DOES REGULATORY INDEPENDENCE TRANSLATE INTO A HIGHER DEGREE OF LIBERALIZATION? – EVIDENCE FROM EU ENERGY REGULATORS

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(1) Overview

Independent regulatory authorities are a basic prerequisite for a successful liberalization process. However, contrary to what is expected, a first glimpse at a small sample of electricity and gas regulators operating in 16 European countries reveals a negative relationship between their formal autonomy from politicians and the scope of market reforms. These findings might suffer from endogeneity, though, so we draw on political scientists' explanations for diverging independence levels to construct appropriate instruments. The 2SLS-results then confirm conventional wisdom: the higher the degree of regulatory autonomy, the higher the level of liberalization.

(2) Methods

The liberalization process initiated in European electricity and gas markets in the mid-1990s has been accompanied by the establishment of national independent regulatory authorities (IRAs) (OECD/IEA, 2001). However, despite the substantial role regulatory authorities (are supposed to) play during reform processes, a comprehensive analysis of their functioning and particularly their actual impact on liberalization is still missing. A lack of long-term data on the agencies' degree of independence is identified to be a major reason for this research gap (Gilardi and Maggetti, 2011). As a first step to better understand the relationship between regulatory independence and energy market reforms, we therefore compile a sample that captures the autonomy of electricity and gas authorities in 16 European countries (EU-15 plus Norway) over different years.

For this purpose, we apply the independence index developed by Gilardi (2002) as a benchmark for measuring formal independence, i.e. the degree of autonomy conceded to an IRA by statutes and laws that prohibit political interventions. It comprises five dimensions of regulatory independence: the agency head's status, the management board members' status, the authority's relationship with government and parliament, the regulator's financial and organizational autonomy and the regulatory competencies. The degree of autonomy in these areas is assessed by a questionnaire and the overall independence is calculated as the mean of the dimension values. Based on this numerical coding, we then calculate the respective dimension values for the regulators included in two other studies as well: Johannsen et al. (2004) and the Council of European Energy Regulators (2005) use similar questions as Gilardi (2002) to picture the autonomy of IRAs and allow us to extend the observation period.

To measure the degree of liberalization, we apply the mean of three identically-scaled OECD indicators which capture the development of entry regulation, vertical integration and the market structure in electricity and gas markets (Conway and Nicoletti, 2006).

The relation between regulatory independence and liberalization is then estimated by OLS. The estimation controls for several other factors that have been identified to affect the degree of liberalization by former empirical studies, such as the economic performance of a country (Pitlik and Wirth, 2003; Pitlik, 2008), the government's ideology (Potrafke, 2010) or the level of corruption in the public administration (van Koten and Ortmann, 2008).

However, due to the conventional wisdom regarding the liberalization-enhancing effect of authority independence, it is possible that poor reform progress in the energy sector induces a government to extend the responsible regulator's autonomy; in this case, our OLS estimate would be seriously biased because of reverse causality. We cope with this problem by changing the estimation method to 2SLS IV, selecting instruments on the basis of findings from political scientists: they found the ruling party's credibility as well as its political uncertainty to be determinants of formal regulatory independence (Gilardi, 2002, 2005; Hanretty and Koop, 2012), so that we employ proxies for both these aspects as instruments; our choices are, as postestimation tests suggest, valid for our IV regression.

(3) Results

The sign of the independence coefficient in the OLS regression surprisingly reveals a negative relationship between regulatory autonomy and the scope of reforms, but the estimate does not reach statistical significance.

Being in line with previous research, first stage IV results reveal the formal regulatory independence to increase with a high replacement risk for governments. However, contrary to what is expected, lower levels of statutory autonomy are suggested for highly globalized economies. Using economic globalization as a proxy for the necessary level to credibly commit, since an outstanding importance to attract and retain foreign investors in the course of liberalization exists in open countries according to theory (Majone, 1997), this inconsistent finding might be explained as follows: occasional evidence shows that, due to the energy sector's importance for an economy, governments favor national energy suppliers to be controlled by domestic shareholders (Domanico, 2007). However, since the European Union counteracts this tendency by all means to avoid setbacks in the development of the single EU energy market (European Commission, 2006a) and to enforce the EC Treaty's rules on the free movement of capital and the freedom of establishment (European Commission, 2006b, 2007a, 2007b), the only remaining possibility for politicians to influence the energy sector in their interest is trying to interfere with the regulator; higher foreign investments should then induce governments to keep a foot in the authority's door, reflected by a limitation of its independence.

The second stage IV outcome, then, indicates a considerable liberalization-enhancing effect of an authority's formal independence. Being at odds with its OLS counterpart, it hence supports conventional wisdom and gives rise to the conjecture that an interaction between the scope of reform and the statutory level of regulatory autonomy (and hence an endogeneity problem) indeed exists.

(4) Conclusions

Contradicting the (apparently erroneous) first impression created by the OLS regression neglecting the reverse causality problem, the IV estimation corroborates the conventional wisdom on the effect of regulatory independence: for our sample of EU energy regulators, a higher statutory autonomy from politics entails a higher liberalization level of electricity and gas markets. To remove remaining obstacles for true competition in the energy sector, countries should thus further enhance the protection of regulatory authorities from government interferences.

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