

Shall the Law Set Them Free? The Formal and Actual Independence of Regulatory Agencies

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Abstract

Regulation by independent agencies rather than ministries is believed to result in better policy outcomes. Yet this belief requires one to accept a complex causal chain which leads from formal, or *de jure* independence to actual, or *de facto* independence from politics, to policy decisions and, ultimately, to policy outcomes. In this paper, we examine the link between formal and actual independence of regulatory agencies in Europe. We present new data on the chief executives of these agencies, and use these to calculate a proxy for the actual independence of agencies from politics. We demonstrate that formal independence does indeed explain actual independence. Other determinants of actual independence are the rule of law, coordination of the economy, and the number of veto players in the polity.

1 Introduction

Politicians in Europe have granted considerable independence to regulatory agencies because of the widespread belief that having more independent agencies results in better policy outcomes. Scholars emphasise that independent regulatory agencies (IRAs) resolve the problem of time-inconsistent policy preferences which politicians face, and hence produce Pareto-improving regulatory decisions (Kydlan and Prescott 1977; Majone 1996). Governments themselves indicate that the creation of independent agencies has allowed “central ministries to concentrate on policy-making”, resulting in “increased

*chris.hanretty@eui.eu, christina.koop@eui.eu. This article is a work in progress. If you want to cite it, we would appreciate it you contacted us first to have the latest version. The turnover data that this article is based on is still incomplete: the full list of chief executives can be found at the end of this document. We would like to thank Martino Maggetti and all participants at the 2010 PSA conference for their helpful comments: all errors are the authors’.

efficiency and innovation” (OECD, 2002, p. 21). However, for independence to lead to better policy outcomes, a complex causal chain needs to operate, which leads from statutory provisions granting independence, to behavioural patterns demonstrating independence, to policy decisions and, ultimately, to policy outcomes.

So far, studies on IRAs have mainly focused on the determinants of formal independence – the grant of independence found in statutes, sometimes called *de jure* independence (e.g., Gilardi 2002; Elgie and McMenamin 2005; Yesilkagit and Christensen 2010). Little work has been done on the next link in the chain, connecting regulatory agencies’ formal independence to their actual independence (but see Maggetti 2007, and Roness et al. 2007). This may be due to a strong presumption that higher degrees of formal independence also imply higher degrees of actual independence. As Pollack puts it, “[c]eteris paribus, [...] we should expect agencies to be most responsive to their legislative principals when control mechanisms are extensive, and most autonomous when administrative procedures are few and oversight is weak” (2002, p. 202).

In this paper, we test this presumption, and examine the relationship between the formal and actual political independence of regulatory agencies. By the formal political independence of an agency, we mean the degree to which the agency takes day-to-day decisions without the interference of politicians – in terms of the offering of inducements or threats – and/or the consideration of political preferences. We focus on regulatory agencies in seventeen West European countries, working in seven sectors (competition, financial markets, energy, telecoms, pharmaceuticals, food safety, the environment; cf. Gilardi 2005a). By agencies, we mean bodies which possess some public authority, but which are organisationally separate from the relevant government ministry or department (cf. Thatcher and Stone Sweet 2002, p. 2). Regulatory agencies are preoccupied with the creation of rules, the evaluation and scrutiny of economic behaviour, and the application of sanctions for non-compliance.

We present two innovations in this study. First, we use a new measure of formal independence which builds upon many of the same items as previous indices, but which is constructed using a different method of aggregation. Second, we introduce new data on the appointment of chief executives of European IRAs, and use these to create a proxy for the actual independence of agencies from politics. We then use these measures to assess the impact of formal independence on actual independence, accounting for such factors as the rule of law, salience of the policy area, coordination of the economy, and the number of veto players in the polity.

The paper proceeds as follows. In the next section, we set out how formal independence and the other explanatory factors are hypothesised to affect actual independence. In section 3, we introduce our new measures of formal and actual independence, and describe the operationalisation of the other variables. Our analysis is presented in section 4, followed by a discussion of the results.

2 Theory and hypotheses

There are a number of factors which may explain why some agencies hold a large degree of political independence whilst others do not. In this section, we first discuss the most closely related variable, formal independence, before going on to discuss the role of variables related to the political system (veto players, coordination of the economy, issue salience) and to the agency (agency age), as well as a number of control variables (population, GDP per capita).

Formal independence From the earliest literature on central bank independence, scholars have made a distinction between political independence as found in the law, and independence as manifested by actual behaviour. Typically, formal independence is not simply a matter of whether the law says that a given agency is organisationally separate or independent (although such legal statements may have hortatory value and are often included in indices of formal independence). Rather, it is about whether the law contains certain provisions which are either taken to be constitutive of actual independence, or to cause it. In light of this distinction and this understanding of formal independence, it is natural to ask whether formal independence does indeed cause actual independence. This is an important question, for it is by no means obvious that the two should go hand-in-hand.

First, the practice of the law may depart substantially from the text of the law, making formal provisions unreliable indicators. The practice of the law may be more beneficial for agency independence than the text of the law might imply. For example, statutory drafters in Commonwealth countries typically grant ministers broad discretionary powers which are not intended to be used regularly by the minister, but which reflect the minister's role as an agent of the Crown, and which allow for ministerial action in the event of unexpected scenarios. In most other countries, however, it is more common for the practice of the law to be worse for the independence of the agency, since provisions which are onerous for politicians may simply be ignored, particularly if those who are ignoring them have a parliamentary majority which is ready to accommodate such behaviour.

Second, there may be important non-legal determinants of independence. Again, this may have either beneficial or negative consequences for the actual independence of agencies. We list a number of important non-legal determinants in the remainder of this section. Admitting a role for non-legal determinants of independence does not, however, imply that formal independence is unimportant. Scholars working on the judiciary have concluded that formal independence is related to supreme courts' actual independence, though the link is not particularly strong (Hayo and Voigt, 2007). However, for regulators, the picture may be different: focusing on 16 West European regulatory agencies, and using fuzzy-set analysis, Maggetti (2007) found that a higher degree of formal independence is neither a necessary nor a sufficient condition for a higher degree of actual independence; and whilst Yesilkagit and Van Thiel

(2008) report that Dutch agencies with more formal autonomy were less influenced by their parent ministries, they found that these same agencies had less autonomy concerning the policy instruments they used and the groups they targeted. Nevertheless, we hypothesize that

H1. IRAs with higher degrees of formal independence possess higher degrees of actual independence.

Rule of law as interaction In light of skepticism concerning the impact of formal independence, it seems wise to ask: is the impact of formal independence mediated by certain other conditions such that greater formal independence has no net effect?

The rule of law is a natural candidate for this role as a factor mediating the impact of formal independence. Formal independence is theorised to affect actual independence by placing legal limits on politicians' ability to sanction or reward the regulator. If, however, legal limits are routinely ignored, as happens when the rule of law is only weakly established, then politicians retain substantial discretionary power to sanction and/or reward the regulator, thereby vitiating its independence. Consequently, we hypothesise that

H2. The effect of formal independence on the actual independence of an agency will be greater in political systems where the rule of law is more firmly established.

Rule of law as main effect There is, however, reason to consider rule of law as having an independent and positive effect on the independence of regulatory agencies. One of the central components of the rule of law is the presence of a judiciary which is independent of the executive of the day, and which can defend citizen's legally-guaranteed rights against those who transgress them (Raz, 1990).

Consequently, societies in which the rule of law is firmly established will be societies which have made their peace with the idea that there are other sources of independent power and authority than the elected representatives. IRAs may therefore benefit from a displaced tolerance of independent institutions. Thus,

H3. The more firmly the rule of law is established in a country, the more independent the IRAs in that country

Country size There is a long tradition of literature arguing that small states are more likely to display a range of democratic virtues (Dahl and Tufte, 1973, pp. 5-7). Indeed, small countries are more likely to be democratic (Ott, 2000), and more likely to have established the rule of law (Olsson and Hansson, 2009). Insofar as the recognition of independent sources of power, such as IRAs, can also be considered to be a democratic virtue, we might also expect

small states to have more independent regulators, even after controlling for the effects of the rule of law on independence.

At the same time, small states spend a disproportionate amount of their national product on public services, both because of fixed costs in public service provision (Alesina and Wacziarg, 1998) and because of increased electoral pressure in smaller states (Remmer, 2010). As a result, the role of the state in small states may be overwhelming, and “such state ubiquity... can foster nepotism, cronyism, patronage, and political clientelism”, as opponents and supporters are more easily identified and (proportionally) more easily rewarded (Srebrnik, 2004, pp. 334-335). Each of these practices is inimical to independence.

Hence two alternative hypotheses can be formulated on the impact of the rule of law:

H4a. The smaller the country, the more independent the IRA.

H4b. The smaller the country, the less independent the IRA.

Agency age There are sound theoretical reasons for expecting older agencies to be more independent, as agency age constitutes either a resource in itself, or a means of acquiring additional resources. New-born agencies are “highly dependent actors whose survival depends on their abilities to secure resources from older, well-established [actors]... With age, an agency acquires legitimacy, clients, and an established set of network relationships which provide it with access to resources and a relatively secure niche” (Lincoln and McBride, 1985, p. 10). Indeed, older agencies have been shown to be better at securing resources (Hofferbert and Urice, 1985) and policy autonomy (Roness et al., 2007; Laegreid et al., 2005). We consequently hypothesise that

H5. The older the agency, the more independent it will be.

Veto players Actions taken by politicians in order to reward or sanction regulators may often require the agreement of multiple actors. This may be because the action in question requires the formal passage of an act in parliament, and because no single party has a majority. Or, it may be because the action in question can be taken by the executive or an individual ministry, but cabinet and intra-ministry decision making procedures require agreement between coalition members in order to prevent the coalition from breaking down.

The more veto players – that is, the more actors whose agreement is necessary for an action to be taken – the more difficult it will be for politicians to sanction or reward the regulator through legislative or executive measures. The more difficult it is for politicians to sanction or reward, the more independent the regulator will be. We should therefore expect the number of veto players to be positively related to independence (Maggetti, 2007).

This is particularly the case where political parties are polarised. Strictly speaking, consideration of the parties' ideal points in n -dimensional space is *prior* to counting the number of veto players. In practice, however, the number of veto players is often identical to the number of parliamentary parties in the parliamentary majority, irrespective of the closeness of their positions. Consequently, the greater the polarisation of these parties, the less likely it is that any individual potential veto player will be absorbed within the ideal point of any other party, and consequently the more likely it is that the number of veto players will remain high. We should therefore expect that polarisation will also be positively related to independence.

Consequently,

H6. The more veto players in a polity, or the greater the ideological distance between them, the more independent the IRA.

Political salience As politicians have only limited time and resources, they will pay more attention to some agencies than to others (Calvert et al., 1989, 589-90). The political salience of the policy area in which an agency works is an important determinant of political attention (Ringquist et al., 2003). Moreover, it is also believed to be an important determinant of political independence. Calvert et al. (1989, p. 590) explain that "in those areas in which they care the most, politicians will expend greater effort and resources in reducing the uncertainty that affords bureaucrats the opportunity for discretion." Hence we pose the following hypothesis:

H7. The greater the salience of the policy area covered by the regulatory agency, the less independent the agency.

Coordination of the economy As coordinated market economies (CME) are known for their extensive networks linking business and governments, and as these networks usually taken to be inimical to independent policy-making, we should expect agencies to be less independent in CMEs. The networks in CMEs primarily coordinate employers, and only secondarily link business to government, and they need not necessarily play a role for semi-detached parts of government such as independent agencies. Nevertheless, at least one scholar has hypothesised that CMEs should have less independent regulatory agencies (Maggetti, 2007, p. 274).

In that same study, however, not only was the hypothesis that CMEs have less independent regulatory agencies not confirmed, the link ran precisely in the opposite direction to that predicted. One explanation is that whilst the types of coordination networks found in CMEs are inimical to independence *simpliciter*, they are particularly harmful to independence from regulatees; but dependence on regulatees may bolster independence vis-à-vis politicians. "An agency cannot be a servant of two masters: if it is scarcely independent from the politicians, it should be highly independent from those being regulated" (Maggetti, 2007, p. 281). Thus,

H8. The more coordinated the market economy in a country, the more independent the regulatory agency

3 Operationalisation

Details and sources for most of the variables used in this analysis can be found in Table 2 at the end of this section. For two particularly important variables – formal and actual independence – we describe our sources and methods in more detail.

Measurement of actual independence

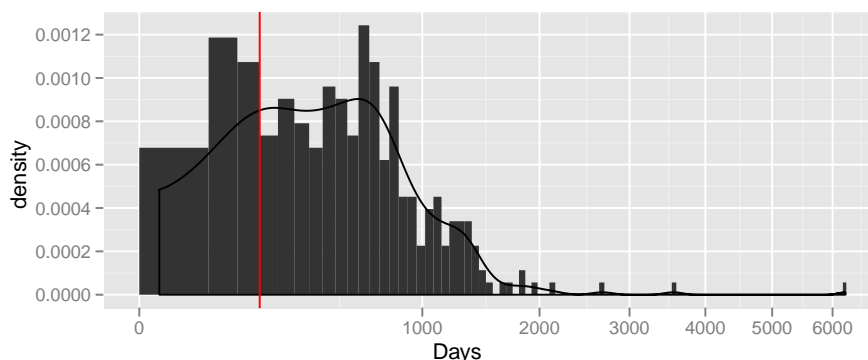
Precise measurement of the degree of actual independence of a regulatory agency is extremely difficult. Whilst it is possible (see Maggetti 2007), it is exceedingly complex to produce comparable measures for enough agencies to permit statistical analysis. We therefore rely on two proxy measures of independence which have been developed in the literature on central bank independence (Cukierman et al., 1992; Cukierman and Webb, 1995): a measure of political vulnerability (VUL), and a measure of the average turnover of the chief executive of the agency (TOR). Our political vulnerability proxy, VUL, is the percentage of government changes followed within six months by a change in the agency chief executive. Our turnover proxy, TOR, is the reciprocal of the average tenure, in years, of chief executives of an agency.

Hanretty (2010) explains the logic behind VUL as follows:

If, following a new government, there is a change in the chief executive, then either the chief executive reached the end of her term, or left early. If she reached the end of her term, it may be that the terms of chief executives are designed so as to coincide with changes in government. . . . If this is the case, then one may assume that the chief executive is, in some sense, the expression of a government choice. If the terms do not coincide by design, then the fact that they did so may create this impression in any case. If, by contrast, the chief executive left early, she was either constrained to resign, or did so of her own accord. If she was constrained to resign, this may represent the introduction of some new constraint connected to the government. If she left of her own accord, this may reflect a belief that the government should have a 'clean slate' to influence the forthcoming selection of a chief executive.

The six month window used to calculate VUL is arbitrary. Shortening the window increases the risk of false negatives – replacements which were partisan but where the government did not act sufficiently quickly. Lengthening

Figure 1: Time from appointment to preceding instance of government formation, square-root scale



Note: Red line indicates 180 days after government formation.

the window increases the risk of false negatives – normal appointments which just happened to follow a change of government. The six-month window covers a slight peak in appointments between three and six months (see Figure 1); our findings did not change when we re-ran our models with a three month window instead.

The logic behind TOR is less rigorous. Rates of turnover reflect multiple influences: the attractiveness of exit options, the average age at which executives are appointed, or country- or sector-specific expectations about when to call time on a career in regulation. For our purposes, one important influence on higher rates of turnover is political (dis)satisfaction with the current chief executive. Whilst dissatisfaction may result from non-partisan considerations, such as the quality of the chief executive, it may also result from the chief executive refusing to follow the wishes of her political principals. Given such dissatisfaction, politicians may either dismiss the chief executive, or decline to re-appoint her; or, anticipating this, the chief executive may resign or refuse to be considered for re-appointment. Given our earlier definition of actual independence from politics, such a situation would indicate low levels of independence.

The converse scenario, of low rates of turnover, may reflect high levels of independence, or continued political satisfaction with the current chief executive, and thus low levels of independence caused by a deferential executive. In theory, this poses a problem of observational equivalence. In order to use TOR as a proxy measure of independence, we must therefore make two assumptions: first, that non-political factors affecting turnover are unrelated to political factors affecting turnover, and thus do not systematically bias the use of turnover as a proxy for independence; and second, that low rates of turnover are, other things being equal, always and everywhere a sign of high levels of independence rather than a sign of a deferential chief executive.

These are strong assumptions, but we believe they are warranted in the cases we study. Regarding high rates of turnover: our measure of turnover is strongly correlated ($r = 0.67$) with another measure of actual independence used by Maggetti (2007), namely the percentage of executives who left before two-thirds of their term had expired. Thus, even accounting for different term lengths, and thus different expectations about tenure, our findings would remain the same.¹ Regarding low rates of turnover: whilst concerns about observational equivalence have a sound basis, this concern has typically been dealt with by noting the paucity of long-serving chief executives. If we follow Cukierman (1992, 385) and examine executives who have served terms of 12 years or more (three times the modal legislative term), then there are only 22 such executives, all but seven of whom served agencies which scored in the bottom quartile for VUL. Nor does even the most egregious example – Sir Gordon Borrie’s long tenure at the United Kingdom Office of Fair Trading (TOR=0.16, VUL=0.25) – suggest low independence: following Borrie’s long period under Conservative government, he was nominated to the House of Lords to sit as a Labour peer: hardly a likely outcome had Borrie slavishly followed the whims of the Conservatives.

By combining these two proxies, we can mitigate the error found in each. Although the two measures are only weakly correlated (Spearman’s $\rho = 0.23$), this is largely due to a number of cases where VUL is stuck at zero, sometimes because of a limited number of government changes.² We average the two measures, and then subtracted the result from one in order to give a measure of independence (since independence increases as TOR and VUL decrease). Since the resulting measure was not normally distributed, we carried out a Box-Cox transformation on the measure, and scaled the result to have a standard deviation of one.

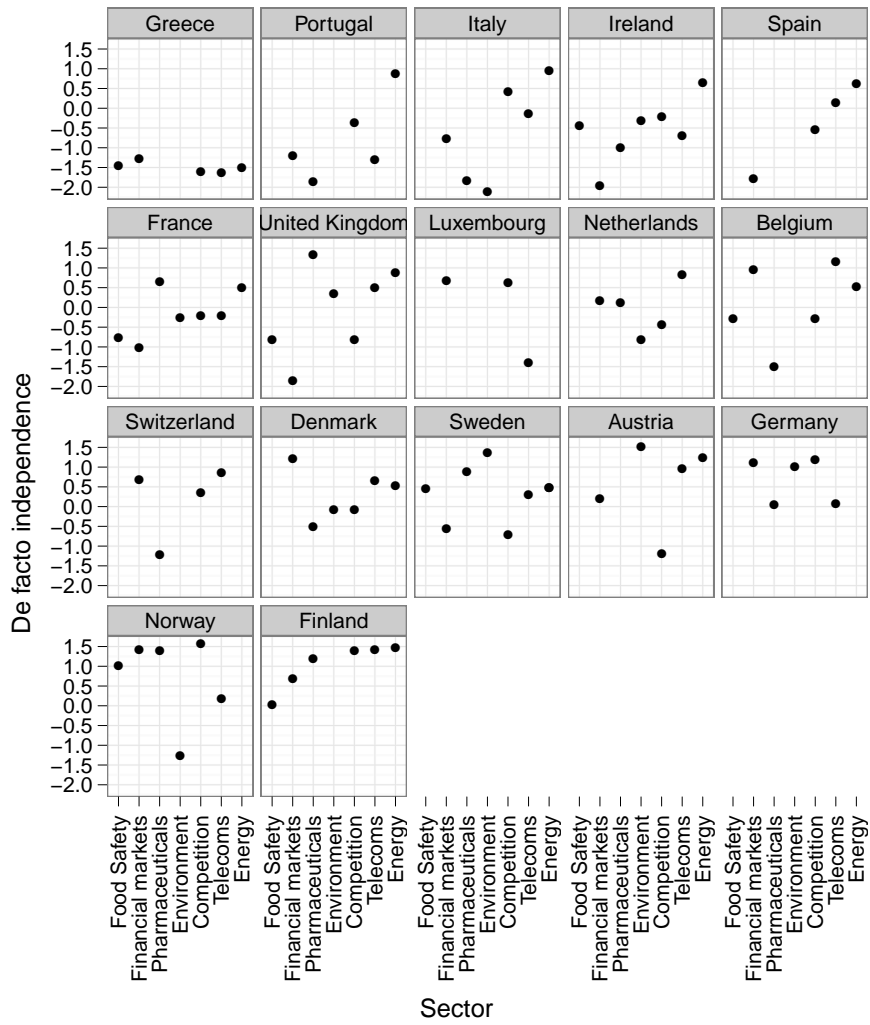
To calculate TOR and VUL, we gathered data on the tenure of 305 chief executives of regulatory agencies in Europe, using information from press releases from agencies and governments, and from newspaper searches using Lexis-Nexis. Where information on the day or month of appointment was missing, we imputed the first day of the month, and January. Since the inclusion of recently appointed chief executives might unfairly bias TOR downwards, we included currently-serving chief executives’ tenure in the calculation of TOR only if TOR would not decrease as a result.

Figure 2 plots values of our measure by country and by sector; countries are plotted in ascending order of mean actual independence; sectors are plotted left to right in increasing order of mean actual independence.

¹ We had originally included a control for average levels of chief executive turnover (DeFond and Hung, 2004): the variable had no statistically significant effect and we removed it.

² One regulator’s score for VUL is calculated on the basis of one government change; six on the basis of two. If one omits cases where VUL is zero, the correlation jumps to 0.56.

Figure 2: De facto independence by sector by country



Example

We demonstrate our measure with a number of representative examples of situations in which chief executives have been replaced for political reasons.

The first set of examples comes from situations where the chief executive has been replaced following a change of government, and largely concerns VUL. This was the case for the Greek financial markets regulator, the Hellenic Capital Markets Commission. Whilst only one of the five government changes during the period resulted in a change in the chief executive of the regulator, the change was drastic: following the March 2004 general election and the formation of Kostas Karamanlis' first government, the entire board of the regulator was replaced, and a new chief executive, Alexis Pilavios, was appointed. Shortly after the chief executive under the PASOK governments, Stavros Thomadakis (who was married to a minister in the Simitis government), was prosecuted for negligence.³ Above-average rates of turnover corroborate the impression of a low-independence regulator.

The second set of examples comes from situations where the chief executive has been dismissed by government at any point, thereby affecting TOR. There are relatively few examples of clear-cut dismissal: most chief executives tend to jump before they are pushed. The example just given, of the Hellenic Capital Markets Commission, is an example which affects both VUL and TOR.

It is far more common for chief executives to resign for political reasons: such cases form our third set of examples. These cases are relatively common, and are by no means confined to those countries which have a generally poor record for independence, such as Greece. The director-general of the Norwegian financial markets authority, Svein Aasmundstad, left his post in May 1992 after a dispute with the Ministry of Finance; his successor was only appointed after the Storting re-affirmed the Kredittilsyn's position as "an independent and strengthened organisation for financial supervision".⁴ A similar politically-inspired resignation took place in the Danish environment agency two years after the formation of a centre-right government which was viewed by the then-director-general, Steen Gade, as wishing to starve funding for the environment.⁵

By far the largest set of examples comes from cases where the government chose not to re-appoint an outgoing chief executive because it wished to impose its own political direction on the agency. This is one way in which low political independence translates into higher executive turnover, though the effect is rather indiscriminate. It is also the most openly discussed way. There was a slew of non-reappointments following Labour's return to government in 1997 – re-appointments which only arose three years later. Commenting on the non-reappointment of Kevin Bridgeman as head of the Office of Fair

³ "Former Bourse, Capital Market Heads Stand Trial For Breach Of Duty", Athens Newswire, 24th June 2004

⁴ Personal communication from Bjørn Skogstad Aamo, director-general, Finanstilsyn.

⁵ "Steen Gade går i protest", *Kristeligt Dagblad*, 12th June 2003.

Trading, the Financial Times reported that

“Few quibble with ministers’ desire to replace a Conservative appointee with their own man. There is also some sympathy for suggestions that Mr Bridgeman was not up to the job (though others disagree). But many observers - including some other regulators - are unhappy about the way Mr Bridgeman was undermined by a whispering campaign. This was apparently endorsed by ministers, though not by Mr Byers [the minister responsible]. The real reason they got rid of him, some say, is that he was robust enough to refuse politically inspired demands for inquiries into sectors where there was no evidence of anti-competitive practices”.⁶

A similar story took place in Portugal, where the government decided not to reappoint competition authority chairman Abel Mateus after Mateus lost support from President Anibal Cavaco Silva, and after Mateus has rowed with ministers over his aggressive anti-trust measures aimed at former state-owned utilities.⁷

Not all cases of resignation, still less of non-reappointment, indicate low levels of actual independence: nor would we claim as much. Rather, by offering these examples we demonstrate how low levels of political independence can affect the values of our proxy measures, and that we can therefore use information about turnover rates and replacements following government change as proxies for independence.

Measurement of formal independence

Measures of formal independence have been proposed for central banks, supreme courts, and regulatory agencies. Most of these measures share a large number of index items which relate to the method by which members of the board or court are appointed; their tenure in office; the provisions for their dismissal, and the relationship between the organisation and the legislature and the executive respectively, in particular concerning the reporting requirements faced by the organisation. The most important index of formal independence for our purposes is the index created by Gilardi (2002, 2005a), which in turn incorporates many index items found in earlier work on central bank independence by Cukierman et al. (1992). A list of these items, and the response categories for each item, is found in Table 1.

There are, however, some issues with the items and the scoring used in the Gilardi index which prevent it from being used directly. In a previous paper

⁶ Brown, Kevin, “Keeping watchdogs on a short leash: The government’s approach to competition has increased suspicions that it will not tolerate truly independent regulators”, *Financial Times*, 10th March 2000, p. 23.

⁷ “Portugal govt not to renew competition regulator chairman’s mandate - report”, Thomson Financial News, 14th September 2007.

Table 1: Indices of formal independence

Item (Gilardi, 2005a)	Item (Koop and Hanretty, 2009)	Weight (Gilardi)	Weight (Koop/Hanretty) [†]
Agency head term of office	...	1	0.55
Agency head appointing body	Agency head term fixed? [‡]	NA	1.16
Agency head dismissal provisions	Not included	1	NA
	...	1	0.58
Agency head incompatibility provisions	... and such provisions exist [‡]	1	0.16
	...	1	1.52
Agency head renewable?	... and such provisions exist [‡]	NA	1.38
Agency head formally required to be independent	...	1	1.06
	...	1	0.96
Board member term of office	...	1	1
Board members appointing body	Board members' term fixed? [‡]	1	1.06
Board members dismissal provisions	Not included	1	NA
	...	1	0.50
Board members incompatibility provisions	... and such provisions exist [‡]	1	0.35
	...	1	1.25
Board members renewable?	... and such provisions exist [‡]	1	1.42
Board members formally required to be independent	...	1	1.35
	...	1	1.17
Agency independence stated?	...	1.5	1.09
Agency reporting requirements to gov't.	...	1.5	0.36
Agency reporting requirements to parl't.	Not included	1.5	NA
Agency funding source	...	1.5	0.13
Agency budget control	...	1.5	0.16
Agency internal organisation control	...	1.5	0.48
Agency personnel control	...	1.5	0.13
Agency has exclusive competence?	Not included	5	NA

[†] Discrimination parameters have been recalculated using Board member term of office as a reference category equal to one.

[‡] This item had been a low-scoring response category in the preceding item; we separated it out

(Koop and Hanretty, 2009), we have argued that this index, and others like it, suffer from at least three problems: they assume an order for certain response categories which is only weakly justified, or not at all; they weight items according to criteria which are either arbitrary or which are based on rational ignorance about the contribution of each item; and they assume that response categories are scale variables (and not just ordinal categories). In order to deal with these problems, we gathered data on 175 regulatory agencies worldwide, and developed a latent trait model of formal independence.

This latent trait model allowed us to test (a) which item response categories were poorly ordered; (b) which items did not fit the latent trait at all (which was often a result of poor ordering); and (c) the contribution made by each item, in terms of its ability to discriminate with respect to the latent trait; and (d) the distance (in terms of the latent trait) between each response category within an item. We found that four items – the agency’s reporting requirements to the legislature, whether or not the agency had exclusive competence; and the appointment method used for the head of the agency and the agency board – were either unrelated to the latent trait of formal independence, or were poorly ordered. We therefore dropped these items to calculate the trait scores for formal independence for each agency.

That model was estimated on data from a wide range of agencies in Europe and in the rest of the world. In this paper, we use the same data gathered by Gilardi (2005a), but we calculate the degree of formal independence by using (a) the items which performed as expected in, and (b) the parameter estimates we obtained from, our previous model. Note that using slightly older data may exert a downwards bias on the effect of formal independence if there has been a general increase in the formal independence of agencies. The items, and their discrimination parameters (which can be considered as analogous to weights in a normal index) are reported in Table 1.

4 Analysis

We carried out ordinary least squares (OLS) regression on the 84 regulators for which we had data for all variables. We used OLS despite the fact that our regulators are nested within countries: the intra-class correlation of 0.13 suggested group membership was unimportant; in any case, we obtained similar results with a simple hierarchical linear model with a varying country intercept. The results are shown in Table 3, with non-significant terms removed iteratively. Selection was based on improvements in Akaike’s Information Criterion, with a limit of four steps of model improvement. Standard errors are Huber-White robust standard errors clustered by country (White, 1982).

The table shows six models with three different dependent variables: our measure of independence, and the component parts of that measure, TOR and VUL. The first model for each dependent variable is the full model with all predictors included: this model is somewhat overspecified. The second

Table 2: Descriptive statistics

Variable	Range	Mean	SD	Source
De facto independence	[-2.25, 1.84]	0	1	
TOR	[0.04, 1.04]	0.24	0.16	
VUL	[0, 1]	0.11	0.18	
De jure independence	[0, 0.99]	0.45	0.22	Koop and Hanretty (2009)
Rule of law (1998-2008)	[0.62, 1.94]	1.56	0.4	Kaufmann et al. (2009)
Veto players (1991-2000)	[1, 6.13]	2.63	1.4	Tsebelis (2002) ^a
Polarisation (1980-2003)	[95.6, 977.8]	488.4	280.5	Budge et al. (2001), Klingemann et al. (2006) ^b
Political salience	[1, 13.5]	5.6	3.2	Laver and Hunt (1992) ^c
Age	[3, 76]	19.2	13.8	Gilardi (2008)
Coordination	[0.06, 1]	0.62	0.26	Hall and Gingerich (2009) ^d
Population ('000)	[447, 82240]	24150	25800	Heston et al. (2009)
GDP per cap.	[17610, 59440]	28210	7071	Heston et al. (2009)

^a Most of the data are taken from Tsebelis' website at

http://sitemaker.umich.edu/tsebelis/veto_players_data. In the case of missing data, we have calculated the number of veto players using the procedure described by Tsebelis (1995).

^c Calculated using the formula given in Sigelman and Yough (1978).

^c Salience of the relevant supervisory minister; except that Switzerland was imputed the values for Austria.

^d Except that Greece was given a value half-way between the United Kingdom and the United States, and Luxembourg was given the same value as Belgium. These codings based on Siaroff (1999).

model for each variable is a reduced model after step-wise automated model selection, which shows a number of significant variables.

As the table shows, each of the models perform moderately well in explaining variation in our measure of independence, with the two models explaining actual independence performing better than those explaining turnover or political vulnerability. The explained variation would, we believe, increase were the measurement of our dependent variable less noisy, and were there more predictors of independence at the level of the regulator.

Formal independence, contra skeptical predictions, did turn out to be a significant predictor of greater independence in real life. However, the interaction between formal independence and the rule of law turned out to have the opposite effect to that predicted: formal independence has a *greater* effect in countries with lower levels of rule of law. This may be because the 'rule of law' is often associated with good government in general, and where government is good, regulators are clustered towards the top end of our measure of actual independence, meaning that increased formal independence is redundant. In any case, the independent effect of rule of law itself was far more important, substantively and statistically, being significant at the 0.05 level in all of the six models, and affecting actual independence in the hypothesised way.

Of our two political variables – veto players and polarisation – only the variable for veto players was significant, and in the expected direction. A larger number of veto players makes it more difficult to sanction the agency – and

Table 3: OLS models

	De facto.1	De facto. 2	TOR. 1	TOR. 2	VUL. 1	VUL. 2
Intercept	-9.90*	-5.79***	0.63	0.90***	1.70***	1.78***
	(4.04)	(0.96)	(0.54)	(0.14)	(0.37)	(0.38)
De jure	3.53***	3.47***	-0.52***	-0.52**	-0.30**	-0.13*
	(0.96)	(0.95)	(0.14)	(0.16)	(0.11)	(0.05)
Rule of law	2.33***	2.35***	-0.28***	-0.28***	-0.21***	-0.14***
	(0.48)	(0.41)	(0.06)	(0.06)	(0.05)	(0.03)
Veto players	0.10 [†]	0.10*	0.01		-0.03***	-0.03***
	(0.05)	(0.04)	(0.01)		(0.01)	(0.01)
Polarization	-0.00		0.00		0.00	
	(0.00)		(0.00)		(0.00)	
log(Population)	0.12 [†]	0.10	-0.01	-0.01	-0.02*	-0.02*
	(0.07)	(0.07)	(0.01)	(0.01)	(0.01)	(0.01)
log(GDP per cap.)	0.38		0.02		-0.10**	-0.12***
	(0.40)		(0.05)		(0.04)	(0.03)
Age	0.00		-0.00	-0.00	0.00	0.00 [†]
	(0.01)		(0.00)	(0.00)	(0.00)	(0.00)
Coordination	0.77**	0.73*	-0.14***	-0.12**	-0.00	
	(0.24)	(0.28)	(0.04)	(0.04)	(0.03)	
Salience	0.01		-0.00		-0.00	
	(0.03)		(0.00)		(0.00)	
De jure * rule of law	-1.61*	-1.60*	0.27**	0.27**	0.11	
	(0.79)	(0.78)	(0.09)	(0.10)	(0.09)	
N	84	84	84	84	84	84
R ²	0.37	0.37	0.35	0.34	0.28	0.27
adj. R ²	0.29	0.32	0.26	0.29	0.18	0.21
Resid. sd	0.82	0.80	0.09	0.09	0.11	0.11

Robust standard errors in parentheses

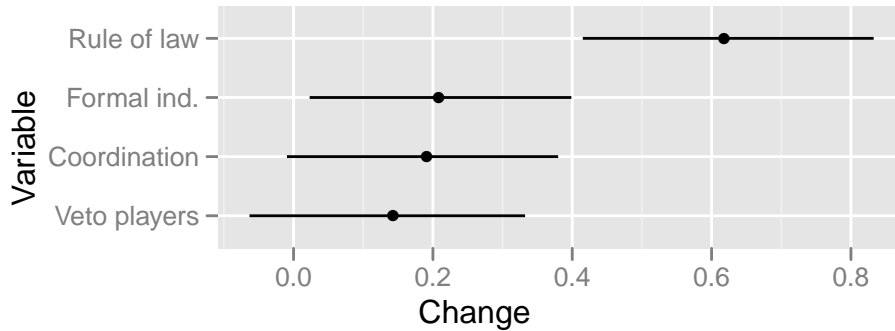
[†] significant at $p < .10$; * $p < .05$; ** $p < .01$; *** $p < .001$

thus make it less independent – irrespective of how far apart those veto players are. Those variables which related to the life of the agency – age and the salience of the issue area – were also not significant. This finding goes against a number of studies which have suggested that age has a positive effect on independence.

Finally, the degree of coordination in the market economy does increase the degree of actual independence of regulatory agencies. Thus, there is greater support for the notion that regulatory agencies can bolster their independence vis-à-vis politicians by forming tight links with business organizations, possibly suggesting a zero-sum relationship between independence from politics and regulatory capture.

We can go beyond hypothesis testing to examine the substantive impact of each of these variables. Figure 3 shows the effect on actual independence of a change in one standard deviation of each variable. We can see that a one standard deviation change in formal independence increase actual independence by around 0.2, more than comparable changes in the number of veto players or market coordination. However, a one standard deviation change in the rule

Figure 3: Effect of one standard deviation change in each variable on independence



of law – about the difference between Spain and the United Kingdom – has by far the largest effect. Nevertheless, formal independence is by far more tractable than making changes in the rule of law.

The substantive importance of formal independence becomes even more clear when we consider concrete examples of the changes in each variable that are necessary to secure a desired change in actual independence. Returning to the Greek financial markets regulator, suppose that we wished to make the Greek regulator as independent from politics as the German regulator, BaFin. To achieve this change – a change of almost 2.25 units on our measure – how would our key variables need to change?

No single change in one variable can achieve an effect of this magnitude. In order to surpass the level of actual independence shown by the BaFin, Greece would need to become as law-abiding as Norway, suddenly become a multi-party system with 3 to 4 veto players, and grant the Hellenic Capital Markets Commission the highest degree of formal independence seen in our sample. The first of these seems difficult and the second potentially undesirable for other reasons; only the third seems feasible.

5 Conclusions

So far, we have shown that we can arrive at reasonable interval-level measures of the actual independence of regulatory agencies, and that the independence of these agencies can be explained reasonably well by four main variables – the degree of formal independence granted to the agency, the rule of law, the coordination of the economy in that country, and the number of veto players.

These findings can, of course, be contested, and we recognise that not all readers will be convinced by our use of proxies and by the assumptions that the effects of these variables are ever-present and monotonically increasing. Our data refer to independence over the life of these agencies, which presents both

benefits and challenges: as these institutions age, they acquire a longer track-record which is a more reliable indicator of their degree of independence. At the same time, however, static measurements of independence may belie the extent to which independence varies over time in response to developments which are internal or external to the agency (and which may also explain why our findings differ from other scholars who find no link between formal and actual independence).

Our findings on the effect sizes of each of these variables imply an optimistic view for institutional engineering. Johan Olsen (2003) has written that institutional engineering requires that decision makers know what they want, know how to achieve it, and have the power to do what is needed to achieve a desired result. We cannot speak to politicians' desires and preferences, though the benefits of agency independence – whether extrinsically, in terms of greater efficiency, or intrinsically, in terms of greater propriety – are usually taken to self-recommending. Nor still can we speak to whether politicians have the power necessary to achieve changes in agency's formal independence – though here, too, the tide seems to flow inexorably in the direction of greater independence (Gilardi, 2005b). But we do suggest that our findings offer knowledge about how to achieve the desired outcome which is relatively independent of contextual features – like limited rule of law – which might make engineering more difficult. Certainly, this is institutional engineering at the periphery of the political system, and as such, might not quite suit the 'divine science', as Austin Ranney (1976) described it; but still, we trust it would satisfy the regulatory demiurge.

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Country	Sector	Name	Executive	Start	End
Austria	Financial markets	Finanzmarktaufsicht (FMA)	Helmut Ettl	2008-02-14	2010-05-18
Austria	Financial markets	Finanzmarktaufsicht (FMA)	Kurt Pribil	2001-10-22	2010-05-18
Austria	Financial markets	Finanzmarktaufsicht (FMA)	Heinrich Trauttmüller	2005-02-14	2008-02-13
Austria	Financial markets	Finanzmarktaufsicht (FMA)	Andreas Grünbichler	2001-10-22	2004-10-22
Austria	Competition	Bundeswettbewerbsbehörde (BWB)	Theodor Thanner	2007-07-01	2010-05-18
Austria	Competition	Bundeswettbewerbsbehörde (BWB)	Walter Barfuß	2002-07-01	2007-07-01
Austria	Energy	Energie-Control GmbH	Walter Boltz	2001-03-01	2010-05-18
Austria	Telecoms	Rundfunk & Telekom Regulierungs GmbH	Georg Serentschy	2002-11-25	2010-05-18
Austria	Telecoms	Rundfunk & Telekom Regulierungs GmbH	Alfred Grinschgl	2001-06-01	2010-05-18
Austria	Telecoms	Rundfunk & Telekom Regulierungs GmbH	Heinrich Otruba	1997-11-01	2002-10-31
Austria	Environment	Umweltbundesamt	Georg Rebernig	1999-03-01	2010-05-18
Austria	Environment	Umweltbundesamt	Wolfgang Struwe	1985-09-01	1999-02-28
Austria	Energy	Commissie voor de Regulering van de Elektriciteit en het Gas	François Possemiers	2007-02-01	2010-05-18
Belgium	Energy	Commissie voor de Regulering van de Elektriciteit en het Gas	Christine Vanderveeren	2000-01-10	2007-01-31
Belgium	Financial markets	Commissie voor het Bank-, Financie- en Assurantiewezen	Jean-Paul Servais	2007-04-20	2010-05-18
Belgium	Financial markets	Commissie voor het Bank-, Financie- en Assurantiewezen	Eddy Wymersch	2001-04-01	2007-04-01
Belgium	Financial markets	Commissie voor het Bank-, Financie- en Assurantiewezen	Jean-Louis Duplat	1989-01-17	2001-01-17
Belgium	Pharmaceuticals	Federaal Agentschap voor Geneesmiddelen en Gezondheidsproducten	Xavier De Cuyper	2007-05-01	2010-05-18
Belgium	Pharmaceuticals	Federaal Agentschap voor Geneesmiddelen en Gezondheidsproducten	Piet Vanthemische	2007-01-01	2007-04-30
Belgium	Food Safety	Federaal Agentschap voor de Veiligheid van de Voedselketen	Gilbert Houins	2006-06-28	2010-05-18
Belgium	Food Safety	Federaal Agentschap voor de Veiligheid van de Voedselketen	Piet Vanthemische	2002-06-21	2006-06-27
Belgium	Food Safety	Federaal Agentschap voor de Veiligheid van de Voedselketen	Luc Beernaert	2000-05-27	2002-02-06
Belgium	Telecoms	Belgisch Instituut voor Postdiensten en Telecommunicatie	Luc Hindryckx	2009-10-09	2010-05-18
Belgium	Telecoms	Belgisch Instituut voor Postdiensten en Telecommunicatie	Eric Van Heesvelde	1993-07-01	2009-10-09
Belgium	Competition	Raad voor de Mededinging	Stefaan Raes	2004-10-01	2010-05-18
Belgium	Competition	Raad voor de Mededinging	Patrick De Wolf	2004-01-24	2010-09-30
Belgium	Competition	Raad voor de Mededinging	Béatrice Ponet	2001-07-17	2004-01-23
Belgium	Competition	Raad voor de Mededinging	Olivier Gutt	2000-01-12	2000-06-27
Belgium	Competition	Raad voor de Mededinging	Christine Schurmans	1993-04-28	2000-01-12
Denmark	Energy	Energitilsynet	Uffe Bundgaard-Jørgensen	2004-01-01	2010-05-18
Denmark	Energy	Energitilsynet	Hans Henrik Høgsbro Østergaard	2000-01-01	2004-01-01
Denmark	Financial markets	Finanstilsynet	Ulrik Nødgaard	2009-01-19	2010-05-18
Denmark	Financial markets	Finanstilsynet	Henrik Bjerre-Nielsen	1996-08-01	2008-11-15

Country	Sector	Name	Executive	Start	End
Denmark	Financial markets	Finanstilsynet	Eigil Mølgaard	1983-08-01	1996-07-01
Denmark	Pharmaceuticals	Lægemiddelstyrelsen	Jytte Lyngvig	2000-08-01	2010-05-18
Denmark	Telecoms	Lægemiddelstyrelsen	Bo Lumholtz	1997-03-01	2000-08-01
Denmark	Telecoms	IT- og telestyrelsen	Jørgen Abild Andersen	1991-01-01	2010-05-18
Denmark	Competition	Konkurrence-styrelsen	Agnete Gersing	2006-08-01	2010-05-18
Denmark	Competition	Konkurrence-styrelsen	Finn Lauritzen	1997-06-01	2006-06-30
Denmark	Competition	Konkurrence-styrelsen	Finn Lauritzen	1997-06-01	2006-06-30
Denmark	Environment	Miljøstyrelsen	Lars Skov Madsen	1984-01-01	1997-05-31
Denmark	Environment	Miljøstyrelsen	Lars Skov Madsen	2009-06-01	2010-05-18
Denmark	Environment	Miljøstyrelsen	Ole Christiansen	2003-08-21	2009-06-01
Denmark	Environment	Miljøstyrelsen	Ole Christiansen	1999-05-28	2003-06-12
Denmark	Environment	Miljøstyrelsen	Erik Lindegaard	1990-01-01	1999-05-27
Denmark	Environment	Miljøstyrelsen	Jens Kampmann	1978-01-01	1990-01-01
Denmark	Environment	Miljøstyrelsen	Ejler Koch	1977-01-01	1978-01-01
Denmark	Environment	Miljøstyrelsen	Helge Odel	1972-01-01	1977-01-01
Denmark	Environment	Miljøstyrelsen	Helge Odel	1998-07-01	2010-05-18
Finland	Energy	Energiamarkkinavirasto	Asta Sihvonen-Punkka	1998-07-01	2010-05-18
Finland	Financial markets	Finanssivalvonta	Anneli Tuominen	2009-02-04	2010-05-18
Finland	Financial markets	Finanssivalvonta (previously the Rahoitustarkastus)	Kaarlo Jännäri	1996-01-01	2009-01-01
Finland	Financial markets	Finanssivalvonta (previously the Rahoitustarkastus)	Jorma Aranko	1993-01-01	1996-01-01
Finland	Food Safety	Elintarviketurvallisuusvirasto	Jaana Husu-Kallio	2006-08-01	2010-05-18
Finland	Food Safety	Elintarviketurvallisuusvirasto	Jorma Hirn	2006-05-01	2006-07-31
Finland	Pharmaceuticals	National Agency for Medicines / Finnish Medicines Agency (since 1 November 2009)	Marja-Liisa Partanen	2009-02-13	2010-05-18
Finland	Pharmaceuticals	National Agency for Medicines / Finnish Medicines Agency (since 1 November 2009)	Hannes Wahlroos	1993-01-01	2009-01-14
Finland	Telecoms	Viestintävirasto	Rauni Hagman	2001-02-01	2010-05-18
Finland	Telecoms	Viestintävirasto (as Telehallintokeskus)	Reijo Svensson	1988-01-01	2001-02-01
Finland	Competition	Kilpailuvirasto	Juhani Jokinen	2005-01-01	2010-05-18
Finland	Competition	Kilpailuvirasto	Matti Purasjoki	1988-10-01	2005-01-01
France	Energy	Commission de régulation de l'énergie	Philippe de la Doucette	2006-04-18	2010-05-18
France	Energy	Commission de régulation de l'énergie	Jean Syrota	2000-03-24	2006-04-18
France	Financial markets	Autorité des marchés financiers (AMF) (Since 23 November 2003) / Conseil des Marchés Financiers (COB) (Since 28 September 1967)	Jean-Pierre Jouyet	2008-12-15	2010-05-18
France	Financial markets	Autorité des Marchés Financiers (AMF) (Since 23 November 2003) / Conseil des Marchés Financiers (COB) (Since 28 September 1967)	Michel Prada	2003-11-21	2008-12-14

Country	Sector	Name	Executive	Start	End
France	Financial markets	Autorité des marchés financiers (AMF) (Since 23 November 2003) / Conseil des Marchés Financiers (COB) (Since 28 September 1967)	Jean-François Lepetit	2002-10-10	2003-11-20
France	Financial markets	Autorité des marchés financiers (AMF) (Since 23 November 2003) / Conseil des Marchés Financiers (COB) (Since 28 September 1967)	Michel Prada	1995-10-04	2002-10-09
France	Financial markets	Autorité des marchés financiers (AMF) (Since 23 November 2003) / Conseil des Marchés Financiers (COB) (Since 28 September 1967)	Jean Saint-Geours	1989-10-01	1995-10-03
France	Food Safety	Agence française de sécurité sanitaire des aliments	Marc Mortureux	2009-08-26	2010-05-18
France	Food Safety	Agence française de sécurité sanitaire des aliments	Pascale Briand	2005-07-15	2009-07-23
France	Food Safety	Agence française de sécurité sanitaire des aliments	Martin Hirsch	1999-03-31	2005-03-28
France	Pharmaceuticals	Agence française de sécurité sanitaire des produits de santé	Jean Marimbert	2004-02-18	2010-05-18
France	Pharmaceuticals	Agence française de sécurité sanitaire des produits de santé	Philippe Duneton	1999-03-11	2004-02-18
France	Telecoms	Autorité de Régulation des Communications Electroniques et des Postes	Jean-Ludovic Silicani	2009-05-08	2010-05-18
France	Telecoms	Autorité de Régulation des Communications Electroniques et des Postes	Jean-Claude Mallet	2009-01-04	2009-04-29
France	Telecoms	Autorité de Régulation des Communications Electroniques et des Postes	Paul Champsaur	2003-01-06	2009-01-04
France	Telecoms	Autorité de Régulation des Communications Electroniques et des Postes	Jean-Michel Hubert	1997-01-06	2003-01-06
France	Competition	Autorité de la concurrence	Bruno Lasserre	2004-07-27	2010-05-18
France	Competition	Conseil de la concurrence	Marie-Dominique Hagelsteen	1998-08-04	2004-07-27
France	Competition	Conseil de la concurrence	Charles Barbeau	1993-03-06	1998-01-01
France	Competition	Conseil de la concurrence	Pierre Laurent	1987-01-01	1993-01-01
France	Environment	Agence de l'Environnement et de la Maitrise de l'Energie (ADEME)	Philippe van de Maele	2009-03-05	2010-05-18
France	Environment	Agence de l'Environnement et de la Maitrise de l'Energie (ADEME)	Chantal Jouanno	2008-02-08	2009-01-21
France	Environment	Agence de l'Environnement et de la Maitrise de l'Energie (ADEME)	Michèle Pappalardo	2003-01-15	2008-02-08
France	Environment	Agence de l'Environnement et de la Maitrise de l'Energie (ADEME)	Pierre Radanne	1998-01-01	2002-12-31
France	Environment	Agence de l'Environnement et de la Maitrise de l'Energie (ADEME)	Jacques Vernier	1992-03-01	1996-03-01
Germany	Financial markets	Bundesanstalt für Finanzdienstleistungsaufsicht	Jochen Sanio	2002-05-01	2010-05-18
Germany	Pharmaceuticals	Bundesinstitut für Arzneimittel und Medizinprodukte	Johannes Löwer	2007-12-01	2010-05-18
Germany	Pharmaceuticals	Bundesinstitut für Arzneimittel und Medizinprodukte	Reinhard Kurth	2004-09-01	2007-12-01
Germany	Pharmaceuticals	Bundesinstitut für Arzneimittel und Medizinprodukte	Harald G. Schweim	2000-08-07	2004-04-01
Germany	Pharmaceuticals	Bundesinstitut für Arzneimittel und Medizinprodukte	Alfred G. Hildebrandt	1994-07-01	2000-07-01
Germany	Telecoms	Bundesnetzagentur für Elektrizität, Gas, Telekommunikation, Post und Eisenbahnen	Matthias Kurth	2005-07-13	2010-05-18
Germany	Telecoms	Regulierungsbehörde für Telekommunikation und Post	Klaus-Dieter Scheurle	1998-01-01	2001-01-01
Germany	Competition	Bundeskartellamt	Andreas Mundt	2009-12-22	2010-05-18
Germany	Competition	Bundeskartellamt	Bernhard Heitzer	2007-04-03	2009-11-06

Country	Sector	Name	Executive	Start	End
Germany	Competition	Bundeskartellamt	Ulf Böge	2000-01-01	2007-03-31
Germany	Competition	Bundeskartellamt	Dieter Wolf	1992-07-01	1999-12-31
Germany	Competition	Bundeskartellamt	Wolfgang Kartte	1976-07-16	1992-06-30
Germany	Competition	Bundeskartellamt	Eberhard Günther	1958-07-01	1976-07-15
Germany	Environment	Umweltbundesamt (UBA)	Jochen Flasbarth	2009-09-01	2010-05-18
Germany	Environment	Umweltbundesamt (UBA)	Andreas Troge	1995-08-01	2009-09-01
Greece	Energy	Regulatory Authority for Energy (RAE)	Simos Simopoulos	2009-05-11	2010-05-18
Greece	Energy	Regulatory Authority for Energy (RAE)	Mihalis Karamanis	2007-01-01	2009-05-11
Greece	Financial markets	Hellenic Republic Capital Market Commission	Anastasios Gabrielides	2009-06-01	2010-05-18
Greece	Financial markets	Hellenic Republic Capital Market Commission	Alexis Pilavios	2004-03-23	2009-05-31
Greece	Financial markets	Hellenic Republic Capital Market Commission	Stavros Thomadakis	1996-01-01	2009-05-31
Greece	Food Safety	Hellenic Food Safety Authority (EFET)	Ioannis Vlemmas	2005-04-01	2010-05-18
Greece	Food Safety	Hellenic Food Safety Authority (EFET)	Nikos Katsaros	2004-04-14	2005-03-31
Greece	Food Safety	Hellenic Food Safety Authority (EFET)		1999-12-31	
Greece	Telecoms	Hellenic Telecommunications and Post Commission (EETT)	Leonidas Kanellos	2009-09-01	2010-05-18
Greece	Telecoms	Hellenic Telecommunications and Post Commission (EETT)	Nikitas Alexandridis	2005-08-01	2009-08-01
Greece	Telecoms	Hellenic Telecommunications and Post Commission (EETT)	Emmanouil Giakoumakis	2000-06-01	2005-06-01
Greece	Competition	Hellenic Competition Authority	Dimitrios Kyritsakis	2009-01-01	2010-05-18
Greece	Competition	Hellenic Competition Authority	Spyros Zissimopoulos	2003-10-01	2009-01-01
Greece	Competition	Hellenic Competition Authority	Dimitris Tzouganatos	2000-06-01	2003-10-01
Ireland	Energy	Commission for Energy Regulation	Michael Tutty	2009-06-01	2010-05-18
Ireland	Energy	Commission for Energy Regulation (as Commission for Electricity Regulation)	Tom Reeves	1999-03-01	2009-05-31
Ireland	Financial markets	Irish Financial Services Regulatory Authority	Matthew Elderfield	2010-01-04	2010-05-18
Ireland	Financial markets	Irish Financial Services Regulatory Authority	Patrick Neary	2006-02-01	2009-01-31
Ireland	Financial markets	Irish Financial Services Regulatory Authority	Liam O'Reilly	2002-11-18	2006-01-31
Ireland	Food Safety	Food Safety Authority of Ireland	Alan Reilly	2009-06-28	2010-05-18
Ireland	Food Safety	Food Safety Authority of Ireland	John O'Brien	2004-06-28	2009-06-27
Ireland	Food Safety	Food Safety Authority of Ireland	Ann Westby	2003-10-06	2003-12-20
Ireland	Food Safety	Food Safety Authority of Ireland	Patrick Wall	1997-11-27	2003-07-14
Ireland	Pharmaceuticals	Irish Medicines Board	Pat O'Mahony	2002-11-09	2010-05-18
Ireland	Pharmaceuticals	Irish Medicines Board	Frank Hallinan	1998-08-01	2002-11-08
Ireland	Pharmaceuticals	Irish Medicines Board	John Kelly	1995-08-01	1998-07-31
Ireland	Telecoms	Commission for Communications Regulation (ComReg)	Alex Chisholm	2009-12-01	2010-05-18

Country	Sector	Name	Executive	Start	End
Ireland	Telecoms	Commission for Communications Regulation (ComReg)	Mike Byrne	2006-12-01	2008-12-01
Ireland	Telecoms	Commission for Communications Regulation (ComReg)	Isolde Goggin	2004-12-01	2006-12-01
Ireland	Telecoms	Commission for Communications Regulation (ComReg)	John Doherty	2003-12-01	2004-12-01
Ireland	Telecoms	Commission for Communications Regulation (ComReg)	Etain Doyle	1997-06-01	2003-12-01
Ireland	Competition	Irish Competition Authority	Declan Purcell	2010-04-01	2010-05-18
Ireland	Competition	Irish Competition Authority	William Prasifka	2006-04-01	2010-04-01
Ireland	Competition	Irish Competition Authority	John Fingleton	2000-05-01	2005-10-01
Ireland	Competition	Irish Competition Authority	Patrick McNutt	1996-10-10	1999-12-01
Ireland	Competition	Irish Competition Authority	Patrick Lyons	1992-09-01	1996-09-01
Ireland	Environment	Environmental Protection Agency	Mary Kelly	2002-04-01	2010-05-18
Ireland	Environment	Environmental Protection Agency	Liam McCumiskey	1993-03-26	2002-04-01
Italy	Energy	Autorità per l'energia elettrica e il gas	Alessandro Ortis	2003-12-15	2010-12-14
Italy	Energy	Autorità per l'energia elettrica e il gas	Pippo Ranci	1996-12-15	2003-12-14
Italy	Financial markets	Commissione Nazionale per le Società e la Borsa	Lamberto Cardia	2003-05-29	2010-05-18
Italy	Financial markets	Commissione Nazionale per le Società e la Borsa	Luigi Spaventa	1998-05-16	2003-05-29
Italy	Financial markets	Commissione Nazionale per le Società e la Borsa	Tommaso Padoa-Schioppa	1997-03-01	1998-05-16
Italy	Financial markets	Commissione Nazionale per le Società e la Borsa	Enzo Berlanda	1992-01-28	1997-03-01
Italy	Financial markets	Commissione Nazionale per le Società e la Borsa	Bruno Pazzi	1990-09-02	1992-01-28
Italy	Financial markets	Commissione Nazionale per le Società e la Borsa	Franco Piga	1984-01-01	1990-07-27
Italy	Financial markets	Commissione Nazionale per le Società e la Borsa	Vincenzo Milazzo	1983-01-01	1983-10-25
Italy	Financial markets	Commissione Nazionale per le Società e la Borsa	Guido Rossi	1981-02-15	1982-08-10
Italy	Financial markets	Commissione Nazionale per le Società e la Borsa	Gastone Miconi	1976-01-01	1981-02-15
Italy	Pharmaceuticals	Commissione Nazionale per le Società e la Borsa	Guido Rasi	2008-07-13	2010-05-18
Italy	Pharmaceuticals	Agenzia Italiana del Farmaco	Umberto Filibeck	2008-06-23	2008-07-13
Italy	Pharmaceuticals	Agenzia Italiana del Farmaco	Nello Martini	2004-01-01	2008-06-23
Italy	Telecoms	Autorità per le garanzie nelle comunicazioni	Corrado Calabrò	2005-05-09	2010-05-18
Italy	Telecoms	Autorità per le garanzie nelle comunicazioni	Enzo Cheli	1998-02-10	2005-05-09
Italy	Competition	Autorità Garante della Concorrenza e del Mercato	Antonio Catricalà	2005-02-18	2010-05-18
Italy	Competition	Autorità Garante della Concorrenza e del Mercato	Giuseppe Tesauro	1998-01-01	2004-12-31
Italy	Competition	Autorità Garante della Concorrenza e del Mercato	Giuliano Amato	1994-11-11	1997-12-31
Italy	Competition	Autorità Garante della Concorrenza e del Mercato	Francesco Saja	1990-11-07	1994-07-31
Italy	Environment	Istituto superiore per la protezione e la ricerca ambientale (ISPRA)	Vincenzo Grimaldi	2008-07-22	2010-05-18
Italy	Environment	Agenzia per la protezione dell'ambiente e per i servizi tecnici (APAT)	Giancarlo Viglione	2006-10-26	2008-07-22
Italy	Environment	Agenzia per la protezione dell'ambiente e per i servizi tecnici (APAT)	Giorgio Cesari	2002-10-31	2006-07-17

Country	Sector	Name	Executive	Start	End
Luxembourg	Financial markets	Commission de Surveillance du Secteur Financier	Jean Guill	2009-05-01	2010-05-18
Luxembourg	Financial markets	Commission de Surveillance du Secteur Financier	Jean-Nicolas Schaus	1999-01-01	2009-04-28
Luxembourg	Telecoms	Institut Luxembourgeois de Régulation (IRL)	Paul Laplume	2005-08-19	2010-05-18
Luxembourg	Telecoms	Institut Luxembourgeois de Régulation (IRL)	Roger Mollitor	2000-01-01	2005-08-19
Luxembourg	Telecoms	Institut Luxembourgeois de Régulation (IRL)	Claude Frieseisen	1997-02-13	2000-01-01
Luxembourg	Competition	Conseil de la Concurrence	Thierry Hoscheit	2004-10-29	2010-05-18
Netherlands	Financial markets	Autoriteit Financiële Markten (AFM)	Hans Hoogervorst	2007-09-15	2010-05-18
Netherlands	Financial markets	Autoriteit Financiële Markten (AFM)	Arthur Docters van Leeuwen	2002-03-01	2007-09-15
Netherlands	Pharmaceuticals	College ter Beoordeling van Geneesmiddelen (CBG)	Bert Leufkens	2007-08-01	2010-05-18
Netherlands	Pharmaceuticals	College ter Beoordeling van Geneesmiddelen (CBG)	Frits Lekkerkerker	1991-08-01	2007-08-01
Netherlands	Telecoms	Onafhankelijke Post en Telecommunicatie Autoriteit	Chris A. Fonteijn	2005-09-01	2010-05-18
Netherlands	Telecoms	Onafhankelijke Post en Telecommunicatie Autoriteit	Jens Arnbak	1997-08-01	2005-09-01
Netherlands	Competition	Nederlandse Mededingingsautoriteit (NMa)	Pieter Kalbfleisch	2003-09-22	2005-09-01
Netherlands	Competition	Nederlandse Mededingingsautoriteit (NMa)	Anne-Willem Kist	1998-01-01	2003-01-01
Netherlands	Environment	Rijksinstituut voor Volksgezondheid en Milieu (RIVM)	Marc Sprenger	2003-09-01	2010-05-18
Netherlands	Environment	Rijksinstituut voor Volksgezondheid en Milieu (RIVM)	Hans Pont	2000-11-10	2003-09-01
Netherlands	Environment	Rijksinstituut voor Volksgezondheid en Milieu (RIVM)	Ruud van Noort	1997-03-01	1999-09-13
Norway	Financial markets	Finanstilsynet (Kredittilsynet until December 2009)	Bjørn Skogstad Aamo	1993-04-01	2010-05-18
Norway	Financial markets	Finanstilsynet (Kredittilsynet until December 2009)	Svein Asmundstad	1987-06-01	1992-05-01
Norway	Food Safety	Mattilsynet since 1 January 2004, and Statens næringsmiddeltilsyn (main predecessor) between 1988 and that date.	Joakim Lystad	2004-01-01	2010-05-18
Norway	Food Safety	Mattilsynet since 1 January 2004, and Statens næringsmiddeltilsyn (main predecessor) between 1988 and that date.	Gunnar Jordfald	1998-07-01	2003-12-31
Norway	Food Safety	Mattilsynet since 1 January 2004, and Statens næringsmiddeltilsyn (main predecessor) between 1988 and that date.	Atle Ørbeck Sørheim	1988-01-01	1998-07-01
Norway	Pharmaceuticals	Statens legemiddelverket	Gro R. Wæsenberg	1999-09-06	2010-05-18
Norway	Telecoms	Post- og teletilsynet	Willy Jensen	2000-09-01	2010-05-18
Norway	Telecoms	Post- og teletilsynet	Roald Ekholdt	1991-10-25	2000-06-01
Norway	Telecoms	Post- og teletilsynet	Odd Haugan	1987-01-01	1991-09-01
Norway	Competition	Konkurranstilsynet	Knut Eggum Johansen	1999-05-01	2010-05-18
Norway	Competition	Konkurranstilsynet	Einar Hope	1983-01-01	1999-05-01
Norway	Environment	Statens forurensningstilsyn (SFT) / Klima- og forurensningsdirektoratet (KLIF) (name change in January 2010)	Ellen Hambro	2007-01-01	2010-05-18

Country	Sector	Name	Executive	Start	End
Norway	Environment	Statens forurensningstilsyn (SFT) / Klima- og forurensningsdirektoratet (KLIF) (name change in January 2010)	Håvard Holm	1996-05-01	2006-12-31
Norway	Environment	Statens forurensningstilsyn (SFT) / Klima- og forurensningsdirektoratet (KLIF) (name change in January 2010)	Marie Nordby	1995-05-01	1996-03-31
Norway	Environment	Statens forurensningstilsyn (SFT) / Klima- og forurensningsdirektoratet (KLIF) (name change in January 2010)	Harald Rensvik	1992-09-05	1995-04-30
Norway	Environment	Statens forurensningstilsyn (SFT) / Klima- og forurensningsdirektoratet (KLIF) (name change in January 2010)	Gunnar Jordfald	1990-11-17	1992-09-05
Norway	Environment	Statens forurensningstilsyn (SFT) / Klima- og forurensningsdirektoratet (KLIF) (name change in January 2010)	Harald Rensvik	1986-05-28	1990-11-16
Norway	Environment	Statens forurensningstilsyn (SFT) / Klima- og forurensningsdirektoratet (KLIF) (name change in January 2010)	Christian Hambro	1981-10-01	1986-05-11
Norway	Environment	Statens forurensningstilsyn (SFT) / Klima- og forurensningsdirektoratet (KLIF) (name change in January 2010)	Rolf Marstrand	1978-03-10	1981-09-30
Norway	Environment	Statens forurensningstilsyn (SFT) / Klima- og forurensningsdirektoratet (KLIF) (name change in January 2010)	Hans Chr. Bugge	1977-02-14	1978-02-28
Norway	Environment	Statens forurensningstilsyn (SFT) / Klima- og forurensningsdirektoratet (KLIF) (name change in January 2010)	Olav S. Nedenes	1976-09-01	1977-02-13
Norway	Environment	Statens forurensningstilsyn (SFT) / Klima- og forurensningsdirektoratet (KLIF) (name change in January 2010)	Tor Holmøy	1974-06-01	1976-08-31
Portugal	Energy	Entidade Reguladora dos Serviços Energéticos	Vitor Santos	2006-12-28	2010-05-18
Portugal	Energy	Entidade Reguladora dos Serviços Energéticos	Jorge Vasconcelos	1997-02-01	2006-12-15
Portugal	Financial markets	Comissão do Mercado de Valores Mobiliários	Carlos Tavares	2005-09-09	2010-05-18
Portugal	Financial markets	Comissão do Mercado de Valores Mobiliários	Fernando Teixeira dos Santos	2000-03-01	2005-07-21
Portugal	Financial markets	Comissão do Mercado de Valores Mobiliários	José Nunes Pereira	1996-01-01	2000-03-01
Portugal	Financial markets	Comissão do Mercado de Valores Mobiliários	Álvaro Cordeiro Dâmaso	1995-03-03	
Portugal	Financial markets	Comissão do Mercado de Valores Mobiliários	Fernando da Costa Lima	1991-01-01	1995-03-03
Portugal	Pharmaceuticals	INFARMED (Autoridade Nacional do Medicamento e Produtos de Saúde)	Vasco de Jesus Maria	2005-07-15	2010-05-18
Portugal	Pharmaceuticals	INFARMED (Autoridade Nacional do Medicamento e Produtos de Saúde)	Rui Santos Ivo	2002-07-12	2005-07-15
Portugal	Pharmaceuticals	INFARMED (Autoridade Nacional do Medicamento e Produtos de Saúde)	Miguel Andrade	2000-01-01	2002-07-12

Country	Sector	Name	Executive	Start	End
Portugal	Pharmaceuticals	INFARMED (Autoridade Nacional do Medicamento e Produtos de Saúde)	José Aranda da Silva	1994-01-01	2000-01-01
Portugal	Telecoms	Autoridade Nacional de Comunicações (ANACOM)	José Manuel Amado da Silva	2006-06-08	2010-05-18
Portugal	Telecoms	Autoridade Nacional de Comunicações (ANACOM)	Pedro Duarte Neves	2004-09-10	2006-06-07
Portugal	Telecoms	Autoridade Nacional de Comunicações (ANACOM)	Álvaro Dâmaso	2002-07-08	2004-09-09
Portugal	Telecoms	Autoridade Nacional de Comunicações (ANACOM)	Luis Nazaré	1998-07-01	2002-07-07
Portugal	Telecoms	Autoridade Nacional de Comunicações (ANACOM)	Fernando Mendes	1989-11-06	1998-06-30
Portugal	Competition	Autoridade da Concorrência (AdC)	Manuel Sousa Sebastião	2008-03-24	2010-05-18
Portugal	Competition	Autoridade da Concorrência (AdC)	Abel Mateus	2004-03-24	2008-03-24
Spain	Energy	Comisión Nacional de Energía	María Teresa Costa Campí	2005-06-01	2010-05-18
Spain	Energy	Comisión Nacional de Energía	Pedro Meroño	1999-04-01	2005-04-17
Spain	Financial markets	Comisión Nacional del Mercado de Valores	Julio Segura Sanchez	2007-05-05	2010-05-18
Spain	Financial markets	Comisión Nacional del Mercado de Valores	Manuel Conthe Gutiérrez	2004-10-07	2007-04-27
Spain	Financial markets	Comisión Nacional del Mercado de Valores	Bias Calzada Terrados	2001-09-22	2004-10-06
Spain	Financial markets	Comisión Nacional del Mercado de Valores	Pilar Valiente Calvo	2000-10-06	2001-09-21
Spain	Financial markets	Comisión Nacional del Mercado de Valores	Juan Fernández-Armesto	1996-10-04	2000-10-05
Spain	Financial markets	Comisión Nacional del Mercado de Valores	Fernández-España		
Spain	Financial markets	Comisión Nacional del Mercado de Valores	Luis Carlos Croissier Batista	1988-10-03	1996-10-03
Spain	Telecoms	Comisión del Mercado de las Telecomunicaciones	Reinaldo Rodríguez Illera	2005-05-04	2010-05-18
Spain	Telecoms	Comisión del Mercado de las Telecomunicaciones	Carlos Bustelo García del Real	2003-01-10	2005-03-11
Spain	Telecoms	Comisión del Mercado de las Telecomunicaciones	José María Vázquez Quintana	1998-12-01	2003-11-01
Spain	Competition	Comisión Nacional de la Competencia / Tribunal de Defensa de la Competencia	Luis Berenguer Fuster	2005-09-30	2011-10-04
Spain	Competition	Comisión Nacional de la Competencia / Tribunal de Defensa de la Competencia	Gonzalo Solana González	2000-09-29	2005-09-30
Spain	Competition	Comisión Nacional de la Competencia / Tribunal de Defensa de la Competencia	Amadeo Petitbó Juan	1995-09-15	2000-09-29
Spain	Competition	Comisión Nacional de la Competencia / Tribunal de Defensa de la Competencia	Miguel Ángel Fernández Ordóñez	1992-03-06	1995-04-07
Spain	Competition	Comisión Nacional de la Competencia / Tribunal de Defensa de la Competencia	Liborio Hierro Sánchez-Pescador	1990-03-02	1992-03-06
Spain	Competition	Comisión Nacional de la Competencia / Tribunal de Defensa de la Competencia	Juan Antonio Rossignoli Just	1984-12-05	1990-03-02

Country	Sector	Name	Executive	Start	End
Spain	Competition	Comisión Nacional de la Competencia / Tribunal de Defensa de la Competencia	Manuel Cobo del Rosal	1982-01-15	1984-11-14
Spain	Competition	Comisión Nacional de la Competencia / Tribunal de Defensa de la Competencia	Jesús Rubio García-Mina	1964-01-09	1976-07-13
Sweden	Energy	Energimarknadsinspektion	Yvonne Fredriksson	2007-10-25	2010-05-18
Sweden	Energy	Energimyndigheten	Tomas Käberger	2008-03-01	2010-05-18
Sweden	Energy	Energimyndigheten	Thomas Korsfeldt	1998-01-01	2008-03-01
Sweden	Financial markets	Finansinspektionen	Martin Andersson	2009-01-15	2010-05-18
Sweden	Financial markets	Finansinspektionen	Ingrid Bonde	2003-01-01	2008-06-05
Sweden	Financial markets	Finansinspektionen	Claes Norgren	1993-10-06	2002-12-31
Sweden	Financial markets	Finansinspektionen	Anders Sahlén	1991-07-01	1993-09-02
Sweden	Food Safety	Livsmedelsverket	Inger Andersson	2004-05-01	2010-05-18
Sweden	Food Safety	Livsmedelsverket	Bertil Norbellie	1998-09-01	2003-12-31
Sweden	Food Safety	Livsmedelsverket	Arne Kardell	1986-06-01	1998-06-30
Sweden	Food Safety	Livsmedelsverket	Arne Engström	1975-08-01	1986-05-31
Sweden	Food Safety	Livsmedelsverket	Gösta Björkman	1972-01-01	1975-07-31
Sweden	Pharmaceuticals	Läkemedelsverket	Christina Rångemark Åkerman	2008-09-01	2010-05-18
Sweden	Pharmaceuticals	Läkemedelsverket	Gunnar Alvan	1999-08-01	2008-08-31
Sweden	Pharmaceuticals	Läkemedelsverket	Kjell Strandberg	1990-07-01	1999-07-31
Sweden	Pharmaceuticals	Läkemedelsverket	Göran Marby	2010-01-01	2010-05-18
Sweden	Telecoms	Post- och telestyrelsen	Marianne Treschow	2004-06-01	2009-12-31
Sweden	Telecoms	Post- och telestyrelsen	Nils Gunnar Billinger	1998-04-01	2004-06-01
Sweden	Telecoms	Post- och telestyrelsen	Jan Freese	1992-07-01	1998-04-01
Sweden	Competition	Konkurrensverket	Dan Sjöblom	2009-03-16	2010-05-18
Sweden	Competition	Konkurrensverket	Claes Norgren	2003-01-01	2009-03-15
Sweden	Competition	Konkurrensverket	Ann-Christin Nykvist	1999-05-01	2002-10-21
Sweden	Competition	Konkurrensverket	Jörgen Holgersson	1992-07-01	1999-04-30
Sweden	Environment	Naturvårdsverket	Maria Ågren	2009-02-09	2010-05-18
Sweden	Environment	Naturvårdsverket	Lars-Erik Liljelund	1999-11-01	2008-07-31
Sweden	Environment	Naturvårdsverket	Rolf Annerberg	1991-07-01	1999-10-31
Sweden	Environment	Naturvårdsverket	Varfrid Paulsson	1967-07-01	1991-03-01
Switzerland	Financial markets	Financial Market Supervisory Authority FinMA since 1 January 2009 / Swiss Federal Banking Commission SFBC before that	Eugen Haltiner	2009-01-01	2010-05-18

Country	Sector	Name	Executive	Start	End
Switzerland	Financial markets	Financial Market Supervisory Authority FinMA since 1 January 2009 / Swiss Federal Banking Commission SFBC before that	Patrick Raaflaub	2009-01-01	2010-05-18
Switzerland	Financial markets	Financial Market Supervisory Authority FinMA since 1 January 2009 / Swiss Federal Banking Commission SFBC before that	Eugen Haltiner	2006-02-01	2008-12-31
Switzerland	Financial markets	Financial Market Supervisory Authority FinMA since 1 January 2009 / Swiss Federal Banking Commission SFBC before that	Kurt Hauri	1996-01-01	2005-09-30
Switzerland	Financial markets	Financial Market Supervisory Authority FinMA since 1 January 2009 / Swiss Federal Banking Commission SFBC before that	Silvio de Capitani	1992-01-01	1995-12-31
Switzerland	Financial markets	Financial Market Supervisory Authority FinMA since 1 January 2009 / Swiss Federal Banking Commission SFBC before that	Hermann Bodemann	1977-01-01	1991-12-31
Switzerland	Pharmaceuticals	Swissmedic	Jürg Schnetzer	2007-08-01	2010-05-18
Switzerland	Pharmaceuticals	Swissmedic	Franz Schneller	2005-04-01	2007-01-31
Switzerland	Pharmaceuticals	Swissmedic	Klaus-Jörg Dogwiler	2003-02-01	2005-03-31
Switzerland	Pharmaceuticals	Swissmedic	Hans Stocker	2002-01-01	2003-01-31
Switzerland	Telecoms	Commission fédérale de la communication (ComCom)	Marc Furrer	2005-01-01	2010-05-18
Switzerland	Telecoms	Commission fédérale de la communication (ComCom)	Fulvio Caccia	1997-04-30	2004-12-30
Switzerland	Competition	Competition Commission	Walter Stoffel	2003-01-01	2010-05-18
Switzerland	Competition	Competition Commission	Roland von Büren	1998-07-01	2002-12-31
Switzerland	Competition	Competition Commission	Pierre Tercier	1996-07-01	1998-07-01
United Kingdom	Energy	Office of Gas and Electricity Markets (Ofgem)	Alastair Buchanan	2003-08-12	2010-05-18
United Kingdom	Energy	Office of Gas and Electricity Markets (Ofgem)	Callum McCarthy	1998-09-15	2003-08-12
United Kingdom	Energy	Office of Gas Supply (Ofgas)	Clare Spottiswoode	1993-10-01	1998-11-01
United Kingdom	Energy	Office of Gas Supply (Ofgas)	James McKinnon	1986-06-25	1993-10-30
United Kingdom	Energy	Office of Electricity Regulation (Offer)	Stephen Littlechild	1989-05-22	1998-10-01
United Kingdom	Financial markets	Financial Services Authority	Hector Sants	2007-07-20	2010-07-20
United Kingdom	Financial markets	Financial Services Authority	John Tiner	2003-09-22	2007-07-19
United Kingdom	Financial markets	Financial Services Authority	Howard Davies	1997-08-01	2003-09-21
United Kingdom	Food Safety	Food Standards Agency	Tim Smith	2008-04-01	2010-05-18
United Kingdom	Food Safety	Food Standards Agency	John Harwood	2006-03-25	2008-04-01
United Kingdom	Food Safety	Food Standards Agency	Jon Bell	2003-05-08	2005-12-01
United Kingdom	Food Safety	Food Standards Agency	Geoffrey Podger	2000-05-01	2003-05-08
United Kingdom	Pharmaceuticals	Medicines and Healthcare Products Regulatory Agency	Kent Woods	2003-08-29	2010-05-18
United Kingdom	Pharmaceuticals	Medicines Control Agency	Keith Jones	1989-04-01	2002-10-01
United Kingdom	Telecoms	Office of Communications	Ed Richards	2006-10-05	2010-05-18

Country	Sector	Name	Executive	Start	End
United Kingdom	Telecoms	Office of Communications	Stephen Carter	2003-03-01	2006-10-05
United Kingdom	Telecoms	Office of Telecommunications	David Edmonds	1998-04-01	2003-03-01
United Kingdom	Telecoms	Office of Telecommunications	Don Cruickshank	1993-02-22	1998-03-31
United Kingdom	Telecoms	Office of Telecommunications	Sir Bryan Carsberg	1984-08-01	1992-06-30
United Kingdom	Competition	Office of Fair Trading	John Fingleton	2005-10-01	2010-05-18
United Kingdom	Competition	Office of Fair Trading	Sir John Vickers	2000-10-01	2005-09-30
United Kingdom	Competition	Office of Fair Trading	John Bridgeman	1995-10-01	2000-10-01
United Kingdom	Competition	Office of Fair Trading	Sir Bryan Carsberg	1992-07-01	1995-05-18
United Kingdom	Competition	Office of Fair Trading	Sir Gordon Borrie	1976-06-01	1992-07-01
United Kingdom	Competition	Office of Fair Trading	John Methven	1973-01-01	1976-06-01
United Kingdom	Environment	Environment Agency	Paul Leinster	2008-11-01	2010-05-18
United Kingdom	Environment	Environment Agency	Barbara Young	2000-09-01	2008-05-31
United Kingdom	Environment	Environment Agency	Ed Gallagher	1996-04-01	2000-09-01