of Abel Matutes – former PP minister with the Aznar government and owner of an important hotel chain – who has been prosecuted because of voting for a change in the urban plan of Ibiza benefiting her family.

## Conclusion

In this contribution we have discussed the role of developer lobbies in the design of local land-use regulations. We have documented that these interest groups had a considerable influence over land-use regulations enacted by Spanish local governments during the last housing boom. A substantial share of urban expansion over this period can be attributed to the effect of these lobbies, and worked either through bribes to local politicians (which, in many cases, have resulted in real corruption scandals) or through the control of local councils by political parties representing these interests. This evidence complements the results of recent papers on the influence of special-interests on housing policies by higher layers of government (for example, Mian, Sufi and Trebbi 2010 and 2013, for the politics of mortgage regulation in the US).

This evidence also suggests that a satisfactory explanation for the intensity of the housing boom in Spain (and other countries) and for its consequences should consider the role of the bad quality of political institutions that these countries had prior to the boom. Some authors have already suggested that the boom has its roots in governance problems (Villaverde, Garicano and Santos 2013), but this topic requires further empirical research.

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## REGULATION OF THE WHOLESALE BROADBAND ACCESS MARKET

Wholesale Broadband Access (WBA) refers to the market in which an internet service provider with limited own infrastructure buys transmission services from an infrastructure-based telecommunication carrier in order to provide internet services to the end-users under his own name. The European Commission (European Commission 2007) defines the WBA market in its Relevant Markets Recommendation from 2007 as Market 5: “This market comprises non-physical or virtual network access including ‘bitstream’ access at a fixed location...”.

The incumbent typically used to be the sole provider of WBA and was regulated on a national basis. The regulation comprises cost and access regulation besides a number of other remedies, such as non-discrimination, transparency or the requirement to account separately. In earlier phases of market development, the regulation of the WBA market was necessary and facilitated entry. Entrants were able to test local markets “risk-free” via the incumbent’s network without the commitment of building their own infrastructure. In recent years however, competitors have begun to build their own networks in areas in which they had established a sufficiently large customer base. The incumbent’s networks are thus gradually replicated, and the competitors either already offer WBA or could potentially enter the WBA market.

In many countries, this increasingly infrastructure-based competition gave rise to the reconsideration of the national regulatory approach. It has been suggested that nowadays areas with well-developed infrastructure-based competition might actually benefit from deregulation. As a result, starting with the UK in 2008, a number of European countries have introduced – or debated – a sub-national geographically differentiated regulation of the WBA market. These schemes allow for the deregulation of areas with sufficient competition. Regulation would then only apply to areas in which competition law alone is not sufficient.

As shown in Table 1, only the UK and Portuguese regulatory authorities have to date introduced a geographically differentiated regulation. In the UK, British Telecom’s exchange areas were chosen as the relevant

geographical unit at which regulation or deregulation occurs. The UK regulatory authority Ofcom grouped all exchange areas into three categories according to their competitive situation, based on the number of certain large competitors that are able to offer WBA services (“principal operators”), the availability of broadband via cable, and the size of the local market. In Ofcom’s revision of the regulation in 2010, market size was considered redundant and replaced by the requirement that British Telecom’s market share must not exceed 50 percent for deregulation. While exchanges in categories one and two remain regulated, the incumbent British Telecom was released from regulation in category three. The Portuguese national regulatory authority ANACOM chose a similar approach. Two categories of exchange areas were defined in 2008. Based on the number of infrastructure-based competitors (Local Loop Unbundlers) and the presence of cable operators, competitive exchange areas in the second category were deregulated. However, in contrast to the UK, where the incumbent faces direct competition on the WBA market, the Portuguese incumbent Portugal Telecom was the sole provider of WBA services. ANACOM argued that competition from cable operators and Local Loop Unbundlers on the retail market posed indirect pressure on prices in the WBA market.

The European Commission is generally in favour of geographical differentiation, provided it is in accordance with EU law: “For the Commission, Ofcom’s proposal represents a reasonable move towards better targeted regulation, concentrating on those geographic areas where structural competition problems persist” (European Commission 2008). However, in other countries the European Commission expressed “serious doubts” as to the implementation of geographically differentiated regulation (in Spain, Finland, Poland, Czech Republic) and the scheme has not been adopted. In some cases, national authorities have already declined the proposal (Germany, Austria). The German regulator argued in 2009 that future developments in the telecom wholesale markets were too unforeseeable. With the upgrade of the old copper-based network with fibre-based infrastructure, a considerable portion of exchanges was expected to become redundant in the future. In this case, infrastructure-based Local Loop Unbundlers would depend on downstream (WBA) products to provide broadband services. WBA products would then be necessary for competition in the retail market and should therefore remain regulated. In addition, the national regulator found that differences in the competitive situation between areas were not

Table 1

## National regulatory authorities (NRA): requests for geographic differentiation of the Wholesale Broadband Access (WBA) market

Criteria for deregulation	United Kingdom	Portugal	Germany	Austria	Spain	Finland	Poland	Romania	Czech Republic
Unit of (de)regulation	Exchanges	Exchanges	Exchanges	Exchanges	Exchanges	Exchanges	Municipalities	-	Municipalities
Market size (premises)	≥ 10,000 (in 2008 only)	-	> 4,000 households	> 2,500	≥ 10,000 households	-	-	-	-
Market share incumbent	≤ 50% (2010)	≤ 50%	< 50%	< 50%	≤ 50%	< 50%	≤ 40%	Market traditionally unregulated	≤ 40%
No. of relevant operators (incl. incumbent)	≥ 4 (principal operators only)	≥ 3 (1 LLU, 1 cable)	> 4	≥ 4	≥ 4 (2 LLU + 1 cable or 3 LLU)	≥ 3	≥ 3	-	≥ 3 (competing infrastructures)
Cable	≥ 65 % cov.	> 60 % cov.	No	Yes	≥ 60 % cov.	Yes	No	-	Yes
EC (or NRA) notification									
Status	Approved (Feb. 2008)	Approved (Jan. 2009)	Rejected by NRA (2009)	Rejected by Admin. Court (Dec. 2008)	Rejected by EC „serious doubts“ (Nov. 2008)	Rejected by EC „serious doubts“ (Jan. 2009)	Rejected by EC „serious doubts“ (Apr. 2012)	Acknowledged by EU in 2010	Rejected by EC “serious doubts” (Aug. 2012)
Reasons for rejection			National scope of market Removal of exchanges Future development unknown	National scope of market	National scope of market WBA < 30 Mbit LLUs' usage of own WBA is counted	National scope of market „Structural“ indicators	National scope of market „Structural“ indicators no cost orientation for FTTC		Municipalities do not reflect local markets Competing infrastructures not sufficient for competition
Note: Apart from Germany and Austria, all countries' NRAs filed notifications for geographic segmentation with the EC which were rejected or approved by the Commission. Source: Fabritz and Falck (2013).									

sufficient to justify a differentiated regulation. In Austria the Administrative Court objected to the national regulator's decision to deregulate in 2008, since it had also defined the national scope of the WBA market.

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## EVOLUTION OF OIL TAXES: AN INTERNATIONAL PERSPECTIVE

One of the most applied climate policy instruments are taxes that are either levied directly on the consumption of products leading to greenhouse gas (GHG) emissions, such as fossil fuels, or on the use of goods like cars or roads that complement the former. Although many countries agree that these taxes are useful, the extent to which they are employed varies enormously. To enable a comparison of the different specific taxes on oil products in different countries, it is therefore necessary to harmonise the data. A simple comparison of the nominal tax rates of two countries, would fail to account for price effects, the effects of differing purchasing power, and other effects impacting the data.

We have therefore used the nominal specific taxes provided in the IEA database “Energy Prices and Taxes” and have transformed the data in two ways. Firstly, it is important to note that the value added tax (VAT) in the countries considered is levied not only on the net price, but also on the excise tax. Thus, we add the VAT on the excise tax to the countries’ specific taxes since it is a part of the tax burden and varies with the excise tax. In the second step we have used the GDP deflators to eliminate price effects from the evolution of the oil tax. To make the levels of the specific taxes comparable between different countries, we have converted them into dollars using purchasing power parity (PPP)-adjusted exchange rates.

The three figures below show the evolution of the calculated specific taxes in selected countries and groups of countries. DICE contains the figures and the data for all OECD countries.<sup>1</sup> Figure 1 features the specific taxes on premium unleaded gasoline. Figure 2 depicts the evolution of the diesel taxes, while Figure 3 illustrates the development of a consumption weighted average of the specific taxes over all oil products.<sup>2</sup> As for the average over different products, we calculated averages for different regions (G7, EU and OECD) in order to provide reference values.

Considering premium unleaded, diesel and the weighted average specific taxes over all oil products, we observe average yearly increases of between 0.8 percent (Italy, premium unleaded) and 10.7 percent (United Kingdom, all oil products). Alongside Italy, the United States is the only country with a negative overall development of its taxes on premium unleaded gasoline. As far as diesel is concerned, all of the countries considered exhibit positive overall growth in specific taxes. Interestingly, in the case of diesel, Italy alone has the highest quarterly increase on average at 8.7 percent. The average yearly increase in the specific taxes for all OECD countries amounts to 1.0 percent and 2.7 percent for diesel and premium unleaded gasoline respectively.

Not only growth rates, but the levels of specific taxes on oil products also vary to a large extent between some of the countries analysed. The specific tax on premium unleaded gasoline in the United Kingdom, for example, is over eight times higher than in the United States, while the specific tax on diesel is over seven times higher.

Another key insight from the international perspective on oil taxes is reflected in Figure 1: the unavailability of data concerning US gasoline taxes before 1995 illustrates the US’s importance in terms of worldwide gasoline consumption on the one hand; and demonstrates the low level of its specific taxes on the other. The inclusion of the US reduces the average tax rate of all OECD countries by nearly 48 percent from 770 to 400 USD per ton of oil equivalent.

In conclusion, we can note that specific taxes on oil products have increased in nearly all observed countries in recent decades. However, both the growth rates and the levels of taxes vary considerably between some of the countries.

Julian Dieler

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<sup>1</sup> Except Iceland.

<sup>2</sup> The average is derived based on the following products: auto diesel, diesel, high sulfur fuel oil, kero-sene, low sulfur fuel oil, LPG and premium unleaded gasoline.

Figure 1

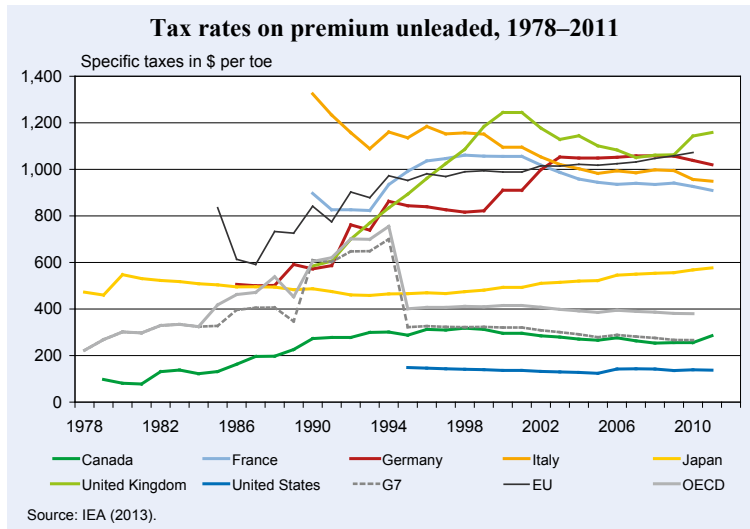


Figure 2

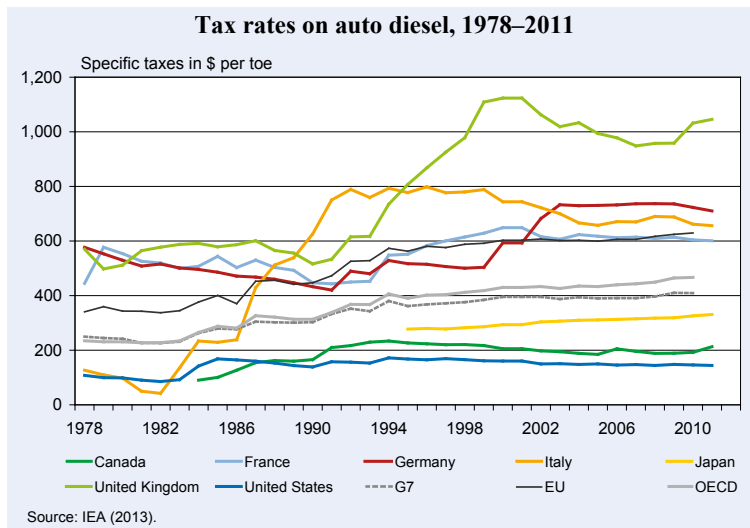
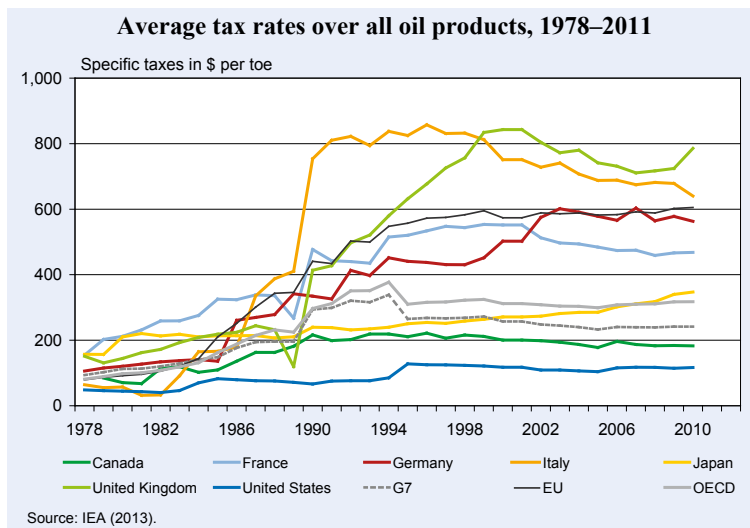


Figure 3



## GOVERNMENT DEFENCE ANTI-CORRUPTION INDEX 2013

The Government Defence Anti-Corruption Index 2013 from Transparency International (TI) is the first index to assess corruption in the defence sector. It measures the degree of corruption risk and corruption vulnerability in government defence, for example, in the defence ministry, armed forces and other related institutions. The index surged from Transparency International's Defence and Security Programme, whose aim is to build integrity at all levels of the defence and security sector. The programme has been actively working together with governments, armed forces, the defence industry, and other civil society organisations to address corruption in this sector since 2004.

Corruption, in general, is known to lead to important losses in public trust, governmental accountability, and social and economic development, among others. Corruption in defence deserves attention since the funds of the national budget designated for defence are, for the majority of countries, not negligible. Thus, the resources that may be captured due to corruption can be very large relative to the national budget. Figure 1 shows that the average military expenditure for all OECD countries was 2.7 percent as a share of GDP in 2011, almost the same as the world's average expenditure of 2.5 percent.

Corruption in defence can lead to a situation where purchases of armoury are driven only by the amounts of

bribery paid for acquiring certain items and not by the actual requirements of the armed forces. Hence, defence corruption can reduce the operational effectiveness of the armed forces and sabotage security strategies. An increase in military expenditure due to bribery is possible and may have an effect on other countries in the region. If relationships between countries are tense, then corruption can stimulate international conflicts. Moreover, conflicts can be enforced or prolonged if the military elites profit from them. This may lead to a loss of trust in the armed forces and in the government in general, and affect the legitimacy of government actions. In addition, the waste of resources in corruption diminishes the country's investment in social and economic development, thus fostering social conflict. Therefore achieving and keeping peace is highly influenced by the level of corruption in defence.

In the majority of countries there is a high degree of confidentiality about national defence budgets and activities because this sensitive information could be misused endangering national security. One consequence of this little or lack of public scrutiny is that the sector becomes particularly prone to corruption.

Information about the level of corruption in defence is highly relevant, since the problems caused by defence corruption can only be addressed with knowledge on the strengths and weaknesses of the countries' institutions.

The Transparency International Government Defence Anti-Corruption Index is based on survey data from 82 countries selected according to the size of their arms trade, the absolute and per capita size of the military,

and a proxy of the size of their security sector. They accounted for 94 percent of global military spending in 2011. The research for the 2013 Index was carried out between July 2011 and November 2012. Henceforth, Transparency International will release the index every two years.

Governments were evaluated on five key areas of defence corruption risk: political risk, financial risk, personnel risk, operations risk and procurement risk. Questions were scored from 0 to 4, where 0 means low transparency; very weak or no activity to

**Figure 1**

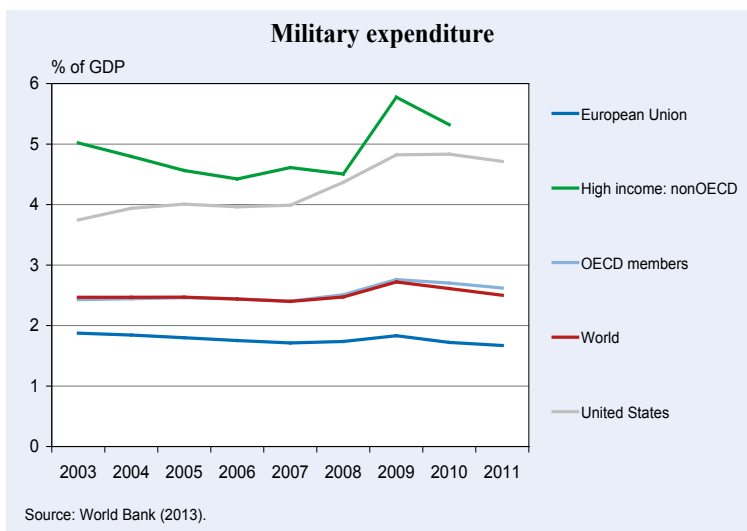




Table 1

Defence corruption risk			
Band	Lower score (%)	Higher score (%)	Corruption risk
A	83.3	100	Very low
B	66.7	83.2	Low
C	50	66.6	Moderate
D	33.3	49.9	High
E	16.7	33.2	Very high
F	0	16.6	Critical

Source: Transparency International (2013).

address corruption risk and 4 means high transparency; strong, institutionalised activity to address corruption risks. Finally, countries were classified into bands from A to F based on the overall percentage of marks obtained across the whole survey following the scheme presented in Table 1.

Of the 21 OECD countries assessed, only two score in Band A with a very low corruption risk: Australia and Germany (Table 2). Both have strong auditing mechanisms for defence expenditure and high levels of transparency regarding the sources of defence income. Nevertheless, transparency can be strengthened. These both countries perform worse, on average, than countries in Band C with respect to the control of secrecy in some defence expenditures.

29 percent of the assessed OECD countries score in Band B. These countries show frail regulation and low transparency levels within the procurement process. The main weaknesses of the ten countries in Band C

are a limited civil society engagement with defence and security institutions, and weak provisions to encourage whistle-blowing.

Only 15 percent of the countries indicate high corruption risk: Israel, Turkey and Mexico. No OECD country appears to have a very high or critical corruption risk (Bands E and F). This is not surprising since the majority of these countries are characterised by having strong institutions that keep corruption at low levels.

Amanda Tuset Cueva

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Table 2

Number of OECD countries (21 of 34) in Band A–F		
Band	Country	% of countries
A	Australia, Germany	8
B	Austria, Norway, South Korea, Sweden, UK, USA	29
C	Chile, Czech Republic, Greece, France, Hungary, Italy, Japan, Poland, Slovak Republic, Spain	48
D	Israel, Mexico, Turkey	15
E + F	No country	0

Source: Transparency International (2013).

## ENERGY EFFICIENCY IN BUILDINGS IN EU COUNTRIES

Energy efficiency in buildings is an important objective of energy policy and strategy in Europe. Buildings account for nearly 40 percent of final energy consumption (and 36 percent of greenhouse gas emissions). Moreover, the building sector offers the second largest potential for energy savings after the energy sector itself.<sup>1</sup> Consequently, European legislation has decided on a framework of ambitious targets for achieving high energy performance in buildings. Key parts of this framework include the Energy Performance of Buildings Directive (EPBD), and its recast 3. The recast of the EPBD established that all new buildings should be nearly zero-energy by the end of 2020.<sup>2</sup> The extent to which these Directives are implemented in national legislation crucially influences the efficiency of the energy saving targets.

Annunziata, Frey and Rizzi (2013) provide an overview of the current national regulatory framework, which is summarised in Table 1. They focus on the EPBD's three main goals. The first goal is the integration of energy efficiency and renewable energy. The authors argue that this goal calls for a hierarchy of energy efficient measures defined by national regulation, which could help to create a national system supporting innovative technologies. Besides this, the integration of energy efficiency and renewable energy can be encouraged by introducing targets for renewable energy sources. The second goal focused on by the authors is the translation of investment in energy saving into economic value. EU Member States should accordingly establish economic and/or procedural incentives and promote the offering of energy efficient buildings for sale and for rent in their real-estate markets. The third goal of the EPBD examined by Annunziata, Frey and Rizzi (2013), is the countries' commitment to the nearly zero target. Here the authors examine economic and administrative measures to punish non-compliance with the energy performance requirements prescribed in building codes, to assess the extent to which energy performance is monitored after refurbishment and national efforts to boost the number of nearly zero-energy buildings. As shown in Table 1, the regulatory frameworks for promoting the energy efficiency of buildings differ sig-

nificantly between EU countries. Annunziata, Frey and Rizzi (2013) suggest that there are four main reasons for these differences: the countries vary considerably with regard to their responsibilities related to building energy regulations, their traditional building regulations and enforcement models, their contextual characteristics and their maturity.

Equally as heterogeneous as these regulatory frameworks are the financing tools used by national governments to promote energy efficiency in buildings. The European Commission (2013) gives an overview of these tools, which is summarised in Table 2. The vast majority of national funds to promote energy efficiency in buildings are grants, followed by soft loan schemes and tax incentives. Other instruments used by national governments include energy performance contracting, the use of assigned amount units (AAUs) under the Kyoto Protocol, tax incentives (for example property taxes) and energy suppliers' obligations.

The European Commission (2013) points out that, while investments in building energy efficiency are increasing and there are many best-practice examples of existing instruments that are delivering cost-effective energy savings, the information available on the effectiveness of the different financial support measures for energy efficiency in buildings is still limited. The evidence provided by Annunziata, Frey and Rizzi (2013) and by the European Commission (2013) shows that the efforts and achievements related to improving energy efficiency in buildings vary across EU countries. This suggests that a country's profile needs to be taken into account in attempts to improve the sharing of best-practices and energy efficiency governance among European Union Member States.

Silke Friedrich

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<sup>1</sup> European Commission (2012).

<sup>2</sup> A "nearly zero energy building" is a building with zero net energy consumption and zero carbon emissions annually.

Table 1

## Regulatory and policy instruments to foster efficiency in buildings

	Integration of energy efficiency and renewable energy requirements		Translation of investments in energy saving into economic value		Commitment towards "nearly zero-energy" target		
	Hierarchy of energy efficient measures	Targets for renewable sources	Incentives for sale of energy efficient buildings	Incentives for rent of energy efficient buildings	Penalties for energy performance requirement non-compliances	Minimum threshold for the mandatory communication about the effects of the refurbishment	Incentives for nearly zero-energy buildings
Austria			X	X	X		X
Belgium			R	R			R
Bulgaria		X			X	X	
Cyprus	X	X			X	X	
Czech Republic					O		
Denmark		R			X		X
Estonia	X		X		X	X	
Finland	X		X	X	X		
France	X				O		X
Germany		X	X	X	X		X
Greece		X			X		X
Hungary	X					X	
Ireland	X					X	X
Italy	R				X		X
Latvia		X	X			R	
Lithuania	X			R	X	R	X
Luxembourg			X		O	X	
Netherlands			R	X	X	R	X
Poland					X	X	
Portugal		X			X	X	
Romania					X		
Slovak Republic	X				X	X	X
Slovenia	X	X	X			X	X
Spain		X			R	X	
Sweden			X	X	O	X	X
United Kingdom							

X = national regulations, R = regional/local regulations and O = other regulations.

Source: Annunziata E., M. Frey and F. Rizzi (2013).

Table 2

## Financing tools for energy efficiency in buildings

	Grants	Soft loans	Tax incentives	Sale of AAUs to finance EE	Energy performance contracting	EU structural and cohesion funds
Austria	X	X	X		X	
Belgium	X	X	X		X	
Bulgaria	X	X			X	X
Cyprus	X	X				
Czech Republic	X	X	X	X	X	X
Denmark	X		X			
Estonia	X	X	X	X		X
Finland	X	X	X			
France	X	X	X		X	X
Germany	X	X	X		X	
Greece	X	X	X			X
Hungary	X	X		X		X
Ireland	X		X		X	
Italy	X	X	X		X	X
Latvia	X	X	X	X	X	X
Lithuania	X	X	X	X	X	X
Luxembourg	X	X	X			
Malta	X	X	X		X	X
Netherlands	X	X	X		X	
Poland	X	X		X	X	X
Portugal	X		X		X	X
Romania	X	X	X		X	X
Slovak Republic	X	X	X			X
Slovenia	X	X	X		X	X
Spain	X	X	X		X	
Sweden	X		X	X	X	

Notes: Financing tools reported by Member States in their second NEEAPs (National Energy Efficiency Action Plans). Note that as regards the use of Structural and Cohesion Funds the situation may have changed since the NEEAP was submitted.

AAU = Assigned Amount Units

Source: Financing tools reported by Member States in their second National Energy Efficiency Plans (NEEAP), see European Commission (2013).

## NEW AT DICE DATABASE

### Recent entries to the DICE Database

In the second quarter of 2013 the DICE Database received a number of new entries, consisting partly of updates and partly of new topics. Some topics are mentioned below.

- Employment by educational attainment and gender
- Employment protection legislation
- Wage setting mechanisms
- Working hours
- Unemployment insurance and assistance
- Expenditure on social protection in the European Union
- Migrant workers and immigrant households
- Bank regulation and legal framework

## FORTHCOMING CONFERENCES

### CESifo Area Conference on Economics of Education 6–7 September 2013, in Munich

The conference aims at bringing together Network members to present and discuss their ongoing research and to stimulate interaction and co-operation between them, in particular among researchers on both sides of the Atlantic. All CESifo research network members are invited to submit their papers, which may deal with any topic within the broad domain of the Economics of Education.

Scientific organisers: Eric A. Hanushek,  
Ludger Woessmann

### CESifo Area Conference on Energy and Climate Economics 11–12 October 2013, in Munich

All CESifo research network members are invited to submit their papers, which may deal with any topic in the field of Energy and Climate Economics.

Scientific organiser: Michael Hoel

### Junior Economist Workshop on Migration Research 18–19 October 2013, in Munich

The Ifo Center of Excellence for Migration and Integration Research (CEMIR) is organizing a junior economist workshop on migration research at the Ifo Institute in Munich, Germany. The keynote lecture is given by Christian Dustmann, UCL London.

Scientific organisers: Panu Poutvaara

## NEW BOOK ON INSTITUTIONS

**Keys to the City: How Economics, Institutions, Social Interaction, and Politics Shape Development**  
Michael Storper,  
Princeton University Press 2013.

**Central Bank Communication, Decision Making, And Governance**  
Edited by Pierre L. Siklos and Jan-Egbert Sturm  
Oxford University Press 2013.

**The Political Economy of Agricultural Price Distortions**  
Edited by Kym Anderson,  
Cambridge University Press 2013.

## LAUNCH OF VISUAL STORYTELLING IN THE DICE DATABASE

DICE has launched its new interactive graphics application **Visual Storytelling**.

Visual Storytelling allows you to analyse DICE information using interactive maps and graphs. This new feature enables users to:

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- Use scatter or radar plots to compare different indicators and connections.
- Select individual countries to compare performance.
- Select additional information layers in all visualisations.

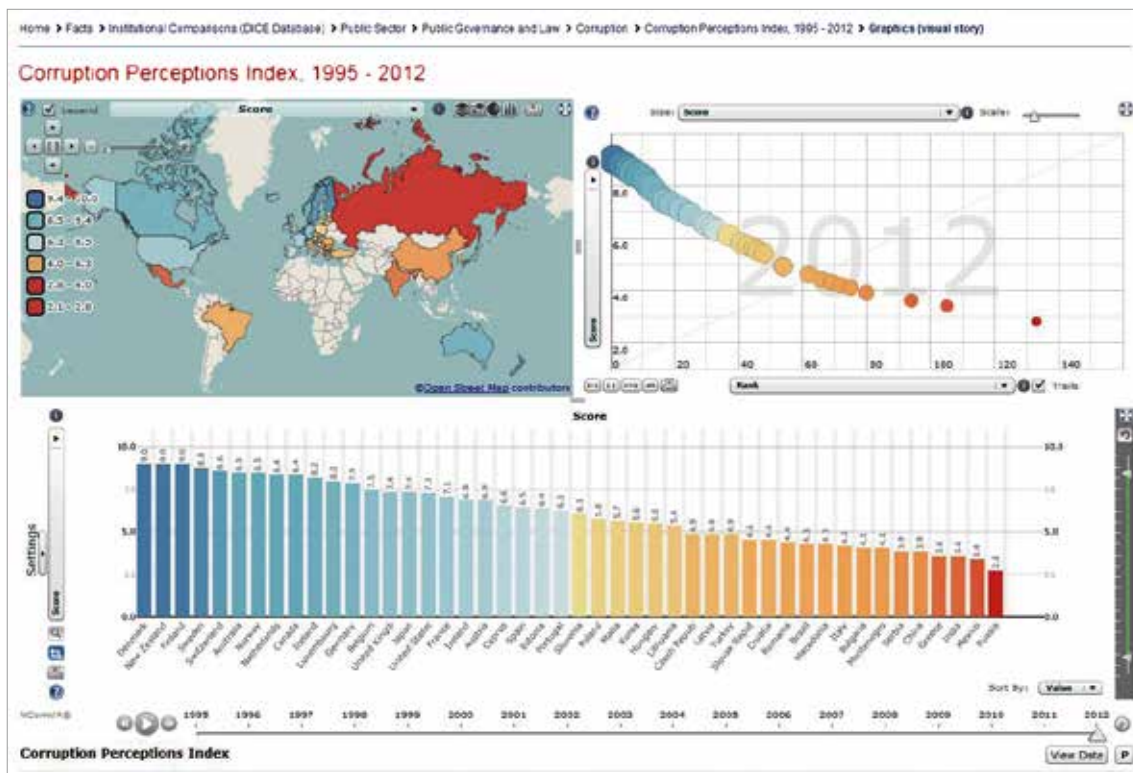
Visual Storytelling will initially offer a selection of around 50 exciting stories. Every month the DICE

Database will receive further additions to Visual Storytelling.

### Where to find Visual Storytelling in the DICE Database

Search the DICE Database as usual for your theme of interest, the Visual Story function sits next to the usual details / download link; or go to “Search the DICE Database” and select “Visual Story”.

The DICE Database provides a wide range of information on institutions, regulatory systems, legal requirements and the mechanisms of their application. Some of this data can be displayed graphically, while other information is of a descriptive nature. Although descriptive information cannot be shown in a graphic form, it may provide valuable details to support your analysis.



Go to <http://www.cesifo-group.org/ifoHome/facts/DICE.html> and discover the new Visual Storytelling tool.

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

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

DICE is a free-access database.

Recommendations are always welcome.

Please address them to

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