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Do Central Bankers' Biographies Matter?

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1. Introduction

In his recent book *The Courage to Act. A Memoir of a Crisis and its Atfermath,* Ben Bernanke [2015], who is the former Chairman of the Federal Reserve Bank of the USA, begins his narrative by explaining how he and his colleagues at the Federal Reserve dealt with the 2007-2008 financial crisis through a personal anecdote. Son, and grandson of a pharmacist and a school teacher, Bernanke, coming from a family of Jewish Ukrainian immigrants, recalls the hours he spent discussing about the life in Norwich during the 1930s with his grandmother, and about the reasons why people lost their jobs during this time.

Accepted at Harvard, he was interested in mathematics, but also in physics and history: he finally decided to specialize in economics, which was at the intersection between his educational and personal interests. He obtained a master's degree under the supervision of Dale Jorgenson, who trained him in statistics, macroeconomics and economics of energy. He received a grant from the National Science Foundation, which allowed him to enroll at MIT as a PhD student, and began to teach at Stanford. His PhD thesis focused on the Great Depression and, as he mentions, he never dismissed the question raised by the history that he discussed with his grandmother. That was also a central topic in economics: what were the causes of the Great Depression, of its length and its strength? Moving to Princeton as a professor, he developed a stronger interest for monetary policy, which led him to give some con-

sultancies for regional banks of the federal system. He wrote a paper with Frederic Mishkin in favor of "inflation targeting" and promoting the transparency of central banks in their new communicative environment. He engaged in a polemical debate with the Bank of Japan, urging them to adopt an inflation target of 3% or 4%. After chairing the department of economics at Princeton, he accepted to be the director of the monetary economics program at the NBER. In 2002, he was appointed as a Governor at the Fed, in Washington. A few years later, he became Chairman of the Fed.

Is analyzing the economic actors, especially top leaders, through their biography relevant and useful for scientific purposes? Clearly it is the case for different actors of the financial sector and the political and journalistic fields, considering the significant number of personal information including even private details about the lives of central bank governors, circulating in the public sphere.

But is it important to know in which environment a central banker grew up, educated, trained in economics, made his or her professional career, and so on, in order to understand the social mechanisms at stake behind the interactions in decision committees, behind discourses and decisions that are produced by very small and sometimes secret élite groups? This paper intends to provide some answers to these questions from a sociological point of view, that is by focusing on the *social dispositions* which are at stake in the conduct of monetary (and financial) policy in these particular organizations, central banks, a major economic actor in today's world. Focusing on individual actors does not mean to leave aside legal rules, institutional settings and macroeconomic or macrosociological dynamics: it above all means to bring individual actors back in the analysis and to begin assessing their importance.

2. Theoretical Framework

Literature about central banks has been for long dominated by econometric analyses. These studies focused especially on the indicators of central bank independence and their consequences on various sorts of outputs, like inflation or growth (for example Alesina and Summers [1993]), or the "Taylor rule" and its relevance to explain interest rate variations. Game theory was applied to analyze the particular rationality of central bankers in the context of global markets, floating exchange rates, and their behavior in face of the increasingly complex interactions between macroeconomic and financial dynamics [Goodhart 1994].

Since the 1990s, researchers in economics have been discovering the importance and relevance of the institution of "committees" in the determination of monetary policy [Blinder, 2004], with the well-developed example of Federal Open Market

Committee decisions. Since then, it has been more common to study the rationality of individual choices *inside* committees, the functioning of committees, especially when as regards decision and discourse. In these studies, "preferences" of central bankers are considered as individual givens, and the basis of their rational micro-decisions, which aggregate at a collective level (for example Farvaque, Hammadou and Stanek [2009]; Farvaque, Matsueda and Meon [2009]).

Political scientists, sociologists and anthropologists have been more and more numerous over time in the field which had been largely left to economists. Apart from the growing number of institutionalist analyses of central banking's historical and political evolutions in Europe and the world [Dyson 2008; Dyson and Marcussen 2009; Bowman et. al. 2012; Ertürk 2014; Fontan 2012 and 2014], their investigations have concentrated on discourse production and central bank communication [Holmes 2013; Abolafia 2004], but also on the daily functioning of the institution of the committee itself, especially when information is available, which is unfortunately rarely the case. Again, the Federal Open Market Committee (FOMC) has been overinvestigated, as its nominal individual votes and argumentative data are accessible for long term; whereas in many other cases, including the ECB, they are either inaccessible or irrelevant. Journalists, essayists and actors themselves have been over-emphasizing the role of individual actors in the monetary decisions of central banks by focusing on specific actors, who are both central and visible such as the chairmen or presidents, especially in times of crisis. A large literature, which comprises many empirical details but, most of the time, not a strong theoretical framework, has described sequences of actions and interventions by these actors, their personal life history or the evolution of their ideas, etc. (for example Bernanke [2015]). The present article mobilizes various kinds of biographical material (Who's who in Central Banking, national and international Who's who, CB Website, online journals, Wikipedia, Bloomberg, Zoominfo, LinkedIn, etc.) in order to test the relevance of a general hypothesis: individuals and their biographies do matter and this relates to the fact that a personal and professional biography always lie at the basis of a set of (more or less) consistent dispositions that Pierre Bourdieu calls *habitus*, and that condition the orientations and position-takings inside particular social spaces or fields [Bourdieu 1989].

The theoretical basis of this relation can be justified from various scientific points of view, from neuroanthropology (the *habitus* is founded in the plasticity of human brain) to social psychology (which studies the effects of socialization). In this paper, we will not provide a systematic account of these anthropological bases, but focus on their outputs in the daily decisions or orientations of central banks.

Inter-individual variations relate to social dispositions inside specific professional and organizational universes that condition their expression to a large extent.

Legal frameworks and rules do of course strongly constrain the expression of individuality in position-taking, discursive expression, especially in such very formalized places as central banks. It is one of the reasons why a comparison between central banks is always an institutional comparison, that is both organizational and legal, and also a comparison between actors and between discourses. Position-takings or "orientations" are neither totally stable objects nor randomly moving states of mind. They are the product of the continuous relationship between professional and personal dispositions on one side (habitus), and a particular historical context on the other side (field). Differences between members of committees are often small and moving, but they have some internal and contextual consistency, which has to be observed and interpreted case-by-case. Monetary and financial decisions (like Quantitative Easing decisions after the 2007 crisis in various central banks) are the result of a complex process, in which various discursive and cognitive mediations are at stake. Theoretical and "doctrinal" monetary and macroeconomic orientations, clearly play a role, as show the classical debates between "pragmatic" and "dogmatic" profiles of central bankers. Academic training, previous scientific or doctrinal standpoint tend to "situate" actors inside a scientific field and constrain their future expression by organizing or framing their argumentation. Political trajectories are certainly important as well, but not more than the other aspects of socialization inside particular institutions like ministries of finance, central banks or private, especially financial, institutions. The composition of central bankers' habitus is a complex product which only begins to be investigated. In this paper, we will particularly focus on the example of the ECB. But before that, we first analyze globally the social profiles of world's central bank governors in continuity with a set of studies conducted since the end of the 1990s and whose results have been regularly published. We study small sets of top executives of central banks using inferential procedures in order to substantiate descriptive conclusions. Hence, we will present here the first results of a methodology of inductive data analysis.

We organize the discussion around a set of research questions:

- What are the characteristics of central bankers in the World since the 2000 and can we notice a process of change?
 - Can we group the profiles into particular clusters?
 - Is there a specificity of European central bank governors in this perspective?
- Is there a relationship between ECB governors' profiles and their monetary orientation since the creation of the central bank?

The perspective adopted here does not intend to stress a strict mechanical causal relation (between personal characteristics and orientations), but argues in order to integrate the role of individual characteristics in a larger "processual analysis" [Elias

1970] of the genesis of central bank decisions. Focusing on the processes means considering the balance of power between individuals as an important acting force in the dynamics of position-takings and policies.

3. The Central Bankers in the World (2000-2016)

In this section, we answer the following research question: what are the main social characteristics of central bank governors in the World? Our study relies on the CENTBANK database, which has been constructed and developed since the beginning of the 2000s. We extracted data on a number of N=312 central bank governors (incumbents and former chairmen). This population covers a total of 158 countries from all parts of the world and for a time period of 16 years from 2000 to 2016. The data collection form consists of a set of questions on socio-demographic characteristics like date and place of birth, sex, education (including field(s) of study, level of qualification and location of studies abroad) and professional activity (career path variables in university, politics, administration, private finance, other private institutions and in the central bank itself; identifying also the "main career" of each individual). To assess the variations over time, we separated the sample period into two subsamples, distinguishing before and after 2010 (which has been chosen as a moment of transition, one year before the crisis). In this way, we will be able to compare between two periods and identify the recent tendencies.

3.1. An Homogeneous Educational Background

The level of educational attainment is quite high; 47% of the central bank governors have a PhD. Around 83% have a degree in economics, which is therefore the dominant field of study and, as such, an educational norm in this sector of social activity.

3.2. The Professional Structuration of Central Banking

In order to assess the professional structuration, we examined not only the main career of the central bank chairmen, but also all of the sectors that they have worked in. According to this analysis, we observe an increase in the number of those who

 $^{^{1}}$ Our data comprises of N=377 central bank governors, however we omitted those who display more than two "No Answer" (NA) to active questions of the specific MCA.

have already worked at the central bank prior to their appointment as governor. This indicates what might be called a process of "autonomization" of central banking, which becomes a place where future governors spend a large part of their career before being promoted to top positions. Indeed, (scientific or expert) insider knowledge appears to gain importance as a criterion in reaching top management positions at the central banks: comparing the current and former governors, Table 1 signals a significant increase in the proportion of insiders (here: former central banker). The autonomization of central bank as a career place, as indicates our data, is certainly related to the trends towards "independence" and to the parallel transformation regarding the global professionalization in the field of economics [Fourcade 2009]. The structuration of the institution "central bank" in relation to the academic field is a major feature of its recent evolution. As we will see, this is particularly obvious in the case of the ECB, as suggest Lee Mudge and Vauchez [2016].

TAB. 1 Position and Career Inside the Central Bank before Appointment

	Standard	Yates
Number of cases with theoretical freq < 5	0	
Number of degrees of freedom	1	
Khi-2 (k)	5,357	4,845
P-value	0,021	0,028
Tschuprow T	0,131	0,125
Cramer V	0,131	0,125

Effective/weight % rows % columns	Car	eer in CB	No Ca reer in C		Γotal
Ex-Governor		76	86		162
	46,9		53,1	100,0	
Governor		90	60		150
	60,0		40,0	100,0	
Total		166	146		312
	53,2		46,8	100,0	
		100,	,0	100,0	100,0

Source: Authors' Elaboration

Logically, trajectories linked to the political field and private finance bear a significant decline. However, this process is far from simple and univocal. Both the

political profiles and private financiers occupy a considerable part of central bank employees in top management positions.

In fact, the proportion of central bank governors who were involved in politics (either before or after their mission at the bank) still represents almost one third of the total (30%). This suggests that, either in the government or/and other political entities (the parliament, political parties, municipalities, etc.), the political engagement is powerful even for those who are not politicians as regards main career occupations. Academic careers remain at a rather high level.

TAB. 2 Employment History in Political Field

	Standard	Yates
Number of cases with theoretical freq < 5	0	
Number of degrees of freedom	1	
Khi-2 (k)	7,871	7,229
P-value	0,005	0,007
Tschuprow T	0,159	0,152
Cramer V	0,159	0,152

Effective/weight % rows % columns	Polit	ical Caree	: No Po ical Ca		Total
Ex-Governor		74	88	3	162
	45,7		54,3	100,0	
Governor		45	10	4	149
	30,2		69,8	100,0	
Total		119	192	2	311
	38,3		61,7	100,0	
		100,	0	100,0	100,0

Source: Authors' Elaboration

3.3. Gender Bias

There is a serious gap between the number of chairwoman and chairman governing the central banks. 92,3% of the governors are men, indicating women's disproportionately low participation in monetary policy development and decision-making. While the proportion of chairwomen appointed before 2008 was as low as 5,8% there is a very slow (and still not statistically significant) progress at very low levels.

The strong gender bias in central banking raised concerns in the Eurozone, especially after the European Parliament protest in 2012 of the ECB executive board which only consisted in male economists.

4. A Typology of Central Bankers in the World

In this section, we answer the following research question: can we group the leading central bankers into different types according to their social characteristics?

In order to present an empirically founded typology of the world's central bankers, we have performed an Ascending Hierarchical Clustering (AHC) on the basis of all the axes of a specific Multiple Correspondence Analysis [Le Roux and Rouanet 2004 and 2010].

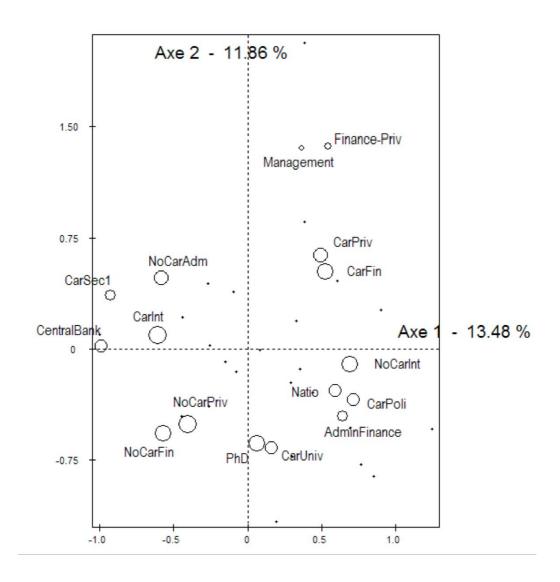
The 12 retained active variables (33 categories) of the specific MCA are: sex (2 active categories), educational field (4 categories: economics/law/management/other), educational level (3 categories: Bachelor and inferior/Master/PhD), studies abroad (2 categories), main career (6 categories: private sector/central bank/financial administration/other administration/ politics/university and research), professional experience in: private finance (2 categories), other private (2 categories), central bank (2 categories), administration (4: national/international/international + national/no), politics (2 categories), university (2 categories), total number of sectors (2: 1/2 or more).

The professional orientation is determined according to career paths in academic institutions, governmental or bureaucratic positions, central banks, private or public banks, other financial institutions or other private-sector companies. Those who made a career at the central bank before becoming its governor are considered as insiders. Employment history in financial institutions or banks indicates a financial-orientation. Those whose main career is in research and lecturing are labeled "academics."

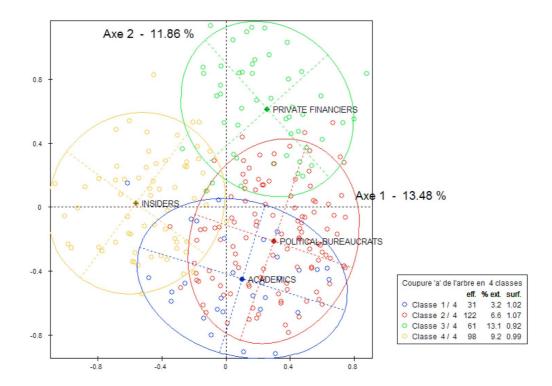
The first two axes provide a good summary of the multidimensional space. The first axis opposes "insiders," on the left hand side, and various sorts of "outsiders" on the right. The second axis opposes the pole of academics (down below) to the more "finance" and private-sector oriented central bankers (at the top).

TAB. 3 Results of the specific MCA on the global space of central bankers

Number	Eigenvalue	Raw rate of variance	Cumulated raw rate of variance	Modi- fied rate	Cumulated modified rate
1	0,225	13,5	13,5	43,4	43,4
2	0,198	11,9	25,3	30,0	73,4
3	0,155	9,2	34,6	13,6	87,0
4	0,126	7,5	42,1	6,4	93,4
5	0,102	6,1	48,2	2,4	95,8
6	0,097	5,8	54,0	1,8	97,6
7	0,091	5,5	59,5	1,2	98,8
8	0,086	5,2	64,7	0,8	99,6
9	0,077	4,6	69,3	0,3	99,9
10	0,071	4,2	73,5	0,1	99,9



Graph 1. Specific MCA. Most Contributing Active Categories on Plane 1&2 (40% of the Total Number of Categories)

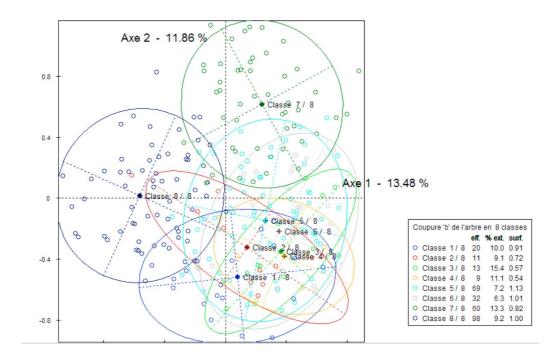


GRAPH 2. Cloud of Individuals and 4 Clusters of the AHC in Plane 1&2 *Source:* Authors' elaboration

A first partition of the hierarchical tree allows to distinguish between 4 classes, and a second one between 8 classes.

- *A)* Class 1 (n=31) is the group of academics, defined by their patterns of education (with a global over-representation of Law) and employment (academic careers and research).
 - B) Class 2 (n=122) regroups civil servants and politicians.
 - C) Class 3 (n=61) corresponds to the group of private financiers and bankers.
 - D) Class 4 (n=98) is the group of insiders, which means pure central bankers.

The largest group is composed of politicians and civil servants ("political-bur-eaucrats"), and is followed by the group of insiders. Private financiers are less numerous but still more populated than academics.



GRAPH 3. Cloud of Individuals and 8 Clusters of the AHC in Plane 1&2 *Source:* Authors' elaboration

The second partition divides the first class (A) in two groups:

Aa) Class 1a (n=20) is the group of academic economists.

Ab) Class 1b (n=11) is the group of Law professionals holding a PhD.

It splits the second class (B) into 4 different groups:

Ba) Class 2a (n=13) is the group of national civil servants external to the financial administration.

Bb) Class 2b (n=9) is the group of "pure" politicians.

Bc) Class 2c (n=63) is the relatively large group of national financial bureaucrats.

Bd) Class 2d (n=32) is a group of more internationalized financial bureaucrats.

Graph 2 indicates large overlappings among the four classes in the first principal plane. The central bankers at the junctions of converging classes might incorporate the particularities of more than one class. Those at the center are more characteristic profiles, while those at the borders might not display all of the singularities of their class. We will now illustrate these classes with real life examples. Here we exemplify selecting characteristic profiles for each class solely for descriptive purposes and those of comparison.

4.1. Academics

An example for the sub-group of academics is the former Governor of the Central Bank of Kenya (CBK), Njuguna S. Ndung'u, who served for two consecutive four-year terms, from 2007 until 2015.

Professor Ndung'u obtained his bachelor and master's degree in economics from the Nairobi University in Kenya, and his PhD from the University of Gothenburg in Sweden. As in this example, PhD degree in economics, studies abroad (usually in Europe or USA) and university professorship stand out as common features for this sub-group. What distinguishes Class 1 profiles is rather their devotion to research, as suggests the publications of Ndung'u in the form of scientific articles in peer-reviewed journals as well as book chapters. Indeed Ndung'u has worked as an analyst/researcher for both national and international research centers and institutions. Most of these institutions were intended not only for research but also for policy-making. He was the director of training at the African Economic Research Consortium (AERC) when he was appointed as the CBK Governor. During his term, he also served as a member of the government think-tank National Economic and Social Council (NESC) and on various boards including Capital Markets Authority (CMA), Insurance Regulatory Authority (IRA) and Vision 2030 Delivery Secretariat that launched the development programme of Kenya. Ndung'u initiated the membership of CBK to the *Alliance for Financial Inclusion* (AFI) network that he represented at the G20 when the Global Partnership for Financial Inclusion (GPFI) was established. After leaving the Central Bank, he was invited to join the Global Economic Governance Programme at the Oxford University Blavatnik School of Government.

The trajectory of Ndung'u emphasizes the significance of acknowledged economic and financial expertise and connections with international networks of experts and organisations of technical assistance in central banking. We observe also that some of the academics of Class 1 worked in the research departments of central banks as well.

4.2. Bureaucratic and Political Profiles

For Class 2 bureaucratic and political actors we examine the biography of Nelson Merentes, the incumbent chairman of *Banco Central de Venezuela* (BCV). What distinguishes Dr. Merentes as a Class 2 profile is his long career in public administration. He worked as subcommittee chairman of Economy and Finance of the National Legislative Commission and as deputy minister of Regulation and Control in

the Ministry of Finance. He also served as the president of Venezuelan economic and social development bank, BANDES.

Even though Merentes has long been a member of the socialist political party (Movement V Republic), this kind of strong political commitment can not be generalized for all Class 2 actors. Nevertheless, it is very common to have ministers in this Class. Likewise, Merentes has served as the Minister of Finance for three terms and as the Science and Technology Minister for one term.

It is not the case of Merentes, but certain Class 2 profiles, and particularly the sub-group of international financial bureaucrats of Class 2d worked in international institutions such as IMF or World Bank.

As Graph 2 indicates, Class 2 governors are usually outsiders who haven't worked in the central bank before their nomination. While they lack insider knowledge, it is due to their achievements regarding financial/economic administration and their political capital that they are appointed to chair central banks. We might do the same remark for Class 3.

4.3. Private Financiers

The Governor of *Saudi Arabian Monetary Agency* (SAMA), Fahad Al Mubarak constitutes a typical case of Class 3 as a financial private-sector figure, who comes from outside the central bank. Receiving his PhD in business administration from the University of Houston, USA, Al Mubarak made his career in senior management positions and financial advisory services, working both for private and public companies.

First of all, Class 3 actors are part of an international financial élite: they are the executive managers of not only local companies but also multinational firms and often financial giants like *JP Morgan*, *Goldman Sachs* and *Citigroup*. Note that Al Moubarak was the Chairman of *Morgan Stanley Saudi Arabia*.

Second, they don't make their career in one company. Their career paths display both horizontal and vertical mobility with cross-sectoral and intersectoral affiliations. For instance, regarding the investment and banking sector, Al Moubarak served as a general manager at *Rana Investment Company* and as a board member in *Saudi Hollandi Bank* among others, but he is also affiliated to different companies from other sectors such as the telecommunications giant *Mobily*, *Carrefour Saudi Hypermarkets*, or *National Industrialization Company*.

Third, Class 3 financial actors are often themselves entrepreneurs. They set up their own company. Likewise Al Mubarak is a co-founder and an executive partner at *Malaz Group* (a private equity general partner) and a founding partner at *Amwal Al Khaleej* (a private investment company).

Finally, these businessmen are closely connected with the political élite either occupying key positions in financial public institutions or actively participating in policy making as economic advisors. For example, Al Mubarak has played a leading role in the privatization of *Saudi Telecom* and took part in the negotiations for the partial privatization of *Saudi Arabia's National Gas Industry*. In this regard, we observe certain convergences with the sub-Class 2c of financial bureaucratic political profiles.

4.4. Insiders

We observed that the majority of women who were appointed as a central bank governor were insiders who made their careers primarily in this institution. Hence in order to depict an example for Class 4, we studied the biography of Zeti Akhtar Aziz, who works in the *Bank Negara Malaysia* (BNM) since 1984.

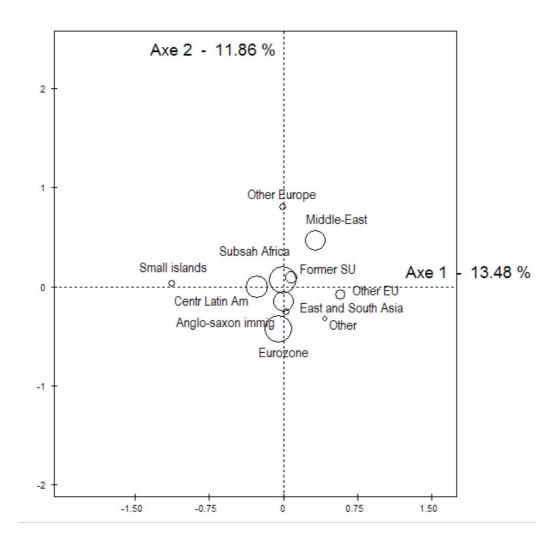
Receiving a PhD in economics, Aziz worked as an economic expert for the *South-East Asian Central Bank Research and Training Centre*, before starting her career in the BNM where she paved her way up to Governor. During her tenure in the office, she also chairs various national and international economic institutions. For instance, she was chairwoman of *Asian Consultative Council* at *Bank for International Settlements* (BIS) and serves as the Chair of the *Asian Institute of Finance* and *Islamic Banking and Finance Institute Malaysia*.

As central banks are becoming autonomous institutions of scientific economic expertise, it is possible to identify certain convergences between Class 4 and Class 1 profiles, especially regarding educational backgrounds (PhD in economics) and affiliations with national and international research institutes.

In conclusion, we presented in this section the general characteristics of the central bankers of the world by analyzing their biography. The prosopographical study allowed us to observe certain convergences and divergences regarding the educational and professional backgrounds of central bank governors. Hence we were able to develop a typology grouping the central bankers in four different classes. This classification gives insights about the habitus of central bank governors in the world and implies that there are certain global trends regarding their recruitment. In the following sections, we concentrate on the *European Central Bank* to establish a connection between the profiles of central bankers and their position-takings in decision-making and policy development.

5. ECB Governors in the Global Field of Central Banking

ECB Governors (first here in the strict definition, that is, leaving aside Executive Board members except the governor himself) are a bit atypical on the second axis of the MCA, as shows the coordinate of the "region point" in the cloud of categories, on the side of the academic capital and academics. But they are not significantly overrepresented in any of the 4 classes, which shows a relative conformity to the global diversity of central bankers.



GRAPH 4. Regional Zones in Plane 1&2 of the Specific MCA *Source:* Authors' elaboration

They are only clearly atypical in the sense that they present a systematically significantly higher profile in educational terms (Table 4).

Tab. 4 Main Educational Field of CB Governors 2000-2016 in Comparison with Eurozone

Number of cases with theoretical freq < 5	2
Number of degrees of freedom	3
Khi-2	24,066
P-value	0,000
Tschuprow T	0,211
Cramer V	0,278

Effective/weight % rows % columns	Man	nage	ement]	Eco	Law	Other + NA	Total
Eurozone		4		42	8	1	55
	7,3		76,4	ļ	14,5	1,8	100,0
			12,9	16,	2 72,	7 11,1	17,7
No Eurozone		27	2	218	3	8	256
	10,5		85,2)	1,2	3,1	100,0
			87,1	83,	8 27,	3 88,9	82,3
Total		31	2	260	11	9	311
	10,0		83,6)	3,5	2,9	100,0
			100,0	100,	0 100,	0 100,0	100,0

TAB. 5 Studies Abroad of CB Governors 2000-2016

Number of cases with theoretical freq < 5	2
Number of degrees of freedom	2
Khi-2	24,098
P-value	0,000
Tschuprow T	0,234
Cramer V	0,278

	Effective/weight		NoS	ΓUΙ	DABRST	UDABI	R NA	1	Total
% rows		% columns							
Eurozone				33		22	0		55
			60,0		40,	0	0,0	10	0,00
					33,0	10,	5	0,0	17,6
No Eurozone				67		188	2		257
			26,1		73,	2	0,8	10	0,00
					67,0	89,	5 10	0,00	82,4
Total				100)	210	2		312
			32,1		67,	3	0,6	10	0,00
					100,0	100,	0 10	0,00	100,0

They are in particular more often trained in law, which has for long been described as specific of the European construction in general. They are also clearly more often academic or political and bureaucratic actors, and less often private sector professionals.

TAB. 6 Administrative Positions of CB Governors 2000-2016 in National or International Institutions

Number of cases with theoretical freq < 5	0
Number of degrees of freedom	3
Khi-2	11,187
P-value	0,011
Tschuprow T	0,144
Cramer V	0,189

Effective /weight % rows % columns	I	nter	Natio	Natio/ Inter	No	Total
Eurozone		9	22	0	24	55
	16,4	4	0.0	0,0	43,6	100,0
		30,0	19	0,6),0 17,	9 17,6
No Eurozone		21	90	36	110	257
	8,2	3	5,0	14,0	42,8	100,0
		70,0	80),4 100),0 82,	1 82,4
Total		30	112	36	134	312
	9,6	3.	5,9	11,5	42,9	100,0
		100,0	100	,0 100),0 100,	0 100,0

TAB. 7 Academic Career of CB Governors 2000-2016

	Standard	Yates
Number of cases with theoretical freq < 5	0	
Number of degrees of freedom	1	
Khi-2 (k)	5,947	5,218
P-value	0,015	0,022
Tschuprow T	0,138	0,129
Cramer V	0,138	0,129

Effective /weight % rows	CarUniv	NoCarUniv	Total
% columns			
Eurozone	28	27	55
	50,9	49,1	100,0
No Eurozone	86	171	257
	33,5	66,5	100,0
Total	114	198	312
	36,5	63,5	100,0

Source: Authors' Elaboration

Tab. 8 Employment History in Private Sector

	Standard	Yates
Number of cases with theoretical freq < 5	0	
Number of degrees of freedom	1	
Khi-2 (k)	14,146	13,044
P-value	0,000	0,000
Tschuprow T	0,213	0,205
Cramer V	0,213	0,205

	Effective/weight		(CarPri	v No	CarP	riv	Total
% rows		% columns						
Eurozone				12		43		55
			21,8		78,2		10	0,0
					8,6		25,0	17,7
No Eurozone				127		129		256
			49,6		50,4		10	0,0
					91,4		75,0	82,3
Total				139		172		311
			44,7		55,3		10	0,0
					100,0	1	100,0	100,0

TAB. 9 Financial Career of CB Governors 2000-2016

	Standard	Yates
Number of cases with theoretical freq < 5	0	
Number of degrees of freedom	1	
Khi-2 (k)	8,383	7,543
P-value	0,004	0,006
Tschuprow T	0,164	0,155
Cramer V	0,164	0,155

Effective /weight %		CarFin	N	IoCarFi	n	Total	
rows % columns							
Eurozone		19		36			55
	34,5		65,5		100,0		
			11,7		24,2		17,6
No Eurozone		144		113			257
	56,0		44,0		100,0		
			88,3		75,8		82,4
Total		163		149			312
	52,2		47,8		100,0		
			100,0		100,0		100,0

These observations point to a result that we came to in previous publications: Eurozone bankers are not very atypical, when considering their counterparts in the world, but they tend to be more qualified in academic terms than the average of world central bankers, have a more global political capital, and have a more original specificity as regards legal or juridical capital [Lebaron 2014].

5.1. Two Trajectories Inside the ECB

To understand the relationship between trajectories and position-takings in a central bank, it is necessary to locate it precisely inside the social space (or field) of central bankers. Actions in this sphere can only be understood relationally, and on the basis of various resources and trajectories [Lebaron 2010]. We focus here on the case of the European Central Bank, and we will analyze two opposite profiles (at least in terms of position-takings) of financial bureaucrats: Jürgen Stark, born in 1948, who enters the Executive Board of the European Central Bank in June 2006 and leaves it prematurely on the 31th of December 2011; Benoît Coeuré, born in 1969, who enters the Executive Board in January 2012 and is still in charge. They are "opposite" in various ways: the second, 21 years younger, enters the Executive Board when the first leaves it; the first one publicly criticizes the policy of the bank as risky and inflationary before leaving the Executive Board, whereas the second is now considered as one of the active promoters of more recent innovations inside it; one is German, the other is French; one is a former central banker (after 20 years as a civil servant at the German Federal Government), the other a former economist and statistician, but also vice-director of Treasury, who never worked before as a central banker. ECB watchers classically describe Stark as a "hawk" (strongly anti-inflationary) and Coeuré as a "dove" (less strongly anti-inflationary) on monetary issues.

Recently, Stark condemned the evolutions of the central bank since he left it:

The ECB's recent decisions, with their focus on short-term effects, indicate that monetary policy is no longer targeted at the Eurozone as a whole, but at its problem members. Ad hoc decisions have replaced a feasible and principled medium-term strategy. The problems created by this approach will be compounded by the unavoidable conflicts of interest with monetary policy implied by the ECB's assumption of its new financial-stability and banking- supervision roles. The first casualty will most likely be price stability [Stark 2014].

A simple interpretation of the difference of view between both actors clearly relates to their nationality: French and German traditions are supposed to have been diverging for long as regards monetary issues. Both countries negotiated the Maastricht treaty and France accepted strong rules in order to obtain Germany's approval of a single currency [Dyson 2008; Dyson and Marcussen 2009]. The German Bundesbank was clearly the central actor behind this setting, and France accepted the restrictive rules as a counterpart for Germany's acceptance of the monetary union. Is the opposition a mechanical expression of diverging "monetary cultures" as it is sometimes argued? When comparing closely both trajectories, things appear less clear-cut. First, Coeuré has never been an advocate of a rupture with Maastricht rules, and, on the contrary, he has served as a very orthodox vice-director of the Treasury in France, under right-wing and left-wing governments. In his writings, he never deviated from the pro-Maastricht and anti-inflationary political-economic line which dominates the French financial administration after Jean-Claude Trichet. Coeuré is clearly not dissenting on the general framework of the Treaty at all, although he may share critical views about the asymmetry in the European construction.

Other biographical elements need to be integrated in the analysis. Coeuré is more clearly a French-style "administration statistician-economist," much more connected to the international field of economics than Stark. As a Polytechnicien, former *École nationale de la statistique et de l'administration économique* pupil and civil servant at the *Institut national de la statistique et des études économiques*, he has been trained as a quantitative economist in the modern Anglo-Saxon tradition. As a former member of the "cercle des économistes" in France, close to the Brueghel institute network in Brussels, he has been associated to very "pragmatic" pro-European moderate neoliberal economists. As a newcomer in the field of central banking, he imports views that are more directly open to global macroeconomic debates, and as a specialist of Europe, he clearly supports pro-integration views of Europe, far less strictly defined by the strict respect of the "rule of law."

Their networks and social backgrounds are consequently different: Coeuré is linked to the world of French civil servants at the ministry of finance and the world of economists connected to political powers, but he illustrates a more technical and economic-debate oriented fraction of the field. His website (active until his appointment at the ECB) clearly shows this position: for example, he indicates links to websites of famous American economist of all schools, from Gary Becker to Paul Krugman. Jürgen Stark is the son of a vineyard owner from Rhineland-Palatinate, who studied in Hohenheim and Tübigen until the doctorate, and made a large part of his career inside the German administration during the years 1970-1990, before moving to the Bundesbank as vice-president then president. Though he is a PhD economist, his links with the academic field are filtered by a heavy commitment as an actor of economic and monetary policy inside German federal state.

This rapid analysis shows a systematic difference between two actors who display diverging characteristics: a closer connection to the political powers (under the presidency of Sarkozy, then Hollande) versus a stronger insertion inside the contemporary academic field of economics in the case of Coeuré, a long-lasting and heavy link with the Federal administration, then the Bundesbank, and the conservative German academic tradition of monetary economics in the case of Stark.

In the case of central banks and more generally in social sciences, a single variable (like nationality, gender or age) does not make sense in itself, but always in close interrelation with other aspects of the biography. Furthermore, a processual perspective, in the sense of Norbert Elias [1970], is particularly relevant here. A biographical background needs to be considered relationally and in the moving context of the particular interactions that take place inside a particular organizational locus, where the "balance of power" never stops to change. In the case of the European Central Bank, this place is the Governing Council.

6. The Social Space of the ECB

Are there statistical relations between the positions in the social space of central bankers and their position-takings?

We analyze the issue from a more quantitative point of view, taking into account the collective dynamics inside the European Central Bank.

For that purpose, we use a coding of position-taking based on a study of the journalistic literature about "doves" and "hawks" at the ECB. We identified "economic and monetary approach" according to their public and explicit position-takings, using also comments and analyses by ECB-watchers that we found on various

Internet Websites (especially Thomson Reuters [2014] and Business Insider [2015]). These various indications are taken as indirect indicators of "innovation" or "commitment" during the period 2000-2016, which is composed of evolving debates about the less and less conventional measures taken by the ECB, especially after 2008.

Before 2008, being a "hawk" means being particularly reluctant to a loosening of the monetary policy by fear of a rise of inflation. After 2008, being a "hawk," very consistently, means to oppose a radical adaptative strategy which uses a range of non-conventional measure in order to avoid a deepening of the financial crisis, which may give birth to later inflation. By opposition, the "doves" are the members of the committee which favor a certain degree of flexibility and loosening of the monetary policy, after 2008 in the context of the management of the global financial crisis, and before that in the context of low growth and high level of unemployment in the Eurozone.

We begin our study by a construction of the social space of the ECB and then investigate the position-takings as supplementary variables.

6.1. The Structure of the Space

The studied population is composed of the

n = 62

members of the Governing Council of the ECB since 1999 (we excluded Tietmeyer and Verplaetse from the population, who left their position as central bank chairman in 1999).

The chosen methodology is again prosopographical. We collected biographical data from various accessible sources on Internet, and constructed statistical variables on the basis of this information.

A specific MCA [Le Roux and Rouanet 2010] was performed on the basis of

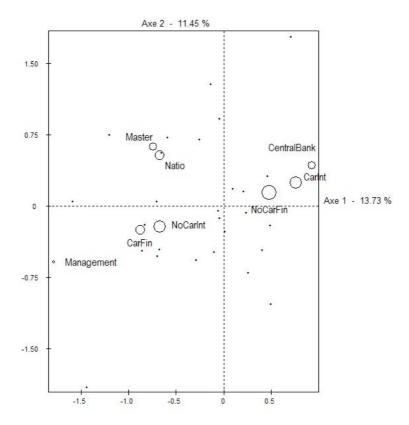
Q = 12

active questions and

K' = 32

active categories, which defines a geometric modelling of the social space of the Governing Council during the period: sex (2), public visibility measured by the presence in the Financial Times (3), educational level, educational field, main career, academic career (2), political career (2), career in the central bank (2), career in private finance (2), other private career (2), career in the administration (3), number of sectors during the career (2).

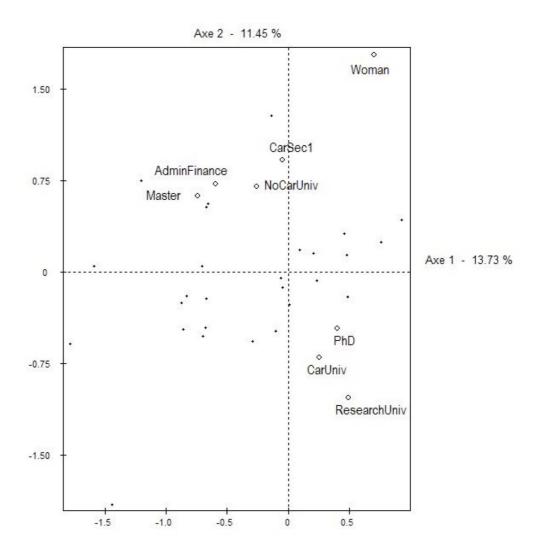
The study of the eigenvalues reveals three axes. We will only comment the first two axes.



GRAPH 5. Cloud of 25% Most Contributing Active Categories on Axis 1, Plane 1-2 of ECB Governors

Source: Authors' elaboration

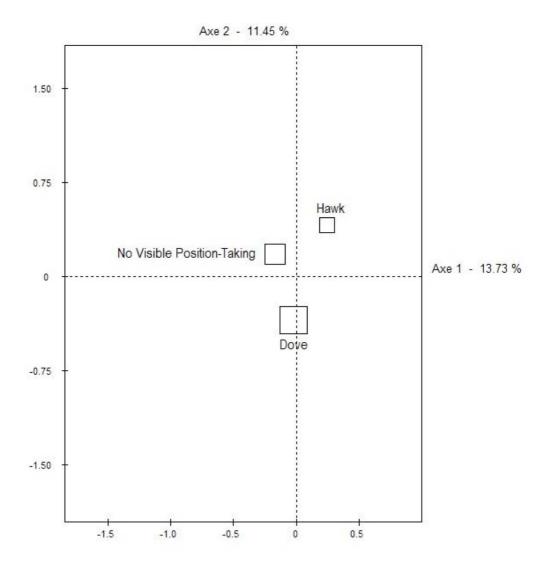
Graph 5 shows the cloud of the most contributing active categories on the first axis. On the left hand side, among the most contributing categories, one finds "main career in administration" and "financial career," "master's degree." On the left hand side, one finds opposed categories like "internal career," "central bank." The first axis opposes internal (left) versus financial and national administrative (right) careers.



GRAPH 6. Cloud of 25% Most Contributing Active Categories on Axis 1, Plane 1-2 of ECB Governors

Graph 6 completes the analysis with the interpretation of Axis 2. The second (vertical) axis opposes "financial administration," "no academic career," "woman," at the top, versus "research and university," "PhD," down below.

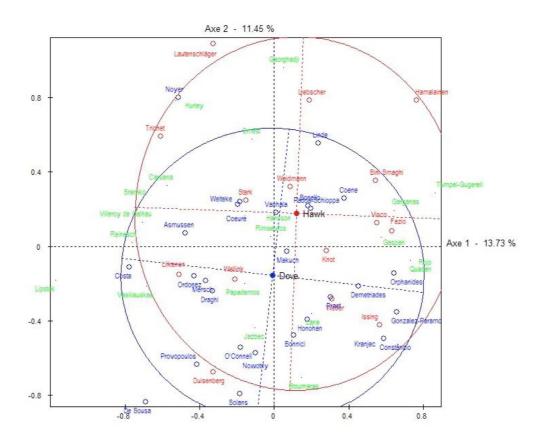
The projection of supplementary elements (Graph 7) shows that the second axis relates to an opposition between "hawks" and "doves."



GRAPH 7. Cloud of Hawk, Dove and No Visible Position-taking, Supplementary Elements in Plane 1-2

The lack of political and bureaucratic capital, and the professional relation to the university is globally associated with a more dovish orientation, and, in the case of "innovations" and "change," to a more apparent commitment to supporting innovation. There is very small effect on the first axis, with hawks slightly on the side of "internal capital." This division may explain the internal difficulties inside the Governing Council, and the existence of a basic support to Draghi's orientation among national central banks governors. Mario Draghi clearly illustrates a mixed type of capital, and probably a balanced view, with an obvious innovative orientation.

The cloud of individuals (Graph 8) shows that there is nevertheless a high dispersion among the two groups of doves and hawks, and also that the divisions are strong at the side of the highest level of political and bureaucratic capital.



GRAPH 8. Cloud of Individuals Structured by Position-takings in Plane 1-2 *Source:* Authors' elaboration

This study finally shows how the internal political division of the Governing Council, which has been confirmed by the publication of its minutes, is related to professional and, more largely, to the social characteristics of its members.

On the "resistance to innovation" side are not only some of the German members (not all, since Jörg Asmüssen is typically a pragmatic), people like Yves Mersch or Erkki Liikanen, who could be called the members of a "German coalition" or "German group" inside the council. At the opposite, the group supporting Mario Draghi by its declarations and votes is led by a small number of actors with a high level of bureaucratic and political capital, but also based on the (more silent) majority of national governors, more often coming from the universities. Constructing and keeping a majority is clearly the main stake inside the Council (Box 1).

Question: My first question is has the decision today been unanimous, with a wide consensus? Can you give us a bit of a flavor on the discussion and how these decisions were taken? Draghi: At the meeting today [...] it's the first time that we'll have the accounts be published of this meeting, and so we have also worked out some qualifiers to indicate how the meeting proceeded. The meeting was unanimous in stating that the asset purchase programme is a true monetary policy tool in a legal sense. That's important, because it establishes the principle that this is a monetary policy tool that should be used in the right situations, but it is part of our toolbox. Second, there was a large majority on the need to trigger it now, and so large that we didn't need to take a vote. Third, there was a good discussion on the need, I would say a majority on the need to trigger it now, but of course there were differing views about the need to act now. And finally, there was a consensus on risk-sharing set at 20%, and 80% on a no-risk-sharing basis. So, unanimity on the asset purchase programme being a monetary policy tool, a large majority on the need to trigger it now, and some discussion on the need to trigger it now, in fact I say a large majority, but not unanimity, and finally, consensus on the risk-sharing set, as I've just described.

Source: Website of the ECB

6.2. From Description to Statistical Inference

Is it possible to substantiate these descriptive results through an inductive point of view? We adopt here the perspective of inductive data analysis [Le Roux and Rouanet 2004; 2010].

Firstly, we will assess the atypicality of "hawks" on the second axis of the analysis. Can the hawks group be assimilated to the reference population, or is it atypical of it? In our GDA framework, this question leads to permutation tests. We compare the mean point of the sub-cloud of hawks with the reference point.

When "n" is not small (and far from "N"), the sampling distribution can be fitted by a normal distribution with mean 0 and variance V².

$$Z = \frac{\overline{y}}{\sqrt{V}} = \sqrt{n \frac{N-1}{N-n}} \frac{\overline{y}}{\sqrt{\lambda}}$$

Here, we have:

² Here, this may be discussable and we should also proceed to exact tests.

$$\frac{\overline{y}}{\sqrt{\lambda}} = 0.41, n = 15, N = 62$$

Z=1.39 and p=0.082 (not significant).

We cannot conclude from an inductive point of view to the atypicality of hawks on the second axis. We find a similar result with the category "dove."

Secondly, we will compare the mean points of two subclouds and assess the *homogeneity* of the two groups for the second axis. This leads to homogeneity tests. Again, we will fit the sampling distribution by a normal distribution.

For a pair of subclouds, we consider the deviation between their mean points, that is, the difference (mean 0, variance V).

$$Z = \frac{\overline{d \, \overline{y}}}{\sqrt{V}} = \sqrt{\tilde{n} \frac{N-1}{N-n}} d$$

Here:

$$d = + 0.76, n_1 = 15, n_2 = 27, \tilde{n} = \frac{1}{\frac{1}{n_1} + \frac{1}{n_2}}$$

$$Z = 2.34$$
, and $p = 0.010$

hence we can conclude from an inductive point of view that both groups are significantly *heterogeneous*. The results are conclusive, even considering the number of individuals that we couldn't obtain the relevant information, which limits the significance. The opposition between hawks and doves is clearly connected to the second axis, which opposes an academic pole to a more financial and bureaucratic pole. This opposition has become a central pattern of differentiation inside monetary and financial élite, and more largely in the field of power.

6.3. Exploring the Effects of Particular Variables: Nationality, Academic Career, Diploma

Our initial hypothesis was that personal properties (including but not limited to nationality) do have a relation with position-takings. We will investigate this a more in-depth study of specific variables in relation to position-takings. In this perspective, we proceed to a Logistic regression of the dependent dichotomous variable "Hawk."

Before commenting the results, one has to mention that the major descriptive global effects (that is bivariate links) on "hawkishness," which are statistically significant, are produced by academic career and by "national group" (a variable which has been constructed with the following groups: German pole regrouping Germany, Netherlands, Austria and Finland versus others). With Model 1, which does not include "national group" as a control variable, two variables have a significant effect on Hawkishness: academic career (negative effect), Master (negative effect). It confirms the type of trajectory that is national, bureaucratic and less academic, though highly qualified (meaning: at PhD level), which tends to be statistically associated with "hawkishness". The quality of the adjustment is correct.

$$R^2$$
 (Cox & Snell) = 0.262

Model 2 adds various independent variables of trajectory: the effects of academic and master's degree remain significant. The quality of adjustment improves notably.

$$R^{2}(Cox & Snell) = 0.416$$

Model 3 adds the national group to a relatively detailed set of trajectory variables. The (pseudo-)coefficient of determination goes up to:

$$R^2$$
 (Cox & Snell) = 0.532

The group of country, as well as academic career and Master are significant in Model 3. Nationality does not "erase" all other effects.

Again, we may conclude that biographical data do matter strongly. We can even add that they cannot be reduced to nationality, even though this variable has obviously a very strong effect in Europe. Links with the university and diploma, as suggested by the inductive data analysis section, also play an important role in the determination of monetary-policy orientations.

Tab. Logistic Model 10

	Model 1	Model 2	Model 3
Academic career	-2,869**	-3,082*	-3,876*
No academic career	REF	REF	REF
National admin career	NS	NS	NS
International admin career	NS	NS	NS
No admin career	REF	REF	REF
Bachelor+NA	NS	NS	NS
Master	-2,877**	-4,793**	-5,575*
PhD	REF	REF	REF
Eco		NS	NS
Law		NS	NS
Other		REF	REF
AdminFinance		NS	NS
Bank		NS	NS
CentralBank		NS	NS
ResearchUniv		NS	NS
Politics		NS	NS
OtherAdmin		NS	NS
NonfinancialPrivate		NS	NS
NA		REF	REF
Political career		NS	NS
No political career		REF	REF
Career finance		NS	NS
No career finance		REF	REF
Career private sector		NS	NS
No career private sector		REF	REF
Internal career		REF	NS
No internal career			REF
CarSec >1			NS
CarSec1			REF
FT < 5	NS	NS	NS
FT [5;50[NS	NS	NS
FT >= 50	REF	REF	REF
German Pole			+7,230**
Other			REF
Intercept	1,673	-18,719	-12,587
R2 (Cox & Snell)	0,262	0,416	0,532

7. Conclusion

In this article we conducted a prosopographical study analyzing the biographies of 312 incumbent and former central bank governors from all across the world. This study allowed us to sketch out their general social characteristics emphasizing commonalities and divergences regarding their educational and professional backgrounds. We observe a high qualification level predominantly in economics, a preponderance of insider experience associated with the prevalence of central bank careers, and a strong gender bias structuring the field of central bank governors. Even though this analysis gives insights about the habitus of the élite in charge of monetary policy, further research is necessary to provide more detailed conclusions. Hence, we will continue to study the social origins of central bank leaders focusing on their family backgrounds and their networks as well. We will furthermore enlarge and deepen our research on their educational profiles to investigate which academic institutions they've attended mostly and whether some of them have attended the same institution at the same period.

The second research question was whether it was possible to classify central bank governors into "types." As a matter of fact, the convergences regarding the general social characteristics suggested that they are not hired randomly, but according to rather uniform criteria. Hence it was possible to develop a typology grouping the central bank governors into four major classes. While we illustrated this classification through typical examples of each profile, we also noted that it does not have a rigid logic of a system of absolutely exclusive classes. They are helpful categories of analysis underlying certain patterns in the field of central bank governors, but should not imply a strict, homogeneous and hierarchical simplistic categorization. In order to observe how these classes actually operate for different samples, we will continue to conduct case studies on central banks of different regions and different states. This research will also provide some answers regarding the past and current dynamics toward international standardization of central bankers' profiles, or why certain national or regional specificities persist. Case studies might also be helpful in understanding the relationship between the degree of (in)dependence of the CB and the profile of its governor.

In this study, we focused on the example of the ECB to test the hypothesis of a possible connection between social trajectories and position-takings. Our analysis affirms this connection even though it is hard to make detailed and mechanical causal explanations given the complexity of social interactions and processes.

Firstly, regarding the Eurozone, we can see here that the group of innovators around Mario Draghi is based on an original combination of actors and species of

capitals, with academic legitimacy, against a slightly more homogenous group of "resistant" actors, who share a rather high level of bureaucratic and political capital, in general combined with a PhD level: this group, especially related to ministries of finance, has lost some strength in the internal balance of power over time.

Of course, presenting our conclusion in such a way is only giving a stylized version of very fine differentiations and contextual dynamics, leading to specific discursive – especially argumentative and interpretive – struggles inside the Council, which are still largely unknown as such (for obvious reasons). In these struggles, economic and legal arguments may be used and, evidently, we observe a growing conflict between a legalist orthodox view, losing support and practical relevance over time, and a more pragmatic and flexible economic conception, that has taken the lead since a few years. The role of researchers and intermediary staff inside the European Central Bank should also be investigated in order to understand the concrete dynamics of the production of innovation and more largely non-conventional (or, on the contrary, more conventional) position-takings, that is the global process of evolution of the central bank's policy.

The president of the Governing Council has a particular authority in this process, and the complex interaction between his authority and the collective dynamics around him (more or less consensus-based, using or not decisive votes) may explain that the process of change still goes on in a difficult, divided situation. This last element indicates that dispositions for change are a complex and mixed set of elements, and may vary over time. In the studied period, they do not only depend on Mario Draghi, but more largely on the global dynamics of powers inside the committee, in interaction with a moving financial and political context.

In a more general and global perspective, one can conclude from our analysis that biographical elements, which we have first illustrated by a global cluster analysis then by a particular case-study, clearly help to better understand, or at least suggest refined interpretations about the dynamics of position-takings inside councils, and consequently monetary and financial policies of the central banks. They allow to analyze from a more concrete basis what is really at stake in this very particular multidimensional élite group, which is evolving over time.

The particular opposition between academic and bureaucratic-financial has, in particular, become a central pattern of differentiation inside monetary and financial élite, and more largely in the global field of power.

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Do Central Bankers' Biographies Matter?

Abstract: In this article, we try to show in which way central bankers' biographies matter, by emphasizing a relationship between individual trajectories and decision-making inside institutions. With this purpose we present an analysis of the social characteristics of central bank governors, based on a prosopographical and quantitative inquiry. We construct a typology of central bank leaders according to their social and professional profiles (using an Ascending Hierarchical Classification). We then discuss the recent trends as regards central bankers' recruitments and profiles in the world. In the following section, we compare the profiles of central bank governors in the world to those of ECB governors since the creation of the institution (1999). It allows us to assess how specific Eurozone central bankers' characteristics are inside the global field of central banking, in a dynamic perspective. Then, we isolate the members of the Governing Council of the ECB, in order to test empirically the hypothesis of a statistical relationship between social trajectories and position-takings, using various indicators and a Geometric Data Analysis methodology, including inductive data analysis and logistic regression as part of a more general perspective. We find that there exists a notable and significant impact arising from the biographical backgrounds.

Keywords: Central Banking; Biographical Analysis; ECB Governors; Social Space; Geometric Data Analysis.

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