Three issues of policy implementation in Europe: An applied political economy perspective

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to Michael and my parents

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Introduction and summary

The question of whether and how decisions or "policies" get carried out in practice has long been dealt with by both economists and political scientists. Prominent examples addressing issues of policy implementation are those involving agent discretion in principal-agent relationships of firms or political institutions according to Laffont (2000) or Laffont & Martimort (2002), Vaubel (1994), Epstein & O'Halloran (1999) and Franchino (2005). Informational asymmetries between the respective agent and the principal decision-maker have frequently been found to lead to discrepancies between the principal's decision and the actual policy outcome undertaken by the agent.

In the interconnected world of today the increasing complexity of institutional settings provide ever more leeway for policy discretion and non-compliance by agents. Multi-layered institutional settings are created by the processes of European and global integration, making the issues of agent discretion and non-compliance even more relevant. Transparency and democratic legitimation can no longer be taken for granted, neither in the process of decision-making nor regarding the implementation of political decisions. For instance, the signatory countries of the Kyoto protocol have encountered, and are indeed still encountering, substantial difficulties in putting the imposed emission standards into practice. As regards Europe, the construction of an integrated high-speed railway system and the regulation of the legal protection of biotechnological inventions are two recent cases in which the EU Commission had a hard time enforcing implementation among members countries. Reaching a political decision on these policy issues is just one side of the coin. Implementing them in a timely, correct and complete manner is what is necessary to guarantee the functioning of our environment and economies and, non the least, to remain credible to the public.

Against this background, this thesis aims to shed light on the political-economic

factors explaining the policy outcomes of the following three, particularly European and political, issues:

The first is the geographic allocation of the three largest European cultural institutes, namely the British Council, the Institut Français and the Goethe-Institut. Based on the organisational relation of the three cultural agents with their respective governmental principal, chapter 1 evaluates the cultural, political and economic factors guiding the British, French and German public diplomacies.

The second and third issue deal with the transposition process of EU directives in the EU15 member states, which we conceive as two-fold: First, member state governments decide whether they are generally willing to transpose a given directive. Second, provided they are, the adequate legal transposition instrument has to be selected and applied on the national stage. Only if EU directives have successfully been transposed into national legislation they can be put into practice by the national authorities, i.e. national and regional administrations and courts.

Chapter 2 accordingly analyses the political economic characteristics explaining differences in the type of legal instrument used by the member states for the transposition of EU law into national legislation. This issue seems particularly important from a normative political perspective. Thus, the national balance of power may be threatened if, through the process of EU-law transposition, member state executives could administer legislative competences at the cost of national parliaments. This would be the case, for instance, if a large amount of EU directives would be transposed via secondary 'administrative' legal transposition devices that do not include a majority decision of national parliaments. A fair part of EU law may thus come into effect without the passage of the democratically legitimated governmental bodies, i.e. the national and EU parliaments.

Chapter 3 finally focuses on the first part of the transposition puzzle, namely the government's transposition willingness. Building on the empirical results of chapter 2 it also tries to further elaborate on the policy dimension. Linking classical fiscal federalist theory to the study of Europeanization, it investigates whether cross-country cross-sector transposition records are higher in policy areas in which legislative power is efficiently centralized to the EU level. According to classical fiscal federalist theory, policies are centralized efficiently if externalities are relatively high and preference asymmetries are

relatively low in a given policy area. Thus, if member states consider the overall utility of a union, we would accordingly expect transposition ratios to be higher in policy areas where expected externalities are relatively high and preference heterogeneity relatively low.

Besides their strong focus on European policy aspects, all three chapters are connected by their modern political economy perspective, applying advanced econometric tools to real-life political questions. Further, all chapters have been developed in interdisciplinary research co-operations between economists, political scientists and, where necessary, cultural practitioners and legal experts. This bears the advantage of 'painting the full picture' of the cultural allocation and the transposition puzzles although, clearly, the emphasis of this thesis lies on the detection of political-economic explanations. Finally, although large-scale quantitative empirical work is sometimes criticized for being less related to practice than in-depth case studies such econometric approaches allow the easy comparison of a larger number of subjects (e.g. individuals, countries or policy areas) in a systematic and transparent way. This offers the opportunity to take on a bird's eye view of complex settings and not to lose sight of the wood for the trees. In the author's opinion, it is exactly this feature that makes quantitative approaches an attractive, convenient and necessary complement to case-specific in-depth analysis of political outcomes such as the ones at hand.

In summary, this thesis comes to the following conclusions based on the empirical analyses of chapters 1, 2 and 3:

Regarding the geographic allocation of the three largest European cultural institutes, we find that the probability to host a cultural institute is significantly and positively influenced by the amount of bilateral trade interactions and former colonial ties. Small, wealthy and democratic countries are somehow discriminated against when it comes to the worldwide allocation of cultural satellites. Regarding the amount of staff in a selected host country, policy discretion is found to play a statistical significant role for all three institutes: according to our results, staff numbers are significantly higher in host countries that are attractive from a tourist vantage point, i.e. in host countries counting a large number of European travelers per year. This is even more so in institutional settings where the cultural agent enjoys relatively little autonomy of the respective foreign office

as, for instance, the Institut Français in our investigation.

With respect to the transposition of EU law in the member states, we find that member states' primary transposition ratios, i.e. the ratio of directives transposed via majority decision in national parliaments to total transpositions, to be generally low when averaged across time and policy areas. From a country perspective, primary transposition ratios appear *lower* in member states with a strong government, relative to both parliamentary opposition and to coalition size. Further, member states seem to transpose less via parliament toward the end of an election period and if they receive a large amount of EU transfers. Wealthier countries, however, generally transpose more via primary transposition instruments. From a policy perspective, we find that member states prefer secondary transposition devices for directives touching upon technical sectors or sectors with a high lobbying potential. Primary transposition instruments are preferably used in sectors characterized by high labour compensation. Our main sector characteristic, i.e. economic sector importance, came out playing a significant role for the type of legal transposition instrument used. Although the direction of this effect still needs further specification.

Regarding the willingness of a member state government to transpose EU directives, we find transposition ratios to increase significantly with the degree of parliamentary fragmentation, with the size of a country and with the amount of intra-EU15 exports a country is undertaking. In contrast, institutional veto players and national sector saliency are found to be the main obstacles to transposition. With respect to our main policy-oriented hypotheses based on classical fiscal federalist theory, we find that member states indeed seem to consider the union's benefits in their transposition decision. According to our empirical results, member states are more willing to transpose EU directives in policy areas that are efficiently centralized at the EU level and reveal higher levels of externalities. However, compared to sectors with high preference asymmetries, we find member states to transpose significantly *more* in sectors with medium preference asymmetries but significantly less if preference heterogeneity is low.

Interestingly, different sets of macroeconomic, institutional and political indicators seem to explain variations in a country's willingness to transpose and a country's choice of legal transposition instruments. According to chapters 2 and 3, member states tend

to transpose *more* in years of parliamentary election but *less* via primary transposition devices involving national parliaments. Further and against the results of prior studies in the Europeanization literature, we find member countries to be *more* willing to transpose if they receive large net EU transfers. However, net EU recipients also seem to preferably transpose via secondary legislation.

The remainder of this thesis is structured into three main parts, chapters 1, 2 and 3 respectively. Each chapter is followed by its own appendix providing additional derivations, tables and figures. Finally, an overall conclusion provides some possible policy implications and a brief outlook.

Chapter 1

Here, there, everywhere? Evaluating the allocation of three European cultural institutes around the world[1]

I want her everywhere and if she's beside me I know I need never care.

"Here, There, Everywhere", The Beatles

1.1 Introduction

Although cultural diplomacy is a key part of the foreign policy of all nation states, we know little about its causes and consequences. This article tries to narrow this research gap through a systematic analysis of the political geography of foreign cultural policy. We start from the puzzle of why the geographic priorities of the foreign cultural institutes that the three largest European states – France, Germany and the United Kingdom – entertain differ widely. Our analysis then pursues two goals: First, we evaluate the political-economic and cultural criteria that influence the varying attention that these nations pay to different world regions and host countries. Second, we investigate whether

[1]This chapter is joint work with Prof. Dr. Gerald Schneider, University of Constance. Earlier versions have been presented at the ECPR Joint Sessions of Workshops 2005 in Granada, the EWACE 2nd European Workshop on Applied Cultural Economics 2005 in Catania, and the Econometric Seminar of the University of Bonn.

different levels of autonomy attributed to the cultural diplomats are able to explain variations in the location of the institutes' staff. More specifically, we ask whether the relative cultural or tourist attractiveness of a host country influences the number of employees that are sent there.

We assume for all three countries under examination that the foreign ministry is largely able to decide where a representation shall be set up, while the cultural institute itself dictates the number of employees that should be sent to a host country. Accordingly, we suppose that political-economic considerations and the desire to promote the national culture and language abroad will determine the geographic distribution of institutes around the world. Cultural interests and the attractiveness of the host country in return should be responsible for the number of employees that are working within a particular host country. Based on the theory of bureaucracy of Niskanen (1968, 1971) we evaluate two competing explanations of the effect of bureaucrats' discretionary interests on policy outcomes. As Vaubel (1994), Laffont & Martimort (2002) and Laffont (2000) argue, informational asymmetries might allow the collusion of bureaucrats to the detriment of the voters, especially in policy areas that the public largely ignores. Intuitively, we perceive the possibility of interest collusion among bureaucrats of the foreign ministry and cultural institute to be higher the lower the level of autonomy is that politicians grant to the cultural agents. Conversely, studies in political science as for instance Epstein & O'Halloran (1999) and Franchino (2005) stress the importance of institutional arrangement as a key factor that determines the discretionary power of an administrative agent. They lead us to hypothesize that formally autonomous institutes are better able to pursue narrow bureaucratic self-interests in their personnel policy than their more restricted counterparts in some other countries.

Our empirical evaluation largely confirms the economic "collusion model" and thus the suspicion that the most restricted agent, the Institut Français (IF), is most prone to allowing "second-order" tourist criteria to influence its personnel policy. Although this cultural institute enjoys less autonomy than the Goethe-Institut (GI) or the British Council (BC), its dependence on the ministry seems to create a collusion of interests between foreign cultural diplomats employed in the French embassies and the public administrators who work on behalf of the IF within a particular host country.

The article is structured as follows: We first present information on the history and the organisation of the three cultural "missionaries". Next, we summarize the literature on these cultural agents. Finally, we present our empirical results after sketching the theoretical argument and describing our research design.

1.2 Cultural diplomacy of three European states: history, academic writing, organisation

Since a long time, all three countries under examination have used cultural institutes to advance their national interests abroad. The GI was re-launched after World War II to promote German culture and language abroad; the BC was founded in 1934 and appointed its first overseas representatives in Egypt, Poland and Portugal in 1938, and France even declares itself to be the first state which has practiced foreign cultural policy abroad. The IF in Madrid was already established in 1909. By 1933, 28 other French institutes had been founded in other European cities that were deemed sufficiently important. Since World War II great networks of the GI[2], the IF and the BC have been built around the world. In July 2002, 141 GIs were present in 77 countries[3], 151 IF in 92 countries [4] and 226 BCs in 109 countries[5]. Slight differences compared to the descriptive statistics that we present later are due to the exclusion of the national institutes.

To enhance mutual understanding and friendship after World War II, Germany and France have invested considerably in this particular foreign policy instrument to pacify their historically loaded relationship. While France subsidises 16 cultural institutes on German grounds, Germany currently maintains nine satellites in its neighboring country. If we look at all possible host countries, major differences in the importance attributed to a specific region or nation become obvious. One striking example is Asia where the BC

[2]The French cultural institutes have various names such as Institut Français, Centre Culturel Français or, since the 1990s, also Centre de Coopération Culturelle et Linguistique (CCCL). According to Znined-Brand (1999, 129f) there exists no real formal difference and they all pursue the same mission. They are therefore treated as "Institut Français" institutes throughout this analysis.

[3]Goethe-Institut Inter Nationes (2003)

[4]Ministère des Affaires étrangères (2002*b*, p. 55)

[5]British Council (2002*b*)

maintained more than 40 institutes in 2002, corresponding to 21% of the total British satellites, compared to 20 GIs (15%) and only eleven (7,6%) French institutes[6]. Figure 1.1 summarizes the geographical priorities of the three institutes in 2002.

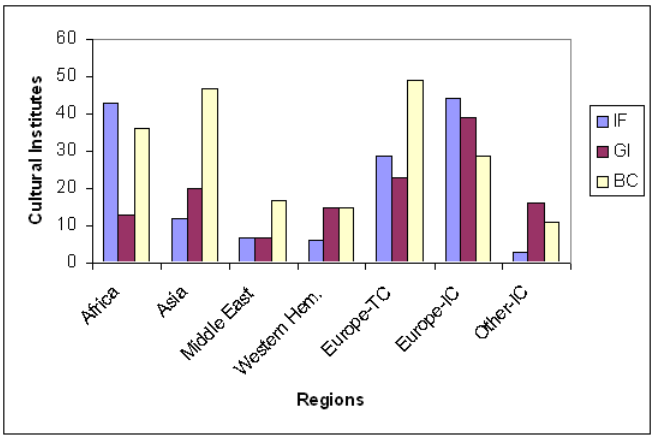

Figure 1.1: Total number of cultural institutes per region; *Note: Western Hem. = Western Hemisphere; Europe-TC = Eastern European Transition Countries; Europe-IC = Western European Industrial Countries; Other-IC = Other Industrial Countries. Sources: Goethe-Institut Inter Nationes (2001*a*), Ministère des Affaires étrangères: Bureau des établissements culturels et des alliances françaises, British Council Headquarters: Planning, Research and Evaluation Section, International Monetary Fund (2001).*

As it becomes clear from Figure 1.1, the BC saw its priorities in Asia and the transition countries; a tendency that has even become more pronounced after it stated its willingness in the beginning of 2007 to further reduce its European presence. The IF, by contrast, had in the time period under examination an African and a Western European focus, whereas the profile of the GI is relatively unclear according to our categorization of countries. We can also see some differences in the size of these institutes: whereas the UK sent 128 employees (2,93%) to Portugal, the delegations of France and Germany in this EU member state only amounted to 39 (0,66%) and 43 (1,71%) of their institutes' overall staff. On the other hand, the IF ordered 98 (1,65%) and the GI 50 (1,95%) of its

[6]In spring 2006, the GI announced its plans to reduce the number of representations in Europe and to launch more foreign cultural institutes in East Asia and the Islamic world. These plans led to a public debate and the decision by the German government to curtail further budget reductions in this domain. The GI itself decided to keep its European network intact, but to continue its expansionary ambitions in other continents.

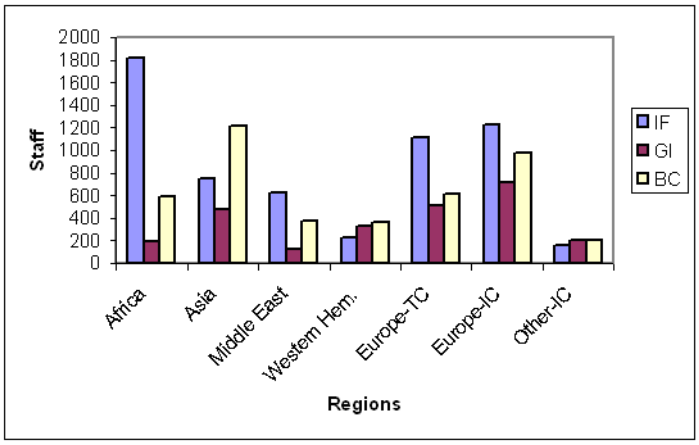

Figure 1.2: Total number of cultural institutes' staff per region

employees to Poland whereas the BC paid 31 employees (0,71%) in the Middle European EU member state.

Cultural diplomacy across the three member states does, however, not only differ in the number of institutes and personnel that the three EU member states entertain around the world. We can also observe organizational differences which largely stem from the way in which authority is delegated in this policy area. Table 1.2 below provides an overview of the organizational structures. We identify the ministry in charge of the cultural agents, briefly characterize the organizational structure, describe the responsible organization for strategic decision making and determine the formal and budgetary independency of the institutes. According to these criteria, the final distinction determines the formal level of autonomy for each foreign cultural institute.

As can be seen in Table 1.2, France uses the most centralized decision making structure and leaves the satellite institutes very little autonomy in finding a local approach for the advancement of French culture and language abroad. Looking at the other extreme, the UK grants its cultural agent remarkable organizational independence and freedom in strategic decision-making. The GI entertains a medium position; although it is legally largely independent, it has a limited financial autonomy, as the Auswärtige Amt (AA), i.e. the German Foreign Ministry, and the Bundestag, i.e. the lower federal parliamentary chamber, still dominate decision making on the budget. The AA also has to approve the location decision proposed by the steering committee.

Although cultural diplomacy does not enjoy the same prominence in public perception

Oranisational feature	Institut Français (IF)	Goethe-Institut e.V. (GI)	British Council (BC)
Responsible governmental ministry	The French Foreign Office: Ministère des Affaires Etrangères, Direction Générale de la Coopération Internationale et du Développement (DGCID).	The German Foreign Office: Auswärtiges Amt (AA).	The British Foreign Office: Foreign and Commonwealth Office (FCO).
Organizational status	Direct governmental outpost.	Registered charity association.	Registered charity organization.
Institutional relation between government and cultural institute	IFs are hierarchically dependent on the conseillers culturels of the French embassies and thus the DGCID.	GI enjoys contractually delegated authority according to the Rahmenvertrag of 01/17/2001 with the German Foreign Office.	As an executive non-departmental public body, BC operates independently of the government but government is ultimately responsible for it.
High-level strategic decision making	General strategic orientation by foreign affairs ministry. DGCID as central planning and coordination section of France's foreign cultural activities. The "projet d'établissement" is decided by the "conseil d'orientation" and approved by the "Sous-direction de la coopération culturelle et artistique, bureau des établissements culturels et des alliances françaises".	General strategic decisions by the steering committee consisting of the GI president, six members elected by the general assembly, one member of the AA and the Ministry of Finance, and three members elected by the employees of the GI on a four year term. The geographical allocation of cultural institutes is decided by the steering committee with the final approval of the AA (§4).	Decisions on general strategy for the direction and the management of the BC and Board of Trustees of BC appointing its own members for five years, Only one of 21 is nominated by the Secretary of State for Foreign and Commonwealth Affairs.
Financing	Mainly by budget share of the DGCID.	Main budgetary share by the AA and the Federal Press Office, which on its behalf has to be approved by the German Bundestag. Alternative financial means e.g. through sponsoring and the provision of GI services make up almost 1/3 of the 2001 budget.	FCO gives an annual grant-in-aid of about 40% of the BC' s overall budget; more than half of the budget is earned by the BC itself through the provision of various services to private people, the government, or international organizations.
Overall level of autonomy	Low	Medium	High

Table 1.1: Organisation and autonomy levels of the BC, IF and GI; *Sources: Ministère des Affaires étrangères (2002*b*); Znined-Brand (1999, 124-130); Goethe-Institut Inter Nationes (2001*a*); Goethe-Institut Inter Nationes (2001*b*); Goethe-Institut Inter Nationes (2003); British Council (2000); Interview with the research division of the British Council Headquarters, London; British Council (2002*a*); Lee (1995).*

as security policy and economic diplomacy, some political and cultural elites see in it an important instrument to promote national interests abroad. In 1966, Willy Brandt, then German foreign minister, called it "the third column of foreign policy making" Dahrendorf (1978, p. 14). In the European Union, the Commission tries to harmonize cultural policy making including foreign cultural policy of its member states largely through subsidizing multilateral projects. Yet, we do not really know how effective such attempts are.

Until now, foreign cultural policy has been largely neglected in the systematic study of public policy making. Most research is historical and qualitative, focusing on the foreign cultural policy of a particular country or some of the satellite institutes. Flecks (1992)and Trommer (1984), for instance, shed light on the effects and the general infrastructure of German foreign cultural agents. Regarding the GI, Kramer (1997) and Ulrich (1987) analyze the experiences of the GI in their dialogue with non-European cultures and the broad performance of the GI as a special foreign cultural instrument. Lippert (1996) elucidates the role of foreign cultural policy for the German "Ostpolitik", referring to the negotiations in Moscow from 1969 to 1990. Much in line with the research question posed in this article, Schneider & Schiller (2000) analyze the location decisions of the GI. They show that it is not only the official mandate to improve the standing of the German language and culture around the world which influences the GI's geographic patterns. Bilateral trade and other economic factors are much more important than these official objectives for the conduct of the German cultural diplomacy. As their quantitative analysis reveals, the location of the institutes does also not respond to "good governance" criteria and other developmental goals that the German governments under chancellors Kohl and Schröder introduced in the 1990s.

One has to look closely for scientific work on the BC. Lee (1995) examined the re-organization of the management of the BC. The re-structuring of the BC in the 1980s is, in his view, marked by the traditional distinction between short-term cultural diplomacy as practiced by the Foreign and Commonwealth Office (FCO) and the long-term cultural relations of the BC. Stemming from this distinction, the FCO's and the Council's foreign cultural policy interests differ to some degree. Lee further emphasizes how organizational changes touching the Council's dependence on the FCO have affected its geographic

strategy.

For the IF, Meunier (2000) and Ingram (1998) identify a nationalist turn in the French cultural policy. Popaczy (1999) refers to the IFs in Vienna and Innsbruck in order to describe the development from understanding foreign cultural work as pure cultural export to practicing real cultural exchange. Various case studies analyse specific locations of the French institutes, for example Lachner (1999) for Innsbruck or Wichmann (1997) for Berlin.

Comparative studies in the field of foreign cultural policy are very rare. In her doctoral dissertation, Znined-Brand (1999) closely evaluates the differences between the goals, as well as the formal and the financial organization of the two cultural institutes. She argues that the goal of German foreign cultural policy is to keep contact with the German Diaspora, to foster "Deutschtum", to strengthen economic ties and to advance specific political issues. France's foreign cultural policy, in her view is driven mainly by ideological but also by economic incentives, reflecting the deeply rooted will to spread the language and culture of the Grande Nation. In a classical study, Peisert (1978) compares the foreign cultural policies of Germany, France, the United Kingdom, Italy and the United States, using partly linear regression models to account for geographical priorities. His book, however, is rather dated and does not account for recent changes. More recently, Brodersen (1993) has compared how the French, the Italian, the Austrian and the German foreign cultural agents function. This descriptive study focuses on language teaching and cultural exchange projects. Moreover, he shows the effects of the different European cultural institutes on the Polish city Krakow, looking at the level of co-operation among the four cultural agents.

What lacks so far, however, are theoretically-founded comparative analyses that can explain the differences between the foreign cultural services of the three largest EU member states. This study attempts to fill this gap by examining the criteria that guide the geographic priorities of the IF, the GI and the BC. These agents have the longest traditions among the European foreign cultural institutes, and since the number of institutes and personnel around the world is large, a systematic comparative analysis is feasible.

1.3 Theory and hypotheses

In our conception of cultural diplomacy we assume the foreign ministries and their cultural agents to face a two-step decision problem of the allocation of institutes and personnel around the world. We thereby perceive the question whether to "enter" a host country as a joint one between the government and the respective institute. Once agreement is reached on the overall location, we assume the cultural agents in the second step of the location decision to solely determine the number of staff for the selected host countries thereby taking the wishes of the governmental principal into account to varying degrees. Regarding the location preferences of the two actors, we assume that foreign ministries strive for economic growth and political stability. The government is supposed to prefer policies that maximize its chance of re-election. The institutes' boards, by contrast, should place their officially stated cultural missions higher in the list of priorities, not the least to secure the budget for their organization. We therefore imagine them to pay attention to human capital and socio-political characteristics of a host country which would render the cultural activities more successful. Moreover, to guarantee the safety of the employees and the longevity of their institution, cultural institutes should prefer politically stable democracies. As the concept of "good governance" implies, governments might also want to reward countries for the respect of democratic values (Zanger (2000), Schneider & Schiller (2000)). However, compared to the aforementioned political-economic interests, the level of democracy should play a rather secondary role in a government's strategic decision on cultural diplomacy. In summary, we propose the probability for establishing a cultural institute to increase the greater economic and political interests from a governmental vantage point and the greater human capital and political stability from the institutes' point of view. Addressing the differences in governmental and cultural incentives, Lee (1995) writes about the role of the BC:

"The Council had always found it difficult to reconcile 'country objectives' with the cross-cutting issues that arose from general foreign policy questions. The distinction between cultural relations and cultural diplomacy was interpreted as one between long-term objectives of mutual understanding between peoples and short-term interests of commercial or political advantage".

For the allocation of staff across the chosen host countries, we suppose that if their official missions were really important to the cultural institutes, they would strive for a maximum potential audience for their cultural programmes, language courses and examinations. As a large number of language course participants and a high demand for cultural activities would strengthen their position in negotiations with their government, institutes should preferably assign more staff to countries with a sufficiently high demand from literate, well educated people. Besides this, institutes should favor stable democracies to guarantee secure working conditions for their staff members.

However, in line with Niskanen(1968, 1971), we also perceive the cultural institutes as bureaucratic agents which act self-interestedly. On the one hand they might aim to fulfill their "official mission" of foreign cultural policy. On the other hand, however, we suspect them to use their discretionary power in order to improve their personal well-being during a mission abroad. Since they will profit from these decisions themselves, we assume decision makers within the cultural organization to prefer sending more personnel to locations that are interesting from a tourist vantage point. Put differently, we expect the cultural agents to not only strive to fulfill their officially stated missions but also to "follow the sunshine" in their personnel policy. We build on the assumption of differing degrees of autonomy and two contrasting arguments of the literature in order to derive comparative hypotheses about the level to which such discretion might govern the personnel policy of our three cultural agents. First, we refer to collusion theory. In democracies, elected officials and public administrators are directly responsible to the voters if they want to be re-elected. Foreign cultural policy, however, is a policy area about which voters are not well informed. As Vaubel (1994) argues and Laffont & Martimort (2002) and Laffont (2000) indirectly imply, this asymmetry allows politicians and bureaucrats to build a tacit alliance which works to the detriment of voters. We presume that such collusive behaviour is most pronounced for institutes that are not autonomous and where politicians and public administrators are able to shield themselves against public scrutiny. More autonomous institutes probably have to be better in justifying their activities in budgetary negotiations and presumably face greater market pressures than politically and financially dependent organizations. This should particularly be the case for an agent like the BC whose income depends more on the success of its own ac-

tivities than for the two other institutes under examination which, by and large, depend on the goodwill of badly informed voters. Based on our autonomy assumption, we can thus formulate the following proposition as our "collusion model":

H1 *Discretionary private interests affect the German location of staff less than France's, but more than the UK's.*

$$\frac{\partial staff \ln_{iF}}{\partial a_{iF}} > \frac{\partial staff \ln_{iG}}{\partial a_{iG}} > \frac{\partial staff \ln_{iUK}}{\partial a_{iUK}}$$

This conjecture stands in contrast to the political science literature on principal-agent relations. Here, the focus lies on the effects which certain institutional arrangements exert on public policy. The prevailing assumption is that institutionally more autonomous agents have greater discretionary power. Lately, various studies have investigated how the division of power between competing institutions and political preferences delimits the discretionary power of agents within the European Union (e.g. Franchino (2005)), the United States (e.g. Epstein & O'Halloran (1999)) or the advanced democracies in general (Huber & Shipan (2002)). The general thrust of these contributions to the principal agent literature is that "shirking" by public officials is largely a consequence of the power that the executive and legislative branch grants them. Obviously, delegation is necessary from an informational point of view. However, the advantages of an independent bureaucracy diminish the more extreme the preferences of the agents are. Although the formal autonomy of a foreign cultural institute is not a sufficient condition for "shirking", it is, in the view of the political science literature on delegation, a necessary prerequisite for doing so. Moreover, agents can, as a rich literature in political science points out, profit from disagreement among multiple principals (e.g. McCubbins (1985), Miller & Moe (1983), Weingast & Moran (1983)). Such controversies increase the discretionary power of the agent or, in other words, its "bureaucratic drift". Such a possibility exists most pronouncedly for the GI which faces the Foreign Ministry and the Parliament as its main principals.

Anticipating a positive effect of autonomy on policy discretion we therefore hypothesize for our "autonomy model":

H2 *Discretionary private interests affect the German location of staff less than the UK's,*

but more than France's.

$$\frac{\partial staff \ln_{iF}}{\partial a_{iF}} < \frac{\partial staff \ln_{iG}}{\partial a_{iG}} < \frac{\partial staff \ln_{iUK}}{\partial a_{iUK}}$$

Our empirical analysis will reveal whether the "collusion" or the "autonomy" model is more accurate in explaining the worldwide allocation of British, German and French staff.

1.4 Research design

1.4.1 Estimation method

A cross-sectional Heckman-selection seems to be an appropriate estimation procedure for our empirical investigation. We apply two model specifications: first, we estimate an 'overall' cross-section Heckman model in order to evaluate the general criteria for the location decisions of the three European foreign cultural institutes. Second, we estimate cross-section Heckman models with individually free parameters for the British, the German and the French cases.

The two-step character of the Heckman procedure fits our theoretical argument. Whereas the decision to make a specific country subject to cultural diplomacy in the first place is modeled as a joint one between the cultural institute and the government, we assume the cultural agents to follow rather personal interests in their allocation of staff to the chosen host countries. With regard to the number of staff per host country as our second step dependent variable, we have to deal with non-random selection bias stemming from the truncated country sample for the second-stage regression. From an econometric perspective, the Heckman estimation is a reasonable solution for models with selection bias and the only consistent one in the case of significant non-random sample selection (Heckman (1979)). We test for statistical significance of the selection parameter lambda, the coefficient of the added hazard rates of non-selection (equivalently referred to as the inverse Mill's ratios) in the second-stage OLS regressions of the Heckman models. A formal derivation of the estimator is provided in the appendix. Considering the count character of our second stage dependent variable *staff* we additionally compared the results of the standard second stage OLS regression (with logged

staff numbers as dependent variable) with those of a negative binomial regression (with the actual staff numbers as dependent variable). As results did not change with respect to the signs and significance levels, we opted for the standard Heckman procedure with a log-transformed dependent variable for the ease of interpretation and to conform with our theoretical model which is, as indicated, presented in the appendix.

1.4.2 Case Selection

Our sample of potential and real host countries follows the World Bank (2000) country listing and consists of sovereign nation states that are sufficiently populated. According to Singer & Small (1982), we use reasonable thresholds of one million inhabitants and EU membership for our country sample not leaving aside the three small European states Cyprus, Luxembourg and Malta. 153 states thus remain for our quantitative analysis. As we evaluate the location decision of the three member states jointly by a cross section design, we have a total of 459 cases for the first stage probit estimation. The second stage OLS estimation is reduced to those cases in which a country actually hosts at least one German, French or British institute, leaving a total number of 260 observations in our case[7].

1.4.3 First-stage and second-stage dependent variables

The dependent variable for the first-step of the location decision is *institute*. This binary variable indicates whether a country hosts a cultural institute (=1) or not (=0) (Goethe-Institut Inter Nationes (2001*a*), British Council (2002*a*), Ministère des Affaires étrangères (2002*a*). Once host countries have been chosen, the institutes decide in a second step how many staff members they should send to a host country. Our second stage dependent variable *staff* accordingly counts the total number of employees including local staff for those and only those countries which host a cultural institute[8]. In correspondence

[7]The British Council counted 103, the Institut Français 81 and the Goethe-Institut Inter Nationes 76 institutes in 2002.

[8]The BC has drastically reduced its staff in some African countries (e.g. Kenya and Cameroon) during the period of investigation. Since the BC does not possess comprehensive statistics on the geographical allocation of its workforce, we had to utilise staff numbers of different years between 1998

with the estimation approach detailed in the appendix, *staff* enters our regression in a log form. A more exact measure to assess the strategic importance of a host country would be the respective country budgets of the three cultural institutes. However, it was impossible to obtain such data upon request of the respective institutes. Further, lacking data for a dynamic panel investigation and trying to avoid time bias as much as possible, we have averaged our independent variables over three to five available years within 1990-2000. Using data averages over a three to five year period, we also account for strategic planning horizons of the institutes, which usually take a minimum of two years[9].

1.4.4 The first- and second-step independent variables

Table 1.2 below overviews the first- and second-step independent variables. It also indicates the expected relationship between the independent and the dependent variable.

We measure bilateral trade dependency straightforwardly through the total amount of bilateral exports and imports between the home and the possible host countries. For our analysis we have averaged the IMF statistics for 1994, 1996, 1998 and 2000. The more a sender country trades with a possible host country, the more likely a cultural institute will be established. In accordance with economic gravity models we additionally account for colonial ties as described below[10].

As a proxy for the political interests of a sender country, we use the affinity measure

and 2002 instead to reduce missing data on the dependent variable. We apply the total number of BC staff of the most recent year. However, for a few host countries we had to deal with staff data differing drastically between 1998 and 2002. Since our analysis does not account for dynamic effects, we use averages in these few cases. Goethe-Institut Inter Nationes (2001*a*); The British Council Headquarters provided us with staff numbers for the period from 1998 to 2002. Information on the Institut Français was received from the Bureau des établissements culturels et des alliances françaises of the Ministère des Affaires étrangères.

[9]Interview with the British Council Headquarters and Email correspondence with the "Evaluations- und Strategieabteilung" of the GI.

[10]We further considered adding a geographic distance measure. We opted, however, against the latter as our 'sender' countries' capitals themselves are situated rather close to each other. This makes us expect no significant variation in measuring the distance between for instance London-New-Zealand or Paris- New-Zealand from the beginning.

Independent variable	Expected effects	Operationalization of independent variable	Data source
Trade			
TRADE (t), logged	+ (1^{st} step only)	Bilateral imports + bilateral exports in mio. $ averaged over 1994/1996/1998/2000	International Monetary Fund (2001)
Geopolitical interests			
AFFINITY (s)*	+ (1^{st} step only)	Interest Similarity of dyads in UN voting Sun3cat=3 category United Nations voting data (1= yes, 2= abstain, 3= no) averaged over 1991-1995	Gartzke & Jo (2002)
Human capital			
EDUCATION (h)	+ (1^{st} and 2^{nd} step)	Tertiary school enrollment % gross averaged 1994-1997	World Bank (2000), CIA (2002)
Democracy			
POLITY (d)	+ (1^{st} and 2^{nd} step)	Democracy scores (0-10) DEMOC Autocracy scores (-10-0) Autoc Polity = DEMOC - Autoc of 1995 or averaged 1993-1998 if major cut or regime change during that time period	Polity 98d version of Jaggers & Gurr (1996)
Country exclusiveness			
TOURISM (a), logged	+ (2^{st} step only)	Tourist arrivals by region of origin (Europe) averaged over 1994, 1996, 1998	World Tourist Organization (2000)
Status of development			
GDPPC, logged	+/–	GDP per capita purchasing power parities in current international US $ averaged 1994-1998	World Bank (2000)
Country size			
POP, logged	+	Total number of population averaged 1994-1998	World Bank (2000)
Colonial ties			
COLONY	+	Dummy Variable 1= former French, German or British Colony and 0= none	Fischer Weltalmanach (2001)
Official language			
LANGUAGE	+	Dummy Variable 1= the respective home countries official language (English, French, German) has official status, 0= no official status	Gunnemark (1991)

Table 1.2: Operationalisation of main independent variables; *Note: Index- and percentage variables remain unlogged for interpretation in elasticities is already accounted for. For TOURISM, collusion model:* $\frac{\partial staff_{\ln_{iF}}}{\partial a_{iF}} > \frac{\partial staff_{\ln_{iG}}}{\partial a_{iG}} > \frac{\partial staff_{\ln_{iUK}}}{\partial a_{iUK}}$ *autonomy model:* $\frac{\partial staff_{\ln_{iF}}}{\partial a_{iF}} < \frac{\partial staff_{\ln_{iG}}}{\partial a_{iG}} < \frac{\partial staff_{\ln_{iUK}}}{\partial a_{iUK}}$.

of Gartzke & Jo (2002). The indicator classifies the similarity of voting in the UN general assembly on a scale from –1 (least similar) to 1 (most similar) for all countries that are members of the United Nations for the period 1946 to 1996[11]. This yearly index was constructed with the help of the "S" statistic of Signorino & Ritter (1999)[12]. We use the average dyadic voting similarity of France, Germany and the UK with all UN members between 1991 -1995 and anticipate a positive effect of affinity on the geographical allocation of cultural institutes. The most commonly used data set for deriving indicators of regime type is the polity data set of Jaggers & Gurr (1996). We employ the 1996 Polity98d version of PolityIII. The polity score ranges from –10 (strong autocracy) to +10 (strong democracy). We apply the values of 1995 or the average over a four year period surrounding this year if a major regime change happened[13]. The more democratic a state is, the greater the chance that it hosts a cultural institute.

The percentage of third level school enrollment, *education*, as reported by the World Bank, serves as an indicator for a country's potential demand for cultural activities. We prefer the gross percentage of tertiary school enrollment averaged for 1994-1997 over illiteracy rates because of fewer missing values and because we perceive the institutes to try to reach the educational elites rather than the masses within a host country. As far as possible, we have filled in missing data with the percentages given in the CIA World Fact Book 2002. Another indicator for human capital could be the number of English, German and French speakers in the potential host country. Although we would have liked to count the number of English, German and French speakers within a potential host country, it was impossible to obtain such data.[14] The dummy variable language, which accounts for a country with English, French or German as an official language, is

[11]Since Switzerland only became a member of the UN in 2002, we coded it the same way as Austria corresponding to its geographical location and size.

[12]S = 1-(2d/dmax) where d = sum of metric distances between votes by dyad members in a given year and dmax is the largest possible metric distance for those votes.

[13]Indications of a regime change are dramatic changes in the signs and values of the Polity variable. Also, the data set lists interruptions, interregnum periods and transitions.

[14]As e.g. the Ministère des Affaires étrangères (2000) or Graddol (1997). Firstly, data sources use varying definitions of foreign language speakers, rendering comparisons almost impossible Garry & Rubino (2001, xii). Secondly, statistics on language speakers are published only for geographical regions but not per country as it would be needed for this analysis.

the alternative indicator for the specific demand for the services from a particular foreign cultural institute. *Tourism* is added to the second step regression as indicator for the attractiveness of a potential host country. We measure the total number of European tourist arrivals per year averaged over 1994, 1996 and 1998 from the data presented by the World Tourism Organization. Supposing that tourists prefer countries with a pleasant climate, unique natural attractions, interesting cultures and cosmopolitan areas, tourist arrivals seem a reasonable estimator for a country's attractiveness. We anticipate a positive overall effect of *tourism* on the location of staff members. It remains to be tested in our comparative specifications whether more or less autonomous agents exert greater discretionary influence on the allocation of staff.

1.4.5 Control variables

In accordance with the literature on foreign aid and the study by Schneider & Schiller (2000) we further control for the population size, the economic development of a country and the existence of special historical ties of the host to the sender country. We have used the World Development Indicators to obtain data on population size and have averaged the total population size pop for the period from 1994 to 1998. Moreover, we add GDP per capita gdppc as common measure for a country's level of development. In accordance with Schneider & Schiller (2000), we could assume a positive effect on the geographical allocation of cultural institutes. However, another important aspect for the size of a cultural institute could be the housing costs and local wages. One could therefore expect countries with lower living standards to host more institutes and more staff. Accordingly, a negative coefficient of *gdppc* could also be explained.

To control for special historical ties between the former colonial powers and their colonies we add a dummy variable, *colony*, for former British, German and French colonies. We expect a positive effect of *colony* on the allocation of cultural institutes.

1.5 Empirical results

This section examines our comparative hypotheses H1 and H2. The "collusion model" maintains that the least autonomous institute should be most pronouncedly influenced

by the attractiveness of a country as working place for its employees. The "autonomy model" claims the opposite. As we have indicated, the three countries are setting different geographic priorities in their foreign cultural diplomacy.

We will first present the estimation of the overall cross-sectional Heckman regressions in Table 1.3. Table 1.4 then displays the comparative results for the cross-section Heckman models with individually free parameters for the UK, Germany and France. We have used the two-step Heckman estimator, as maximum likelihood is inconsistent if some part of the specified distribution is misspecified (Wooldridge (2002)) [15]. Two different models test the competing hypotheses and evaluate the location policies of the three largest European cultural institutes. While the "autocrat models" serve to estimate the effects of the anticipated "official" cultural and political-economic interests, the "discretion models" also take the explanatory power of our discretionary interest variable tourism into account. This allows us to test the "collusion" and "autonomy" hypotheses. To control the robustness of the findings we add to both basic regression models the control variables in two different specifications. If not stated otherwise we will base the discussion of our results on the fully specified third model columns.

As Table 1.3 shows, the model fit for all specifications as expressed by the Wald test is reasonably high. This confirms our conception of the allocation of institutes and personnel as a two-step decision making process. The selection parameter Mill's lambda turns out statistically significant at the 1%-level and with the expected negative sign (Heckman (1979)) for all models except when logged population size is added to the basic specification[16]. This implies that the selection of the remaining 251 cases included in the 2^{nd} step sample takes place as theoretically expected. The first-stage governmental and cultural variables seem to exert a notable influence on the allocation

[15]It should also be noted that we opted against a partial maximum likelihood estimation which would be more efficient than two-step under joint normality. The drawbacks of this approach are a lack of robustness and convergence problems (Wooldridge 2002: 566).

[16]In order to test the selection effect in these particular model specifications with more power, see Brandt & Schneider (2005) respectively, we have conducted likelihood-ratio tests of the corresponding Maximum-Likelihood-Heckman estimations against the null hypotheses of independent OLS and probit equations. Our composite Heckman models turned out statistically significant at a 1% level for values of 39.71 (1df, 3^{rd} overall Discretion-model) and 37.66 (1df, 3^{rd} comparative Discretion-model).

staff2cultln	**auto1**	**auto2**	**auto3**	**pa1**	**pa2**	**pa3**
polity	-0.008	-0.002	-0.001	-0.024 *	-0.019	-0.015
	(0.014)	(0.014)	(0.012)	(0.014)	(0.014)	(0.013)
education	-0.009	-0.007	-0.005	-0.011 **	-0.005	-0.004
	(0.005)	(0.006)	(0.005)	(0.005)	(0.006)	(0.005)
language		-0.435 **	-0.112		-0.283	-0.018
		(0.193)	(0.185)		(0.195)	(0.190)
gdppcln		-0.061	0.072		-0.233 **	-0.090
		(0.112)	(0.102)		(0.111)	(0.106)
popln			0.256 ***			0.228 ***
			(0.057)			(0.055)
tourismln				0.143 ***	0.180 ***	0.160 ***
				(0.045)	(0.046)	(0.044)
cons	4.236 ***	4.675 ***	-1.126	2.259 ***	3.648 ***	-1.451
	(0.223)	(0.915)	(1.514)	(0.645)	(0.953)	(1.516)
cult4cat						
tradeln	0.395 ***	0.506 ***	0.470 ***	0.416 ***	0.519 ***	0.490 ***
	(0.043)	(0.056)	(0.078)	(0.045)	(0.057)	(0.079)
affinity	-0.518 *	-0.388	-0.319	-0.560 *	-0.413	-0.356
	(0.293)	(0.301)	(0.319)	(0.299)	(0.306)	(0.325)
polity	-0.007	-0.004	-0.004	0.002	0.003	0.004
	(0.011)	(0.012)	(0.012)	(0.012)	(0.012)	(0.012)
education	0.002	0.017 ***	0.016 **	-0.001	0.014 **	0.013 *
	(0.005)	(0.006)	(0.007)	(0.006)	(0.007)	(0.007)
colony		0.965 ***	1.022 ***		0.953 ***	0.998 ***
		(0.314)	(0.324)		(0.318)	(0.328)
gdppcln		-0.454 ***	-0.388 **		-0.428 ***	-0.375 **
		(0.122)	(0.158)		(0.123)	(0.159)
popln			0.052			0.042
			(0.080)			(0.081)
cons	-1.855 ***	0.804	-0.395	-1.964 ***	0.537	-0.430
	(0.247)	(0.786)	(2.001)	(0.253)	(0.794)	(2.018)
mills lambda	-1.383 ***	-1.282 ***	-0.610 **	-0.944 ***	-1.002 ***	-0.432 *
	(0.235)	(0.215)	(0.243)	(0.243)	(0.217)	(0.246)
N	434	434	434	425	425	425
censored/uncensored obs	183/251	183/251	183/251	183/242	183/242	183/242
Wald chi2	5.226	23.181 ***	45.423 ***	15.899 **	38.353 ***	58.650 ***
prob>chi2	(0.265)	(0.001)	(0.000)	(0.007)	(0.000)	(0.000)

Table 1.3: Pooled cross-section Heckman estimations; *Note: Displayed are estimated coefficients; asterisks (***, **, *) indicate significance at the usual 1%, 5% and 10% levels, respectively.*

of staff in the second step of the location decision. Turning to the estimated coefficients of the pooled model, economic interdependence between the "sender" and the "host" countries apparently plays a major role for the location of cultural institutes. In each specification, the probability for an institute in country i rises significantly with the amount of bilateral trade. Transforming the displayed probit coefficients into changes in the probability for an institute we find that a one-percent-increase in trade fosters the chance for an institute by about 12 percentage points[17]. Yet, the cultural variables also exert some influence. This is particularly the case for the amount of people with tertiary education which influences the probability of hosting an institute positively and significantly in the 2^{nd} and 3^{rd} model specifications. However, the actual effect sizes of education appear quite small as a 1%-increase in the portion of highly educated people is followed by an increase of 0.4 percentage points in the chance for hosting an institute. As we can expect from the literature on foreign aid (Alesina & Dollar (2000), Zanger (2000)), colonial ties (colony) importantly affect the probability that one of the three sender states sets up a cultural institute. A discrete change from 0 to 1 colony elevates the risk for hosting a satellite by 29 percentage points. Interestingly, less developed countries seem to have a greater chance of obtaining a British, French or German cultural institute. However, the transformed effect size is rather small as a one-unit-growth in the logged GDP per capita, which corresponds to a jump of 2000 US dollars from a GDP per capita of 1000 to 3000, merely increases the risk of not hosting an institute by a factor of 0.09. Countries with a large population also receive more staff appointed to their institutes as popln turns out to have a highly significant impact in each model. A growth rate of 1% in population size increases the number of allocated staff by 22-25 % according to our 3^{rd} specification of the discretion model. The results strongly support our theoretical propositions. In line with our argument on agent discretion, institutes seem to allocate their staff according to other criteria besides those that their official cultural missions would imply. The more demanded a host country as a tourist destination is, the larger the number of staff members sent to it. The logged tourism variable appears positive and statistically highly significant throughout all model specifications. An increase of

[17]For an interpretation comparable to the linear probability model estimates we multiplied the estimated probit coefficients with a scaling factor of 0.25 which we received by evaluating the normal probability density function at the independent variables' means (see Wooldridge (2002, p. 563))

1% in the number of European tourists is followed by an estimated 14 to 18 %-growth in staff numbers. This means for the average host country which attracts nearly four billion European tourists per year that an increase of 40 000 additional guests per year is followed by a predicted increase in staff number from 28 to 33. Interestingly, however, the educational and political background of a country does not influence the decision of how many staff workers it receives. Neither polity nor education play a significant role for the location of staff and even appear to negatively influence the number of employees. In short, the foundation of a cultural institute becomes highly likely for a relatively less-developed country with close economic relations to the three European states, former colonial ties with any of them and a substantial amount of highly educated people. In line with our theory, the three cultural institutes seem to "follow the sunshine" in their personnel policy and locate their staff preferably in large host countries that are attractive from a tourist point of view.

The evaluation of H1 and H2 requires that we additionally look at the relative differences between the three sender states in their allocations of personnel and their selections of host countries. To this end, we present additional cross-section Heckman models in Table 1.4 and introduce interaction effects of the theoretically interesting independent variables with country dummies for Germany and France[18]. The estimated isolated conditional effects for the German and French interactions can be interpreted as deviations from the slope of the base country variable which is the United Kingdom in our application. This allows us deriving the statistical significance of the German and French deviations directly from the z-statistics. To obtain the total conditional effects one has to add the country deviation to the base effect for each variable under consideration[19]. As mentioned above, Table 1.4 provides the estimation results of the comparative "autocrat" and "discretion" models with individual specific slopes. The base coefficients in our comparative specifications thereby stand for the UK, while _G and _F indicate the isolated country effects, i.e. the deviations from the base for the two other countries.

[18]See also Plümper, Manow & Tröger (2005) for a description of free parameter model applications.

[19]Note that for applying an ordinary fixed effects model one could alternatively split up the sample in order to compare the conditional effects. However, in a multivariate regression model the conditional effects of the different independent variables affect each other. Thus, we opt for isolating the conditional effects for each independent variable.

Each of our two models relies on the same three model specifications as the "overall" estimation results reported in Table 1.3. As before, we will rely on the third column models for the interpretation of the estimated coefficients if not specified otherwise.

We can test H1 and H2 in the 'pac'-model specifications of Table 1.4 displaying our comparative "discretion" models. In line with our expectations, significant differences exist for the degree to which the three agents are able to "follow the sunshine" in their personnel policy. A positive deviation for France indicates in support with the "collusion model" that the attractiveness of a country as a tourist destination matters significantly more for the French allocation of employees than for the British one. A 1%-increase in tourist flows would increase the British staff numbers by 16.2%, the French ones by 22% and the German ones by 13%. Apparently, the GI is less inclined than the BC to let such considerations matter in its decision making process, but the deviation from the base line country is not significant. This establishes that

$$\frac{\partial staff \ln_{iF}}{\partial a \ln_{iF}} > \frac{\partial staff \ln_{iUK}}{\partial a \ln_{iUK}} \geq \frac{\partial staff \ln_{iG}}{\partial a \ln_{iG}}.$$

Market oriented considerations seemingly play a greater role for more autonomous cultural agents such as the BC or the GI.

Summing up the comparative estimation results, significant differences in the location criteria of the three European cultural institutes exist. The probability for a BC office in a host country depends more on bilateral trade relations than it does for a GI or an IF. For the allocation of staff, differences are most striking for the influence of a host country's attractiveness as tourist destination. In this respect, our findings support the "collusion model" since the French allocation of staff apparently reflects the cultural agent's desire to work in a nice setting more than it is the case for the British and the German employees. Besides these, the percentage of people with tertiary education seems to exert a negative influence on the BC's allocation of employees but a positive one for the IF one's. This might indicate that France followed a more "elitist" allocation of its staff to countries where the job of attracting people to the French culture is easier.

Accounting for the isolated country effects increases the fit of all our models to a considerable degree, as the Wald statistics show. Again, the "discretion" models exhibit the best model fit. As for the pooled results, the selection parameter Mill's lambda turns out directly significant for all specifications except for those including population size

staff2cultln	**autoc1**	**autoc2**	**autoc3**	**pac1**	**pac2**	**pac3**
polity	0.004	0.007	0.009	-0.010	-0.007	-0.001
	(0.020)	(0.020)	(0.017)	(0.020)	(0.020)	(0.017)
polity*g	-0.008	-0.001	-0.006	-0.005	0.004	0.000
	(0.031)	(0.031)	(0.027)	(0.031)	(0.030)	(0.027)
polity*f	-0.032	-0.033	-0.032	-0.036	-0.035	-0.033
	(0.030)	(0.029)	(0.026)	(0.029)	(0.029)	(0.026)
education	-0.018 ***	-0.016 **	-0.013 **	-0.014 **	-0.010	-0.011
	(0.007)	(0.007)	(0.006)	(0.007)	(0.008)	(0.007)
education*g	0.009	0.007	0.005	0.010	0.009	0.014
	(0.008)	(0.007)	(0.006)	(0.010)	(0.010)	(0.009)
education*f	0.033 ***	0.032 ***	0.028 ***	0.004	0.005	0.005
	(0.008)	(0.008)	(0.007)	(0.011)	(0.011)	(0.010)
tourismln				0.148 ***	0.172 ***	0.162 ***
				(0.049)	(0.049)	(0.045)
tourismln*g				-0.008	-0.013	-0.033
				(0.023)	(0.022)	(0.020)
tourismln*f				0.068 ***	0.064 ***	0.054 ***
				(0.022)	(0.022)	(0.019)
language		-0.310	0.022		-0.249	0.020
		(0.189)	(0.176)		(0.189)	(0.175)
gdppcln		-0.019	0.108		-0.171 *	-0.024
		(0.104)	(0.094)		(0.103)	(0.097)
popln			0.293 ***			0.272 ***
			(0.050)			(0.049)
cons	3.962 ***	4.065 ***	-2.242 *	1.767 ***	2.856 ***	-2.985 **
	(0.189)	(0.832)	(1.302)	(0.646)	(0.874)	(1.305)
cult4cat						
tradeln	0.604 ***	0.780 ***	0.725 ***	0.620 ***	0.789 ***	0.736 ***
	(0.080)	(0.096)	(0.109)	(0.081)	(0.097)	(0.110)
tradeln*g	-0.182 *	-0.149	-0.165	-0.183 *	-0.153	-0.168
	(0.098)	(0.103)	(0.106)	(0.100)	(0.105)	(0.108)
tradeln*f	-0.210 ***	-0.220 ***	-0.229 ***	-0.216 ***	-0.225 ***	-0.233 ***
	(0.072)	(0.076)	(0.077)	(0.074)	(0.078)	(0.079)
affinity	0.640	1.186	1.264	0.449	1.066	1.144
	(0.783)	(0.803)	(0.810)	(0.802)	(0.818)	(0.825)
affinity*g	-0.808	-1.457	-1.391	-0.632	-1.303	-1.239
	(0.922)	(0.952)	(0.958)	(0.945)	(0.970)	(0.976)
affinity*f	1.730 *	1.405	1.499	1.826 *	1.460	1.553
	(0.963)	(0.969)	(0.976)	(0.987)	(0.988)	(0.994)
polity	-0.019	-0.011	-0.009	-0.009	-0.005	-0.003
	(0.023)	(0.023)	(0.024)	(0.024)	(0.025)	(0.025)
polity*g	0.012	0.012	0.011	0.008	0.009	0.009
	(0.030)	(0.032)	(0.032)	(0.032)	(0.033)	(0.033)
polity*f	-0.012	-0.014	-0.016	-0.014	-0.014	-0.017
	(0.030)	(0.031)	(0.031)	(0.031)	(0.032)	(0.032)
education	0.003	0.024	0.021	0.001	0.021	0.018
	(0.014)	(0.016)	(0.016)	(0.015)	(0.016)	(0.016)
education*g	0.012	0.009	0.012	0.011	0.008	0.011
	(0.018)	(0.019)	(0.020)	(0.018)	(0.020)	(0.020)
education*f	-0.029 *	-0.028	-0.027	-0.027	-0.027	-0.026
	(0.017)	(0.018)	(0.018)	(0.017)	(0.018)	(0.018)
colony		0.826 **	0.925 ***		0.818 **	0.908 **
		(0.343)	(0.353)		(0.348)	(0.357)
gdppcln		-0.656 ***	-0.540 ***		-0.632 ***	-0.521 ***
		(0.137)	(0.176)		(0.138)	(0.177)
popln			0.094			0.090
			(0.089)			(0.089)
cons	-2.747 ***	1.069	-1.069	-2.806 ***	0.849	-1.196
	(0.339)	(0.865)	(2.207)	(0.344)	(0.872)	(2.216)
mills lambda	-1.127 ***	-1.049 ***	-0.421 **	-0.757 ***	-0.825 ***	-0.226
	(0.203)	(0.181)	(0.196)	(0.230)	(0.194)	(0.208)
N	434	434	434	425	425	425
censored/uncensored obs	183/251	183/251	183/251	183/242	183/242	183/242
Wald chi2	40.942 ***	62.034 ***	105.033 ***	70.134 ***	94.736 ***	141.055 ***
prob>chi2	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)

Table 1.4: Comparative cross-section Heckman estimations; *Notes: g and f indicate country dummies for Germany and France; varname*g and varname*f indicate the interaction between a given variable and the respective country dummy*

(popln) [20].

Looking briefly at the results for the "autocrat" model, two striking differences appear for the location criteria of the three institutes under investigation: First, for the probability to host an institute in the first step, bilateral trade relations positively matter for all three institutes, but mostly for the BC and to a significantly smaller degree for the IF. Interpreting the scaled effect sizes, a one-percent-increase in bilateral trade would lift the chance for a British satellite by 22 percentage points. The probability for a French institute would move up by 15 whereas the GI takes a middle position with an increase of 17 percentage points differing however insignificantly from the BC. Thus, comparing the partial effects of trade, we have established that

$$\frac{\partial staff \ln_{iG}}{\partial t \ln_{iG}} \leq \frac{\partial staff \ln_{iUK}}{\partial t \ln_{iUK}} > \frac{\partial staff \ln_{iF}}{\partial t \ln_{iF}}.$$

Second, with regard to the allocation of staff, education seems to exert a negative influence for the BC's location of employees, but a significantly positive one for the IF's. However, the actual effects are quite small for the average country. According to our estimations, a ten percent increase in the size of the educational elite of a host country would lead to a decrease of 13 percentage points in British staff, whereas the French ones would increase by 15 percentage points. Again, the GI is slightly closer to the BC as an insignificant German deviation coefficient reveals. Following this,

$$\frac{\partial staff \ln_{iF}}{\partial h_{iF}} > \frac{\partial staff \ln_{iG}}{\partial h_{iG}} \geq \frac{\partial staff \ln_{iUK}}{\partial h_{iUK}}.$$

The behavior of the three institutes does not differ significantly with regard to the remaining cultural and governmental variables.

1.6 Conclusion

This article evaluated two opposing arguments on the effect of agent discretion on cultural diplomacy. It has shown that the "collusion model" explains the allocation of personnel to host countries of foreign cultural institutes much better than the "autonomy model".

[20] As for the 'overall' cross-sections above, the likelihood-ratio test of independent equations for the equivalent maximum-likelihood-Heckman estimations supports our composite Heckman model at a 1% level of significance (see Brandt & Schneider (2005)).

We were able to demonstrate that the least autonomous foreign cultural institute, the IF, is more influenced by tourist considerations than its German or British counterparts.

Our results confirm that foreign cultural institutes should not be analyzed, as it is typically the case in the political science literature, like agents that strive to maximize ideological goals as stated in their "official missions". They rather resemble private contractors who are able to garner rents as a consequence of asymmetric information (e.g. Niskanen(1968, 1971), Laffont (2000)). Our "collusion" model assumes that the interests of the respective ministerial bureaus coincide with the preferences of the IF to send its staff members to countries with a pleasant atmosphere. This collusion is not possible for the largely independent BC whose financial fate is much more determined by the demand for language courses and cultural activities.

From a theoretical perspective, our findings suggest dividing cultural institutes into two groups for future research. Institutes with no formal autonomy, such as the IF, might best allow for collusive behavior among bureaucrats and accordingly be analysed within a collusion theory framework. For investigations of institutes with a minimum degree of organisational autonomy, such as the GI and the BC in our case, a principal-agent framework appears to be more suitable. Whether collusive or principal-agent relations are less prone to agent discretion could be worth exploring in more detail.

In correspondence with our expectation we have further established that the foreign services do not respect their own wish to honor "good governance" in possible host countries. The democratic record of a state does not influence the decision to set up an institute for the three sender countries under examination. We have, by contrast, firmly demonstrated that this first decision is largely a consequence of economic interests and in particular trade interdependence. Former colonies have a higher chance to receive a cultural institute, while smaller and rich countries are somehow discriminated.

For the question of European integration in the field of foreign cultural policy, further research is needed to analyse whether foreign cultural institutes rather compete or co-operate when locating their satellites. So far, our results might stimulate the foreign ministries of these three states to make the location policies of their cultural diplomacy more coherent and transparent. As our study shows, the self-interest of rent-seeking bureaucrats appears to be of considerable importance in this policy domain.

1.A The formal derivation of the two-step Heckman estimator

1.A.1 The two-step location decision on the allocation of cultural institutes:

First, the government and the cultural institute of country j together decide on whether to build a cultural institute in country i or not. Specifically, we assume that the government is primarily interested in economic (t) and political issues (s) when deciding whether a country should be subject to cultural diplomacy or not. The government's decision is based on the utility function:

$$u_g(t,s) = t^{\alpha} s^{\chi} \qquad \text{for} \qquad \alpha, \chi \in [0;1] \tag{1.1}$$

where t represents trade and s political issues. The cultural institute's priorities are with democracy (d) and human capital (h) of country i. This leads to the following utility function for the cultural institute as reflected in their official missions:

$$u_c(d,h) = d^{\delta} h^{\kappa} \qquad \text{for} \qquad \delta, \kappa \in [0;1] \tag{1.2}$$

where d stands for democracy and h for human capital.

We assess the overall probability for country i to host a cultural institute by the product of the institute's and the government's preferences. The first-step selection estimation equation in our statistical model thus can be derived from the following overall utility function given the cultural agent is not fully independent:

$$U(d,h,t,s) = (t^{\alpha} s^{\chi}) \cdot (d^{\delta} h^{\kappa}) \tag{1.3}$$

In (1.3), we perceive the decision to "enter" into a host country as a joint one between the government and the cultural institute. The multiplicative form may be interpreted as a veto possibility for either one of the involved actors in the case their interests are not at all fulfilled. The overall utility for an institute in country i then diminishes to zero.

In a second step of the location decision, the cultural institutes aim to maximize their "unofficial" utility approximated by their size of staff allocated to a country i. We

thereby propose the cultural agents to not only follow the criteria reflecting their official mission (d, h), but also to "follow the sunshine" when allocating their staff, as reflected by the variable tourist attractiveness (a) in (1.4):

$$u_a(d, h, a) = d^{\delta} h^{\kappa} a^{\mu} \qquad \text{for} \qquad \delta, \kappa, \mu \in [0, 1] \tag{1.4}$$

where d = democracy, h = human capital and a = tourist attractiveness. According to the "autonomy model", the greater the degree of autonomy from the respective government, the greater is the estimated μ. The opposite relationship holds for the "collusion model".

1.A.2 The Heckman estimation: First-step selection model

The two-step character of the Heckman estimator fits our theoretical model nicely. To account for non-random selection in our 2^{nd}-step country sample, the following selection equation determines the probability for our 2^{nd}-step dependent variable y_{2ij} to be observed:

$$z_{ij}^{*} = w_{ij}'\gamma + \epsilon_{1ij} \tag{1.5}$$

where $i = 1, ..., n$ ($n = 153$, all countries with more than one million inhabitants or with the status of EU membership) and $j = \{uk, g, f\}$ for the three countries under investigation, z_{ij}^{*} is the latent dependent variable for the selection equation, and w_{ij}' denotes the vector of the first-step independent variables. γ comprises the first-step estimation coefficients and ϵ_{1ij} the error term of the selection equation.

We assume the number of observed staff to depend on the joint decision to build an institute in country i in the first place. We thus derive the 1st-step-selection-equation from the formulated overall utility in (1.3) adding a disturbance term $e^{\epsilon_{ij}}$, such that

$$U_{ij} = u_{gij}(t, s) \cdot u_{cij}(d, h) \cdot e^{\epsilon_{1ij}} \tag{1.6}$$

and by taking logarithms:

$$\log U_{ij} = \log u_{gij} + \log u_{cij} + \epsilon_{1ij}$$

where

$$\log u_{gij} = \alpha_j \log t_{ij} + \chi_j \log s_{ij}$$

and

$$\log u_{cij} = \delta_j \log d_{ij} + \kappa_j \log h_{ij}.$$

Based on this, we arrive at expression (1.7) for the latent variable in our 1^{st}-step estimation model:

$$z^*_{ij} = \log U_{ij} = \alpha_j \log t_{ij} + \chi_j \log s_{ij} + \delta_j \log d_{ij} + \kappa_j \log h_{ij} + \mu_j \log a_{ij} + \epsilon_{1ij} \qquad (1.7)$$

The observed binary variable z_{ij} is defined as

$$z_{ij} = \begin{cases} 1, & \text{for} z^*_{ij} > 0 \\ 0, & \text{otherwise.} \end{cases}$$

1.A.3 Second-step estimation model

With regard to the number of employees per host country i as our 2^{nd}-step dependent variable, we can generally formulate the 2^{nd}-step regression equation as:

$$y_{2ij} = x'_{ij}\beta + \epsilon_{2ij} \qquad (1.8)$$

where y_{2ij} defines the observed continuous dependent variable for our estimation equation. x'_{ij} stands for the vector of the main cultural independent variables (d, h) including a for the tourist attractiveness of country i and a constant term. β defines the vector of coefficients to be estimated and ϵ_{2ij} stands for the error term of the second-step regression. By assumption, the 1^{st}- and 2^{nd}-step errors ϵ_{1ij} and ϵ_{2ij} follow a bivariate Gaussian distribution with zero means and correlation ρ. σ_1 is normalised to 1:

$$\begin{pmatrix} \epsilon_{2ij} \\ \epsilon_{1ij} \end{pmatrix} \sim N\left(\begin{pmatrix} 0 \\ 0 \end{pmatrix}, \begin{pmatrix} \sigma^2 & \rho\sigma \\ \rho\sigma & 1 \end{pmatrix} \right).$$

Knowing that y_{2ij} is observed only when $z^*_{ij} > 0$, that is $z_{ij} = 1$ for our binary dependent variable, this is when $w'_{ij}\gamma > \epsilon_{1ij}$, we can write the conditional expectation of y_{2ij} on being observed, that is, y_{2ij} conditional on $z^*_{ij} > 0$. Thus we formulate the conditional expectation as,

$$\begin{aligned} E(y_{2ij} \mid z_{ij} = 1, x'_{ij}\beta) &= E(x'_{ij}\beta + \epsilon_{2ij} \mid w'_{ij}\gamma + \epsilon_{1ij} \geq 0) \\ &= E(y_{2ij} \mid \epsilon_{1ij} > -w'_{ij}\gamma) \\ &= x'_{ij}\beta + E(\epsilon_{2ij} \mid \epsilon_{1ij} > -w'_{ij}\gamma). \qquad (1.9) \end{aligned}$$

And from the moments of a censored bivariate Gaussian distribution this is

$$E(y_{2ij} \mid \epsilon_{1ij} > -w'_{ij}\gamma) = x'_{ij}\beta + \rho\sigma_1 \frac{\phi(w'_{ij}\gamma)}{\Phi(w'_{ij}\gamma)} \tag{1.10}$$

where $\phi = pdf, \Phi = CDF$ of a normal random variable. We can thus generally write our 2^{nd} -step statistical model including the selection correction term as:

$$(y_{2ij} \mid z_{ij} = 1) = x'_{ij}\beta + \lambda'_{ij}\beta_\lambda + v_{ij} \qquad \text{with} \qquad \rho\sigma_1 = \beta_\lambda \tag{1.11}$$

the coefficient of the inverse Mill's ratios λ'_{ij} which are based on the 1^{st}-step observations and account for the non-random selection bias in the 2^{nd}-step regression.

Regarding the number of the cultural institute's staff as the dependent variable y_{2ij}, we arrive at

$$(y_{2ij} \mid z_{ij} = 1) = \delta_j \log d_{ij} + \kappa_j \log h_{ij} + \mu_j \log a + \beta_\lambda \hat{\lambda}_{ij} + v_{ij} \tag{1.12}$$

as our 2^{nd}-step estimation model adding a disturbance term $e^{\epsilon_{2ij}}$ and the estimated inverse Mill's ratios $\hat{\lambda}_{ij}$ to (1.4) and taking logarithms.

1.A.4 Estimation procedure

The coefficients of the 1^{st}- and 2^{nd} step independent variables can be estimated following the standard two-step Heckman (1979) estimation procedure. Accordingly, we estimate the selection equation defined as the overall probability for a cultural institute in country i by the usual probit model:

$$\Pr(z_{ij} = 1 \mid w'_{ij}\gamma) = \Phi(w'_{ij}\gamma \mid \sigma_1) \tag{1.13}$$

where

$$z^*_{ij} = \log U_{ij},$$

observed when $z_{ij} = cult4cat = 1$, and

$$w'_{ij}\gamma = \alpha_j \log t_{ij} + \chi_j \log s_{ij} + \delta_j \log d_{ij} + \kappa_j \log h_{ij} + c_1$$

where c_1 is a constant term.

The coefficients of the 2^{nd}-step selection-corrected statistical model then are estimated via OLS:

$$(y_{2ij} \mid z_{ij} = 1) = x'_{ij}\beta + \hat{\lambda}'_{ij}\beta_\lambda + v_{ij} \tag{1.14}$$

where

$$y_{2ij} = \log u_{cij}$$

and

$$x'_{ij}\beta = \delta_j \log d_{ij} + \kappa_j \log h_{ij} + \mu_j \log a_{ij} + c_2.$$

Chapter 2

What *actually* happens to EU directives in the member states? A cross-country cross-sector view on national transposition instruments[1]

'Because of belated implementation of European directives for functioning electricity- and gas markets, the Commission actually took half a dozen infringement procedures before the European Court of Justice – Spain, Greece, Estonia, Ireland, Portugal and Luxembourg are sued. What is lacking is a joint strategy of the Commission and the national governments. [...] But when the EU-Commissioner for energy matters, Andris Piebalgs, travels through the capitals in order to promote all the directives, proposals and green books by which the Commission aimed to prevent the growing dependence on only a few suppliers, he only raises a laugh. What has been decided upon in Brussels, is ignored, circumvented or delayed in the member states.'

Translated from *DIE ZEIT*, No. 10, March 2, 2006: 23

[1]This chapter has been published as CESifo Working Paper 2098. Earlier versions have been presented at the BGSE Macro/Finance/Public Finance and the Econometric Seminar of the University of Bonn, the ECPR Third-Pan European Conference on EU politics 2006 in Istanbul, the 5th Workshop of the DFG Priority Programme 1142 on 'Federalism: Theory and Empirical Evidence' in Dresden, and the CESifo Venice Summer Institute 2007 on 'Reinventing Europe'.

2.1 Introduction

European integration does not only depend on the European Union's (EU) decision-making ability but also on the correct, complete and timely implementation of EU-decisions in the member states. The latter aspect of putting EU-law into national practice is all the more relevant as legislative activity in the EU is marked by a clear centralizing trend over the last decade. Today, EU decision-making touches almost every policy area and EU legislative activity amounts to more than 15 000 binding European acts in force[2]. This throws up such important questions as the following: What happens to this bulk of EU legislation in the member states?

At first sight, this issue might appear trivial and self-explanatory as member states have legally obliged themselves to transpose and implement EU directives in a complete, correct and timely manner according to articles 249, III and 10, I of the EC Treaty (ECT). However, national implementation *practice*s reveal a different picture as the above quote by Commission president José Manuel Barroso's spokesperson illustrates.

Given the discrepancy between implementation theory and reality, our paper tries to shed empirical light on the *actual* implementation patterns across member states and policy areas. We thereby focus on EU directives only. Compared to other types of *secondary*, that is non-Treaty, EU law such as regulations or decisions, the implementation procedure for EU directives differs in that EU directives first need to be transposed, i.e. transcribed into national legislation, before they are legally effective and can be put into practice by national administrations, courts and agencies. Regarding their transposition, member states may choose from an array of national legal instrument(s) as long as the respective legal device(s) serve(s) to fulfill the directive's general objectives and meet(s) the required deadline. One can thereby broadly distinguish between *primary* and *secondary* national transposition devices. *Primary* transposition instrument(s) refer to all national legal devices requiring a parliamentary majority decision. *Secondary* transposition devices comprise all other national legal instruments, usually mere administrative acts.

[2]See Alesina, Angeloni & Schuknecht (2005, Tables 4, 7) on the total number of passed regulations, directives and decisions per period and the total number of these types of legislation in force between 1971 and 2000.

According to this set up, we conceive the government's transposition decision as two-fold: First, the government may decide whether it is generally willing to transpose a particular directive or not. Assuming a government's willingness to transpose, the question then becomes whether to transpose via *primary* or *secondary* legislative devices, i.e. whether to get involved into a national parliamentary debate or not. This second part of the government's transposition decision is exactly what our paper aims to analyse. In particular, we intend to investigate the *de facto* ratios of *primary* to total transposition notifications for EU directives adopted between the Single European Act and today. This question is highly relevant from a normative political point of view and complements the debate on the EU's 'democratic deficit' by investigating in how far national parliaments are excluded from the legislative process when it comes to the transposition of EU directives?

For our empirical assessment, we have constructed a unique dataset comprising political-economic indicators and various measures of transposition based on the member states' notifications of transposed EU-legislation, as provided in CELEX Sector 7 by the European Commission. Our dataset not only covers the EU-15 member states on an aggregate level but also six major sectors of their economies and it ranges from 1986 to 2002. This allows us to investigate the member states' transposition performances in a novel fashion, namely with a dynamic cross-country cross-sector view. The sector perspective thereby allows us to consider the specific content of a directive, i.e. the policy area it touches upon, as an additional explanatory factor besides the frequently hypothesised macro-level politico-institutional and economic effects. We find that three factors matter for explaining *primary* transposition ratios: political-institutional constellations, sector characteristics and EU-membership benefits. In particular, governmental control of the parliamentary agenda and net EU receipts have a negative effect on the ratio of *primary* to total transpositions. Economic sector size seems to play a positive significant role for *primary* transposition ratios. However, the direction of the effect changes when we control for other sector characteristics, i.e. sector lobbying potential and technicality.

The following is divided into six parts: After a brief discussion of the relevant literature in section 2, we discuss our theoretical approach in section 3. Here, we define the broader theoretical framework. With a view to modeling the transposition of EU direc-

tives, we outline the implementation process for the case of EU directives and specify the government's decision path after it has received the directives coming from Brussels. Based on national governments' utilities we derive testable hypotheses about the expected ratios of *primary* to total transposed directives across member states and policy areas. Section 4 draws up our research design. Starting with discussing our data structure, we explain our choice of policy areas before turning to descriptive figures of our dependent variable and describe our econometric model and method. Finally, we present our empirical results in section 5 and summarize our main conclusions in section 6.

2.2 Related literature

Two strands of the political science literature deal with the transposition and implementation of EU directives, i.e. the issues of *Europeanization* and *compliance*, respectively. *Europeanization* is thereby defined as 'the process of influence deriving from European decisions and impacting member states' policies and political and administrative structures' (Héritier (1995)). *Compliance* generally refers to the fulfillment of EU legislation in the member states.

So far, comparative studies using econometric tools in the area of *Europeanization* mainly concentrate on the *timeliness* of transposing EU directives. Prominent examples are Mastenbroek (2003), Kaeding (2005) and König, Luetgert & Mäder (2005) who investigate the political-economic factors underlying transposition delays from different perspectives. Whereas Mastenbroek (2003) focuses on Dutch transposition delays for 229 directives enacted between 1995 and 1998 using various data sources mainly provided by the Dutch government, Kaeding (2005) concentrates on one particular policy area (transport). He particularly analyses the probability of delay across five member states, namely Germany, Spain, the Netherlands, the UK and Greece. In contrast to Mastenbroek (2003), data in Kaeding (2005) stems from the EU Commission's online-database CELEX. It contains the transposition deficit for all 106 directives of the transport acquis ranging from 1957 to 2004. The analyses of survival- and cross-section logit models of Mastenbroek (2003) and Kaeding (2005) both show that EU-level factors such as the time remaining until the transposition deadline, the initiating EU institution or the ap-

plied EU decision-making procedure, influence the timing of transposition. The study of Kaeding (2005) further reveals that a directive's overall level of complexity and the overall amount of EU legislation waiting for transposition both significantly and positively affect delay. With respect to national factors of influence, both authors demonstrate that it is the type of legal instrument used (i.e. law, decree, regulation or circulair) rather than the number of reported transposition instruments which significantly influences transposition delay. However, whereas Mastenbroek (2003) finds a strong effect of the ministry in charge, Kaeding (2005) does not. Additionally, in Kaeding's (2005) analysis the number of governmental coalition parties plays a significant role for the likelihood of timely transposition. König et al. (2005) also employ CELEX-based data for their empirical investigation of the timeliness of transposition. Compared to Kaeding (2005), however, they apply a more comprehensive approach as their dataset contains not only transport directives, but all 1,592 directives adopted between 1984 and 2002 with the respective transposition measures for the fifteen 'old' EU member states. Rather than just looking at a selection of particular member states they look at all EU-15 member states. Moreover, they explore sector differences in transposition timing across four CELEX policy areas, namely agriculture, energy and environment, internal market and common rules. Apart from Mastenbroek (2003) and Kaeding (2005), they also include EU-level and national-level *economic* factors, such as the *amount of net-EU payments* and *value added shares*. They further incorporate preference measures grasping the level of conflict on the EU- and the national stage, such as the 'sector specific core based on maximum distance between member state governments' and the 'sector specific core based on the maximum distance between parties represented in national parliaments'. The results of their preliminary Heckman selection (probit-probit) model reveal that EU-level conflict influences negatively while national conflict positively influences the probability to transpose in the selection equation. The probability of delayed transposition in the second step of the Heckman procedure is positively and significantly affected by the number of notified transposition measures, net-EU receipts and sector value added shares. Besides these, König et al. (2005) find out that more pluralist systems lead to a significantly higher probability for delayed transposition.

The *compliance* literature, deals with infringement procedures initiated by the Com-

mission and litigated in co-operation with the European Court of Justice (ECJ) against member states failing to implement or 'to comply' with EU-law. Thus, *compliance* studies address similar research questions as found in the *Europeanization* literature, but use a different dependent variable for measuring national performances of coping with EU-law. Instead of relying on member state transposition notifications, quantitative *compliance* studies count member states' expositions to EU infringement procedures. Two especially relevant examples of applied quantitative work within this strand of literature are Börzel, Hofmann & Panke (2005) and Perkins & Neumayer (2007). Börzel et al. (2005) test two competing hypotheses about national non-compliance. On the one hand, the 'management theory hypothesis' supposes non-compliance to be involuntary and mainly due to the lacking *capacity* (i.e. administrative resources and public support) of a member state. The 'enforcement theory hypothesis' assumes national non-compliance to be fully intended. In particular, the voting power of a member state vis à vis the EU-institutions is assumed to be the dominant factor underlying a government's motivation to comply. Their probit- and survival-analyses uncover that both anticipated factors are statistically relevant for explaining cross-country variances of non-compliance. Like König et al. (2005), Börzel et al. (2005) further control for policy-specific effects and also find strong empirical evidence for their explanatory power. However, Börzel et al. (2005) are so far unable to identify exactly which policy-related aspects are at work.

Perkins & Neumayer (2007) follow a theoretically different approach which follows a similar view as we do. In contrast to previous works in the compliance literature, the authors take on a political-economic perspective assessing the benefits of compliance for a member state. Applying negative binomial estimations for their count dependent variable, i.e. the number of national expositions to infringement procedures, Perkins & Neumayer (2007) find overall support for their main argument that national levels of compliance are influenced by the *benefits* a particular member state derives from the EU, both politically and economically. In particular, the level of intra-EU trade dependence as well as well as per capita voting power in EU institutions are negatively correlated with legal infringements. Surprisingly, but in line with König et al. (2005), Perkins & Neumayer (2007) find a member state's compliance record to *decrease* with rising net-EU receipts.

Besides recent advances, what lacks so far in both discussed literature strands, is quantitative empirical work on *the type of legal transposition instrument(s) used by the national governments*. The aforementioned papers of Kaeding (2005) and Mastenbroek (2003) merely point to the effect of the *legal instrument used* on *transposition delay*. We ask, however, directly what political-economic factors may make a government opt for *primary* transposition devices given it is willing to transpose. Although neglected in the literature so far, this question seems highly relevant from a normative political point of view. First, the national balance of power could be threatened if, through the process of EU-law transposition, member state executives would administer more and more legislative competences to the cost of national parliaments. This would be the case if national executives would preferably choose *secondary* transposition devices for a generally increasing number of EU directives. It would be interesting to ask for future research whether EU integration has lead to a 'democratic deficit' on the *national* arena? However, analysing the possible effects behind a government's chosen mode of transposition is far beyond the scope of this paper. Our study aims to provide a first attempt to directly address the national *transposition modes*, i.e. the *de facto* ratios of *primary* to total transpositions respectively. But this is not the only contribution we claim to make. With respect to our research design, we further try to extend on the cross-sector perspectives addressed in König et al. (2005) and Börzel et al. (2005). In doing so, we employ a three-dimensional econometric model grasping not only country- but also sector-specific effects across *five* major sectors of the respective national economies. Looking at transposition performances across policy areas thereby allows us to consider the policy-contents of EU directives. As we suppose that both aspects, policy and polity, play a significant role for a government's transposition rationale, a comparative policy design appears especially important in order to prevent selection bias.

2.3 Towards modeling transposition

2.3.1 Theoretical set up: the government's transposition decision

Looking at the transposition framework in greater detail, three different types of EU legislation may be distinguished: decisions, regulations and directives. All three are nationally binding[3]. However, the first two come directly into effect in the member states without the need for any national legislation. In contrast, directives must be transposed, that is legally translated and written into national legislation, before the respective *national* administrative bodies can act upon them (see Art. 249 III ECT on the obligation of the member states to transpose and implement directives). In the case of non-compliance by failing either to transpose or to put EU law into practice they risk being sent a letter of formal notice by the Commission as the "guardian of the Treaty" (Art. 211 ECT). Member states can also be officially sentenced by the ECJ, the latter being the last instance of the infringement procedure (Art. 226 and 228 ECT)[4] Further, member states can be held liable to the European citizens if they do not implement EU directives on time or in an incomplete manner (Streinz (2001)).

Regarding the national legal instruments used for transposition, directives may impose specific implementation conditions and objectives, but not the member states' transposition instrument(s) directly. In other words, formally, the choice of transposition instrument(s) remains with the national governments, leaving national technical and legal restrictions aside. In common judicial practice, however, an EU directive may become directly applicable for a member state once the deadline for implementation has passed and certain legal conditions are met. Yet, according to Streinz (2001, 158f), in

[3]Two further types of *secondary* EU legislation, namely recommendations and opinions, are left aside here since they are not binding for the member states.

[4]According to Falkner, Treib, Hartlapp & Leiber (2005) the whole infringement procedure comprises four stages: 1. Letter of Formal Notice, 2. Reasoned Opinion, 3. Referral to the ECJ (all initiated by Commission), and 4. Judgment by the ECJ. They also point to newer 'internal procedure' documents of the Commission that even allow for additional, non-legal and more promising instruments to bring member state behavior into line with EU law. For a detailed description of the different stages of the infringement procedure and its effects on implementation in the member states, see Falkner et al. (2005).

the case of delay it unfolds a so called 'effet utile' only if:

1. the directive is formulated in such a way that individual rights can directly be derived from it, meaning that it does not leave any contextual discretion to the national judicial agencies (self-executive character of a directive), and

2. the content of a directive does not harm a citizen.

In the following we will restrict ourselves to EU directives rather than to EU decisions or regulations. This is for two reasons. First, only for the case of EU directives the issue of transposing EU law into national legislation does arise. EU decisions and regulations come into force directly upon their adoption on the EU level. Second, we find the question of legal transposition instruments used by the member states to be empirically relevant and not to be a mere theoretical artifact. As pointed out above, only under very special judicial conditions may EU directives unfold a 'direct effect' in a member state.

Summing up, in this paper, our focus lies on the transposition of EU directives as starting point of the national implementation procedure. With respect to the legal instrument(s) used for transposition, we suppose the government (G)'s decision to be fully intended according to Börzel et al. (2005)'s enforcement theory and to follow a two-fold decision-path as illustrated in 2.1. First, G chooses whether it is generally willing to transpose and implement a particular directive or whether it prefers to not transpose at all or to delay. Then, given its transposition willingness, G has the possibility to select the appropriate legal transposition instrument. It may thereby opt for *primary* or *secondary* legislative devices.

According to our definition, *primary legislative devices* comprise all national legislation in the sense of "laws". In other words, we define *primary legislation* as national legal instruments which in some way have to be approved by the respective national parliament. All other national legislative actions that can directly be adopted by the member states' executives are referred to as *secondary legislation*.

This categorization into *primary* and *secondary* transposition instruments may appear rather broad given that the number and types of available legal instruments vary considerably across EU member states. Refer to König & Mäder (2007) for a complete list of national legal transposition instruments and a description of the particular national

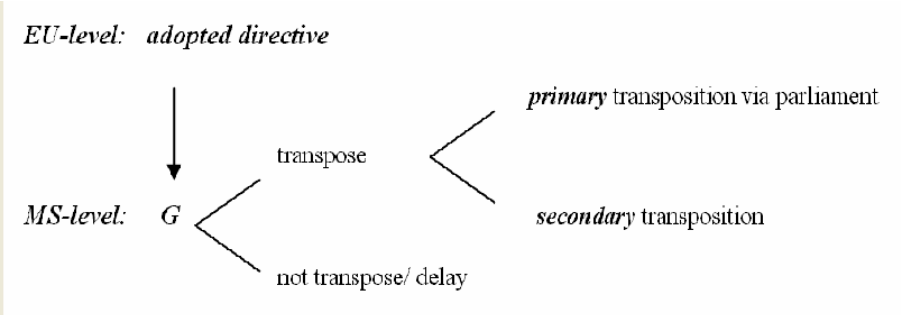

Figure 2.1: Two-fold transposition decision of a member government (G)

legislative processes with respect to the transposition of EU law. Their description hint to special legislative rules some states have established for dealing with EU law. Ireland and the UK, for instance, have done so in the European Community Acts of 1972 providing the general power for implementing Community obligations by means of *secondary* legislation. Related to this, Ireland and the UK each have passed Statutory Instruments Acts which enable their parliaments to delegate legislation to the ministry in charge. For some of the Statutory Instruments, the British and the Irish Houses of Parliament have preserved their rights to annul Statutory Instruments passed by the executive within a given time frame. Thus, although the transposition of EU law via Statutory Instruments require delegation by parliament, they count as *secondary* legislation of the UK and Ireland as they have finally been passed by the ministry in charge.

In our dataset, we so far cannot account for these judicially unclear cases, but restrict *primary legislation* to only those national legislative devices in the sense of national 'laws' that *always* require a majority decision of the lower chamber. Thus, we leave it with the aforementioned classification as it allows for the theoretically interesting differentiation between mere bureaucratic acts (*secondary* legislation) and laws that need the approval of parliament (*primary* legislation) for our first attempt in assessing the national transposition modes. For the interpretation of our descriptive and statistical results, we do, however, keep in mind the national legal particularities as described by König & Mäder (2007).

2.3.2 Assessing the government's utility: costs and benefits of *primary* transposition

Transaction costs (TC)

If a government (G) goes through parliament in transposing a directive coming from Brussels, several difficulties may lie upon its way. Obstacles to parliamentary decision-making may thereby vary across countries and sectors, but can generally be seen as the transaction costs (TC) of *primary* legislation. Döring & Hallerberg (2004) refer to two main factors determining the TC of the dynamics, i.e. the speed, of the legislative process in their recent compendium on the passage of legislation across Western Europe. First, country-specific institutional constraints, such as the number of *veto players* (vps), make the passage of legislation by parliament costly for the government as opposition possibilities increase. Tsebelis (1995) elaborates this effect in his frequently cited veto player theory. Regarding transposition, a positive effect of vps on transposition delay has so far been approved in the empirical studies of Kaeding (2005), König et al. (2005) and Mastenbroek (2003). Second, Döring & Hallerberg (2004) argue that as time is scarce in parliamentary life, legislation always involves opportunity costs (OC) for re-election seeking politicians. Thus, additional TC may arise from the ability of minorities to inflict OC on the parliamentary majority. We will account for the ability of minority groups to inflict OC on the government by considering sector-specific lobbing effects in the section below. For now, let us hypothesize about the influence of vps on the legal kind of transposition instrument(s):

H1 *The greater the number of veto players within a governmental system, the less the ratio of primary to total transposed directives. (–)*

In the same volume Döring (2004) further tries to link time constraint, the level of controversy entailed in a particular bill and the government's control of the parliamentary agenda to the introduction of restrictive rules by the government. He thereby refers to Henning (1995) and Döring (1995*a*) who have formulated and tested a formal model explaining legislative output across Europe. More particularly, Henning (1995) assumes a majority government to be the monopolist of political decisions in a parliamentary system and derives the somewhat contra-intuitive theoretical prediction that the more

a government, due to time-saving prerogatives of agenda control, is principally able to push many legislative measures through, the fewer, yet more controversial bills it is actually inclined to submit to parliament. Empirical tests by Döring (1995*a*) 'approve' this proposition. We agree on the notion that the power distribution in executive-legislative relations should play a crucial role not only for explaining legislative outputs but also for analyzing governments' preferred transposition modes. However, intuitively and from a TC perspective, we argue that for weaker governments the costs of transposing via parliament are generally higher as their chances of pushing a particular bill through the legislative process appear smaller. In particular, coalition governments encompassing a large number of parties appear more prone to inner-executive and legislative opposition as each party may be seen as additional veto player according to Kreppel (1997). As we are unable to decide on the expected effect direction theoretically, our statistical analysis will have to reveal whether the argument of Henning (1995) and Döring (1995*a*) in H2a holds for explaining transposition modes.

H2a *The stronger G relative to the opposition, the less the ratio of primary to total transposed directives. (–)*

H2b *The larger the number of coalition parties, i.e. the greater the fractionalisation of a government coalition, the less the ratio of primary to total transposed directives. (–)*

Regarding the level of controversy entailed in a particular bill, Döring (2004) argues that for G the electoral utility of a controversial bill relative to a consensual one is higher. Underlying this argument is a statement of Olsen (1980) that given the government can determine the agenda it will use the parliament for those matters that it considers most important and wishes to symbolize to the whole population. Assuming that economically important directives are more controversial in the sense that they foster parliamentary or inner-coalition opposition to a higher degree than less important directives thus leads to the following hypothesis from a sector perspective on transposition mode:

H3 *The greater the economic importance of a sector, the greater the ratio of primary to total transposition. (+)*

Further, the timing of transposition within the policy cycle may play a crucial role for the transposition mode. Generally, as shown by Döring (2004), marginal costs of additional bills passing parliament tend to increase towards the end of an election period. The raise in marginal costs depends, however, on the controversy level of a particular piece of legislation. We accordingly hypothesize with respect to G's preferred transposition mode:

H4 *The closer the transposition decision is to the end of an election period, the less the ratio of primary to total transposed directives. (–)*

We expect this effect to be even stronger in the case of controversial directives, i.e. economically important directives.

Assessing the costs of *primary* transposition from an economic perspective, market inefficiencies may arise if EU directives are transposed and implemented in an uncoordinated way among member states. This applies to the kind of transposition instrument as well as to uncoordinated timing or delays. With respect to timing, *primary* transposition devices thus appear economically costly for a government. This may particularly be the case for directives touching upon technical issues, which is in sectors such as transport or environment. Thinking e.g. of the construction of a uniform railway system, a quick and coeval harmonization across all member states would clearly bear economic advantages in these areas as intra-EU trade would be facilitated. Hypothesis 5 mirrors this proposition accordingly.

H5 *In rather technical sectors, the ratio of primary to total transposed directives is smaller. (–)*

Lobbying

If an EU directive passes parliament during transposition, not only internal but also opposition external to the law-making process increases by lobbying activities that target parliamentary legislation. The passage of EU legislation in national parliaments offers more time and opportunities for lobbyists to take action on EU laws on behalf of their constituencies. Politicians then have to weigh the special interests of a minority group against the welfare of the median voter. The ability of minority groups to inflict OC

on politicians thereby depends on certain systemic or policy-specific features. Again, as stated in H2b, coalition governments seem particularly vulnerable to opposition by lobby groups as lobby costs decrease with the number of parties involved in the government (see Grossman & Helpman (2001)). Regarding policy areas, we suppose lobby groups to be mainly active in sectors for which interests are relatively easy to organize, meaning sectors which are small in group size and pursue clear-cut group interests according to the theory of Olson (1965). Thus, in addition to H2b, we hypothesize that:

H6 *The more a sector is subject to lobbyism, the less EU directives are transposed via primary transposition devices. (–)*

Given the manifold political-economic costs for a government G to transpose via parliament, it is not surprising that the overall *primary* transposition ratios are rather low (see Figure 2). Yet, are there any systematic politico-economic or sector-specific benefits for a member state that help explain the observed cross-country cross-sector variations in *primary* transposition ratios?

'Better regulation' benefits

Better, that is more detailed and concrete, administrative instructions insert positive microeconomic effects as they prevent strategic misuse and misinterpretation by firms. Aware of these effects, the Commission has proposed a new better regulation package in March 2005 in order to improve the quality of new legislation and existing rules on the EU- as well as on the national level. It accordingly argues that "common rules across all Member States help business and can lower costs" [5]. Further, in her Communication to the Council and the EP on the Lisbon Strategy the Commission states:

"Better regulation has a significant positive impact on the framework conditions for economic growth, employment and productivity. By improving the quality of legislation, it creates the right incentives for business, cutting unnecessary costs and removing obstacles to adaptation and innovation. The measures foreseen in the 'better regulation' initiatives by the Commission and the Council Presidencies need to be implemented rapidly"[6].

[5]European Commission (2006)

[6]European Commission (2005, p. 7)

Assuming *primary* legislation to generally be more elaborated and thus to guarantee more precise and detailed rules relative to *secondary* acts, there exist clear macroeconomic incentives for transposition via *primary* legislative devices. From a sector perspective, this should especially be the case in economically important or rather technical sectors where only precise implementation rules secure the functioning of the Common Market. Thus, H3 would further be strengthened by the better regulation argument, but the anticipated negative effect of sector technicality in H5 would partly be offset. Therefore, we cannot be sure about the expected effect direction in H5 for our statistical analysis.

EU-membership benefits

A direct way to assess the economic benefits from EU membership is measuring national fiscal transfers from the EU. König et al. (2005) have controlled for the effect of a country's net EU-receipts on transposition timeliness and found a significant *positive* effect on the delay probability of directives. Further, Perkins & Neumayer (2007) develop a theoretical argument on the influence of net EU-receipts on infringement cases. However, against their proposition, and in line with Börzel et al. (2005) they discover a *positive* effect of net EU-receipts on infringement submissions. With respect to transposition *modes*, we stick to Perkins & Neumayer (2007) assuming that EU fiscal transfers generally lower the costs of complying with EU law. Thus, relative to net EU-payers, we expect *primary* transposition to become cheaper for net EU recipients and hypothesize accordingly:

H7 *The more fiscal transfers a member state receives from the EU, the the more EU directives are transposed via primary legal instruments. (+)*

2.4 Data structure

2.4.1 Data source and classification of policy areas

Information for our *dependent variable (DV)* stems from the European Commission's online database CELEX Sector 7. It has been extrapolated and processed by Brooke Luetgert and Lars Mäder according to König et al. (2005). The whole DV dataset

contains all of the 2225 adopted EU directives between 1979 and 2003 together with the notices of all 15 EU member states to the Commission on their respective transposition instrument(s). For this paper, we restrict our period of investigation to directives adopted between the signature of the Single European Act (SEA) in 1986 to the latest year available, 2002 respectively. This yields 17*15*5=1275 cases for our three-dimensional cross-country, cross-sector time series analysis.

Defining the policy areas for which we expect variations on cross-sector implementation quotas mainly requires solving a practical data problem:

In order to investigate the effects of political-economic characteristics on *primary* transposition patterns from a sector perspective, we need to match the policy area classifications of our dependent and independent variables. This requires fitting the EU policy areas defined in *Appendix C* of the CELEX Sector 7 database manual with the economic sector division of the OECD STAN Indicators 2002. Table 2.4 in the appendix demonstrates in detail how this amounts to our final classification of *six* policy domains. We thereby tried to match the sector contents of the various data sources to a maximum degree but at the same time to prevent overlaps in classes as far as possible[7]. For our empirical analysis, we further had to ensure that our classification scheme comprises a minimum number of observations of our dependent variable per sector. This is why we leave aside some of the smaller but frequently cited sectors such as construction or education.

Thus, turning away from technical drawbacks, our resulting sector division contains *five* of the major policy areas of a national economy. Value added shares add up to more than 95%. The aggregated sector classes still allow for the anticipated variations in sector size and *primary* transposition ratios as will be demonstrated in our descriptive analysis below. For the ease of comparison we further made our selection of policy areas correspond to the empirical literature on EU policy-making as far as possible. Half of our policy areas also appear in the classification scheme of Alesina et al. (2005). Beyond this, further adjustment of the two classifications for future research is easily possible as both categorizations are based on the CELEX Appendix C manual.

[7]Only in the case of classes five and six the manufacture of coke, refined petroleum products and nuclear fuel could not be further separated.

2.4.2 Dependent variable

As pointed out earlier, we strive to explain variations in national transposition instrument(s) in our empirical analysis. To do so, we have categorized the various national transposition devices into *primary* and *secondary* legislation. Now, we empirically map the national transposition decision by taking the *actual* ratios of *primary* to *total* transposition notifications per member state i, sector j and year t as indicator for our DV $COLI_{ij,t}$ *(= choice of legal instrument(s) in member state i and year t for directives touching upon sector j).* Table 2.5 in the appendix illustrates the construction of our DV in detail. Underlying $COLI_{ij,t}$, is a *directive-based* measure $COLI_{r,ijt}$ which contains information on transposition notifications by member state i within sector j in period t for each directive r. The aggregation of this directive-based measure to our sector-devised DV $COLI_{ij,t}$ proceeds in two steps:

First, we collect information from CELEX Sector 7 for each directive r on all transposition instruments reported by country i within sector j and year t. Based on this information we then create the directive-based ratios of *primary* to total transpositions referring to $COLI_{r,ijt}$ in Table 2.5. Next, we code a dummy variable $COLI\_d_{r,ijt}$ indicating for each directive r if $COLI_{r,ijt} > 0$, i.e. whether the transposition record of a particular directive r *includes* at least one *primary* transposition instrument. Then, in the second step, we aggregate (by taking the mean) the dummy counts of $COLI\_d_{r,ijt}$ for all directives r within a given sector j of country i and year t to a single sector-based *primary* to total transposition ratio, that is our DV $COLI_{ij,t}$. Given, for example, the Commission has passed four directives in 1995 concerning the transport sector in member state i. For directives 1 and 2, member state i reported *only secondary* transposition instruments in 1995 or later. For directive 3, member state i reported six instruments in 1995 or later out of which two were *primary* and four *secondary.* For directive 4, no transposition instruments at all have been reported by member state i. Then, for the transport sector in member state i in 1995, this would yield a *primary* transposition ratio of 1/3 or 0.33 $(= 0 + 0 + 1(+missing)/\,[3(+missing)])$ for our DV $COLI_{ij,t}$.

Our DV measure contains three peculiarities regarding interpretation:

First, to be precise, *the numerator of our DV* $COLI_{ij,t}$ empirically refers to the *number of a member state's transposition notifications* (in a given policy area and a

given year) which *include* at least *one primary* legislative transposition instrument, i.e. notifications which involve at least *one* majority decision in parliament. The aggregation of a directive-based transposition measure via our dummy variable *COLI_d* becomes necessary as member states may report various transposition instruments for a single EU directive. Simply adding up the transposition instruments reported by member state i in a given sector j and year t would accordingly neglect that some of these instruments may refer to the same EU directive.

Second, by construction, a value of 1 for $COLI_{ij,t}$ may refer to a transposition ratio of 1/1 but also to a ratio of, for instance, 35/35. A value of zero can accordingly mean two things for $COLI_{ij,t}$. For example, a ratio of 0 for Belgium implies 0 *primary* out of 30 notified transposition instruments in 1994 in the agriculture sector, whereas in 1987 in the transport sector a ratio of zero for Belgium means 0 *primary* out of 0 notifications. In order to distinguish between these two cases, we code ratios of 0 *primary* out of 0 notifications as missing values of $COLI_{ij,t}$. Thus, missing values on our DV may result for two reasons: either if no directive has been adopted for a given year, country and sector or if directives lack any transposition notifications, implying that they have not been transposed for most cases[8]. Therefore, by construction, we actually cannot separate cases missing due to transposition inactivity by a member state from cases where nothing had to be transposed in the first place. However, for Finland, Austria and Sweden information on $COLI_{ij,t}$ for the years before their accessions on January 1st 1995 is clearly lacking out of the second reason. For the paper at hand, this imprecision on interpreting missing observations appears acceptable as the overall number of missing observations on our DV still remains manageable (about 300 out of 1275 observations).

Third, with respect to timing, note that t refers to the *year* in which a directive has been officially drawn up by the EU Commission. This implies that all transposition notifications referring to a particular directive are assigned to the year in which this directive has been officially drawn up in Brussels. This kind of temporal matching seems adequate for our theoretical set-up assuming that the government sets the agenda for the adequate transposition instrument(s) immediately after it has received a directive from Brussels.

[8]We cannot account for cases in which the member state has actually transposed but "forgotten" to notify transposition.

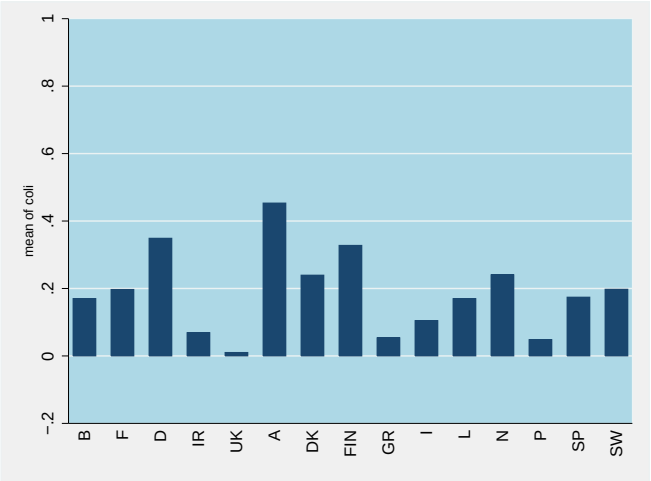

Figure 2.2: Primary transposition ratios per member state, averaged across year and policy areas

A given *year* t thus captures the governmental and economic constellations at that point in time which we assume crucial for the government's transposition *decisions*. Regarding time, let us further emphasize that $COLI_{ij,t}$ incorporates only, and *only* those reported transposition measures which have been notified *after* the adoption date of a particular directive. Practically, one finds notifications of transposition instruments dating back until the early 20th century. Again, this time restriction for reported transposition measures suits our theoretical set-up, as we seek to explain the government's transposition reactions *after* it has received a directive from Brussels.

The figures below accordingly display our DV $COLI_{ij,t}$ from three different perspectives: pooled mean *primary* transposition ratios per member state and per sector, *primary* transposition records per member state or sector over time and *primary* transposition ratios by country, sector and year. All graphical illustrations immediately reveal differences in *primary* transposition ratios along the three dimensions of our dataset, i.e. across countries i, sectors j and time t respectively. Complementing the graphs below, Tables 2.9, 2.10, 2.11 and 2.12 in the appendix demonstrate detailed summary statistics for $COLI_{ij,t}$.

Figures 2.2 and 2.3 provide an overall view on *primary* transposition ratios in the EU. We see that mean *primary* transposition ratios are generally rather small and only differ slightly across time when averaged across countries and sectors. However, once we

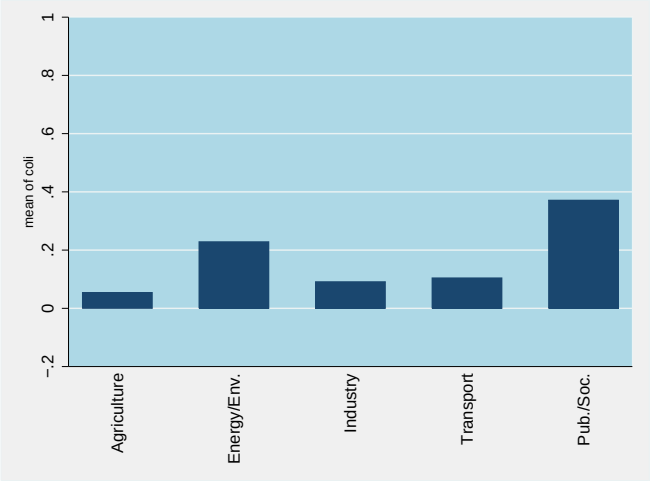

Figure 2.3: Primary transposition ratios per policy area, averaged across years and member states

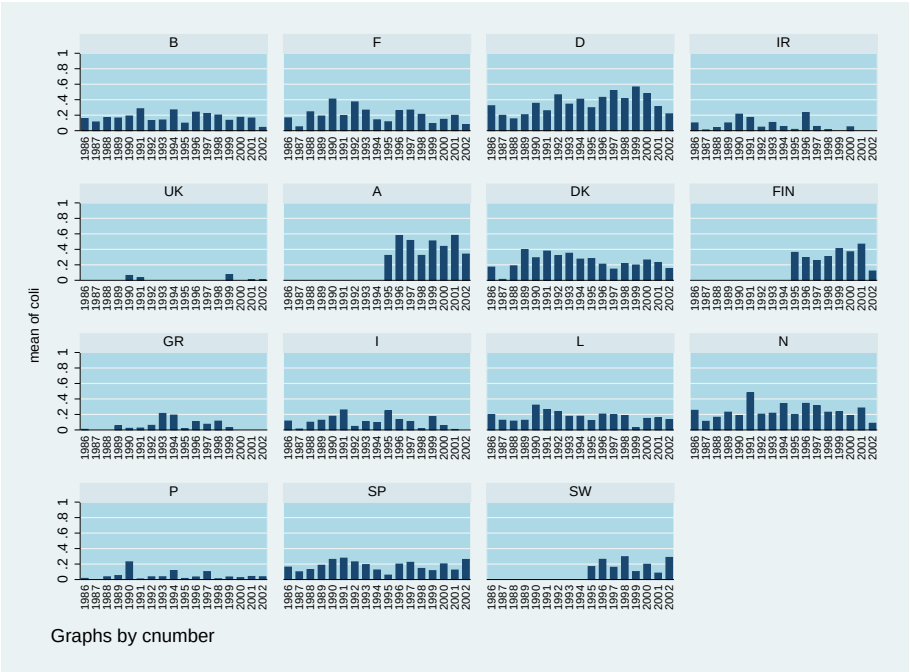

Figure 2.4: Primary transposition ratios per member state and year, averaged across policy areas

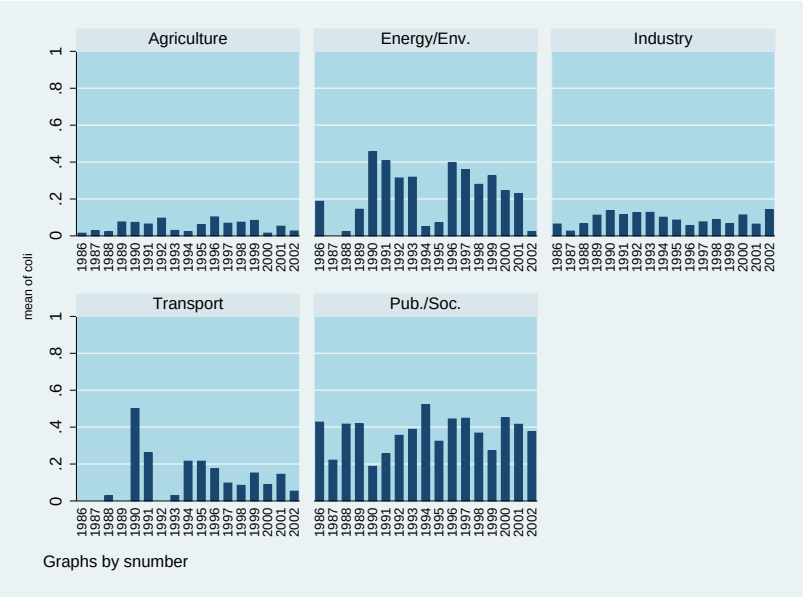

Figure 2.5: Primary transposition ratios per policy area and year, averaged across member states

compare *primary* transposition ratios across sectors and time averaged across member states we get a different impression in figure 2.5: cross-sector differences become clear both, in absolute values and over time. Apparently, *primary* transposition ratios are highest for *public/ social services* and the *energy/ environment* sector. In addition to the graphs below, summary statistics reveal overall *means* of .25 and .41 for *primary* transposition ratios in the *energy/environment* sector and *public/ social services*.

Further, take a look at the third kind of figures grasping the full spectrum of variation in our DV from a dynamic cross-country cross-sector view. Regarding *agriculture* and *transport* as frequently cited policy areas (see e.g. figures 2.10 and 2.8), *primary* transposition ratios are strikingly high in Germany (D) (mean ratios of .22 and .25 respectively) compared to the other member states. Except Austria (A) reveals an even higher *mean primary* transposition ratio for *agriculture* (.27). With regard to transport, four of the five Scandinavian countries show equally high or even higher *primary* transposition ratios over time resulting in a mean *primary* transposition ratio of e.g. 0.31 for Finland (FIN). This may hint at the proposed effect of national sector importance on *primary* transposition ratios according to H 3. Both, Austria and the Scandinavian countries, generally have a high stake in these two sectors of their national economies. Value added shares (vash) for both of these sectors are among the highest across EU-15

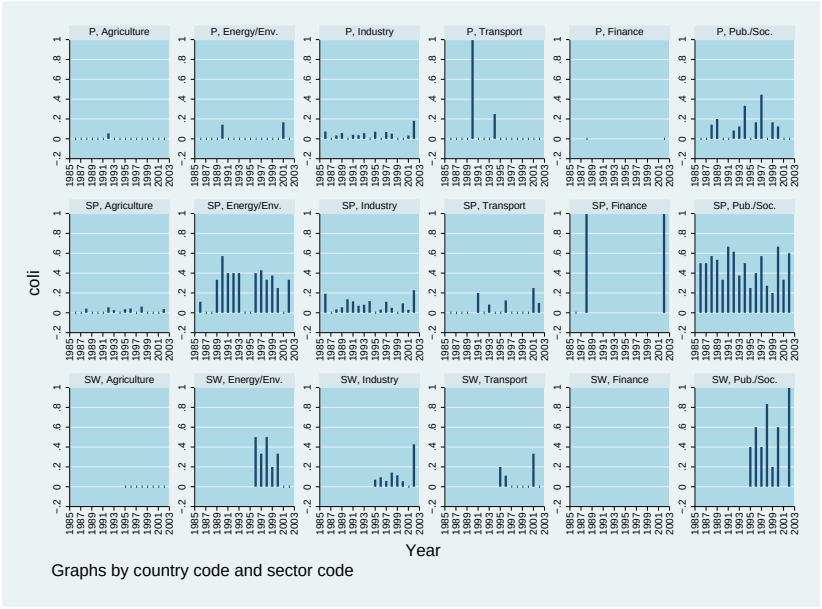

Figure 2.6: Primary transposition ratios per policy area and year for Portugal (P), Spain (SP) and Sweden (SW)

countries whereas for Germany's economy these sectors seem to play a subordinate role (see Tables 2.7 and 2.8 for details on vash).

As said before, for directives touching upon *energy/ environment* issues *primary* transposition rates are generally high. Regarding *primary* transposition dynamics, Figures 2.8, 2.10 and 2.9 also show differences in timing for this policy area: whereas B and D reveal peak *primary* transposition ratios for most years after 1995, F and particularly DK reach peak values for the early 90s. Following H 4, different policy cycles in B, D, F and DK as well as different government constellations may be accountable.

2.4.3 Independent variables

Sector characteristics

According to the literature on sector diversification (see e. g. Imbs (2003)), we straightforwardly take value added shares (*vash*) as indicator for *sector size*. Assuming that a larger sector size indicates greater economic and thus political importance of a sector we expect a positive effect on *primary* transposition according to H3. Looking at Tables 2.7 and 2.8 in the appendix, cross-country and cross-sector variations in sector sizes and sector developments over time become apparent at first sight: Generally speaking, the

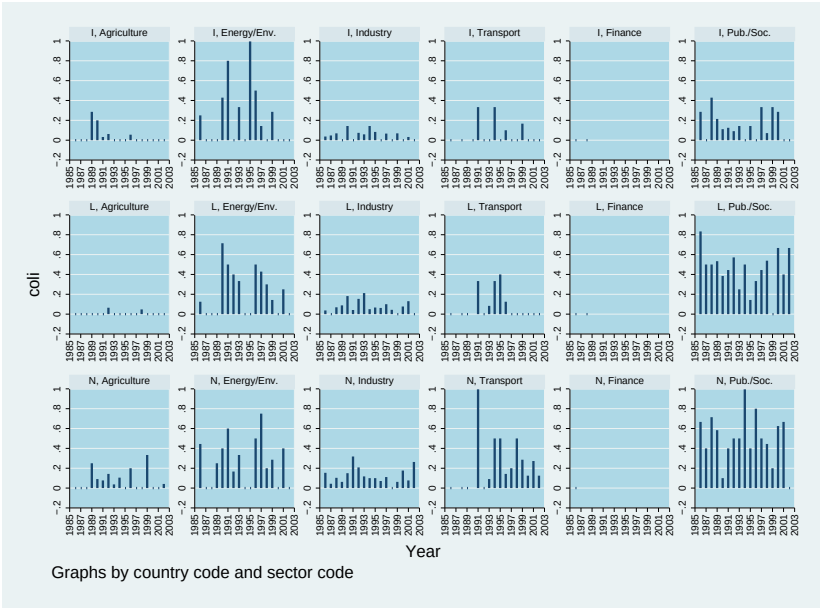

Figure 2.7: Primary transposition ratios per policy area and year for Italy (I), Luxembourg (L) and The Netherlands (N)

Figure 2.8: Primary transposition ratios per policy area and year for France (F), Germany (D) and United Kingdom (UK)

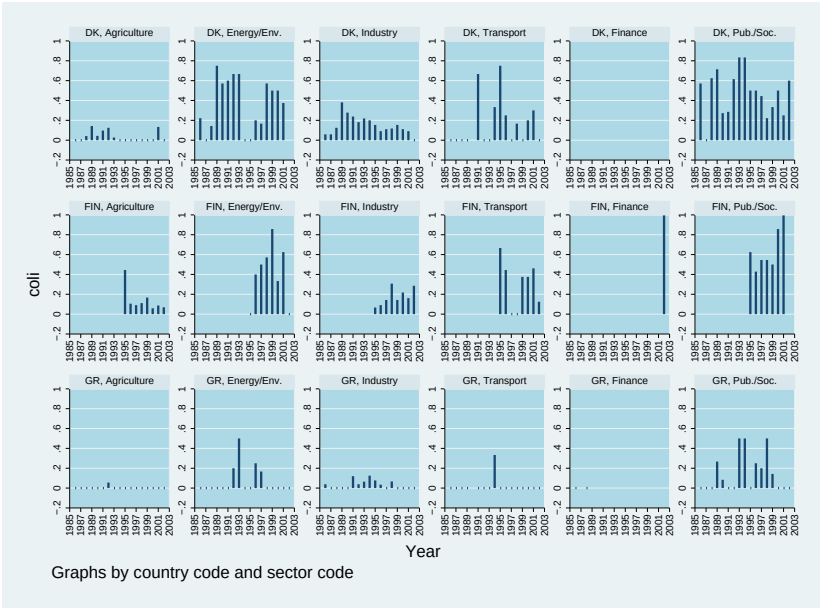

Figure 2.9: Primary transposition ratios per policy area and year for Denmark (DK), Finland (FIN) and Greece (GR)

Figure 2.10: Primary transposition ratios per policy area and year for Belgium (B), Ireland (IR) and Austria (A)

group/ sector characteristics	small group size	large group size
high interest specificity	agriculture, transport, energy/ environment	(finance) [12]
low interest specificity	–	public and social services, industry

Table 2.1: Sector classification according to the group theory of Olson (1965)

three most important sectors of all economies are the aggregate financial and public and social services as well as total manufacturing industries. Out of these, *finance* has taken the lead in all member states except for *public and social services* in Denmark, Spain and Sweden and *total manufacturing industries* in Finland and Ireland. Following these are *transport services (including storage)* with relatively high shares in Sweden (5.7% in 1994), Denmark (5.6% in 2002) and Finland (7% in 2002). Although trends seem rather similar for these aggregate sectors across EU members, levels differ markedly and confirm the structural changes from industrial to service societies taking place in the member states over the last two decades. According to Imbs (2003), employment shares (empsh) are frequently applied as alternative measure for sector size. We will thus replace *vash* by *empsh* in some of our model specifications. As for *vash*, data for *empsh* stems from the OECD STAN indicators 2002.

In the lack of data on the number of lobby groups active in a particular sector per country, we account for the potential national influence of lobby groups across sectors of the national economies by adding a dummy variable *lobby* to our model specification. In Table 2.1 we follow the group theory of Olson (1965) to distinguish sectors with a generally higher potential for lobbying activities from sectors with a generally lower potential for lobbying activities. According to Olson (1965), sectors with high interest specificity and smaller group size have a generally higher potential to organize as sectors in the other categories and are accordingly coded as 1. This is, of course, a very crude measure of sector-specific lobby effects. Future research should clearly aim for a more precise indicator in order to test H5.

Regarding H6, we create a dummy variable *technic* accounting for policy areas with a potentially higher number of directives referring to technical obligations for implementation. Looking at the sectors in our sample, *transport* and *energy and environment*

appear to be the rather technical ones and are accordingly coded with 1. As, by construction, *technic* correlates highly with *lobby* we will only add one at a time to our basic estimation model m1 in Table 2.3.

Political-institutional country-specific features

Testing H1, we include the variable *vps* of Tsebelis's online dataset supposing that more veto players may hinder the government to choose *primary* legislative transposition devices. The number of veto player variable thereby entails the number of coalition parties, but goes beyond it by adding systemic features hindering the legislative process.

According to H2a and H2b two types of measures assess the *strengths of national governments* in our empirical analysis. The first class of indicators tries to capture the position of a government within the respective executive-legislative relationship. Specifically, *govcontrol* indicates a government's agenda-control in parliamentary (legislative) decision-making. Data stems from Döring (1995*b*). Note for the interpretation of our estimation results that higher scores on *govcontrol* refer to less control of the parliamentary agenda by the government. Second, we turn to coalition governments in more detail and take the fractionalisation index *fraccab* from the file collection of Cusack & Engelhardt (2002) as indicator for the degree of fractionalisation within a government. The more coalition parties, i.e. the more fractionalised and weaker a government, the generally less legislative output according to Kreppel (1997)'s analysis and H2b. Due to their contextual correlation we either add *vps* or *fraccab* to our model specification, but not both at the same time.

Following Döring (2004), H4 considers *policy cycles* to play a role for the government's transposition decision. In order to broadly test the effect of policy cycles we include a dummy variable *election* for years in which a parliamentary election takes place in a specific country. Data stems from the variable *wahldatu* in the file collection of Cusack & Engelhardt (2002).

EU membership benefits

Assessing the economic benefits stemming from EU membership in proposition H7, we add a variable *neteureceipts*. It measures the yearly amount of fiscal transfers a country

is receiving from Brussels minus its budgetary contributions to the EU. Thus, in line with Perkins & Neumayer (2007) we opt for *net* EU transfers rather than for the sum of mere EU transfers, supposing that it is the fact of being a 'net EU recipient' or a 'net EU payer' that makes a difference for a country's transposition rationale. Data was collected from the respective German statistical yearbooks published by DeStatis.

Control variables

Besides our main explanatory variables testing H1-H7, we include control variables to our basic model specification accounting for additional systemic, macroeconomic and EU-level influences.

On top of the veto player variable, we insert *personal* to our model in order to control for system inherent features fostering the level of parliamentary fragmentation. More precisely *personal*, indicates the influence of the personal vote in a voting system according to Hallerberg (2004). It is an index ranging from 0.2 for the Netherlands to 7.6 for Finland. Hallerberg (2004) argues that the more personalized a voting system is, the greater its parliamentary fragmentation. We thus expect a positive relationship between voting systems with a high influence of the personal vote and *primary* transposition ratios as in more fragmented parliaments effective opposition in plenary would probably become more difficult.

We additionally include logged *gdppcr_ln* in real terms in order to account for the relative wealth of a country. *gdppcr_ln* controls for the alternative hypothesis that administrations of wealthier countries are more developed and more effective and thus able to generally transpose more.

Finally, as a complement to our two measures of sector size *vash* and *empsh*, we add labour compensation per employee, *labemp*, to assess a sector's national economic importance. Data stems from the OECD STAN Indicators 2002.

2.4.4 Estimation model and method

Linking theory to practice, we opt for a generalized linear regression model (GLM) and the quasi-maximum likelihood estimator (QMLE) suggested by Papke & Wooldridge (1996). We find this particular model specification and estimation method adequate for

our data structure, especially for dealing with our *bounded fractional dependent variable COLI*. The standard way of handling this kind of dependent variable would be a log-odds transformation of the dependent variable: $\log(y/(1-y))$. However, clearly, this approach does not allow for the dependent variable to be equal to zero or one without further data adjustments. Since our dataset contains many observations on the extremes and especially on zero, Papke and Wooldridge's GLM and QML estimation method seems to be preferable (see Papke & Wooldridge (1996)).

Additional properties of our sample such as its *unbalancedness* including a *large number of missing values of* our dependent variable as well as its *time-series structure* turned out to be less problematic when taking a closer look at the data. In particular, selection bias does not seem to be a real problem as only 22 of the 157 missing observations of our dependent variable are due to non-notification of transposition instruments[9]. All other missing observations indicate that there have been no directives adopted in Brussels needing to be transposed by a member state in a particular sector. As mentioned above, this is the case for Austria, Finland and Sweden before 1995, i.e. their official admission date. The 22 non-notifications further seem to be distributed randomly among member states and sectors as descriptive statistics have shown. Thus, in the case of random selection we do not need to fear selection bias.

Regarding the time-series structure of our data, we have further tested for a dynamic model specification and estimated standard Arellano & Bond (1991) dynamic panel regressions. These have revealed that the dynamic effects in our data are not pronounced as the lagged dependent variable turned out insignificant in all model specifications for the one-step Arellano & Bond (1991) estimations. This confirms our model choice, viz. the aforementioned three-dimensional generalized linear model (GLM) which Papke & Wooldridge (1996) formulate as the regression:

$$E(y_{ijt}|x_{ijt}, z_{jt}) = G(x_{ijt}\beta, z_{jt}\gamma) \tag{2.1}$$

where $j = 1, \ldots, 15$ is the index denoting the member states, $i = 1, \ldots, 5$ that for economic sectors and $t = 1, \ldots, 16$, indicates years, as described above in detail. x_{ijt} is the vector of our set of independent sector specific variables[10] varying across countries

[9] In our dataset non-notification of transposition instruments is indicated by anzcoyr2 == 0.

[10] Respectively: $\{vash, empsh, labemp, technic, lobby\}$.

and sectors as well as time in the case of *vash, empsh* and *labemp*. z_{jt} stands for our set of politico-institutional and macroeconomic independent variables[11] differing only across countries and time except for the time-invariant dummy variables, i.e. *election*. β and γ indicate the two corresponding sets of parameters to be estimated. Following Papke & Wooldridge (1996), $G(\cdot)$ is a known function satisfying $0 < G(\delta) < 1$ for all $\delta \in \Re$ ensuring that the predicted values of y_{ijt} lies within $[0, 1]$. Importantly, equation (1) is well defined even if y_{ijt} takes on 0 or 1 with positive probability. Usually, $G(\cdot)$ is decided to be a cumulative distribution function (cdf), which most frequently is either the logistic function or the standard normal cdf. In our case we opt for the probit function as the logistic one led to numerical convergence problems for some of our model specifications. The error term entailed by (1) is defined implicitly by $E(\varepsilon_{ijt}|x_{ijt}, z_{it}) = 0$. Further, we add a constant β_0 into our regression as well a linear time trend to control for the non-stationarity of our macroeconomic independent variables.

The coefficients β and γ in (1) can consistently be estimated via non-linear least squares (NLS). However, according to Papke & Wooldridge (1996), heteroscedasticity is likely to be present since $Var(y_{ijt}|x_{ijt}, z_{jt})$ is unlikely to be constant when $y_{ijt} \in [0, 1]$ and thus NLS is not efficient. Papke & Wooldridge (1996) therefore suggest quasi-maximum likelihood estimation by maximizing the Bernoulli log-likelihood function, given by

$$l_{ijt}(\beta, \gamma) \equiv y_{ijt} \log[G(x_{ijt}\beta, z_{jt}\gamma)] + (1 - y_{ijt}) \log[1 - G(x_{ijt}\beta, z_{jt}\gamma)]. \tag{2.2}$$

The resulting *Bernoulli-QMLEs* $\hat{\beta}$ and $\hat{\gamma}$ are accordingly given by

$$\max_{\beta,\gamma} \sum_{j=1}^{15} \sum_{i=1}^{5} \sum_{t=1}^{16} l_{ijt}(\beta, \gamma) \tag{2.3}$$

This estimator is consistent and asymptotically normal *regardless* of the distribution of y_{ijt} conditional on x_{ijt}, z_{it} . Further, it is efficient, see Papke & Wooldridge (1996). In order to additionally account for heteroscedasticity of unknown form, we use robust standard errors in all model specifications presented in Tables 2.2 and 2.3.

All our estimations were carried out in STATA 8.2 applying the *xtgee*-command for generalized linear panel estimation. We specify a binomial distribution for our dependent variable, a probit link function and an independent within-group correlation structure.

[11] Respectively: $\{fraccab, govcontrol, election, vps, personal, gdppcr\_\ln, neteureceipts\}$.

2.5 Empirical results

Tables 2.2 and 2.3 below display the estimated effects of our various political-economic variables on *primary* to total transposition ratios across countries and sectors. Tables 2.6, 2.11 and 2.12 in the appendix give an overview on variable definitions, data sources and summary statistics which might be useful for following our interpretations.

Table 2.2 includes *netEUreceipts* to the model specifications displayed in 2.3. We chose to display two separate tables as the number of observations changes remarkably in models m1n to m6n, i.e. when *netEUreceipts* is added to models m1 to m6. Models m1 and m1n are the respective basic models. Due to their strong correlation, we subsequently add the sector characteristics *vash*, *empsh*, *lobby* and *technic*. In addition to the models presented in Tables 2.2 and 2.3, we provide further estimation results in our STATA do-files which are available from the author upon request. These contain specifications including the number of veto players *vps*, a dummy for bicameral systems as well as legal system dummies. As these variables have turned out insignificant (except for the German and Common law dummy which is not surprising according to the earlier provided descriptive statistics for the UK, Ireland, Austria and Germany), we leave them aside in our final model specifications presented in 2.2 and 2.3.

Looking at the estimated coefficients of models m1n-m6n and m1-m6 we find the estimated coefficient signs and sizes to be quite robust across specifications. Only the estimated coefficients of value added and employment shares (*vash* and *empsh*) remarkably change their signs and significance levels across specifications. Apparently, controlling for certain sector specific effects, such as group size and interest specificity in the case of *lobby* or *technicality* of a sector in the case of *technic* affects the estimated coefficient sizes and signs of our sector size measures. Further, some of our political-institutional variables, i.e. *fraccab* and *personal* as well as *election* become statistically insignificant when adding *neteureceipts*. This may be due to a non-random reduction of our sample size. Overall, however, the model fit seems reasonably high looking at the sizes of the *chi2*-tests against the null hypothesis of all coefficients being zero.

Feeling reasonably satisfied with the validity of our statistical analysis, we proceed to interpreting the estimated coefficient signs and significance levels corresponding to our theoretical propositions H1-H7. First, regarding *political-institutional effects* on trans-

coli	m1n	m2n	m3n	m4n	m5n	m6n
fraccab	0.396	0.403	0.379	0.389	0.444 *	0.462 **
	(0.247)	(0.246)	(0.252)	(0.251)	(0.247)	(0.236)
govcontrol	0.094 **	0.092 **	0.100 **	0.100 **	0.096 **	0.100 ***
	(0.044)	(0.045)	(0.044)	(0.043)	(0.040)	(0.037)
election	-0.103 *	-0.104 *	-0.097	-0.098	-0.094	-0.098
	(0.060)	(0.060)	(0.062)	(0.062)	(0.061)	(0.061)
neteureceipts	-2.55e-05 *	-2.55e-05 *	-2.70e-05 **	-2.72e-05 **	-2.77e-05 ***	-2.68e-05 ***
	(1.53e-05)	(1.52e-05)	(1.36e-05)	(1.31e-05)	(9.82e-06)	(9.50e-06)
empsh	0.008 *		-0.003		-0.042 ***	
	(0.004)		(0.006)		(0.010)	
labemp	0.005 ***	0.005 ***	0.008 ***	0.008 ***	0.004 ***	0.005 ***
	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)
personal	-0.032	-0.032	-0.035	-0.035	-0.042	-0.043
	(0.030)	(0.030)	(0.031)	(0.031)	(0.030)	(0.029)
gdppcrln	0.746 ***	0.740 ***	0.813 ***	0.813 ***	0.659 ***	0.622 ***
	(0.255)	(0.256)	(0.257)	(0.255)	(0.238)	(0.235)
year	0.015	0.014	0.014	0.013	0.016	0.016
	(0.014)	(0.014)	(0.014)	(0.014)	(0.012)	(0.011)
vash		0.006		-0.008		-0.048 ***
		(0.005)		(0.006)		(0.011)
technic			-0.567 **	-0.694 ***		
			(0.254)	(0.249)		
lobby					-1.587 ***	-1.508 ***
					(0.354)	(0.333)
cons	-28.475	-27.982	-26.281	-25.448	-28.961	-29.090
	(28.567)	(28.853)	(27.908)	(27.864)	(23.959)	(23.368)
N of obs	665	666	665	666	665	666
N of groups (country * sector)	71	72	71	71	71	72
Obs per group (avg)	9.4	9.3	9.4	9.3	9.4	9.3
WALD chi2	80.573	77.464	78.516	80.401	117.100	125.283

Table 2.2: Generalized estimation equation results: including net EU receipts; *Notes: We use robust standard errors and include a linear time trend throughout.*

coli	m1	m2	m3	m4	m5	m6
fraccab	0.465 *	0.483 *	0.436 *	0.454 *	0.504 **	0.545 **
	(0.260)	(0.262)	(0.259)	(0.258)	(0.253)	(0.232)
govcontrol	0.089 **	0.085 **	0.095 **	0.095 **	0.091 **	0.095 ***
	(0.042)	(0.043)	(0.041)	(0.041)	(0.039)	(0.034)
election	-0.111 **	-0.111 **	-0.108 **	-0.108 **	-0.107 *	-0.108 *
	(0.054)	(0.053)	(0.055)	(0.055)	(0.055)	(0.056)
empsh	0.008 *		-0.002		-0.043 ***	
	(0.004)		(0.006)		(0.012)	
labemp	0.005 ***	0.005 ***	0.008 ***	0.008 ***	0.004 ***	0.005 ***
	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)
personal	-0.056 *	-0.056 *	-0.059 *	-0.059 *	-0.068 **	-0.069 **
	(0.030)	(0.030)	(0.030)	(0.030)	(0.029)	(0.029)
gdppcrln	0.898 ***	0.880 ***	0.975 ***	0.969 ***	0.827 ***	0.773 ***
	(0.244)	(0.246)	(0.249)	(0.245)	(0.223)	(0.214)
year	0.014	0.014	0.013	0.012	0.015	0.015
	(0.014)	(0.014)	(0.014)	(0.014)	(0.012)	(0.011)
vash		0.005		-0.009		-0.053 ***
		(0.004)		(0.006)		(0.011)
technic			-0.570 **	-0.724 ***		
			(0.270)	(0.259)		
lobby					-1.610 ***	-1.617 ***
					(0.395)	(0.329)
cons	-26.100	-25.690	-23.263	-22.182	-26.567	-26.680
	(28.919)	(29.170)	(27.997)	(27.763)	(24.012)	(23.098)
N of obs	740	742	740	742	740	742
N of groups (country * sector)	72	72	72	72	72	72
Obs per group (avg)	10.3	10.3	10.3	10.3	10.3	10.3
WALD chi2	76.230	74.492	81.120	87.030	96.478	108.475

Table 2.3: Generalized estimation equation results: excluding net EU receipts

position mode, we find parliamentary agenda-control by the government, *govcontrol*, to insert the contra-intuitive negative significant effect proposed by Döring (1995*a*) and Henning (1995) and formulated in H2a (remember that higher scores on *govcontrol* indicate *less* governmental control of the parliamentary agenda). In countries where G withholds a strong position in the national executive-legislative relationship transposition via parliament seems to be less frequent. Further, against our proposition H2b, the effect of cabinet fractionalisation *fraccab* on *primary* transposition ratio turned out positive and significant (except for the models in Table 2.2). This is, however, well in line with our result on H2a and further strengthens the argument of Döring (1995*a*) and Henning (1995). Further surprising on first sight, but in line with these results is a negative effect of a high score on the personal voting index *personal*. Apparently, the more fragmented the national parliament the less *primary* legislation is used for transposition.

Above this, policy cycles seem to play a statistically significant role in most specifications. Corresponding to H4, we find a negative effect of *election* on *primary* transposition ratios. In years in which a parliamentary election takes place, member states apparently transpose less via *primary* legislation.

It remains to mention with respect to the anticipated political-institutional effects that H1 cannot be approved by our empirical investigation. The estimated coefficient of the number of veto-players *vps* turned out with the anticipated negative sign but insignificant and therefore has been left aside in the final model specifications displayed in Tables 2.2 and 2.3. STATA-do-files containing these results are, however, available from the author upon request.

With respect to *economic sector characteristics*, we find value added shares *vash* and employment shares *empsh* to assert the anticipated positive and, in the case of *empsh*, significant effect on *primary* transposition ratios according to H3. However, when controlling for technical sectors, i.e. energy/ environment and transport, or sectors with a high potential for lobbying activities, i.e. agriculture, energy/ environment and transport, both of the estimated coefficients change their signs and become highly significant (see models 2 and 3). The estimated negative and significant coefficients of *technic* and *lobby* further support hypotheses H5 and H6. However, our measures for testing H5 and H6 are quite crude making these variables and their interaction with *vash* and *empsh*

difficult to interpret. Data quality thus needs to be improved before finally judging hypotheses H3, H5 and H6. Interesting to note is a positive and strongly significant effect of our alternative measure of sector importance, i.e. sectoral labour compensation *labemp*.

Regarding EU-membership benefits, we notice *primary* transposition ratios to decrease the more net transfers a member state receives from the EU. Apparently, net EU recipients transpose more via *secondary* legislative devices and seem less prone against transposition delays (see König et al. (2005)) and infringement procedures (see Perkins & Neumayer (2007)).

Finally, a country's general wealth approxied by *gdppcr_ln* seems to positively affect the ratio of *primary* to total transpositions.

2.6 Conclusions

Our study on the national legal transposition modes reveals that all three hypothesized factors matter for EU directives: politico-institutional constellations, economic sector characteristics as well as EU membership benefits. Specifically, we find that *primary* to total transposition ratios *decrease* with the strength of a government, both relative to opposition in parliament and within the government coalition. *Primary* transposition devices are employed less towards the end of an election period and if a MS is a 'net-recipient' of EU transfers. Wealthier countries, however, generally transpose more via parliament. Regarding policy areas, we find that *secondary* transposition devices are preferably used for directives touching upon technical sectors or sectors with a high lobbying potential. For directives touching upon sectors with high labour compensations per employee governments, however, seem to prefer *primary* transposition devices. Our main sector characteristic, i.e. sector importance, came out playing a significant role for *primary* transposition ratios in most model specifications though the direction of the effect still needs to be further specified.

These results are innovative since, so far, the transposition and implementation literature lacks a cross-sector view on national transposition performances – though cross-sector analyses on the issue of EU law implementation are common in practitioners' publications as the EU Commission's *Internal Market Scoreboard*. Looking at the results of our first attempt of a cross-sector panel investigation on the legal transposition instru-

ment(s) used by member states, strongly suggests paying more attention to sector-specific effects in this research area.

With respect to theory, constructing a full theoretical model explaining first a government's general willingness to transpose EU directives and second the nationally preferred modes of transposition instruments remains an exercise left to future research. Although desirable, this was beyond the scope of our empirically focused study. However, our empirical results may serve to motivate efforts in enhancing theory on these issues. Hopefully, we assist this endeavor by providing a framework structuring the government's decision path and sketching its utility function when it comes to implementing a directive received from Brussels. In this regard, it might further be worthwhile thinking of possible interaction effects between political-institutional, economic sector characteristics and national legal procedures.

Concluding, we would like to remark on possible improvements of our data quality and applied econometrics. Besides our effort in presenting a sound projection of the transposition reality, our empirical analysis is limited by the need to collect the data within a reasonable time frame. Future studies should clearly aim at constructing a comprehensive index for 'government strength' according to an elaborated, clear-cut theoretical argument, improving measures on sector-specific lobbying potential and adding EU-level characteristics of directives such as word count, initiating institution and decision-time taken. The categorization of our dependent variable should be worked on and the 'grey-zone' between *primary* and *secondary* transposition instruments further analysed and specified. With respect to our estimations, future analysis could specify the error variance structure directly as an alternative to our use of robust standard errors. This would be a means for modeling theoretically plausible group effects inherent to our data structure. Nevertheless, we find our results useful in that they may open the door to a new political-economic, cross-sector dimension in studies on EU law transposition and implementation by the member states, both from a theoretical and an empirical perspective.

2.A Tables

joint class		CELEX		STAN		ISIC	
number	name	number	name	number	name	number	description
1	agriculture	3, 4	agriculture and fisheries	1	agriculture, hunting, forestry and fishing	01 to 05	
2	energy/ environment	12,15	energy/environment, consumer and health protection	4 + 18	electricity, gas and water, energy producing activities	10 to 12, 23, 40, 41	mining and quarrying, manufacture of coke, refined petroleum products and nuclear fuel; electricity, gas, steam and hot water supply; collection, purification and distribution of water
3	industry	13, 2, 17, 11	industrial policy and internal market	3 + 19	total manufacturing, wholesale and retail trade; repair of motor vehicles, motorcycles and personal and household goods	15 to 37, 23, 50 to 52	manufacturing of food and beverages, etc.; manufacture of coke, refined petroleum products and nuclear fuel; wholesale and retail trade; repairs
4	transport	7	transport policy	7	transport and storage	60 to 63	land, water and air transport
5	public and social services	5, 6	freedom of movement of workers and social policy; right to establishment and freedom to provide services	12 + 13 + 14 + 15	community, social and personal services (- private households) = total services - financial services - transport services	75 to 99, 80,85	public administration and defense, compulsory social security, education, health and social work activities

Table 2.4: Classification of policy areas

Table 2.5: Construction of dependent variable (DV)

Variable name	Definition
Directive-based data coded by country, sector and year:	
$x_{r,ijt}(anzprim_{r,ijt})$	the number of *primary* transposition instruments that member state i declared in sector j for directive r at any time after the adoption date t[16] of the directive r (= quasi-continuous number).
$y_{r,ijt}(anzcoyr_{r,ijt})$	the total number of (i.e. *primary* as well as *secondary*) transposition instruments that member state i declared in sector j for directive r at any time after the adoption date t of the directive r (= quasi-continuous number).
$COLI_{r,ijt}$	$(x_{r,ijt}/y_{r,ijt})$ ratio of *primary* to total transposition instruments that member state i declared in sector j for each directive r at any time after the adoption date t of a directive r (= percentage ratio bounded between 0 and 1).
$COLI\_d_{r,ijt}$	$COLI_{r,ijt}$ coded as dummy variable: $COLI\_d_{r,ijt} = \begin{cases} 1 & \text{if } COLI_{r,ijt} > 0 \\ 0 & otherwise. \end{cases}$
Sector-based data coded by country and year:	
$COLI_{ijt}$	$\frac{1}{R}\sum_{r=1}^{R} COLI\_d_{r,ijt}$ for the number of directives $r = \{1, \ldots, R\}$ in a given sector j, member state i and year t (= percentage ratio bounded between 0 and 1).

independent variable	hypothesis	expected effects	definition	data source
political-institutional variables				
vps	H1	-	Number of veto players	Tsebelis, G. online dataset: `http://www.polisci.ucla.edu/tsebelis/`
govcontrol	H2a	-	Government control of plenary agenda index ranging from 1 "The government alone determines the plenary agenda" to 7 "The Chamber itself determines the agenda"	Döring (1995*a*, Table 7.1)
fraccabv	H2b	-	Index of fractionalisation of cabinet, ranging from 0 to 0.78.	Cusack & Engelhardt (2002)
election	H4	-	Dummy variable where 1 indicates a parliamentary election in this year for a specific member state; data on election dates stems from the variable wahldatu	Cusack & Engelhardt (2002)
economic sector characteristics				
vash	H3	+	Value added shares relative to the total economy; each industry's value added as a percentage of value added for the total economy	OECD STAN Indicators 2004
empsh	H3	+	Employment shares in the total economy; shows each industry's employment as a percentage of employment for the total economy.	OECD STAN Indicators 2004
technic	H5	-	Dummy for technical sectors where 1 indicates a technical sector, i.e. transport and energy/ environment	Own data
lobby	H6	-	Dummy for sectors with high potential for lobbying activities according to Olson's group theory, i.e. agriculture, energy/ environment and transport.	Own data
EU-membership benefits				
neteureceipts	H7	+	Netrec-Netpay: Net EU Revenues - Net EU Payments; total billions German Mark (DM)	DeStatis: Statistisches Jahrbuch 2002
control variables				
personal		+	Personal vote index indicating the relative incentives of a given system for the personal vote ranging from 0.2 to 7.6 for 18 European states.	Döring & Hallerberg (2004, Table 1.2)
labemp		+	Labour compensation per employee for the total economy; ratio of labour compensation for a particular industry to the number engaged divided by the ratio of labour compensation for the total economy to the number of persons engaged for the total economy	OECD STAN Indicators 2004
bicam		+	Dummy variable for bicameral vs. unicameral legislatures	CIA (2005)
gdppcr_ln		+	GDP per capita in real terms	Eurostat

Table 2.6: Operationalisation and data sources for independent variables

3 most important sectors	vash per year in %			% change	*additional sectors*	vash per year in %			% change
	1986	1994	2000			1986	1994	2000	
Italy					Italy				
Finance	19.5	22.7	26.0	6.5	Agriculture	4.4	3.2	2.6	−1.8
Industry	42.3	38.8	37.0	−5.3	Transport	5.6	5.7	5.1	−0.6
Public and social services	17.1	18.7	18.5	1.4	Enerty/ Enviroment	1.8	2.3	2.2	0.3
Luxembourg					Luxembourg				
Finance	32.2	38.9	44.4	12.2	Agriculture	1.9	1.0	0.7	−1.2
Public and social services	15.7	16.3	14.7	−1.1	Transport	..	..	..	..
Industry	36.5	27.0	23.0	−13.5	Energy/ Environment	3.2	2.7	2.1	−1.1
The Netherlands					The Netherlands				
Finance	18.3	22.5	26.4	8.1	Agriculture	4.4	3.6	2.8	−1.6
Public and social services	24.3	23.4	22.0	−2.2	Transport	4.8	5.0	4.8	−0.1
Industry	33.4	32.9	31.2	−2.1	Energy/ Environment	2.2	1.9	1.5	−0.8
Portugal					Portugal				
Public and social services	17.4	23.4	..	6	Agriculture	9.4	5.2	..	−4.2
Industry	43.2	37.8	..	−5.4	Transport	5.6	3.7	..	−1.9
Finance	13.5	17.8	..	4.3	Energy/ Environment	2.9	3.3	..	0.4
Sweden					Sweden				
Public and social services	..	24.5	24.3	−0.1	Transport	5.8	5.7	5.7	−0.1
Finance	19.2	23.7	24.6	5.4	Agriculture	4.0	2.7	1.9	−2.1
Industry	35.4	32.8	34.2	−1.2	Energy/ Environment	3.2	3.3	2.4	−0.8
UK					UK				
Finance	20.1	24.2	27.2	7.1	Agriculture	2.1	1.7	1.0	−1.1
Public and social services	15.2	21.7	21.6	6.3	Energy/ Environment	2.9	7.3	6.3	3.4
Industry	36.7	34.7	32.3	−4.4	Transport	5.2	5.0	4.9	−0.3
Austria					Austria				
Finance	16.6	20	23.6	7	Agriculture	3.8	2.7	2.3	−1.5
Industry	22.7	19.4	20.5	−2.2	..	..	..	..	..
Public and social services	21.0	22.0	19.8	−1.2	..	..	..	..	..
Belgium					Belgium				
Finance	21.4	25.5	27.9	6.5	..	..	..	..	..
Public and social services	24.1	24.0	24.6	0.5	..	..	..	..	..
Industry	22.5	19.6	1.7	−3.8	..	..	..	..	..

Table 2.7: Value added shares of six selected industries in Italy, Luxembourg, the Netherlands, Portugal, Sweden, the UK, Austria, Belgium; 1986-2002, *Source: OECD STAN Indicators 2002*

3 most important sectors	vash per year in %			% change	*additional sectors*	vash per year in %			% change
	1986	1994	2000			1986	1994	2000	
Germany					Germany				
Finance	22.0	26.9	..	4.9	..	..	..	..	..
Industry	30.6	23.1	..	−7.5	..	..	..	..	..
Public and social services	19.8	21.4	..	1.6	..	..	..	..	..
Denmark					Denmark				
Public and social services	24.5	26.7	26.6	2.1	Transport	4.9	5.4	5.6	0.7
Finance	20.7	23.4	24.3	3.6	Agriculture	5.0	3.3	2.3	−2.7
Industry	18.5	16.8	15.6	−2.9	..	..	..	..	..
Spain					Spain				
Public and social services	17.8	20.6	20.4	2.6	Agriculture	5.8	4.7	3.2	−2.6
Finance	17.6	18.5	20.0	2.4	Transport and storage	5.7	5.5	..	−0.2
Industry	23.8	18.3	16.8	−7	..	..	..	..	..
Finland					Finland				
Industry	24.1	23.6	23.5	−0.6	Transport and storage	6.7	7.5	7.0	0.3
Public and social services	21.1	23.3	21.6	0.5	Agriculture	6.7	5.2	3.5	−3.2
Finance	15.7	19.1	21.4	5.7	..	..	..	..	..
France					France				
Finance	24.6	28.2	30.5	5.9	Health and social work	5.6	6.5	6.8	1.2
Public and social services	21.4	23.0	23.7	2.3	Construction	5.7	5.5	4.9	−0.8
Industry	32.1	18.3	17.5	−14.6	..	..	..	..	..
Greece					Greece				
Finance	15.2	20.6	21.2	6.0	..	11.5	10.4	7.0	−4.5
Public and social services	16.9	19.5	21.1	4.2	..	..	..	..	..
Industry	17.8	14.0	11.8	−6.0	..	..	..	..	..
Ireland					Ireland				
Industry	26.1	27.1	32.9	6.8	Agriculture	10.0	8.5	3.5	−6.5
Finance	16.8	16.4	20.2	3.4	..	..	..	..	..
Community	19.2	21.2	16.2	−3.0	..	..	..	..	..

Table 2.8: Value added shares of six selected industries in Germany, Denmark, Spain, Finland, France, Greece and Ireland; 1986-2002, *Source: OECD STAN Indicators 2002*

country	variable	obs	mean	std. dev.	min	max
B	coli	83	0.17	0.21	0	0.80
F	coli	84	0.20	0.22	0	0.80
D	coli	84	0.35	0.30	0	1.00
IR	coli	82	0.07	0.16	0	0.80
UK	coli	84	0.01	0.05	0	0.38
A	coli	39	0.45	0.32	0	1.00
DK	coli	83	0.24	0.25	0	0.83
FIN	coli	39	0.33	0.26	0	1.00
GR	coli	84	0.05	0.12	0	0.50
I	coli	83	0.10	0.18	0	1.00
L	coli	83	0.17	0.22	0	0.83
N	coli	83	0.24	0.25	0	1.00
P	coli	85	0.05	0.13	0	1.00
SP	coli	84	0.17	0.21	0	0.67
SW	coli	38	0.20	0.26	0	1.00

Table 2.9: Summary statistics for DV per country

sector	variable	obs	mean	std. dev.	min	max
agriculture	coli	228	0.05	0.10	0	0.44
energy/ environment	coli	226	0.23	0.26	0	1.00
industry	coli	228	0.09	0.09	0	0.45
transport	coli	211	0.10	0.20	0	1.00
pub./ soc. services	coli	225	0.37	0.29	0	1.00

Table 2.10: Summary statistics for DV per sector

country	sector	variable	obs	mean	std. dev.	min	max
Belgium (B)	agriculture	coli	17	0.02	0.04	0.00	0.13
	energy/ environment	coli	17	0.29	0.24	0.00	0.67
	industry	coli	17	0.10	0.05	0.03	0.21
	transport	coli	15	0.03	0.09	0.00	0.33
	pub./ soc. services	coli	17	0.38	0.21	0.00	0.80
France (F)	agriculture	coli	17	0.11	0.11	0.00	0.30
	energy/ environment	coli	17	0.26	0.27	0.00	0.80
	industry	coli	17	0.12	0.09	0.00	0.29
	transport	coli	16	0.03	0.09	0.00	0.33
	pub./ soc. services	coli	17	0.46	0.21	0.00	0.75
Germany (D)	agriculture	coli	17	0.22	0.12	0.00	0.38
	energy/ environment	coli	17	0.40	0.31	0.00	0.80
	industry	coli	17	0.19	0.15	0.00	0.45
	transport	coli	16	0.25	0.33	0.00	1.00
	pub./ soc. services	coli	17	0.68	0.21	0.33	1.00
Ireland (IR)	agriculture	coli	17	0.01	0.03	0.00	0.10
	energy/ environment	coli	17	0.11	0.22	0.00	0.80
	industry	coli	17	0.03	0.03	0.00	0.08
	transport	coli	15	0.01	0.03	0.00	0.13
	pub./ soc. services	coli	16	0.19	0.23	0.00	0.75
United Kingdom (UK)	agriculture	coli	17	0.01	0.01	0.00	0.04
	energy/ environment	coli	17	0.05	0.11	0.00	0.38
	industry	coli	17	0.01	0.01	0.00	0.03
	transport	coli	16	0.00	0.00	0.00	0.00
	pub./ soc. services	coli	17	0.00	0.00	0.00	0.00
Austria (A)	agriculture	coli	8	0.27	0.09	0.13	0.41
	energy/ environment	coli	8	0.53	0.34	0.00	0.86
	industry	coli	8	0.17	0.08	0.09	0.32
	transport	coli	7	0.40	0.27	0.00	0.86
	pub./ soc. services	coli	8	0.89	0.14	0.67	1.00
Denmark (DK)	agriculture	coli	17	0.04	0.05	0.00	0.14
	energy/ environment	coli	16	0.37	0.27	0.00	0.75
	industry	coli	17	0.15	0.09	0.00	0.38
	transport	coli	16	0.17	0.24	0.00	0.75
	pub./ soc. services	coli	17	0.48	0.23	0.00	0.83
Finland (FIN)	agriculture	coli	8	0.14	0.13	0.06	0.44
	energy/ environment	coli	8	0.41	0.30	0.00	0.86
	industry	coli	8	0.18	0.09	0.07	0.31
	transport	coli	8	0.31	0.24	0.00	0.67
	pub./ soc. services	coli	7	0.64	0.21	0.43	1.00

Table 2.11: Summary statistics for DV per sector in Belgium, France, Germany, Ireland, the UK, Austria, Denmark and Finland

country	sector	variable	obs	mean	std. dev.	min	max
Greece (GR)	agriculture	coli	17	0.01	0.01	0.00	0.06
	energy/ environment	coli	17	0.07	0.14	0.00	0.50
	industry	coli	17	0.03	0.04	0.00	0.13
	transport	coli	16	0.02	0.08	0.00	0.33
	pub./ soc. services	coli	17	0.14	0.19	0.00	0.50
Italy (I)	agriculture	coli	17	0.04	0.08	0.00	0.29
	energy/ environment	coli	17	0.22	0.31	0.00	1.00
	industry	coli	17	0.05	0.05	0.00	0.14
	transport	coli	15	0.06	0.12	0.00	0.33
	pub./ soc. services	coli	17	0.15	0.14	0.00	0.43
Luxembourg (L)	agriculture	coli	17	0.01	0.02	0.00	0.06
	energy/ environment	coli	17	0.22	0.23	0.00	0.71
	industry	coli	17	0.08	0.06	0.00	0.21
	transport	coli	15	0.09	0.15	0.00	0.40
	pub./ soc. services	coli	17	0.45	0.20	0.00	0.83
The Netherlands (N)	agriculture	coli	17	0.08	0.10	0.00	0.33
	energy/ environment	coli	17	0.25	0.24	0.00	0.75
	industry	coli	17	0.12	0.08	0.00	0.32
	transport	coli	15	0.25	0.28	0.00	1.00
	pub./ soc. services	coli	17	0.50	0.25	0.00	1.00
Portugal (P)	agriculture	coli	17	0.01	0.01	0.00	0.06
	energy/ environment	coli	17	0.02	0.05	0.00	0.17
	industry	coli	17	0.04	0.05	0.00	0.18
	transport	coli	17	0.07	0.25	0.00	1.00
	pub./soc. services	coli	17	0.11	0.13	0.00	0.44
Spain (SP)	agriculture	coli	17	0.02	0.02	0.00	0.06
	energy/ environment	coli	17	0.26	0.19	0.00	0.57
	industry	coli	17	0.08	0.07	0.00	0.23
	transport	coli	16	0.05	0.08	0.00	0.25
	pub./ soc. services	coli	17	0.46	0.15	0.2	0.67
Sweden (SW)	agriculture	coli	8	0.00	0.00	0.00	0.00
	energy/ environment	coli	7	0.27	0.21	0.00	0.50
	industry	coli	8	0.12	0.13	0.00	0.43
	transport	coli	8	0.08	0.13	0.00	0.33
	pub./ soc. services	coli	7	0.58	0.27	0.2	1.00

Table 2.12: Summary statistics for DV per sector in Greece, Italy, Luxembourg, the Netherlands, Portugal, Spain and Sweden

Chapter 3

Centralization without implementation? Lessons to learn from fiscal federalist theory for the study of Europeanization[1]

3.1 Introduction

The EU today covers more areas, than classical fiscal federalist theory (CFF) according to Oates (1972) would suggest. Common explanations for the EU's incentive to widen its legislative competencies in the political science literature are:

- the self-interest of the EU Commission following supranationalist theory according to e.g. Sandholtz & Stone Sweet (1997),
- the cumulative logic of EU integration following a neo-functionalist or historical institutionalist approach (see e.g. Haas (1958), Haas (1961) and Pierson (1996)) or

[1]This chapter is joint work with Prof. Dr. Jürgen von Hagen, University of Bonn. Earlier versions have been presented at the BGSE Macro/Finance/Public Finance Seminar of the University of Bonn, and the 2nd conference of the DFG priority programme 1124 on 'Federalism: Theory and Empirical Evidence' in Berlin.

- the bargaining structure of EU Treaty decisions according to intergovernmentalist and liberal-intergovernmentalist theory (see e.g. Moravcsik (1991) and Moravcsik (1993)).

An interesting question is to ask whether these processes have lead to an economically efficient *de facto* allocation of policy prerogatives in the EU. This has been the subject of recent empirical studies. CFF has in that context proved to be a fruitful theoretical approach for judging the efficiency of the actual prerogative allocation across policy areas. So far, Alesina et al. (2005) and Pollack (2000) both have empirically investigated the development of EU legislation across policy areas. However, whereas Pollack (2000) focuses on the centralization process in the post-Maastricht era, Alesina et al. (2005) evaluate the efficiency of the resulting allocation of decision-making power between the EU and the member states from a normative fiscal federalist perspective. From a similar perspective, but non-statistically, Tabellini (2003) analyses how tasks should be divided between member states and the EU.

Turning to the other side of the coin, namely to the transposition and implementation of EU decisions in the member states, we expect CFF to have substantial explanatory power not only for judging the efficiency of the EU's allocation of policy preferences but also for analysing cross-sector implementation performances in the case of EU directives. Based on the assumption that member states have a higher incentive to transpose if a directive is economically advantageous for the union, we argue that CFF-efficient policy areas should reveal higher transposition ratios. Our empirical results strongly support this hypothesis.

3.2 Relevant literature

Pollack (2000)'s and Alesina et al. (2005)'s results on EU policy-making provide empirical evidence against the hypothesis that the Maastricht Treaty should have led to a reduction in EU policy-making activities. Pollack (2000) finds a clear centralizing trend strengthening the EU's policy-making role between 1950 and 1992. Alesina et al. (2005) confirm this general trend of increasing legislative activities by the EU over the last 30 years. Regarding individual policy areas, they conclude that the EU's policy-making

action has expanded most visibly in areas that are rather remote from the EU's original mission of establishing a free market with a common external trade policy, e.g. international trade, sectoral business (including transport, agriculture and industry), citizen and social protection. Taking word counts in EU Treaties as measures of policy intensity, citizens and social protection, sectoral business relations and common market as well as money and finance have received the greatest attention. According to Alesina et al. (2005), these findings speak for a certain substitutability between Treaties and secondary legislation as vehicles for adopting policy by the EU. Especially the Common Market and monetary/financial matters are extensively represented in the Treaties, but occur less prominently in secondary EU legislation, i.e. EU directives or regulations. For international trade and non-sectoral business it is the other way around.

Besides investigating the extent of EU legislative activities across policy domains, Alesina et al. (2005) quantify whether the normative claims of fiscal federalist theory on prerogative allocation are satisfied by the actual division of policy authority between the EU and the member states. Tabellini (2003) follows a similar, but non-empirical, approach, investigating the division of responsibilities between the EU and its members. Building on fiscal federalist theory, both argue that for a more efficient prerogative allocation the policy-making authority for public goods revealing high externalities and evoking relatively low preference asymmetries such as defense, foreign policy and law enforcement should lie with the EU. Whereas for public goods with smaller economies of scale and greater heterogeneity of preferences, such as education, decentralization seems the better alternative. Alesina et al. (2005)'s empirical investigation reveals, however, that not all sectors are allocated to the normatively anticipated level of government. Examples include environment policy, agriculture, international relations and citizen and social protection. Tabellini (2003) advocates a more effective enforcement of the Single Market by further centralizing authority for this policy area at the EU level. According to him, legislation by the EU concerning redistributive policies, as involved in agricultural policy, structural funds and the social charter, should be scaled back.

Accompanying these empirical approaches, Alesina & Wacziarg (1999) and Alesina, Angeloni & Etro (2001) provide formal models for the optimal allocation of policy prerogatives in federal systems and international unions. The equilibrium solution arises

from a trade-off between the voters', or union members', preferences for keeping the policy "at home"and the need to correct for externalities which may spill over beyond the boundaries of a given administrative unit. In other words, if interests diverge transferring authority to a higher level of government may result in costly policies as they may be less preferred by the locals. On the other hand, not doing so might lead to the under-provision of certain government services, if the said services entail externalities which extend beyond the local polity.

However, what matters for the practical functioning of a union is not only an optimal distribution of policy prerogatives but whether its centralized decisions are actually implemented by lower level entities in a correct, timely and complete fashion. In the case of EU directives, national implementation first requires transposition into national legislation. This is what studies of *Europeanization* and *compliance* have investigated over the last decade. According to Héritier, Kerwer, Knill, Lehmkuhl, Teutsch & Douillet (2001) *Europeanization* is defined as *"the process of influence deriving from European decisions and impacting member states' policies and political and administrative structures"*. Closely related to the issue of Europeanization are studies of *compliance*, i.e. the fulfillment of EU legislation in the member states.

To our knowledge, comparative policy-oriented investigations in both of these research strands are still rare. Recently, however, Börzel et al. (2005) (BHP) have introduced policy area dummies in their analysis of national infringement cases in order to account for possible policy-specific effects. Although they are so far unable to identify exactly which policy-related aspects are at work they find strong empirical evidence for policy-specific differences in national expositions to infringement cases. Börzel & Panke (2005) (BP) further elaborate on the idea of policy-specific factors influencing a member state's proneness to EU infringement cases. BP do, however, not yet provide empirical evidence for their argumentative perceptions. Using the newly developed dataset on EU member states' transposition records by König et al. (2005) (KLM), Treutlein (2007) tries to further track sector-specific influences by including sector-level OECD STAN Indicators such as value added shares, employment shares, labour compensation per employee etc. in her statistical analysis. Both, KLM and Treutlein, find significant evidence for sector-specific effects regarding the timeliness of transposition and the type of legal transposition

instruments used by a member state government. However, so far, no comparative policy-investigation exists explaining cross-sector differences in transposition ratios (or, v.v., transposition deficits). This is what this study aimed at.

Following CFF, Alesina & Wacziarg (1999)'s and Alesina et al. (2001)'s models of optimal prerogative devolution in federal systems we ask whether underlying sector characteristics, namely the heterogeneity of policy preferences and the level of externalities, may also affect the transposition performances of member states, i.e. a government's willingness to transpose. In other words, we ask whether an CFF-efficient allocation of policy prerogatives fosters the transposition of EU directives in the member states. This would imply transposition to be less complete in policy areas which are far from EU issues.

An empirical approach to these research questions seems relevant to us for the following reasons:

First, we address the *political* effects of an optimal policy allocation within federal systems or international unions. Second, we hope to stimulate theoretical work regarding the implementation of EU law by providing new empirical insights and by linking two strands of the literature that have so far evolved independently of each other. Third, we employ econometric tools that account for the multilevel structure of our dataset.

Our analysis proceeds in the following steps: in the next section we sketch the theoretical argument and derive testable theoretical propositions. We then describe our dataset in section 4. Section 5 discusses the econometric model, estimation method and estimation results. Finally, we summarize our main conclusions in section 6.

3.3 Linking CFF to Europeanization

3.3.1 The implementation puzzle of EU directives

We consider the EU as a multi-level quasi-federal governmental system in which a group of countries is organized in a union. The decision-making authority for some policy areas is allocated at the upper governance level, i.e. the union level. The implementation of policies is left to the lower level of governance, i.e. the member states respectively. Member states are legally obliged to implement EU decisions (see Art. 249,3 and Art.

10,1 of the EC Treaty (ECT)). In the case of failure, the EU may initiate a so-called infringement procedure against the corresponding member state government (see Art. 211, 226 and 228 ECT). There are many decision-makers on the union level and they do not necessarily coincide with the national implementation authorities, i.e. the member state governments and administrations. This may actually be one reason why implementation deficits have been frequently observed in empirical studies (see e.g. the Commission's Internal Market Scoreboards). Although member states are legally obliged to implement EU directives, deficits have been detected to occur in terms of timing and the completeness of implementation. For both aspects of implementation, variations involve several dimensions such as time, country and policy area (see Figures 1 to 10 below).

As pointed out in section 3.2, academics' answers to these implementation puzzles usually focus on the timing of implementation explaining cross-country differences or on single policy areas. Note that most of the literature only addresses EU *directives*. For the latter, as opposed to other EU legislation, the implementation procedure is two-fold: member state governments first have to transpose EU directives into national legislation before they can be put into practice by national and local administrative authorities.

Within this set up, our analysis deals with the member states' transposition decision only. According to Treutlein (2007), it focuses on the first step of the transposition decision, i.e. the member state government's *willingness* to transpose EU directives. It thereby follows the contention of Perkins & Neumayer (2007) that benefits arising from union membership may guide a government's transposition performance. Yet, as opposed to Perkins & Neumayer (2007) we take on a policy-oriented view in addition to a cross-country perspective. In particular, we investigate whether policy-specific membership benefits help explain cross-sector transposition performances. Classical fiscal federalist theory thereby serves us to assess the economic policy-specific benefits a member state may derive from union membership.

3.3.2 The classical fiscal federalist argument

According to Oates (1972) and Oates (1999), centralization of policy prerogatives at the upper governance level is economically efficient in policy areas with high levels of interregional externalities and relatively low preference asymmetries amongst the lower

level entities. This is so because in the absence of internalization of policy externalities at the union level, sub-level entities would either choose inefficiently low policies (in the case of positive externalities) or inefficiently high policies (in the case of negative externalities). Two examples may help. Consider e.g. two countries such as the Netherlands and Germany and two policies, i.e. environment and transport.

In setting river pollution standards for national industries, Germany would only account for the costs of pollution in the Rhine river born by German firms. It would not take into consideration any negative externalities arising further downstream in the Netherlands and would be too tolerant compared to union welfare. A central authority is needed to internalize the costs of negative spillovers.

In the case of positive spillovers, think of the construction of a high-speed railway system. Germany would only consider its own passenger demands. It would not take the possible positive spillovers for Dutch commuters into account when building its high-speed railway track system. From a total welfare perspective, under decentralization, Germany would decide to build too little railway tracks.

For a standard textbook introduction to externalities and public goods provision see e.g. chapters 33 and 35 in Varian (2003).

Regarding the effect of preference asymmetries, Alesina & Wacziarg (1999) formally model the trade-off between externalities and preference heterogeneity. They find that in the case that public goods provision is characterized by spillovers, some centralization is needed to internalize the externality. However, according to their model, these gains from centralization must be traded-off against the costs from imposing the same policies upon heterogeneous groups. Alesina, Baqir & Hoxby (2004) provide an empirical application assessing this trade-off to the formation of jurisdictions, such as school districts, school attendance areas or municipalities, in the US. They employ four measures of heterogeneity, i.e. heterogeneity in income, race, ethnicity, and religion. Their empirical analysis reveals jurisdictions to be shaped, indeed, by a trade-off between economies of scale and two particular aspects of preference heterogeneity, i.e. income and racial heterogeneity respectively.

In short, from a CFF point of view the question of centralization depends above all on the trade-off between the expected union's welfare and the individual national

preferences (see Oates (1972) and Oates (1999)).

3.3.3 Testable hypotheses

This paper seeks to analyze whether member states consider the union's welfare in their transposition decision. If so, we would expect transposition performances to be better in policy areas where expected economic benefits on the union level are relatively high compared to preference asymmetries amongst its members. According to CFF this would be the case in policy areas that are efficiently centralized.

We are thus able to formulate the following testable hypotheses with a view to explaining cross-sector transposition performances:

H1 *Member states prefer to transpose the union's decisions in policy areas that CFF predicts to be efficiently centralized.*

Accordingly:

H1a *Member states prefer to transpose a union's decisions in policy areas with high levels of externalities.*

H1b *Member states prefer to transpose a union's decisions in policy areas evoking relatively low preference asymmetries.*

3.4 The data

3.4.1 Dependent variable

We measure a member state's willingness to implement EU directives by its *de facto* transposition performance, namely the *ratio of notified transpositions to the number of total directives adopted by the EU institutions in a given policy area and a given year.*

Formally denote member countries by the index $j = 1, ..., J$, policy areas by $i = 1, ..., N$ and years by $t = 1, ..., T$. The dependent variable (DV) may be expressed by:

$$y_{ij,t} = \frac{1}{R_{ij,t}} \sum_{r=1}^{R_{ij,t}} 1 \left(a_{rij,t} = 1 \right) \tag{3.1}$$

where $R_{ij,t}$ directives pertaining to sector i in country j and in year t have been passed by the EU. $a_{rij,t} = 1$ if for any directive $r = 1, ..., R_{ij,t}$ at least one transposition instrument has been notified to the Commission by member state j in year t or thereafter, $a_{rij,t} = 0$ otherwise. Note that the index t refers to the adoption date of a directive in Brussels. This convention reflects our working assumption that the decision of a government on whether or not to transpose a directive follows immediately upon the official adoption of a particular directive by the EU institutions. Also, from a statistical perspective, this choice of t results in the smallest number of missing values in the dataset.

Data for our DV stems from the EU Commission online database CELEX Appendix C Sector 7. $a_{rij,t}$ is a dummy variable (*anzcoyr_d*) which has been constructed by König et al. (2005). It has kindly been provided to us within the DFG-sponsored research project of König, von Hagen & Bräuninger (2002).

Thus, we effectively use the reverse measure of the "transposition deficit" defined in the Internal Market Scoreboard (Nov. 2002, p.5) as *"the percentage of Internal Market directives not yet communicated as having been transposed, relative to the total number of Internal Market directives which should have been transposed"*. Transposition deficits may easily be obtained from our DV by calculating $1 - y_{ij,t}$.

We have data on $J = 15$ countries, i.e. the EU15 member states, and $T = 17$ time periods, i.e. the years between the European Single Act in 1986 and the most recent available year 2002. Directives are aggregated into policy areas by matching three datasets with different sets of policy areas, namely the dataset for our DV (CELEX, 6 policy areas), the data for our main independent variables (CELEX according to Alesina et al. (2005), 14 policy areas) and the data for our control variables such as value added or employment shares (OECD STAN industries, 18 sectors). Table 3.1 demonstrates in detail how our $N = 5$ policy areas arise, viz. agriculture, energy/environment, industry, transport and public and social services. Clearly, the classification scheme is decisive for comparative quantitative approaches and, to some extent, may drive empirical results. Future research in the area of Europeanization should aim to develop a systematic and uniform classification scheme comprising common classification numbers such as ISIC, OECD STAN and CELEX in order to improve the comparability of empirical results. Yet, our classification is a first attempt in this direction as it covers a range of five

frequently cited policy areas and allows for traceability of policy areas by CELEX- , OECD STAN- and ISIC classification numbers. Not allowing for missings, we thus have a total of $N * T * J = 1275$ observations in our dataset.

Now, let us take a closer look at Figures 1 to 10. Moving from a highly aggregated point of view in Figures 3.1, 3.2 and 3.3 to a dynamic cross-country cross-sector perspective in Figures 3.8, 3.7, 3.10, 3.9 and 3.6 reveals the full range of variation in our dependent variable. Note that blank spaces indicate missing values. This is the case for Finland, Sweden and Austria for the pre-EU-accession years 1986-1994. Further, keep in mind that we display transposition *ratios*, not the absolute number of transposed directives. For Belgium in 1987, a transposition record of 2 notifications for 4 directives in the energy/environment sector thus results in approximately the same ratio of 0.5 as 11 notifications for 24 directives in the agriculture sector.

Figure 3.1 demonstrates the transposition performances by country averaged over sector and time, revealing the UK, Finland, Portugal and France as transposition laggards with overall transposition deficits of approximately 38-35% for the period under investigation. Regarding transposition ratios of policy areas averaged across time and countries, Figure 3.2 demonstrates no substantial variation at first sight. However, considering that in total 1591 transpositions should have taken place in the transport sector for the period under investigation renders a quite remarkable overall deficit of nearly 20% ($\approx$ 300 directives) for the most completely transposed policy area. The importance of complete implementation records is also what the EU Commission points at in its Internal Market Scoreboards (IMS). See, for instance, Figure 6 in the IMS special issue on "10 years of Internal Market without Frontiers" of November 2002. It lists in detail any remaining deficits and progress made on the transposition of 10 key EU directives across member states.

At a more disaggregated level, Figure 3.4 reveals quite remarkable differences in mean transposition ratios over time for some member states. Take, for instance Portugal, France, the UK and Denmark, where transposition ratios even fell below 50 at the beginning of the 1990s. We notice a rather steady increase of transposition ratios for the post-Maastricht period in Belgium and Portugal after a comparably slow start. Comparing transposition ratios across policy areas, we find most variations for the pub-

Table 3.1: Classification of policy areas

joint class		CELEX		STAN		ISIC		AAS policy		
number	name	number	name	number	name	number	description	number	name	CELEX reference
1	agriculture	3, 4	agriculture and fisheries	1	agriculture, hunting, forestry and fishing	01 to 05		6a	agriculture and fisheries	3, 4
2	energy/ environment	12,15	energy/environment, consumer and health protection	4, 18	electricity, gas and water, energy producing activities	10 to 12, 23, 40, 41	mining and quarrying, manufacture of coke, refined petroleum products and nuclear fuel; electricity, gas, steam and hot water supply; collection, purification and distribution of water	5	environment	15.1
3	industry	13, 2, 17, 11	industrial policy and internal market	3, 19	total manufacturing, wholesale and retail trade; repair of motor vehicles, motorcycles and personal and household goods	15 to 37, 23, 50 to 52	manufacturing of food and beverages, etc.; manufacture of coke, refined petroleum products and nuclear fuel; wholesale and retail trade; repairs	6b	industry and energy	12, 13 (except 13.3)
4	transport	7	transport policy	7	transport and storage	60 to 63	land, water and air transport	6c	transport	7
5	public and social services	5, 6	freedom of movement of workers and social policy; right to establishment and freedom to provide services	12, 13, 14, 15	community, social and personal services (- private households) = total services - financial services - transport services	75 to 99, 80,85	public administration and defense, compulsory social security, education, health and social work activities	2	common market	6 (13.3, 10.4, 20.1)

lic and social services and energy/environment sector over time. Whereas transposition ratios seem to follow a slightly decreasing trend in the transport sector, it is the other way around for agriculture, industry and public and social services. All in all, however, transposition ratios do not seem to follow a general pattern over time.

Finally, Figures 3.8 to 3.6 reveal the whole picture of variation in all three dimensions of our DV. Apparently, member states have different priorities for transposition both, across policy areas and time. Look, for example at the two Anglo-Saxon countries, i.e. the UK and Ireland in figures 3.8 and 3.9, respectively. For the UK, transposition appears most complete for transport and least complete for agriculture as well as public and social services. For Ireland, on the other hand, transposition ratios seem highest in the areas of public and social services and agriculture and lowest in industry.

The displayed figures reveal cross-sector differences in transposition performances to be highly relevant for the study of Europeanization. Yet, multivariate regression analyses are needed to uncover any systematic patterns such as those proposed in hypotheses H1-H1b of section 3.3.

3.4.2 Explanatory variables

Main independent variables s_i

According to hypothesis H1 in section 3.3 our main explanatory variable is policy-specific centralization efficiency. Following hypotheses H1a and H1b, the amount of sector externalities and preference heterogeneity are the two main criteria for judging whether centralization is economically efficient for a given policy area i. Due to the lack of data on sector-specific externalities or preference asymmetries that would allow for comparative analysis of our defined policy areas, we build upon the recent empirical investigation of Alesina et al. (2005), henceforth referred to as AAS.

In the main part of their study on the EU's actual decision-making activity, AAS describe the assumed level of externalities and preference asymmetries for each of their 14 CELEX policy areas. Based on these categorizations, they further derive normative judgments about the CFF-efficient allocation of policy prerogatives for each of these areas. This is to say that policy areas for which they argue display high externalities and low preference asymmetries between member states, such as e.g. the Common Market or

policy area	externality				
	low (l)	medium low (ml)	medium (m)	medium high (mh)	high (h)
1 agriculture	1	0	0	0	0
2 energy/envir.	0	0	0	1	0
3 industry	1	0	0	0	0
4 transport	0	0	0	1	0
5 public/social services	0	0	0	0	1

Table 3.2: Classification of policy-specific externalities into five levels

international relations, should accordingly be allocated at the union level and vice versa.

In a second step of their analysis, AAS empirically measure the *de facto* role the EU plays for each policy area. They then compare this role with their normative judgment based on CFF, yielding in a third step, a conclusion on whether the EU should be more or less active in a given policy area, i.e. whether a policy area should be further centralized at the union level or not. Table 12 in AAS's study nicely summarizes their categorizations and allocation findings for each of the defined policy areas.

Although a more objective and systematic assessment would generally be desirable in future studies, AAS's categorization scheme of policy externalities and preference asymmetries seems generally intuitive and is mostly supported by arguments in similar studies of the literature. Tabellini (2003), for instance, mainly agrees with AAS's categorization of policy areas regarding expected externalities and preference asymmetries. As opposed to AAS's judgment, however, Tabellini (2003) suggests better enforcement of the Single Market via further centralization in this policy area.

Our categorization scheme is based on Table 12 of AAS and accordingly constructed in two steps. First, we transfer AAS's judgments of expected policy-externalities and preference heterogeneity to five point scales for each of our five policy areas, see Tables 3.2 and 3.3, respectively.

Note, however, that our categorization on energy/environment and public and social service is different. This is so as both policy areas are combinations of two different AAS-policy fields, see our policy area classification of Table 3.1. We have decided to adopt AAS's categorization of the policy area for which we think the EU's decision-making role is larger. Put differently, we thus conform with AAS's categorization for environment,

policy area	preference heterogeneity				
	low (l)	medium low (ml)	medium (m)	medium high (mh)	high (h)
1 agriculture	0	0	0	0	1
2 energy/envir.	0	0	0	0	1
3 industry	0	0	0	0	1
4 transport	0	0	1	0	0
5 public/social services	1	0	0	0	0

Table 3.3: Classification of policy-specific preference heterogeneity into five levels

CELEX no. 15.1; for public and social services, we categorize our variables along the values for AAS's Common Market, CELEX no. 6.

Furthermore, we have some doubts regarding the degree of expected externalities for energy/environment and transport policies. For the former, AAS describe externalities as "ambiguous". This would directly be transferred to a "medium" level in our categorization. We, however, find a classification of the externality degree "medium-high" more adequate when thinking of examples such as the one of river pollution in section 3.2. For the latter, against the backcloth of directive 1996/16 regulating the inter-operability of the trans-European high-speed rail systems or directives 1994/55 and 2000/61 concerning the harmonization of national legislation for road transport of dangerous goods a classification of the externality level as "low" seems hardly justifiable. Making much the same point, Kaeding (2006) provides a detailed overview on the development of 50 years of EU transport policy and gives further examples for the specific contents of single transport directives. Also, transport policy mainly seems to affect technical regulations and safety issues. Relative to the remaining policy areas harmonization benefits should thus be rather obvious and should keep preference heterogeneity among member state governments rather low. We therefore depart from AAS's classification scheme and suggest a classification into "high" for externality and a more moderate classification of preference asymmetries into "medium", see Tables 3.2 and 3.3.

The categorization of the two underlying sector characteristics, i.e. policy externalities and preference heterogeneity, is summarized in columns 2 and 3 of Table 3.4. The second step in the process of constructing the main independent variables then consists of defining a dummy variable *central* indicating for each policy area whether centralization

policy area	externalities	preference heterogeneity	CFF centralization
	(externality)	*(prefhet)*	*(central)*
1 agriculture	low	high	0
2 energy/envir.	medium high	high	0
3 industry	low	high	0
4 transport	high	medium	1
5 public/social services	high	low	1

Table 3.4: Classification of policy areas for main explanatory variables s_i

would be economically efficient according to CFF, see column 4 of Table 3.4.

Each of the variables in Table 3.4 is represented by a set of dummy variables reflecting the different categorizations. For instance, in the case of externality this results in three dummy variables, i.e. one indicating the sectors with a high level of expected externalities (*externalityh*), one for sectors with a medium-high level (*externalitymh*) and one for sectors with a low level of expected policy externalities (*externalityl*). With a view to avoiding collinearity problems in our estimations we only include one of our four main independent variables and only all but one category dummies at a time. Since our main sector-specific independent variables are time- and country-invariant we subsequently refer to them as s_i comprising variables *central*, *externality* and *prefhet*.

Clearly, our measures of sector externalities and preference asymmetries need to be improved in future comparative studies. This could be achieved by constructing a more detailed index, by the collection of suitable data or via cross-sector case studies. Yet, for a first explorative approach linking CFF to the study of Europeanization, we find our measures satisfactory as they allow us to test hypotheses H1-H1b in a first tentative approach.

Control variables

Additional to our main sector-specific variables s_i we consider different sets of control variables, $m_{j,t}$ and $z_{ij,t}$. Where $m_{j,t}$ accounts for country-specific macro-economic and political-institutional effects. While $z_{ij,t}$ contains sector characteristics that have been used in the literature or appear generally relevant for a country's willingness to transpose.

In particular, we add the number of veto players *vps* accounting for institutional

hurdles to national decision-making following Tsebelis (1995). Further, we control for the strength of a government in the national executive-legislative relation by adding *govcontrol* and *personal* to our estimations. The former stands for a government's agenda-control in parliamentary (legislative) decision-making. Note that larger values on *govcontrol* indicate less agenda-control. Data for *govcontrol* is taken from Döring (1995*a*). The latter denotes the personal vote index of Döring & Hallerberg (2004) which indicates the degree of parliamentary fragmentation, i.e. the strength of possible parliamentary opposition. Generally, we expect a government to transpose more, the more decision-making power it wields, i.e. the less veto players there are and the stronger it is against parliamentary opposition. In addition to these, we include a country-specific dummy variable *election* accounting for years of parliamentary elections and possible policy cycle effects. Data for *election* has been obtained from the PGL file collection of Cusack & Engelhardt (2002) through the variable *wahldatu*.

As for macro-economic factors, we add GDP per capita in real terms and log-form, i.e. *gdppcrln*, in order to capture a country's general economic and administrative strength. In line with the literature on Europeanization we assume wealthier countries to have more administrative power and to accordingly be able to handle a greater workload of directives. Data for *gdppcrln* is taken from the Eurostat database. In line with Perkins & Neumayer (2007), König et al. (2005) and Treutlein (2007) we view the amount of net EU receipts to play a positive role for a member state's willingness to transpose EU law. Data for *neteureceipts* is available in the statistical yearbooks provided by DeStatis.

Finally, we include *empsh* and *labemp* as further policy-specific characteristics measuring the importance of the corresponding business sector for the national economy and sector-specific labour compensation per employee, respectively. Both variables have been shown to insert significant effects on the ratio of primary to total transpositions in Treutlein (2007). Regarding the willingness to transpose, rather than the choice of legal transposition instruments, we expect a positive effect of sector employment shares and labour compensation schemes on transposition ratios. Data for both sector-specific control variables are taken from the OECD STAN Indicators 2004.

3.5 Empirical analysis

3.5.1 Econometric model

Our DV, denoted by $Y_{ij,t}$, is explained by the following general linear model:

$$Y_{ij,t} = E(Y_{ij,t}) + e_{ij,t} \tag{3.2}$$

where $E(Y_{ij,t})$ is a linear regression component:

$$E(Y_{ij,t}) = \beta' x_{ij,t} \tag{3.3}$$

with $x_{ij,t} = (1, s_i, m_{j,t}, z_{ij,t}, t)$ where t denotes a linear time trend and $\beta' = (\gamma_0, ..., \gamma_4)$. The term $e_{ij,t}$ is an error component. It can be decomposed into the sum of three random parts: a country-specific μ_j, a policy-within-country ν_{ij} and an idiosyncratic error $\varepsilon_{ij,t}$. Accordingly $e_{ij,t}$ has a nested structure:

$$e_{ij,t} = \mu_j + \nu_{ij} + \varepsilon_{ij,t} \tag{3.4}$$

where μ_j, ν_{ij} and $\varepsilon_{ij,t}$ are assumed to satisfy standard assumptions, i.e. they are normally distributed with mean zero and variances σ^2_μ, σ^2_ν and σ^2_ε respectively. Further, they are supposed to be mutually and serially independent, as well as independent of $x_{ij,t}$. The nested structure of the error component reflects the three dimensions of our data. It seems theoretically adequate since it mirrors our presumption that random country-specific effects, such as administrative culture, may play a role for a government's transposition willingness. Further, we expect transposition ratios across policy areas to be more similar within one country than across countries.

Substitution of (3.3) and (3.4) into (3.2) yields the final linear two-way mixed model to be estimated:

$$Y_{ij,t} = \gamma_0 + \gamma_1 s_i + \gamma_2 m_{j,t} + \gamma_3 z_{ij,t} + \gamma_4 t + \mu_j + \nu_{ij} + \varepsilon_{ij,t} \tag{3.5}$$

Recall that $y_{ij,t}$ in (3.1) is bounded to lie within $[0; 1]$ by definition. In order to estimate the above linear model we thus apply the following log-odds transformation to $y_{ij,t}$ as discussed in Papke & Wooldridge (1996):

$$Y_{ij,t} = log\left[\frac{y_{ij,t}}{(1 - y_{ij,t})}\right] \tag{3.6}$$

such that $Y_{ij,t} \in [-2.079; 4.959]$. In order to be defined for all $y_{ij,t} \in]0; 1]$, this transformation requires to manually adjust all maximum values of 1.00 to 0.99. Although alternative estimation models are suggested by Papke & Wooldridge (1996) in order to avoid arbitrary data adjustments, a log-odds transformation of $y_{ij,t}$ in our case seems the best way to account for the boundedness of our DV since it allows us to estimate a linear model. Note also that, as compared to earlier work of Treutlein (2007), $y_{ij,t}$ contains far fewer observations on the extremes and, in particular, no zero values.

3.5.2 Estimation method

According to Baltagi, Song & Jung (2001), the γ coefficients of multilevel mixed models such as the on in (3.5) may consistently and unbiasedly be estimated via pooled OLS even if the variances μ_j, ν_{ij} and $\varepsilon_{ij,t}$ are positive. However, pooled OLS would yield biased standard errors. Alternatively, the coefficients and variance components may be estimated by standard maximum likelihood (ML), provided that the error components are Normal. Standard ML, however, ignores the loss of degrees of freedom due to regression coefficients in estimating the variance components. Restricted maximum likelihood (REML) in return accounts for this loss of degrees of freedom. Given our large sample size, the differences between standard ML and REML should, however, become negligibly small.

As we are not only interested in coefficient signs and sizes, but also in detecting the statistical significance of our independent variables and variance components, we opt for a two-way mixed model estimation via REML. Following Baltagi et al. (2001), REML yields consistent and unbiased results for coefficients, standard errors and variance components even if the error component is nested and the data is highly unbalanced. Further, REML is especially convenient as it is the default procedure for mixed model estimations in STATA 9.

In order to test the robustness of our results we nevertheless compared our mixed model estimates to the results retrieved from pooled OLS and random effects (RE) panel regressions. As expected, the estimated coefficients for pooled OLS and RE have come out very close to ours (in terms of signs and sizes). Significance levels, however, have revealed differences, especially for pooled OLS.

As mentioned above, all of our estimations are carried out in STATA 9 using the *xtmixed*-command specifying a nested error component according to (3.4). The results of additional estimations not displayed in Table 3.5 are available from the authors upon request.

3.5.3 Estimation results

Table 3.5 below displays the results for five specifications of the two-way mixed model estimations described above. Model 1 (m1) represents the basic model without any policy-specific dummy variables. Models 2 (m2), 3 (m3) and 4 (m4) serve to test our main hypotheses introducing the relevant policy-specific characteristics, i.e. *central, externality* and *prefhet*, respectively. Model 5 (m5) provides a robustness check to these including separate policy dummies. We thereby define agriculture as reference base. The coefficiencts for the four remaining sector dummies accordingly reflect differences in transposition ratios with respect to agriculture, i.e. the policy area for which centralization appears the least desirable according to CFF and AAS. The dummy variables representing the levels of externalities and preference heterogeneity are to be interpreted accordingly. For externality, the base is defined as low level of externalities. For preference heterogeneity the base is defined as high level of preference heterogeneity. Note that in addition to the displayed coefficients all specifications include a linear time trend. It has, however, not turned out to be significant in any model and is therefore left aside in Table 3.5.

Let us briefly analyze the econometric adequacy of the displayed models. Throughout all specifications, the Wald test against the hypothesis of all coefficients being zero is very significant. Slight decreases in the Bayesian Information Criterion (BIC) indicate increasing overall explanatory power of models 3-5, i.e. if the main sector variables are included.

With respect to the specification of our nested error structure we find that except for m1 all variance components are highly significant. This implies that there exist, indeed, random country- and sector-within-country effects which significantly influence our dependent variable. Apparently, sector- and time-specific transposition patterns of one particular member state are significantly different from those of another member state.

Further, sector-specific transposition ratios are significantly different between member states. Within one particular member state, transposition ratios across sectors vary significantly. Over time, however, we do not find significant differences in sector transposition ratios. A highly significant likelihood ratio test statistic against the hypothesis that our mixed model results do not differ significantly with respect to linear pooled (OLS) regression further confirms the significance of our variance components.

Above all, the similarity of estimated coefficient sizes and signs both for the displayed specifications as well as compared to pooled OLS and random effects results underlines the robustness of our estimations. We are therefore confident that our model specifications yield econometrically valid and reliable results and proceed with interpreting the theoretically interesting coefficients. To follow our interpretations also see Tables 6 to 11 in the appendix providing summary statistics for all variables.

From a policy perspective, we find a member state's transposition ratio to increase significantly if the policy area of a particular directive is efficiently centralized to the EU-level according to CFF, see m2 respectively. Transposition ratios increase by 6.1 percentage points compared to inefficiently centralized policy areas. For the transport sector, i.e. a policy area with a relatively small amount of EU directives (i.e. ≈ 1591 averaged over time and countries according to our dataset), this would already imply an increase in transposition records by approximately 9-10 directives for the period under investigation. Further, member states seem to significantly transpose more in policy areas where higher levels of externalities are expected. Regarding preference asymmetries our results are, however, ambiguous: member states appear to transpose more in policy areas characterized by a medium level of preference heterogeneity. Yet, in policy areas with low preference asymmetries transposition ratios are significantly smaller. Against our intuition, sector employment shares (*empsh*) seem to insert a negatively significant effect on transposition ratios. In contrast to Treutlein (2007) labour compensation per employee (*labemp*) appears with a negative sign, but insignificant.

From a macro perspective, we find most of our control variables to significantly affect a member state's transposition decision in the anticipated direction. Only *govcontrol* and GDP per capita do not appear statistically crucial for a country's transposition willingness.

Concerning political-institutional variables, a higher number of veto players significantly hinders the national transposition of EU directives. This result is very much in line with our expectation and the literature on Europeanization and compliance. The veto-player argument is further underlined by the statistically significant positive effect of *personal*. Seemingly, member states with a higher score of the personal vote index seem more willing to transpose. Assuming in line with Döring & Hallerberg (2004) that candidate-centered electoral system leads to more fragmented parliaments, this result would support the hypothesis that systems with relatively strong executives and weaker parliaments tend to transpose better. Further, member states tend to transpose significantly more in years of parliamentary elections. Compared to non-election years, transposition ratios are approximately 3.4 percentage points higher. This result is opposite to Treutlein (2007)'s investigation of the government's choice of transposition instrument. Interestingly, member states tend to transpose more in years of parliamentary elections, but less via parliament. Future research is, however, needed for a well-founded judgment on the impact of policy cycles on transposition.

From a macroeconomic view, our results strongly support the hypothesis that net EU recipients are more willing to transpose EU directives. According to our estimations, a member country's transposition ratio increases by 0.0000061 for an increase of half a billion Euros or, put differently, by approximately 3.9 percentage points for a 5%-increase in net EU receipts. Although rather intuitive, this result stands in contrast to past findings of Perkins & Neumayer (2007) and König et al. (2005) who could not find empirical evidence in favor of the aforementioned hypothesis. Compared to Treutlein (2007), net EU recipients seem to be more willing to transpose EU directives and primarily choose to implement via *secondary* transposition devices, i.e. via instruments that due not involve a decision in the national parliament. Further, we find evidence for larger countries to transpose better than smaller ones. From an economic perspective this result seems somewhat contraire to H1a in section 3.3. Smaller countries should generally collect greater economic benefits from union membership than larger ones. However, considering EU15 member states only, the larger countries may also be the wealthier ones with relatively better administrations. If this is the case, our result would well be in line with the Europeanization literature proposing wealthier countries to transpose better.

Finally, our estimations reveal that economically open countries with a large amount of intra-EU15 exports transpose significantly more than their union colleagues. This is well in line with Perkins and Neumayer's conjecture of union benefits to encourage a member states transposition willingness. It further is in line with H1a, as economic theory leads us to expect externalities to play a greater role for economically more open countries.

3.6 Conclusion

Explaining differences in the transposition of EU directives, we find that both factors matter: political-economic macro- as well as policy-level factors. According to our multilevel econometric analysis, a member state's willingness to transpose significantly increases within years of parliamentary elections, with the degree of parliamentary fragmentation, with the size of a country, the amount of net EU receipts and intra-EU15 exports. In contrast, institutional veto players and national sector saliency are found to be the main obstacles to transposition.

Interestingly, different sets of macroeconomic, institutional and policy variables seem to explain variations in a country's *willingness* to transpose and a country's *choice* of legal transposition instrument(s). Member states tend to transpose more in years of parliamentary election, but less via *primary* legislation involving national parliaments. Further, we find member state government's to be more willing to transpose EU directives if they receive large net EU transfers. Net EU recipients, however, also seem to prefer *secondary* legislative devices to a higher degree than their colleagues. These results stand in contrast to the somewhat contra-intuitive findings of Perkins & Neumayer (2007) and König et al. (2005) regarding member state compliance and transposition delays.

With respect to our policy-oriented main hypotheses, CFF has proved to be useful in explaining cross-policy differences in transposition. In line with Perkins & Neumayer (2007), we find empirical evidence that union members do consider the union's overall benefits in their implementation decision. Apparently, member states are more willing to transpose EU directives in policy areas that are efficiently centralized to the EU level. Regarding the underlying efficiency criteria our results are, however, ambiguous: In line with our perception, member states seem to transpose more in policy areas with higher

transposedodd	m1	m2	m3	m4	m5
vps	-0.137 *	-0.133 *	-0.127 *	-0.135 *	-0.133 *
	(0.070)	(0.070)	(0.071)	(0.070)	(0.071)
govcontrol	0.046	0.037	0.030	0.028	0.027
	(0.065)	(0.066)	(0.069)	(0.067)	(0.068)
election	0.219 **	0.220 **	0.217 **	0.219 **	0.219 **
	(0.109)	(0.109)	(0.110)	(0.110)	(0.110)
empsh	-0.012 **	-0.014 **	0.018 **	0.002	-0.002
	(0.006)	(0.006)	(0.007)	(0.004)	(0.019)
labemp	-0.001	-0.001	-0.009 ***	-0.001	-0.002
	(0.002)	(0.001)	(0.002)	(0.001)	(0.003)
personal	0.109 **	0.111 **	0.110 *	0.112 **	0.112 *
	(0.056)	(0.056)	(0.058)	(0.057)	(0.057)
popln	0.331 ***	0.330 ***	0.361 ***	0.322 ***	0.326 ***
	(0.119)	(0.121)	(0.125)	(0.123)	(0.124)
gdppcrln	0.538	0.516	0.499	0.619	0.590
	(0.418)	(0.421)	(0.428)	(0.423)	(0.428)
neteureceipts	3.9e+05 **	3.9e+05 **	4.0e+05 **	3.9e+05 **	3.9e+05 **
	(1.6e+05)	(1.6e+05)	(1.6e+05)	(1.6e+05)	(1.6e+05)
exportseu15	0.026 ***	0.028 ***	0.032 ***	0.032 ***	0.031 ***
	(0.010)	(0.010)	(0.010)	(0.010)	(0.010)
central		0.435 **			
		(0.188)			
externalityh			-0.017		
			(0.219)		
externalitymh			1.743 ***		
			(0.360)		
prefhetm				1.399 ***	
				(0.172)	
prefhetl				-0.373 **	
				(0.158)	
denergyenvir					0.217
					(0.483)
dindustry					0.242
					(0.724)
dtransport					1.529 ***
					(0.333)
dpubsoc					-0.159
					(0.562)
constant	-31.997	-29.231	-40.968	-29.788	-30.926
	(34.340)	(34.504)	(34.853)	(34.551)	(34.697)
log(sd(μ_j))	-1.691	-1.512 *	-1.167 ***	-1.090 ***	-1.085 ***
	(1.095)	(0.785)	(0.435)	(0.343)	(0.345)
log(sd(ν_{ij}))	-0.492 ***	-0.553 ***	-0.887 ***	-1.488 ***	-1.433 ***
	(0.143)	(0.148)	(0.205)	(0.418)	(0.392)
log(sd(ε_{ij}))	0.252 ***	0.251 ***	0.253 ***	0.253 ***	0.254 ***
	(0.028)	(0.028)	(0.028)	(0.028)	(0.028)
N	717	717	717	717	717
Wald chi2	33.37 ***	39.02 ***	64.78 ***	116.68 ***	114.02 ***
BIC	2638.176	2641.061	2630.836	2610.910	2622.441
ll	-1269.77	-1267.93	-1259.53	-1249.57	-1248.76
LR test	68.84 ***	62.98 ***	30.82 ***	18.58 ***	19.12 ***

Table 3.5: Two-way mixed model estimation results

levels of externalities. However, compared to sectors with high preference asymmetries, we find member states to transpose significantly more in sectors with medium preference asymmetries but significantly less if preference heterogeneity is low. For a final judgement on hypotheses H1, H1a and H1b, however, further empirical research needs to be undertaken and both underlying measures of sector externalities and preference heterogeneity improved.

With an eye on future multilevel comparative studies, our econometric analysis has detected random country- and sector-within-country effects to play a statistically significant role for analyzing transposition ratios. Mixed model estimations in STATA 9 have proved as a promising way to econometrically account for these influences. Given these results, applying pooled OLS would still yield consistent coefficients, but render biased inference regarding their statistical significance.

In summary, our study has shown that the optimal allocation of policy prerogatives is not only important from an economic, fiscal federalist perspective. It also carries political implications regarding the implementation of decisions within international unions. In the case of the European Union, enhancing unitarisation, i.e. creating a political union in addition to the Common Market, would accordingly require an economically efficient allocation of policy areas at the EU level. Classical fiscal federalist theory may serve as fruitful playing field for further theoretical modeling explaining the observed cross-policy variations in member states' implementation performances.

3.A Summary statistics

Variable	*Obs*	*Mean*	*Std. Dev.*	*Min*	*Max*
transposedodd	1140	1.65	1.58	−2.08	4.60
transposed	1140	0.76	0.20	0.11	1.00
vps	1025	2.41	1.30	1.00	6.00
govcontrol	1275	3.73	1.69	1.00	7.00
election	1275	0.28	0.45	0.00	1.00
personal	1275	2.37	2.47	0.20	7.60
empsh	1111	15.77	15.11	0.40	47.20
labemp	1095	109.23	61.28	2.60	293.50
popln	1275	9.43	1.34	5.91	11.32
gdppcrln	1275	−3.89	0.28	−4.65	−3.18
neteureceipts	980	−960.44	4840.06	−25406.20	10444.00
exportseu15	1275	21.81	14.53	4.00	62.20
central	1275	0.40	0.49	0.00	1.00
externalityh	1275	0.20	0.40	0.00	1.00
externalitymh	1275	0.40	0.49	0.00	1.00
externalityl	1275	0.40	0.49	0.00	1.00
prefheth	1275	0.60	0.49	0.00	1.00
prefhetm	1275	0.20	0.40	0.00	1.00
prefhetl	1275	0.20	0.40	0.00	1.00

Table 3.6: Summary statistics

Variable	*Obs*	*Mean*	*Std. Dev.*	*Min*	*Max*
transposed	228	0.77	0.17	0.13	1.00
empsh	241	6.93	5.05	1.00	19.60
labemp	239	23.40	14.07	2.60	69.60
central	255	0.00	0.00	0.00	0.00
externalityh	255	0.00	0.00	0.00	0.00
externalitymh	255	0.00	0.00	0.00	0.00
externalityl	255	1.00	0.00	1.00	1.00
prefheth	255	1.00	0.00	1.00	1.00
prefhetm	255	0.00	0.00	0.00	0.00
prefhetl	255	0.00	0.00	0.00	0.00

Table 3.7: Summary statistics for policy area 1: agriculture

Variable	*Obs*	*Mean*	*Std. Dev.*	*Min*	*Max*
transposed	228	0.71	0.22	0.17	1.00
empsh	240	1.26	0.65	0.40	3.00
labemp	238	192.51	42.57	121.80	293.50
central	255	0.00	0.00	0.00	0.00
externalityh	255	0.00	0.00	0.00	0.00
externalitymh	255	1.00	0.00	1.00	1.00
externalityl	255	0.00	0.00	0.00	0.00
prefheth	255	1.00	0.00	1.00	1.00
prefhetm	255	0.00	0.00	0.00	0.00
prefhetl	255	0.00	0.00	0.00	0.00

Table 3.8: Summary statistics for policy area 2: energy/environment

Variable	*Obs*	*Mean*	*Std. Dev.*	*Min*	*Max*
transposed	228	0.76	0.16	0.25	1.00
empsh	234	38.27	3.38	30.40	47.20
labemp	238	97.39	7.29	75.00	107.35
central	255	0.00	0.00	0.00	0.00
externalityh	255	0.00	0.00	0.00	0.00
externalitymh	255	0.00	0.00	0.00	0.00
externalityl	255	1.00	0.00	1.00	1.00
prefheth	255	1.00	0.00	1.00	1.00
prefhetm	255	0.00	0.00	0.00	0.00
prefhetl	255	0.00	0.00	0.00	0.00

Table 3.9: Summary statistics for policy area 3: industry

Variable	*Obs*	*Mean*	*Std. Dev.*	*Min*	*Max*
transposed	228	0.85	0.18	0.17	1.00
empsh	183	4.41	0.67	2.60	5.80
labemp	175	122.18	19.49	97.20	186.50
central	255	1.00	0.00	1.00	1.00
externalityh	255	0.00	0.00	0.00	0.00
externalitymh	255	1.00	0.00	1.00	1.00
externalityl	255	0.00	0.00	0.00	0.00
prefheth	255	0.00	0.00	0.00	0.00
prefhetm	255	1.00	0.00	1.00	1.00
prefhetl	255	0.00	0.00	0.00	0.00

Table 3.10: Summary statistics for policy area 4: transport

Variable	*Obs*	*Mean*	*Std. Dev.*	*Min*	*Max*
transposed	228	0.70	0.21	0.11	1.00
empsh	213	27.19	5.05	19.00	40.30
labemp	205	115.30	18.62	86.50	182.10
central	255	1.00	0.00	1.00	1.00
externalityh	255	1.00	0.00	1.00	1.00
externalitymh	255	0.00	0.00	0.00	0.00
externalityl	255	0.00	0.00	0.00	0.00
prefheth	255	0.00	0.00	0.00	0.00
prefhetm	255	0.00	0.00	0.00	0.00
prefhetl	255	1.00	0.00	1.00	1.00

Table 3.11: Summary statistics for policy area 5: public and social services

3.B Figures

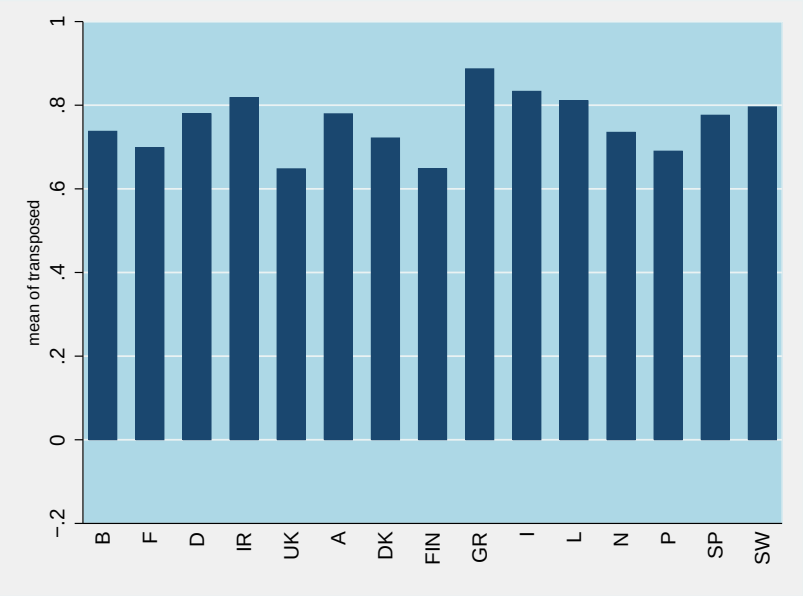

Figure 3.1: Transposition ratios per member state, averaged across years and policy areas

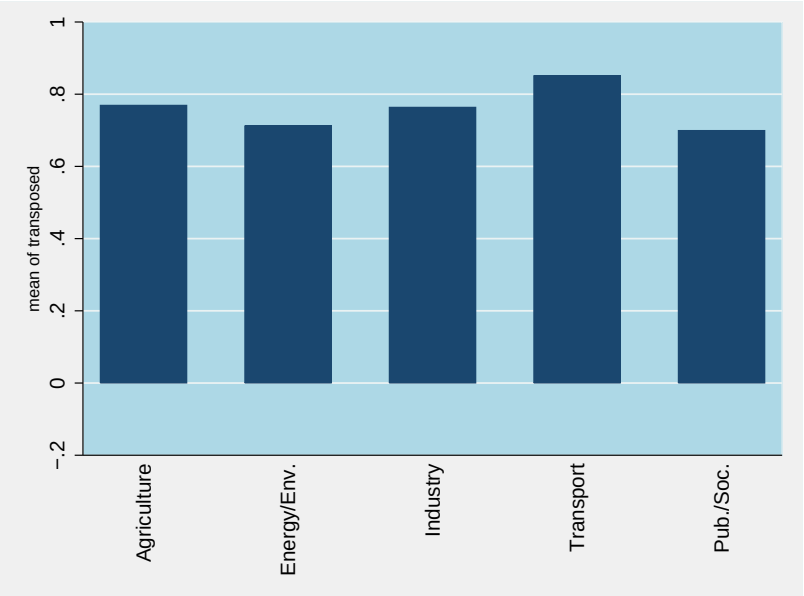

Figure 3.2: Transposition ratios per policy area, averaged across years and member states

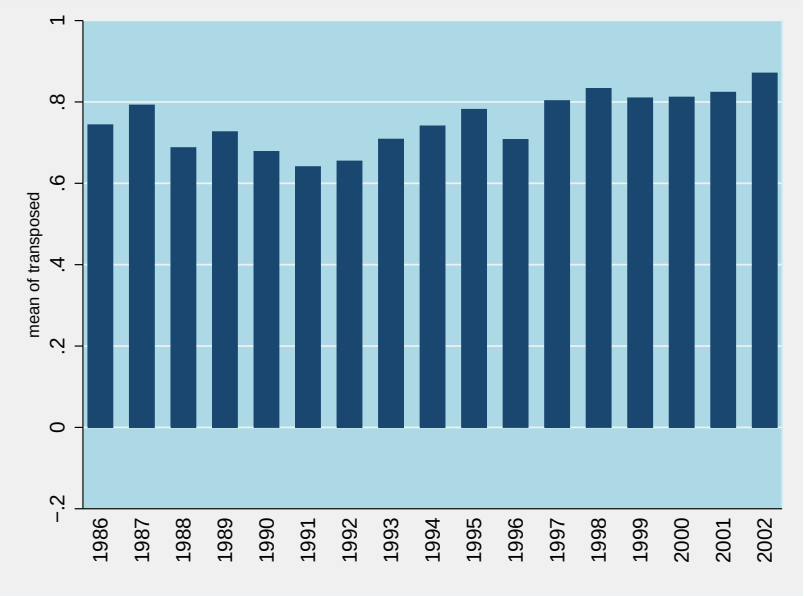

Figure 3.3: Transposition ratios per year, averaged across policy areas and member states

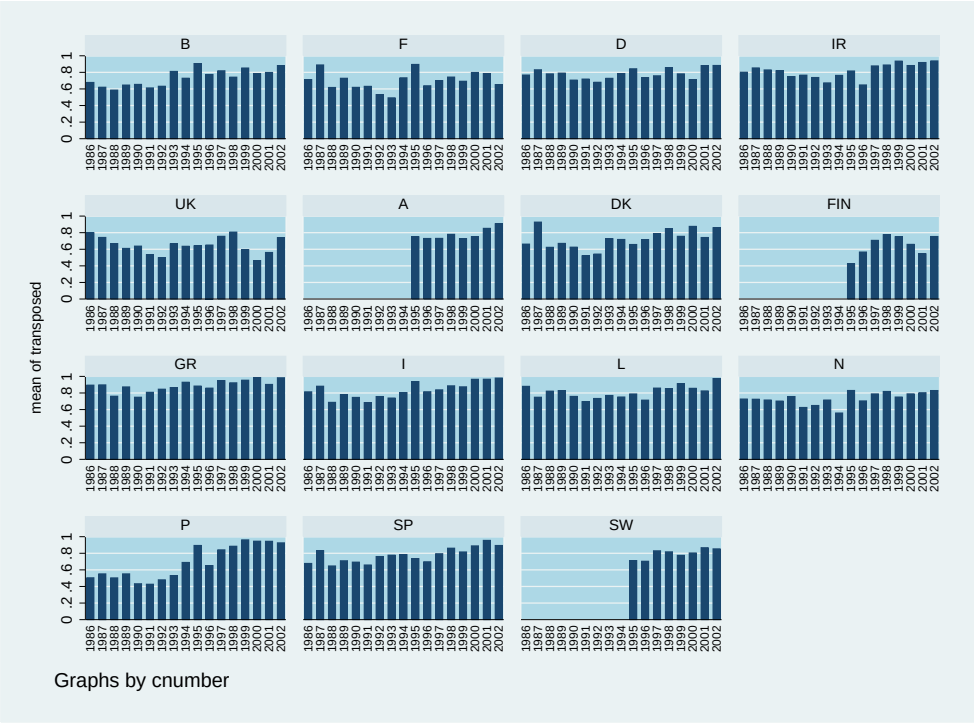

Figure 3.4: Transposition ratios per member state and year, averaged across policy areas

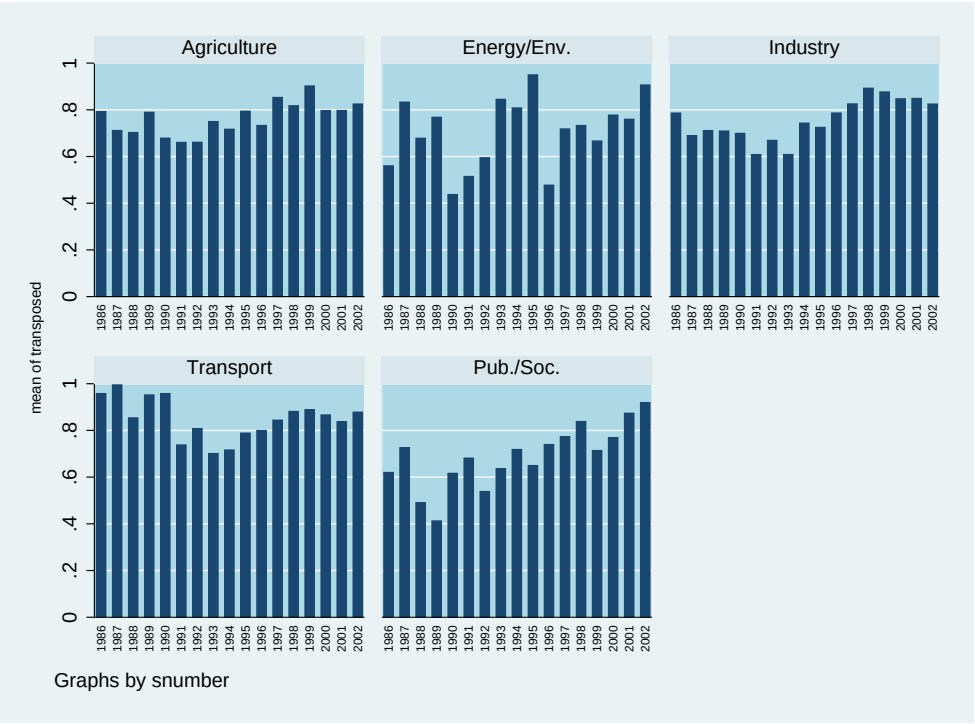

Figure 3.5: Transposition ratios per policy area and year, averaged across member states

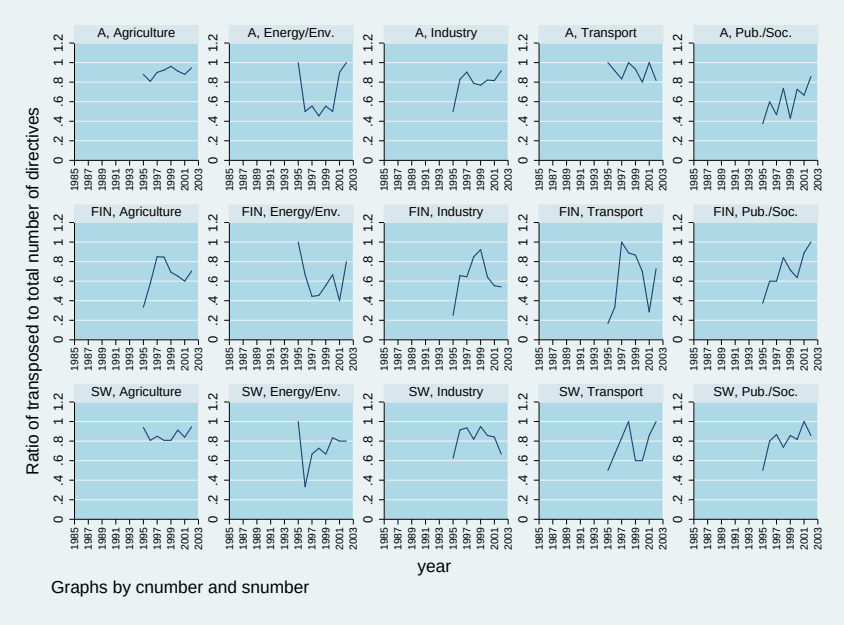

Figure 3.6: Transposition ratios per policy area and year for Austria (A), Finland (FIN) and Sweden (SW)

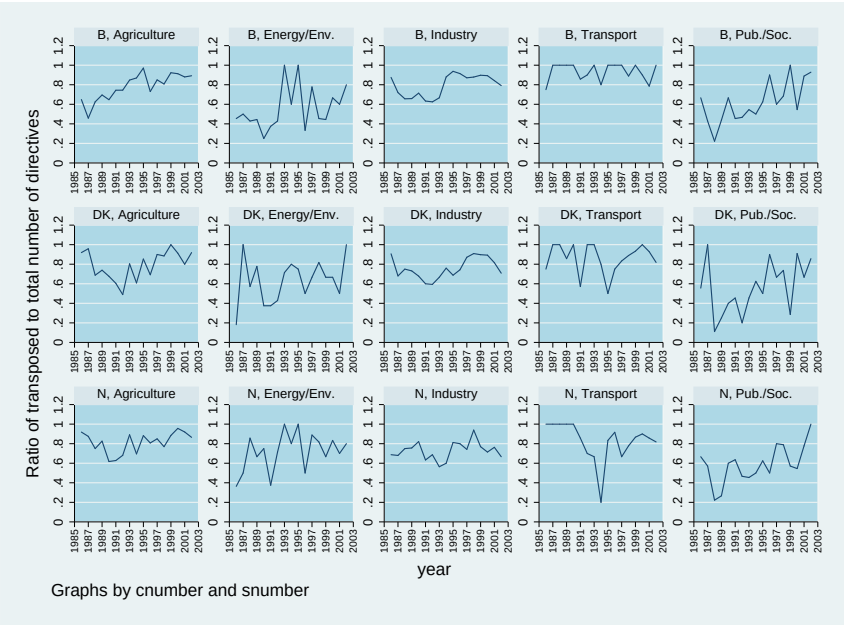

Figure 3.7: Transposition ratios per policy area and year for Belgium (B), Denmark (DK) and The Netherlands (N)

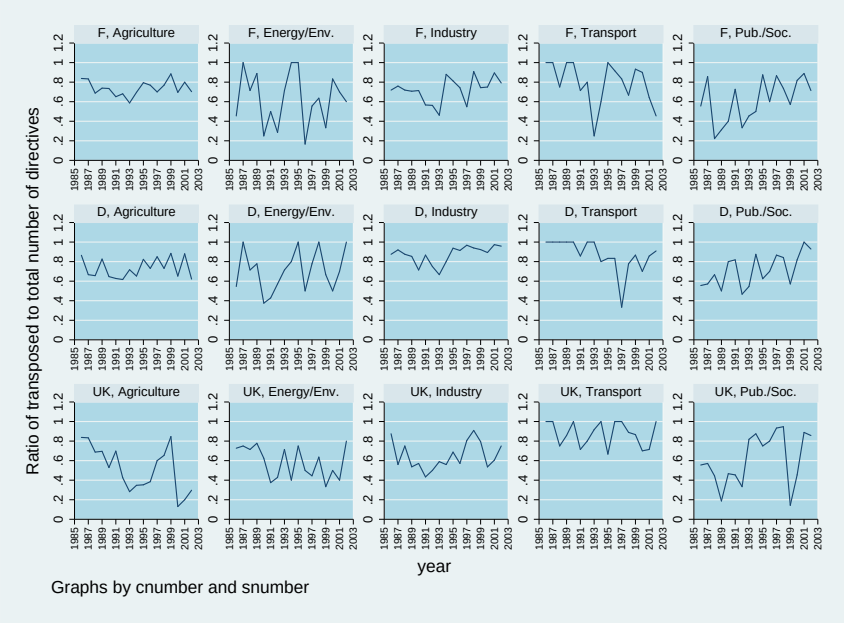

Figure 3.8: Transposition ratios per policy area and year for France (F), Germany (D) and United Kingdom (UK)

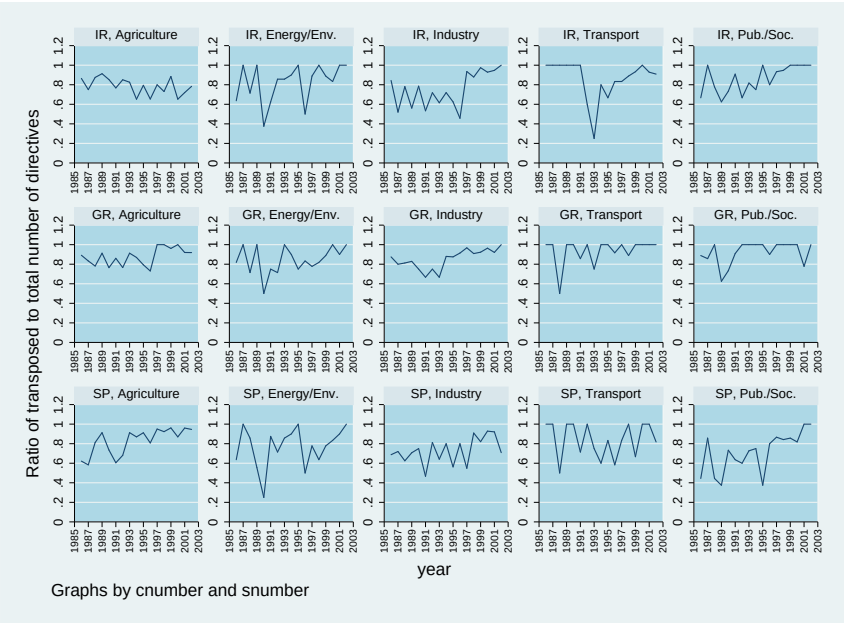

Figure 3.9: Transposition ratios per policy area and year for Ireland (IR), Greece (GR) and Spain (SP)

Figure 3.10: Transposition ratios per policy area and year for Italy (I), Luxembourg (L) and Portugal (P)

Policy implications and conclusion

The empirical findings of chapters 1, 2 and 3 lead to the following policy implications:

First, if the EU is striving for complementing economic integration by a 'political unitarisation' in the sense of an equal application of EU law in the member states, our results suggest, in line with Alesina et al. (2005) and Tabellini (2003), that the allocation of policy prerogatives should be reconsidered and possibly reformed. This is because our empirical investigation reveals policy-specific transposition ratios to be significantly higher if this policy is efficiently centralized to the EU level. Classiscal fiscal federalist theory has proved useful in judging the allocation of policy prerogatives within multi-level institutional settings.

Second, from a normative perspective, the democratic deficit of the EU had better be addressed and the public debate be expanded to national transposition processes. Specifically, our analysis of the choice of legal transposition instruments used has shown that member state executives may have the power and incentives to strategically and systematically circumvent national parliaments when it comes to the transposition of EU law into national legislation.

Generally speaking, in order to prevent implementation problems from the outset, reforms of the EU decision-making process should always be accompanied by considerations of how policies are enforced, especially in an enlarged Europe.

With respect to cultural diplomacy, our empirical results should not be seen to question the overall importance of European cultural institutes and their staff for cultural diplomacy. Rather, they emphasize the necessity of clear-cut cultural political and economic goals, thorough data collection and performance evaluation in this policy area. The transparency and traceability of cultural policy outcomes need to be improved, not the least since 'culture' needs to compete with other policy areas for a share in govern-

ment budgets and for other kinds of public and private funds. In this respect, statistic methods could be a useful tool for providing explicit and objective figures for political and economic decision-makers.

Hopefully, the above empirical analyses and results are stimulating for practitioners, political decision-makers and scientists alike. It goes without saying that further theoretical and empirical work is needed to reinforce and refine our results. In that sense it appears apt to conclude with the words of Sir Isaac Newton,

'What we know is a drop; what we don't know is an ocean.'.

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