

## The impact of societal preferences on national monetary policy outcomes: A revival of economic pluralism

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### Abstract

*This study investigates how societal preferences impact policy choices in the trade-off between exchange rate stability and monetary policy autonomy. Building on the theoretical approach of economic pluralism, it is argued that the size and strength of different economic actors are the central determinants for monetary policy outcomes. Times-series cross-sectional regression analysis and a fixed effect model are used to analyse the predictors for domestic monetary policy outcomes in a timespan from 1960 up to 2010 (N=467). The results suggest that the size of the export sector, the banking sector and the share of workers to gross capital formation are the central determinants for monetary policy outcomes. Being in line with economic pluralism, the finding stands in contrast to the previous assumption that the partisan character of governments plays the decisive role. This implies a dominance of lobby groups over government discretion in monetary policy choices.*

### Keywords

Economic pluralism; exchange rate stability; government discretion; government ideology; monetary policy; monetary policy autonomy; Mundell-Fleming trilemma

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## Introduction

The question of who holds the reins in a country and determines the direction of public policy has always fascinated academic scholars and political theorists (e.g. already Aristotle 4th-century BC; Machiavelli 1532). In democracies, the basic principle of rule of the people entails that the will of the population has to be translated in some way into policy outcomes. However, it is debatable how these translation processes occur and which channels between the people and the state are the main platforms of policy-creation.

Some scholars have argued that governments have a significant degree of discretion in policy-creation and that their ideological orientation is the central determinant for policy outcomes (e.g. Bearce 2003; Bjørnskov 2008; Potrafke 2009). They assume that governments are mainly motivated by policy-seeking goals and always try to implement their favored policies. Other scholars doubt the discretionary power of politicians and emphasize the crucial impact of powerful interest groups (e.g. Berger 1983; Lijphart 1975; Pizzorno 1981). In this vein, Becker has once compared the role of politicians with managers of firms. He argued that politicians are hired to further the collective interests of pressure groups, who could fire or repudiate them with the next elections in case they deviate from their interests (Becker 1983, 396). According to this logic, politicians are reduced to mere puppets which have to serve the interests of powerful groups in the society.

The question who determines the direction of a country is in particular relevant with regard to highly controversial topics where conflicting interests are competing with each other. One of those topics is the trade-off between monetary policy autonomy and exchange rate stability which each state faces in an environment of international capital mobility (Mundell 1964). While it is beneficial for some groups in society to pursue an autonomous monetary policy, others held a distinct preference for stable exchange rates. This paper aims to shed light on the translation of societal preferences into policy outcomes with focus on exactly this dilemma of monetary policy. Consequently, this analysis aims to answer the following research question:

*“How do societal preferences shape policy outcomes in the trade-off between monetary policy autonomy and exchange-rate stability?”*

Hereby, this paper will built on an analysis by David Bearce in 2003 entitled *“Societal Preferences, Partisan Agents and Monetary Policy Outcomes”* (Bearce 2003). Bearce argues in his influential paper that the ideology of government parties is the central determinant for the decision in the trade-off

between monetary policy autonomy and exchange-rate stability. Based on a principal-agent model he suggests that leftist parties are the agents of all societal groups which prefer monetary policy autonomy and that rightist parties are the agents of all societal groups with a preference for exchange-rate stability. Thus, he concludes that the partisan character of a government determines the monetary policy of a country whereas he regards the size and strength of different societal groups as irrelevant. He underpins this assumption with empirical evidence of twenty-two OECD countries in the period between 1975 and 1992 and he supplies his findings with further evidence from a historical case study about lobbying for monetary policy in the US. His quantitative evidence illustrates that the ideology of government parties is indeed the central determinant for a country's monetary policy and that the strength of different societal groups emphasized by the economic pluralism is of minor importance. However, his analysis is based on several theoretical and methodological flaws which will be elucidated in the following. In particular, a re-analysis of his study with a newer dataset and a more sophisticated measure of the central explanatory variable will demonstrate that the power and willingness of government parties to shape the monetary policy of a country is actually smaller than previously thought.

This paper will proceed in the following way. First, the Mundell-Fleming model - which represents the foundation of this study - will be introduced. Secondly, I will demonstrate with several theories about preference formation why different actors in the society have different priorities regarding monetary policies. In a next step, the two central theories for the translation of societal preferences into policy outcomes will be contrasted with each other. Hereby, I will critically discuss Bearce's party-as-agent model and its implications. Afterwards, I will explain in the methods section the databases and the statistical model used for this re-analysis. Hereby, I will supply a times-series cross-sectional OLS regression analysis with a fixed effects model which accounts for several problems of pooled data. Finally, I will summarize the findings and explain why economic pluralism is still the dominant theory for the translation of societal preferences into monetary policy outcomes.

### **1.) The implications of the Mundell-Fleming trilemma for monetary policy**

The Mundell-Fleming model of international macroeconomics was developed by Robert A. Mundell (Mundell 1960/ 1961a/ 1961b/ 1963/ 1964) and Marcus Fleming (1962). Its central contribution was the systematic analysis of the impact of international capital mobility on determining the effectiveness of macroeconomic policies under different exchange rate regimes (Frenkel and Razin 1987, 567). The core of the Mundell-Fleming model is the so-called "impossible trilemma"

(Aizenman 2011) which posits that economies cannot simultaneously maintain free capital movement, a fixed exchange rate, and an independent monetary policy.

Marcus Fleming argued in his seminal study on international macroeconomics that the stimulus to employment, income, and output resulting from a given increase in public expenditure will be larger with a floating exchange rate than with a fixed one (Fleming 1962, 372). Underpinning this assumption, Robert Mundell demonstrated that under a floating exchange rate monetary expansion puts downward pressure on the interest rate and induces capital outflow, further depreciating the exchange rate and creating an export surplus, which in turn increases, via the multiplier effect, income and employment (Mundell 1963). Hence, Mundell showed that monetary policy becomes a powerful tool of stabilization policy under flexible exchange rates when the condition of capital mobility is given (Mundell 1963). The same impact cannot be achieved under a fixed exchange rate since the maintenance of the exchange rate thwarts the effect triggered by a depreciation of the currency. The contemporary international economy is characterized by a great mobility of capital across national borders (Frieden 1991), i.e. the condition of capital mobility is fulfilled for almost all developed economies. Thus, the choice of any exchange-rate system in each country is based on the trade-off between domestic economic independence on the one hand and exchange-rate stability on the other (Oatley 2012, 205).

The question arises which of those two conflicting monetary policy goals is more desirable for states. It can be assumed that in democratic states the choice for one of those monetary policy goals is determined by societal preferences since the people should be the sovereign of the country. Therefore, I will discuss in the next section how societal preferences towards the trade-off between monetary policy autonomy and exchange rate stability emerge and which opposing interests are competing.

## **2.) Societal preferences for monetary policy outcomes**

To understand how societal preferences for monetary policy outcomes emerge, it is necessary to identify different societal actors which are affected in distinct ways by the degree of realization of the conflicting monetary policy goals. Since the impact on societal actors is of economic nature, it makes sense to differentiate them according to their economic activities. I follow hereby the classification scheme from Bearce by identifying different economic actors under the frameworks of economic sectors and production factors.

The idea of production factors is based on the influential Heckscher-Ohlin model. This model assumes that all factors of production within countries are mobile across sectors, that there are constant returns to scale in production and that markets are perfectly competitive (Mansfield and Mutz 2009, 427). Based on those assumptions, the Heckscher-Ohlin model distinguishes in its basic form between two main production factors, namely capital and labor. While the model was originally developed to explain trade policy preferences (Oatley 2012, 70f.), diverging preferences of capital and labor can be also identified with regards to other national economic policies. In this vein, it has been argued that the production factor labor is more tied to the local economy than capital and that it therefore prefers domestic monetary autonomy (Kapstein 1996). This can be explained by the fact that domestic actors can benefit from currency depreciations processes induced by monetary policies. And because of its prevailing domestic economic activity, the production factor labor is less affected by varying exchange rates. In the contrary, the production factor capital has a highly mobile nature. Therefore, it relies more on stable exchange rates and less on an autonomous monetary policy by national states which shapes its preference the other way around. Taken together, the framework of production factors predicts that capital has a preference for exchange rate stability whereas labor holds a preference for domestic monetary policy autonomy.

In a second step, I will consider the differentiation of economic sectors emphasized by the Ricardo-Viner model. The Ricardo-Viner model assumes, in contrast to the Heckscher-Ohlin model, that factor specificity is very high, i.e. that some factors cannot move at all among industries (Alt et al. 1996, 690). Consequently, we expect coalitions to form not along the lines of factors but along the lines of export- versus import-competing industries or sectors (Alt et al. 1996, 692). Labor and capital interests within a sector can be expected to unite since these factors are specific to the respective sector (Bearce 2003, 367). The advantages of a fixed exchange rate are that cross-border trade, payments and investments become more predictable (Hefeker 1998, 6). This is in particular advantageous to the export sector which therefore holds a strong preference for exchange rate stability. If companies rely on the export of their goods, they prefer a certain degree of reliability of currency movements to anticipate their future revenues. The same applies to international investors and the banking sector which also depend on transactions across currencies. The downside of exchange rate stability is that the currency cannot be depreciated to make domestic goods more competitive (Hefeker 1998, 6). Consequently, companies operating in the import-competing sector desire a certain degree of monetary autonomy. They are not affected by the uncertainty associated

with varying exchange rates and therefore have no fundamental interest in stable currencies. This applies also to producers of non-tradable services who do not operate in an international context.

In summary, it can be stated that all internationally oriented actors prefer currency stability, while domestically oriented actors accept the costs of greater currency instability and prefer monetary autonomy (Frieden 1991, 446). Considering the predictions made by the production factor and the economic sector model, several different groups with preferences for either monetary autonomy or for exchange rate stability can be identified. Namely, the production factor labor, the import-competing sector, and the non-tradable services sector have a preference for monetary autonomy, whereas the production factor capital, the export-competing sector, the banking sector, and international investors prefer exchange rate stability.

### **3.) Translation of societal preferences into monetary policy outcomes**

After the identification of different preferences for either monetary autonomy or exchange rate stability, it is necessary to scrutinize in a second step how those preferences are translated into monetary policy outcomes. There are two main theoretical frameworks for those translation processes which will be introduced and contrasted below.

#### **3.1) *Economic pluralism***

The theory of economic pluralism argues that policy outcomes are a function of the political competition between different societal actors which is determined by their relative power and their propensity for collective action (Garrett and Lange 1995, 628). Rooted in a liberal theory of international politics (Moravcsik 1997), pluralism assumes that the dominant groups in a society will finally implement their favored policies. Therefore, Dahl has connected the emergence of pluralism to a particular kind of regime termed ‘polyarchy’ (Dahl 1978, 191). While hegemonic regimes thwart the development of pluralism, polyarchies are more open to organised opposition and thereby induce the formation of a pluralistic order.<sup>12</sup> In such political systems, political institutions regard interest groups as partners rather than as opponents. They try to establish cooperation with each other, relying on mutual acquiescence and approval (Hill and Varone 2014, 27). Pluralism assumes that various interest groups have open and equal access to policy-making and shape the policy process according to their respective aims (Chari and Kritzing 2006, 44). As a consequence, pluralism leads to a balance of interests as it satisfies each tendency in the society in proportion to its relative

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<sup>12</sup> Democratic states come most close to the polyarchic ideal and are therefore most suitable for pluralism.

representation in the population (Pizzorno 1981, 259). Following the logic of pluralism, government institutions just provide the arena for group competition and do not exert a significant impact on policy decisions themselves (Ikenberry, Lake, and Mastanduno 1988, 7). Therefore, politicians have not an autonomous role of policy shaping but instead they follow the will of the powerful actors in a country which emerge as dominant pressure groups (Becker 1983, 396).

Applied to the trade-off between monetary policy autonomy and exchange rate stability, the pluralist theory suggests that a state will either strive for monetary policy autonomy in case that groups with such a preference predominate in a society or pursue exchange rate stability in case that groups with the opposite preference are superior. Thus, the distribution of the size and strength of different societal groups will shape monetary policy outcomes. Connecting this rationale to the preference patterns discussed above, it can be assumed that the respective size of those economic actors shapes the monetary policy choice. More specifically, according to the pluralist logic it is expected that the size of the export-competing sector, the import-competing sector, the banking sector as well as the size of unionized workforce influence the choice between monetary autonomy and exchange rate stability. Based on this assumption, I will examine the following hypotheses to test the theory of economic pluralism:

*H1:* Countries with higher percentages of exports to total GDP have higher degrees of exchange rate stability.

*H2:* Countries with higher percentages of imports to total GDP have a higher degree of monetary autonomy.

*H3:* Countries with a higher percentage of unionized workforce to total salary earners have a higher degree of monetary autonomy.

*H4:* Countries with a larger banking sector have a higher degree of exchange rate stability.

*H5:* Countries with a higher percentage of workers to gross capital formation have a higher degree of monetary autonomy.

### 3.2) *The 'party-as-agent model' from David Bearce*

David Bearce provides in his paper an alternative theory for the translation of societal preferences into monetary policy outcomes. Building on a principal-agent approach, he emphasizes the crucial role of the partisan character of governments for the choice of monetary policies.

His point of departure is the fact that leftist parties are traditionally the protectors of labor interests and that rightist parties often form close alliances with capital owners. By focusing on the US context, Bearce argues that less-skilled manual workers in the import-competing manufacturing sector and white-collar workers in the service sector are a solid leftist constituency. In contrast, skilled-manual workers which often work in export-oriented industries, capital-intensive industries and investment banks are closely aligned with the political right. Considering the different preference patterns elucidated above, Bearce infers that leftist political parties advocate the interests of societal groups with preferences for monetary autonomy and that rightist political parties represent the interests of societal actors with preferences for exchange rate stability. He assumes that a delegation process from actors with particular monetary policy preferences to political parties takes place, whereby he regards the societal groups as principals and political parties as agents. In the desire to fulfil the policy preferences of their respective principals, leftist governments pursue an autonomous monetary policy and rightist governments implement stable exchange rates. Thus, the central indicator of a country's monetary policy is the partisan character of its respective government.

Since this theory is grounded on the rather utopian assumption that governments are solely interested in the preferences of their voters, Bearce also introduces a variation of his theory. This variation accounts for the fact that vote-seeking governments care also about the interests of powerful actors within a society. In the framework of the principal-agent-model, governments are perceived as 'shirking' when they act against the preferences of their principals. Terming his variation approach as *party-as-agent model with significant shirking*, he tries to make sense out of the fact that governments pursue also strategic vote-seeking goals and that they are not pure policy-seekers. While the party-as-agent model with significant shirking assumes an interplay between economic pluralism and discretion of government parties, I will focus here on testing the party-as-agent model in its pure form. If there is cumulative evidence for economic pluralism and the party-as-agent model, then the party-as-agent model with significant shirking would be the theoretical framework which the strongest predictive power. But a necessary condition therefor is that I find in a first step evidence

for an impact of government ideologies on monetary policy outcomes. Thus, I examine the party-as-agent model in its pure form by testing the following hypotheses:

*H6:* Countries with more leftist governments have higher degrees of monetary autonomy.

*H7:* Countries with more rightist governments have higher degrees of exchange rate stability.

### ***3.3) Critical discussion of David Bearce's 'party-as-agent model'***

Several points of criticism should be considered with regard to the party-as-agent model. First, the party-as-agent model makes very optimistic assumptions about the ability and willingness of government parties to pursue the favored policies of their voters. It assumes that a government is determined to implement the preferred policies of its voters irrespective of opposition from various powerful actors in the society. Previous research has demonstrated that governments are not immune against pressures from interest groups and especially not against pressure from powerful business entrepreneurs (Golden 1998; Klüver 2009; Yackee and Yackee 2006). A remarkable example for the significant influence of interest groups on policy outcomes is the lobbying of the National Rifle Association in the US against gun control which is successful against the majority's preference for a more restricted gun control (Dearden 2015). Ignoring such impacts, the party-as-agent model treats government parties as pure policy-seeking actors which try to implement the policies they promised to their voters. In contrast to this assumption, a multitude of studies showed that governments are also motivated by vote-seeking goals and that they often act strategically to reassure their re-election (Crisp et al. 2004; Crisp, Jensen, and Shomer 2007).

Secondly, it is not entirely clear why leftist parties should always support monetary autonomy and rightist parties categorically prefer exchange-rate stability. Bearce's theory is rooted in the US-context where skilled manual workers are often found in the export-oriented industries whereas less-skilled manual workers are generally trapped in the import-competing manufacturing sector (Bearce 2003, 381). However, in several other OECD countries this generalization does not hold. For example in Norway many low-skilled manual workers work in the export-oriented crude oil industry representing typical clients for left-wing parties. It seems to be an oversimplification to regard leftist parties categorically as agents of actors with preferences for monetary autonomy and rightist parties always as agents of actors who prefer exchange-rate stability.

Thirdly, Bearce employs a one-dimensional left-right heuristic of party ideologies which is a strong simplification of reality. This might work for the American context with only two parties to be classified but the party structure in other OECD countries is often far more complex. Taking into account this polymorphic character of ideology, it has become a standard to differentiate between the economic and sociopolitical dimension when classifying party ideologies (Bräuning and Debus 2011). Bearce fails to acknowledge those different dimensions and treats party ideologies as one-dimensional categorizing them on a scale ranging from 1 up to 5. This problem will be encountered with a more fine-grained measure of party ideology which will be elaborated in the methodological section below.

#### 4.) Methods

The methodological section is divided into three parts. First, I will critically evaluate the measures used by Bearce. Afterwards, I describe my own variables and their operationalizations and subsequently I introduce my statistical model.

##### 4.1) *Critique of David Bearce's methods*

The central weakness of Bearce's study is the fact that he measures his central theoretical innovation, namely the party-as-agent model, with a rather superficial and crude proxy variable. The ideological complexion of the respective government in power is captured with a five-point scale where lower values indicate more right-wing ideologies (Bearce 2003, 386). This variable is taken from the Party Government Data Set established by the University of Amsterdam (Woldendorp, Keman, and Budge 2000). They categorize the ideology of parties in a highly simplistic way as either left, central, or right. In a second step, they account for the relative strength of parties in government by transforming the proportional shares of right, center and left parties into scores ranging from 1 till 5 representing the degree of representation of the different ideologies. The grounding of Bearce's study on such a crude variable, based on a breakdown of the complex issue of ideology to a three categories indicator, raises severe doubts to the validity of his results. Additionally, the operationalization of his central dependent variable, namely monetary autonomy, seems to be prone to measurement errors. Bearce measures monetary autonomy with the differential between a country's domestic interest rate and the prevailing world interest rate (Bearce 2003, 385). Hereby, the prevailing world interest rate is operationalized with the average interest rate of the US, Japan, Germany, Britain and France. Bearce does not provide a theoretical justification for choosing those countries and in an increasingly globalized world, it seems questionable whether the monetary policy of countries like Britain and

France is as influential as the monetary policy of raising economic players such as China, India or Brazil. The recent inclusion of the Chinese Yuan to the SDR basket of reserve-currencies by the IMF (Mathew 2015) illustrates the growing importance of other currencies and shows that they also significantly impact the prevailing world interest rate. Acknowledging the difficulties of capturing such latent concepts as monetary policy autonomy and government ideology, this analysis aims to improve their measurement by using more sophisticated and fine-grained measures that have been developed by other scholars.

#### *4.2) Variables and Data Sources*

For the purpose of my re-analysis, I use the same variables as Bearce, but the variables originate from other sources with different operationalizations.<sup>13</sup>

The main dependent variable ‘monetary autonomy’ will be operationalized with the so-called monetary independence index taken from Aizenman’s open economy trilemma dataset (Aizenman, Chinn, and Ito 2008). Aizenman has developed a remarkable dataset which quantifies the degree of achievement along the three dimensions of monetary independence, exchange-rate stability and financial openness. He standardizes the extent of realization of the three conflicting monetary policy goals with three indices ranging from 0 to 1 whereby higher values indicate higher achievement of the respective policy goals.<sup>14</sup> By comparing a country’s monetary policy to a respective base country, he is able to detect autonomous policy choices along these three dimensions. The choice of the respective base country builds on a study by Shambaugh who classifies countries’ currencies as pegged or nonpegged and identifies to which country the monetary policy is most closely linked to (Shambaugh 2004). The application of Aizenman’s monetary independence index has two significant advantages. First, it does not rely on an arbitrary choice of the prevailing world interest rate but compares closely connected currencies. Secondly, the standardization between 0 and 1 facilitates the interpretation of the achievement along the three dimensions of the impossible trilemma.

The proxy variable for the party-as-agent model tries to overcome the weaknesses of Bearce’s simplistic measure of government ideology discussed above. In contrast to Bearce, I use a very sophisticated and fine-grained indicator developed by the Comparative Manifesto Project (CMP) to

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<sup>13</sup> In distinction from Bearce, I do not control for central bank independence, the size of the non-tradable service sector and outward foreign direct investments since the amount of missing cases for those variables decrease the number of observations used for the analysis in an inadequate way.

<sup>14</sup> Further information about the operationalizations of the three dimension of the impossible trilemma is illustrated in the appendix.

measure the ideological orientation of a country's government (Lehmann et al. 2015). The CMP provides a left-right indicator for parties' ideological orientations based on content analysis of their manifestoes. The variable ranges from -100 to +100 whereby lower values indicate a more leftist ideological orientation. The information is derived from coding of quasi-sentences in party manifestoes and their categorization according to pre-defined rules into a left-right dichotomy.<sup>15</sup> To account for the fact that many governments consist of more than one party, I weigh the respective CMP-scores of government parties with their seat shares in parliament following the procedure proposed by Williams (Williams 2012). It is advantageous to use the CMP data compared to Beace's left-right indicator since the classification of political parties' ideology is grounded in an extensive analysis of party's manifestoes with various different nuances and not on a rough classification without predefined rules.

The central explanatory variables for the theory of economic pluralism are the ratio of the working population to gross capital formation, the ratio of wage and salary earners that are trade union members to the total number of wage and salary earners, the percentage of exports and imports of a country's total GDP, and the size of the financial service sector as a percentage of total GDP. The data for the ratio of the working population to gross capital formation is based on Graham's international political economy data resource (Graham 2015). The trade union density operationalized by the ratio of wage and salary earners that are trade union members divided by the total number of wage and salary earners is derived from the OECD (The Organization for Economic Cooperation and Development 2015b). Data for the percentage of exports of goods and services of a country's total GDP is taken from the World Bank Development Indicators (The World Bank 2015). Data on the percentage of imports of total GDP is used from the OECD (The Organization for Economic Cooperation and Development 2015a). The financial system deposits as percentage of GDP are operationalized with data taken from the World Bank (The World Bank 2015).

In line with Bearce, I include control variables for GDP growth, inflation rate, capital openness, government fractionalization and a dummy variable for proportional representation systems. The annual percentage of GDP growth and the annual inflation rate are taken from the World Bank Development Indicators (The World Bank 2015). Capital openness is measured with the Financial Openness Index based on Aizenman's quantifications of the three dimensions of the impossible

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<sup>15</sup> For additional information on the coding process of the CMP consult "Party Policy and Government Coalitions" by Laver and Budge (1992).

trinity (Aizenman, Chinn, and Ito 2008). The degree of fractionalization is operationalized with the probability that two deputies picked at random from among the government parties will be of different parties and the information is taken from the Database of Political Institutions (Beck et al. 2001). Finally, the proportional representation dummy originates from a publication by Strøm et al. about arrangements of powersharing (Strøm et al. 2013).

## 5.) Statistical model

In line with Bearce, I analyze the total of OECD countries since for those countries a sufficient data basis exists. However, I will not only use data for the timeframe between 1975 and 1992, but also cover the whole period between 1960 and 2010.<sup>16</sup>

The use of OLS regression with time-series cross-sectional data has some difficulties which have to be reflected in the analysis. Data which varies also in the time-dimension is more problematic for OLS than pure cross-sectional data since observations are usually not independent (Plümper, Troeger, and Manow 2005, 329). This leads to four common violations of OLS assumptions with panel data, namely (a) serial correlation of errors, (b) heteroscedasticity of errors, (c) correlated errors across units due to common exogenous shocks and (d) non-spherical errors in both the cross-sectional and the serial dimension (Plümper, Troeger, and Manow 2005, 329). These violations cause estimates of the standard errors of the coefficients to understate their actual variability (Beck and Katz 1995, 634). To encounter those difficulties, I use panel-corrected standard errors, which have been shown to be very accurate estimates of sampling variability (Beck and Katz 1995). I hereby follow the mainstream approach in the political science literature since 66% of the regression analyses published between 2009 and 2012 in the *American Political Science Review* apply robust standard errors to encounter model misspecifications (King and Roberts 2014, 1). I do not include a lagged dependent variable because there is no plausible logical explanation why the value of the dependent variable 'monetary policy independence' in year  $t+1$  should be always influenced by the value of this variable in year  $t$ . Since a new government could pursue a completely different monetary policy to its predecessors the monetary policy in one year is not necessarily affected by the monetary policy in the previous one. If there is no theoretical explanation for the inclusion of a lagged

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<sup>16</sup> I exclude all countries of the European Monetary Union from 2000 onwards since the introduction of the EURO has finished monetary autonomy of the member states. Thus, the theoretical assumptions of the party-as-agent model and economic pluralism do not hold anymore for those countries.

dependent variable, there is the risk that the lagged dependent variable dramatically affects other coefficients in the model and in the meanwhile exaggerates the model fit (Achen 2000, 3).

In a second step, I cross-check the results of OLS regression with a fixed effects model. In so doing, I deviate from Bearce's analysis which is only based on the results of his OLS regression analysis. But using OLS is generally problematic with pooled data since it ignores the panel structure of the data (Schmidheiny 2005, 5). It simply lumps all the observations together and treats them as one cross-section. To overcome this problematic simplification, I run a model which accounts as well for the time-variation of the data. In a first step, I decide whether a random or a fixed effects model is suitable. The main distinction between fixed and random effects models is based on "whether the unobserved individual effect embodies elements that are correlated with the regressors in the model" (Greene 2008, 183). By applying the Hausman test, I check whether those unique errors are correlated with the explanatory variables (Torres-Reyna 2007, 29). The significant test result suggests that a fixed effects model is suitable for this analysis. Fixed effects models are designed to analyze the causes of changes within an entity (Kohler and Kreuter 2009, 245). Thus, the fixed effects model is here exploring the relationship between the predictors and the outcome variable within countries and shows how intra-country variations of the strength of economic actors and governments' ideologies affect the level of monetary autonomy. The central assumption of fixed effects models is that something within the individual may bias the independent or dependent variables and that we need to control for this bias (Torres-Reyna 2007, 9). The results of both analyses – the OLS regression with robust standard errors and the fixed effects model – will be displayed in the next section. Below I illustrate the equation on which the OLS regression analysis is based.

$$\begin{aligned} \text{Monetary.Independence.Index}_{it} = & \beta_0 + \beta_1 \times \text{GDP.Growth} + \beta_2 \times \text{Capital.Mobility} + \beta_3 \times \\ & \text{Government.Fractionalization} + \beta_4 \times \text{Central.Bank.Independence} + \beta_5 \times \text{Inflation} + \beta_6 \times \\ & \text{Proportional.Representation} + \beta_7 \times \text{Government.Ideology} + \beta_8 \times \text{Capital.Worker.Ratio} + \beta_9 \times \\ & \text{Import} + \beta_{10} \times \text{Export} + \beta_{11} \times \text{Unionized} + \beta_{12} \times \text{Banking} + + \sum(\alpha \times \text{Country}_{jit}) + \\ & \sum(\alpha \times \text{Year}_{jit}) \end{aligned}$$

## 6.) Results

At first, I run the OLS regression model with robust standard errors. However, testing the basic regression assumptions demonstrates that there is an unacceptable problem of multicollinearity within the model. The pairwise correlation between the two explanatory variables import and export is 0.95. The Variance Inflation Factor which indicates the degree of multicollinearity has a value of 20.20 for those two variables. Acceptable Variance Inflation Factors are only values up to 10. The high correlation between the import- and the export-variables is not surprising since they are both proxies for the same theory, namely economic pluralism. Also previous research has demonstrated that there is a high correlation between the percentage of imports to GDP and the percentage of exports to GDP (Bebczuk 2008). Thus, I re-run the OLS regression in two models with the export-variable and the import-variable separately. The results are displayed in table 1.

Table 1: Results of the OLS regression model with robust standard errors

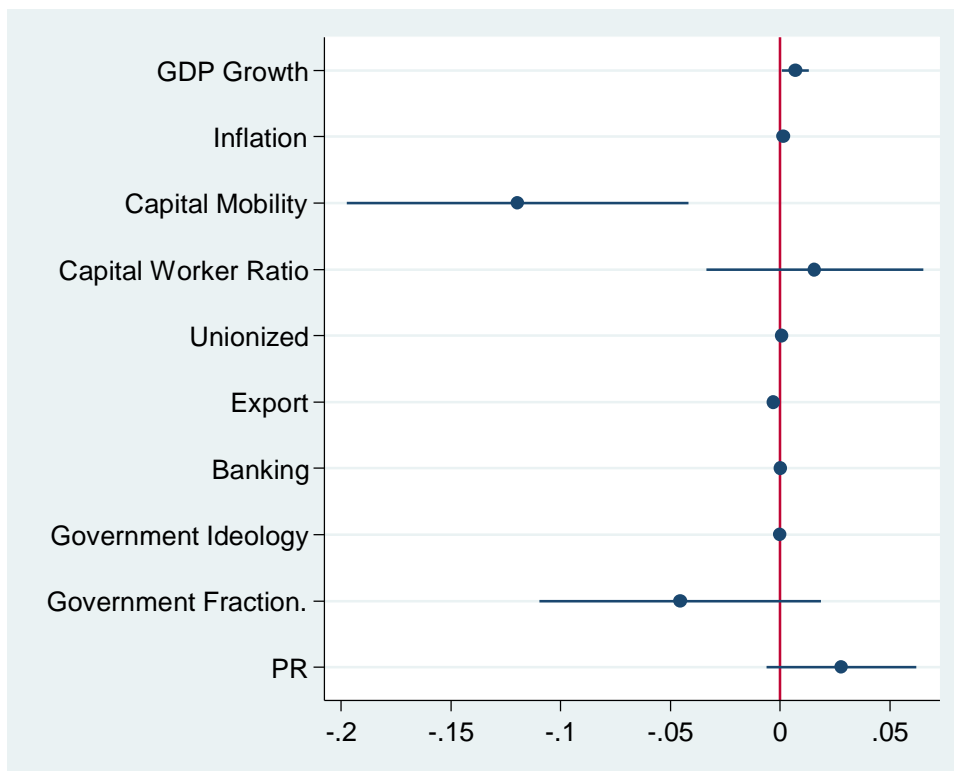
	(1) Mon.Indep.	(2) Mon.Indep.
GDP.Growth	0.00687* (2.24)	0.00691* (2.30)
Inflation	0.00144 (1.58)	0.000950 (1.03)
Cap.Mobility	-0.120** (-3.03)	-0.135*** (-3.54)
Unionized	0.000682 (1.61)	0.000640 (1.51)
Cap.Worker. Ratio (logged)	0.0158 (0.63)	0.0278 (1.10)
Banking	0.000150 (0.61)	0.000135 (0.56)
Government. ideology	-0.000156 (-0.34)	-0.000154 (-0.34)
Government. Fractionalizat.	-0.0455 (-1.40)	-0.0469 (-1.46)
Proportional. Representation	0.0279 (1.61)	0.0307 (1.76)

Export	-0.00300*** (-4.66)	
Import		-0.00352*** (-5.20)
_cons	0.593** (2.84)	0.729*** (3.43)
<i>N</i>	467	467
adj. <i>R</i> <sup>2</sup>	0.198	0.204

*t* statistics in parentheses

\*  $p < 0.05$ , \*\*  $p < 0.01$ , \*\*\*  $p < 0.001$

**Graph 1:** Results of the OLS regression model (model with export-variable)



The central finding is the non-significance of the variable which indicates the government ideology. At odds with the party-as-agent theory, both models indicate no significant influence of the ideological orientation of the government on monetary independence. Underlining the explanatory power of economic pluralism, two proxies capturing the size and strength of different societal groups are statistically significant. A one percentage increase of the size of the export sector is associated with a 0.003 decrease on the monetary independence index, supporting the assumption posited in hypothesis 1. The variable capturing the size of the import sector has also a statistically significant

effect on monetary independence.<sup>17</sup> The model indicates as well significant effects of two control variables: Higher degrees of capital mobility are associated with reduced monetary independence, while the existence of higher rates of GDP growth is associated with higher monetary independence. The model fit is fairly good for both models with adjusted R<sup>2</sup>-values of roughly 0.2.

In a second step, I control the results of the OLS regression analysis with a fixed effects model. The results are depicted in table 2. Supporting the results from the OLS regression analysis, the fixed effects model shows also no significant impact of the government ideology variable. In line with the assumptions of economic pluralism, the fixed effects model indicates significant effects of the import-, export- and banking-variables. Confirming the prediction of hypothesis four, larger banking sectors in a country are associated with less monetary independence. A one percentage increase of financial deposits related to the GDP is associated with a -0.002 decrease on the monetary independence index. Confirming hypothesis one, a one percentage increase of the export sector related to total GDP decreases the values on the monetary independence index by 0.007 points. Also, the import-variable shows again a statistically significant effect. Additionally, the control variable capturing capital mobility indicates a statistically significant negative effect on monetary independence. The model fit is satisfactory with adjusted R<sup>2</sup>-values of 0.17 and 0.18.

Table 2: Results of the fixed effect model

	(1) Mon.Independ.	(2) Mon.Independ.
GDP.Growth	0.00165 (0.49)	0.00249 (0.75)
Inflation	0.00104 (1.17)	0.00134 (1.44)
Cap.Mobility	-0.161** (-2.88)	-0.110 (-1.78)
Cap.Worker. Ratio (logged)	0.0410 (0.51)	0.0539 (0.73)
Banking	-0.00167* (-2.23)	-0.00140 (-2.01)

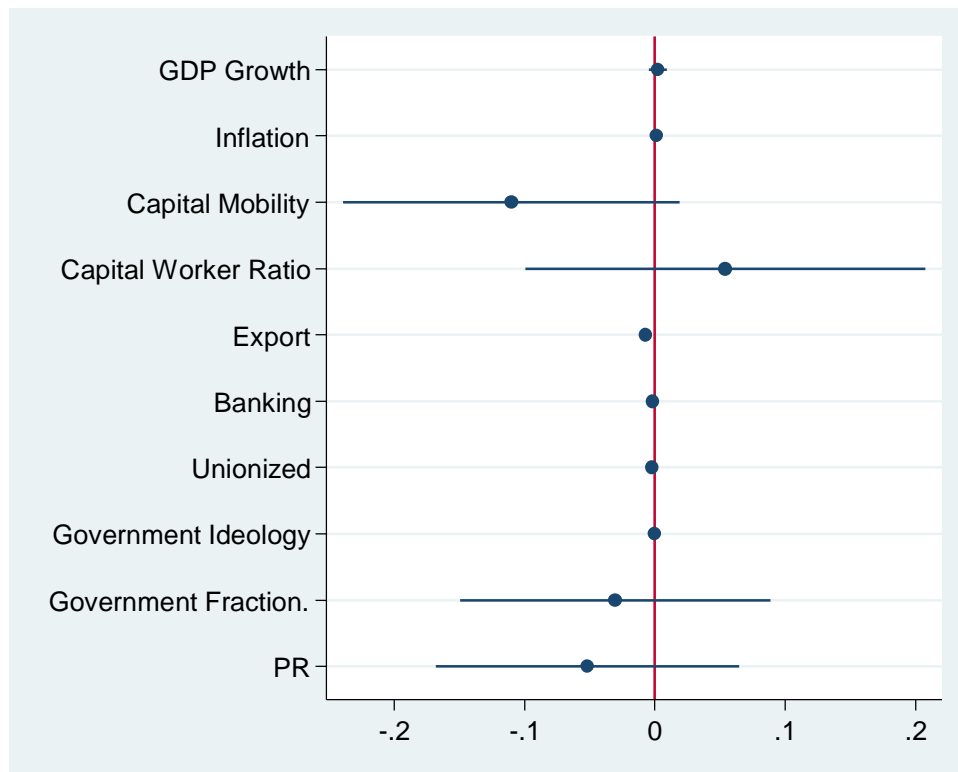
<sup>17</sup> The sign is in the opposite direction as predicted by hypothesis two. The same applies for Bearce's study where the import- and export-variables have also signs in the same directions in two models at odds with his hypotheses. This is due to the fact that imports as percent of total GDP is not exactly measuring the potential political strength of the import-competing sector. A better measure would have been to subtract exports from total manufacturers. However, for the purpose of the re-analysis, I decided to follow the measure used by Bearce.

Unionized	-0.00225 (-1.21)	-0.00197 (-1.06)
Government. ideology	-0.000414 (-0.84)	-0.000262 (-0.51)
Government. Fractionaliza.	-0.0389 (-0.67)	-0.0304 (-0.53)
Proportional. Representation	-0.0521 (-0.90)	-0.0518 (-0.93)
Import	-0.00672* (-2.39)	
Export		-0.00687** (-3.30)
_cons	1.286 (1.93)	1.342* (2.12)
<i>N</i>	467	467
adj. <i>R</i> <sup>2</sup>	0.170	0.182

*t* statistics in parentheses

\*  $p < 0.05$ , \*\*  $p < 0.01$ , \*\*\*  $p < 0.001$

Graph 2: Results of the fixed effect model (model with export-variable)



Finally, as a further robustness check, I control the results by replacing the dependent variable monetary autonomy in the fixed effect model with a variable capturing exchange rate stability<sup>18</sup>. The results are displayed in table 3. Both variables represent opposing poles, the effects should be the same just in the inverse direction. And indeed, the robustness check confirms the absence of a significant effect of government ideology on the trade-off between exchange rate stability and monetary autonomy. Further underlying the meaningfulness of economic pluralism, the capital to labor ratio has here a statistically significant impact on the exchange rate stability. Countries with higher shares of workers to gross capital formation have lower degrees of exchange rate stability. This confirms the assumption of hypothesis 5.

Table 3: Robustness-Check with the dependent variable exchange rate stability

	(1) Ex.rate.stability	(2) Ex.rate.stability
GDP.Growth	0.00635 (1.25)	0.00600 (1.17)
Inflation	0.00100 (0.69)	0.000811 (0.57)
Cap.Mobility	0.0835 (1.44)	0.0540 (0.95)
Cap.Worker. Ratio (logged)	-0.224* (-2.29)	-0.235* (-2.40)
Banking	-0.00123 (-1.30)	-0.00136 (-1.38)
Unionized	0.00317 (1.09)	0.00297 (1.04)
Government. ideology	0.000109 (0.19)	0.0000295 (0.05)
Government. Fractionaliza.	-0.00905 (-0.12)	-0.0142 (-0.20)
Proportional. Representation	-0.0146 (-0.17)	-0.0174 (-0.20)
Import	0.00425 (1.46)	

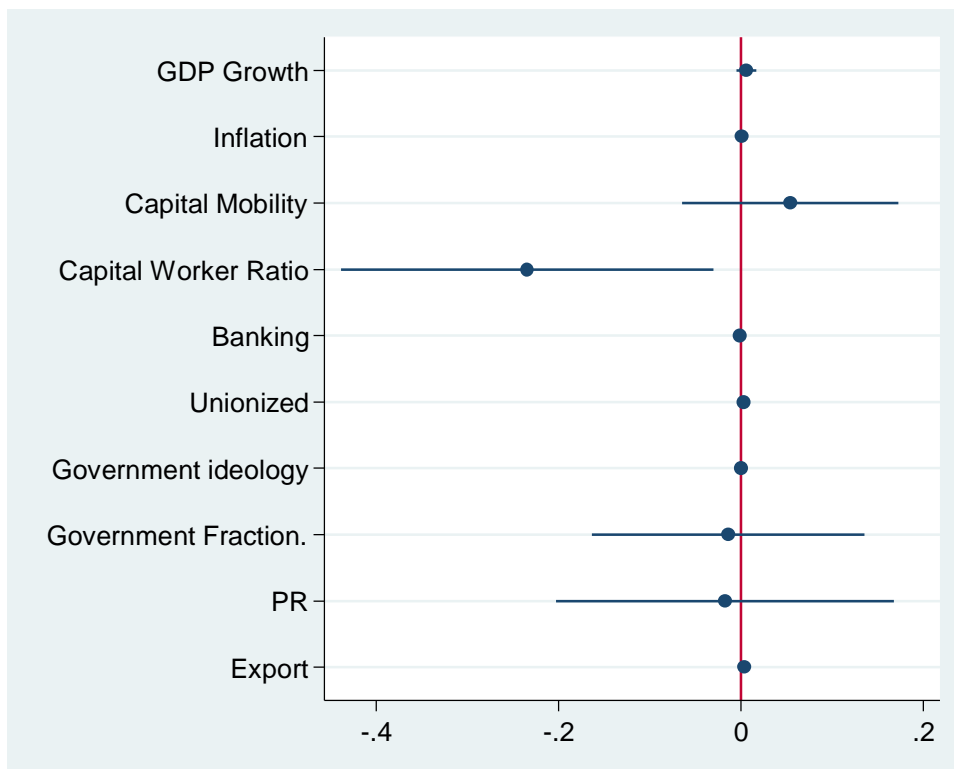
<sup>18</sup> The operationalization is also based on Aizenman's quantifications of the impossible trinity (Aizenman 2011).

Export		0.00388 (1.40)
_cons	-1.783 (-1.98)	-1.828 (-2.01)
N	467	467
adj. R <sup>2</sup>	0.121	0.123

*t* statistics in parentheses

\*  $p < 0.05$ , \*\*  $p < 0.01$ , \*\*\*  $p < 0.001$

**Graph 3:** Robustness-Check with exchange rate stability (model with export-variable)



## Conclusion

This paper set out to re-analyze the findings of the study “*Societal Preferences, Partisan Agents and Monetary Policy Outcomes*” (2003) by David Bearce who argued that the ideology of government parties is the central determinant of monetary policy outcomes. By using a more up-to-date dataset comprising all OECD countries between 1960 and 2010 and by applying more sophisticated and up-to-date measures for the central variables, this analysis demonstrated that the ideological orientation of governments has no significant influence on monetary policy outcomes. In contrast to Bearce’s findings, this analysis revealed robust evidence for the theory of economic pluralism. In particular, evidence was found for the hypotheses one, four and five which are all grounded in the theoretical

framework of economic pluralism. In line with hypothesis one, bigger export sectors in a country are associated with more exchange rate stability. The same applies for larger banking sectors which are associated with less monetary policy autonomy as predicted in hypothesis four. Finally, higher shares of workers to gross capital formation are associated with higher degrees of monetary autonomy confirming hypothesis five. Derived from this evidence, it can be concluded that the size and strength of different societal groups are indeed the central determinants of domestic monetary policy outcomes. Thus, this study can be interpreted as a revival of the liberal theory of economic pluralism which is superior to the party-as-agent model in predicting translation processes of societal preferences into monetary policy outcomes.

Several limitations have to be considered when drawing inferences from the results. First, even though the applied measures strive to be more sophisticated than the ones used by Bearce, it is still questionable whether they are able to capture the latent concepts of monetary autonomy and government ideology in an adequate way. Secondly, this analysis cannot overcome the problems associated with a one-dimensional measure of government ideology. The measure based on CMP is also ignoring the differentiation between the economic and the sociopolitical dimension of party ideologies. Thirdly, an extended analysis including the non-OECD countries would enhance the generalizability of the results but could not be realized due to data limitations. Fourthly, the analysis is based on the assumption that every citizen has at least any preference towards the trade-off between monetary policy autonomy and exchange rate stability. This is highly questionable since some basic economic knowledge is essential to understand the implications of the trade-off predicted by the Mundell-Fleming model. Furthermore, even if societal groups held preferences for one or another goal, it is doubtful whether they are able to organize themselves to promote their interest. Especially large groups face always a collective action problem (Olson 1965) and often fail to organize lobbying. Therefore, it would be necessary to buttress the evidence for economic pluralism with qualitative evidence of lobbying by different societal actors towards the achievement of monetary policy goals.<sup>19</sup>

Being aware of those limitations, this study claims nevertheless to make a modest contribution to the understanding of the translation of societal preferences into monetary policy outcomes.

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<sup>19</sup> Bearce claims that such lobbying was historically often non-existent but he infers this assumption by considering only the US-context.

## References

Achen, Christopher H. 2000. "Why lagged dependent variables can suppress the explanatory power of other independent variables." *Ann Arbor* 1001.

Aizenman, Joshua. 2011. *The impossible trinity—from the policy trilemma to the policy quadrilemma* Working Papers, UC Santa Cruz Economics Department.

Aizenman, Joshua, Menzie D. Chinn, and Hiro Ito. 2008. *Assessing the emerging global financial architecture: measuring the trilemma's configurations over time*. National Bureau of Economic Research.

Alt, James E., Jeffrey Frieden, Michael J. Gilligan, Dani Rodrik, and Ronald Rogowski. 1996. "The political economy of international trade enduring puzzles and an agenda for inquiry." *Comparative Political Studies* 29 (6): 689–717.  
<http://dx.doi.org/10.1177/0010414096029006004>

Aristotle. 4th-century BC. *Políticia*. Athens.

Bearce, David H. 2003. "Societal preferences, partisan agents, and monetary policy outcomes." *International Organization* 57 (02): 373–410.  
<http://dx.doi.org/10.1017/s0020818303572058>

Bebczuk, Ricardo. 2008. *Imports-Exports correlation: A new puzzle?* Central Bank of Argentina, Economic Research Department.

Beck, Nathaniel, and Jonathan N. Katz. 1995. "What to do (and not to do) with time-series cross-section data." *American Political Science Review* 89 (03): 634–47.  
<http://dx.doi.org/10.2307/2082979>

Beck, Thorsten, George Clarke, Alberto Groff, Philip Keefer, and Patrick Walsh. 2001. "New tools in comparative political economy: The Database of Political Institutions." *The World Bank Economic Review* 15 (1): 165–76.  
<http://dx.doi.org/10.1093/wber/15.1.165>

Becker, Gary S. 1983. "A theory of competition among pressure groups for political influence." *The Quarterly Journal of Economics*: 371–400.  
<http://dx.doi.org/10.2307/1886017>

Berger, Suzanne. 1983. *Organizing interests in Western Europe: Pluralism, corporatism, and the*

transformation of politics. CUP Archive.

Bjørnskov, Christian. 2008. "The growth–inequality association: government ideology matters." *Journal of Development Economics* 87 (2): 300–308.  
<http://dx.doi.org/10.1016/j.jdeveco.2007.04.002>

Bräuninger, Thomas, and Marc Debus. 2011. *Parteienwettbewerb in den deutschen Bundesländern*. Wiesbaden: Springer-Verlag.

Chari, Raj S., and Sylvia Kritzinger. 2006. *Understanding EU Policy Making*. London: Pluto Press.

Crisp, Brian F., Maria C. Escobar-Lemmon, Bradford S. Jones, Mark P. Jones, and Michelle M. Taylor-Robinson. 2004. "Vote-Seeking Incentives and Legislative Representation in Six Presidential Democracies." *Journal of Politics* 66 (3): 823–46.  
<http://dx.doi.org/10.1111/j.1468-2508.2004.00278.x>

Crisp, Brian F., Kathryn M. Jensen, and Yael Shomer. 2007. "Magnitude and vote seeking." *Electoral Studies* 26 (4): 727–34.  
<http://dx.doi.org/10.1016/j.electstud.2007.08.001>

Dahl, Robert A. 1978. "Pluralism Revisited." *Comparative Politics* 10 (2): 191–203.  
<http://dx.doi.org/10.2307/421645>

Dearden, Lizzie. 2015. "Why does nothing get done about gun control? The reasons Obama cannot change US infatuation with firearms: Barack Obama said thoughts and prayers were 'not enough' after the latest massacre but his attempts at reforming gun laws have failed." *The Independent*. <http://www.independent.co.uk/news/world/americas/why-does-nothing-get-done-about-gun-control-the-reasons-obama-cannot-change-us-infatuation-with-a6676876.html#gallery> (December 19, 2015).

Fleming, J. M. 1962. "Domestic Financial Policies under Fixed and under Floating Exchange Rates (Politiques financières intérieures avec un système de taux de change fixe et avec un système de taux de change fluctuant)(Politica financiera interna bajo sistemas de tipos de cambio fijos o de tipos de cambio fluctuantes)." *Staff Papers-International Monetary Fund*: 369–80.

Frenkel, Jacob A., and Assaf Razin. 1987. "The Mundell-Fleming model a quarter century later: a unified exposition." *Staff Papers-International Monetary Fund*: 567–620.

Frieden, Jeffrey A. 1991. "Invested interests: the politics of national economic policies in a world of

global finance." International Organization 45 (04): 425–51.  
<http://dx.doi.org/10.1017/S0020818300033178>

Garrett, Geoffrey, and Peter Lange. 1995. "Internationalization, institutions, and political change." International Organization 49 (04): 627–55.  
<http://dx.doi.org/10.1017/S0020818300028460>

Golden, Marissa M. 1998. "Interest groups in the rule-making process: Who participates? Whose voices get heard?" Journal of Public Administration Research and Theory 8 (2): 245–70.  
<http://dx.doi.org/10.1093/oxfordjournals.jpart.a024380>

Graham, Benjamin A. T. 2015. "The International Political Economy Data Resource." January 26. <http://ssrn.com/abstract=2534067> or <http://dx.doi.org/10.2139/ssrn.2534067> (December 21, 2015).  
<http://dx.doi.org/10.2139/ssrn.2534067>

Greene, William. 2008. *Econometric Analysis*. 6th ed. New York: Prentice Hall.

Hefeker, Carsten. 1998. *Interest groups and monetary integration: The political economy of exchange regime choice*. Boulder: Westview Press.

Hill, Michael, and Frederic Varone. 2014. *The Public Policy Process*. London: Routledge.

Ikenberry, G. J., David A. Lake, and Michael Mastanduno. 1988. "Introduction: approaches to explaining American foreign economic policy." International Organization 42 (01): 1–14.  
<http://dx.doi.org/10.1017/S0020818300007116>

Kapstein, Ethan B. 1996. "Workers and the world economy: Breaking the postwar bargain." Foreign Affairs 75 (3): 16–37.  
<http://dx.doi.org/10.2307/20047578>

King, Gary, and Margaret E. Roberts. 2014. "How robust standard errors expose methodological problems they do not fix, and what to do about it." *Political Analysis*: 1–21.

Klüver, Heike. 2009. "Measuring interest group influence using quantitative text analysis." *European Union Politics* 10 (4): 535–49.  
<http://dx.doi.org/10.1177/1465116509346782>

Kohler, Ulrich, and Frauke Kreuter. 2009. *Data analysis using Stata*. 2nd ed. Lakeway Drive: Stata

Press.

Lehmann, Pola, Theres Matthieß, Nicolas Merz, Sven Regel, and Annika Werner. 2015. "Manifesto Corpus." Version: 2015-11. Berlin: WZB Berlin Social Science Center (December 23, 2015).

Lijphart, Arend. 1975. *The politics of accommodation: Pluralism and democracy in the Netherlands*. University of California Press.

Machiavelli, Niccolò. 1532. *The Prince*. Florence.

Mansfield, Edward D., and Diana C. Mutz. 2009. "Support for free trade: Self-interest, sociotropic politics, and out-group anxiety." *International Organization* 63 (03): 425–57. <http://dx.doi.org/10.1017/S0020818309090158>

Mathew, Jerin. 2015. "Yuan's inclusion in SDR basket no big deal for global economy say economists." <http://www.ibtimes.co.uk/yuans-inclusion-sdr-basket-no-big-deal-global-economy-1516428> (December 22, 2015).

Moravcsik, Andrew. 1997. "Taking preferences seriously: A liberal theory of international politics." *International Organization* 51 (04): 513–53. <http://dx.doi.org/10.1162/002081897550447>

Mundell, Robert A. 1960. "The monetary dynamics of international adjustment under fixed and flexible exchange rates." *The Quarterly Journal of Economics*: 227–57. <http://dx.doi.org/10.2307/1884252>

———. 1961a. "Flexible exchange rates and employment policy." *Canadian Journal of Economics and Political Science/Revue canadienne de economiques et science politique* 27 (04): 509–17.

———. 1961b. "The international disequilibrium system." [*Kyklos* 14 (2): 153–72. <http://dx.doi.org/10.1111/j.1467-6435.1961.tb02451.x>

———. 1963. "Capital mobility and stabilization policy under fixed and flexible exchange rates." *Canadian Journal of Economics and Political Science/Revue canadienne de economiques et science politique* 29 (04): 475–85. <http://dx.doi.org/10.2307/139336>

———. 1964. "A reply: capital mobility and size." *Canadian Journal of Economics and Political Science/Revue canadienne de economiques et science politique* 30 (03): 421–31. <http://dx.doi.org/10.2307/139708>

Oatley, Thomas. 2012. *International Political Economy*. Amsterdam: Addison-Wesley Longman.

Olson, Mancur. 1965. *The Logic of Collective Action*. Harvard: Harvard University Press.

Pizzorno, Alessandro. 1981. "Interests and Parties in Pluralism." In *Organizing Interests in Western Europe: Pluralism, Corporatism, and the Transformation of Politics*, eds. Suzanne Berger and Charles Maier. Cambridge: Cambridge University Press.

Plümper, Thomas, Vera E. Troeger, and Philip Manow. 2005. "Panel data analysis in comparative politics: Linking method to theory." *European Journal of Political Research* 44 (2): 327–54. <http://dx.doi.org/10.1111/j.1475-6765.2005.00230.x>

Potrafke, Niklas. 2009. "Does government ideology influence political alignment with the US? An empirical analysis of voting in the UN General Assembly." *The Review of International Organizations* 4 (3): 245–68. <http://dx.doi.org/10.1007/s11558-009-9066-5>

Schmidheiny, Kurt. 2005. "Panel Data: Fixed and Random Effects: Short Guide to Macroeconometrics." Universität Basel. <http://www.schmidheiny.name/teaching/panel2up.pdf> (December 18, 2015).

Shambaugh, Jay C. 2004. "The effect of fixed exchange rates on monetary policy." *The Quarterly Journal of Economics* 301–52. <http://dx.doi.org/10.1162/003355304772839605>

Strøm, Kaare W., Scott Gates, Benjamin A. T. Graham, and Håvard Strand. 2013. "Inclusion, Dispersion, and Constraint: Powersharing in the World's States, 1975–2010." *British Journal of Political Science*: 1–21. <http://dx.doi.org/10.1017/S0007123415000174>

The Organization for Economic Cooperation and Development. 2015a. "OECD Data." <https://data.oecd.org/trade/trade-in-goods.htm#indicator-chart> (December 21, 2015).

———. 2015b. "OECD Labour Force Statistics." [http://www.oecd-ilibrary.org/employment/data/trade-unions/trade-union-density\\_data-00371-en?isPartOf=%2Fcontent%2Fdatacollection%2Fifs-data-en](http://www.oecd-ilibrary.org/employment/data/trade-unions/trade-union-density_data-00371-en?isPartOf=%2Fcontent%2Fdatacollection%2Fifs-data-en) (December 21, 2015).

The World Bank. 2015. "World Development Indicators." <http://data.worldbank.org/products/wdi> (December 21, 2015).

Torres-Reyna, Oscar. 2007. "Panel Data Analysis Fixed and Random Effects using Stata." Princeton University. <http://dss.princeton.edu/training/> (Accessed December 18, 2015).

Williams, Laron K. 2012. "Data: Create Government Partisanship." University of Missouri. <http://web.missouri.edu/~williamslaro/data.html> (December 24, 2015).

Woldendorp, J., H. Keman, and I. Budge. 2000. "Party government in 48 democracies. Composition – duration – personel." <http://www.fsw.vu.nl/en/departments/political-science/staff/woldendorp/party-government-data-set/index.aspx> (December 22, 2015).

Yackee, Jason W., and Susan W. Yackee. 2006. "A bias towards business? Assessing interest group influence on the US bureaucracy." *Journal of Politics* 68 (1): 128–39. <http://dx.doi.org/10.1111/j.1468-2508.2006.00375.x>

## Appendix

The in index for the degree of monetary independence is defined as:

$$IMI = 1 - \frac{cor(i,ij) - (-1)}{1 - (-1)}$$

In the equation  $i$  refers to home countries and  $j$  refers to the base country. The maximal possible value is 1 and the minimal possible value is 0. Higher values indicate more monetary independence (Aizenman, Chinn, and Ito 2008).

$$ERS = \frac{0.01}{0.01 + stdev(\Delta(\log(exchrates)))}$$

For the measurement of exchange-rate stability, annual standard deviations of the monthly exchange rate between the home country and the base country are included in the formula above to standardize the index between 0 and 1. Higher values of the index represent more stable movement of the exchange-rate against the currency of the base country (Aizenman, Chinn, and Ito 2008).