

The Differentiated Integration of Defence Companies in Europe: A Sociology of (Trans) National Economic Elites

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Abstract: Why has European integration affected some of Europe's defence firms more than others? Specifically, what explains the co-existence of national, transnational and European champions in this industry? This article develops answers to this question from two complementary angles. First, through examining the business models and turnover of the four largest companies in Europe (BAe Systems, Airbus, Thales, and Leonardo), it shows that firms who mostly produce military goods are less likely to undergo strong European integration. Second, using an original database on the social backgrounds of these firms' board members, two further hypotheses are tested. Using data on higher education and careers, on the one hand we show that the relationship of board members to their respective state varies from close (Thales and to some extent Airbus) to distant (BAe Systems and Leonardo). On the other, our data reveals that when the careers of these actors are frequently internationalised, this correlates to either strong European integration at the level of the firm (Airbus and Thales) or, alternatively, strong Transatlanticism (BAe Systems or Leonardo). The article as a whole thus both opens up new avenues for research on the defence industry, whilst adding political economy and sociological dimensions to existing scholarship on differentiated European integration.

Keywords: defence companies, differentiated integration, Europe, sociology, economic elites

Introduction

Twenty years after the restructuring upheavals experienced by the defence industry in the 1990s, the homogenisation of the process of integration of European firms predicted at the time has clearly not happened. Such a process would have entailed a shift in practices by major defence companies based in Europe to regularly cooperate with other European defence firms (e.g. to undertake common projects leading to the production of 'European defence material'). More fundamentally, as Fligstein sets out, the process of integration of European firms is not just about co-operation. It is also about the harmonisation of markets at the scale of the European Union (EU) that would 'contain firms who can freely trade and invest with each other under a single system of rules that define property rights, sanction legal and illegal forms of competition and cooperation between firms and workers, and produce rules to govern economic transactions between buyers and sellers' (Fligstein, 2008: 68, see also Fligstein, 2011: 101–103). To put this in more conceptual terms, the European integration of firms can be defined as a 'creation of new interdependencies and new social networks on a European scale, around specific issues' (Rayroux, 2017: 23).

From this perspective, the defence industry provides a highly interesting case study, and this not just because of its economic 'size'.¹ Firstly, as table 1 highlights, 'national champions' such as Leonardo, Rolls-Royce, Naval Group or Safran have undergone only a weak level of integration. If their business activities have certainly internationalised further, their capital is still dominated by the national scale. Indeed, a recent study has underlined that nearly 80% of arms programmes in Europe are still autarkical in the sense that they entail no co-operation between national firms and those located in other countries (De la Brosse, 2017: 2). Meanwhile, of course, other companies have engaged in types of co-operation, and in some cases even institutionalised integration, that can be characterised as 'intermediate', and this because their governance has become multinational (e.g. Thales or MBDA). As for Airbus which, in 2015, became the first 'European company'² in this field, it clearly incarnates the highest level of European integration in comparison to all other defence-related European firms.

1 As a recent study has analysed in detail, today this industry has a total annual turnover of 100 billion euros and, directly or indirectly, employs 1.4 million persons (of which 400,000 live in France) (Dumas, Straumann, 2019: 53).

2 A 'European company' is one which can carry out its activities in all the EU's member states using a single legal status recognised throughout the Union and defined in its law. For example, Allianz, BASF, LVMH or Schneider Electric are all European companies.

Table 1. The level of European integration of leading defence companies³

Firms		Level of European integration
BAe Systems Leonardo Rolls-Royce Naval Group Rheinmetall	Babcock International Group Safran Saab CEA Dassault Aviation	Weak
Thales MBDA		Intermediate
Airbus		Strong

A consequence of these differences is that the notion of a Defence Industrial and Technological Base (DITB) no longer encompasses a set of exclusively national companies (which would have constituted no change), or the harmonisation of supply at the European scale (which would have constituted radical change) – two vague ideas which are frequently evoked within the defence world itself. Instead, in keeping with the other contributions to this special issue, in Europe the defence industry as a whole at the end of the 2010s is best characterised by ‘variations’ in its ‘institutional architecture’ (Fligstein, 2001). We mean by ‘variations’ that this industry comprises ‘champions’ that remain national while *also* being transnational *and* European. If this social fact is relatively evident, the following question has yet to be addressed by political science through the generation of relevant empirical data: why has European integration affected some firms more than others? In other words, what explains the co-existence of national, transnational and European champions?

We tackle this enigma using three lines of questioning which stem from two quite different literatures. Theoretical support from economic sociology first enables research to clarify what structures the defence industry as a whole by testing the firm’s dominant type of product (civil *vs.* military) as an explanatory variable (Fligstein, 2001, 2006, 2008). Subsequently, by drawing upon the sociology of economic elites (Dudouet, Grémont, 2010; Dezalay, 2015; Bonelli, Jeanpierre, 2017) the focus will then be narrowed to target the corporate governance of each firm. Specifically, using data generated upon the sociological profiles of company board members, two other lines of questioning will be tested, one regarding their relationship to their respective state and the other their degree of ‘internationalisation’.

For all these reasons, the article is centred upon the analysis of the four largest global companies located in Europe: BAe Systems (4th globally), Airbus (7th), Thales (8th) and Leonardo (9th) (Fleurant *et al.*, 2018: 9). The selection of these four cases has two methodological justifications. Firstly, as we want to explain variation within our dependent variable (degrees of differentiated European integration between defence firms), choosing the ‘most similar’ cases was necessary. Indeed, all four are 1) large companies, 2) based in Europe, and 3) all produce equipment and services for the defence industry. Secondly, given that we have invested here in a line of questioning that has been virtually unexplored from the angle of political sociology, studying the largest companies is probably the most heuristically valuable place to start.

3 The firms cited in this table are all based in Europe and feature in the top 50 of SIPRI’s worldwide analysis of arms companies: Aude-Emmanuel Fleurant *et al.*, “The SIPRI Top 100 Arms-Producing and Military Services Companies, 2017,” SIPRI Fact Sheet (Stockholm: SIPRI, December 2018), 9–10.

Overall, and on the basis of this original dataset, this text seeks to make two theoretical contributions. Our first aim is to sharpen analysis of arms policies and their relationship to varieties of defence capitalism in Europe. This requires combining the literatures outlined above which have been developed either essentially in English (economic sociology) or in French (the sociology of economic elites). In addition, we also seek to make an original contribution to the study of differentiated integration in Europe by shedding light on two blind spots in this literature (Adler-Nissen, 2014; Schimmelfennig, Leuffen, Rittberger, 2015; Fabbri, Schmidt, 2019). On the one hand, this literature focuses exclusively on the EU. With regard to defence policy, the focus is on the Common Security and Defence Policy (CSDP) through the analysis of battle groups (BG), ‘permanent structured cooperation’ (PESCO), and the European defence fund (EDF) (Haroche, 2019; Howorth, 2019). However, it seems restrictive to limit the differentiated integration of European defence to the study of the CSDP. A more inclusive approach to the dynamics of differentiation is advocated by integrating other multilateral arenas such as NATO, but also bilateral cooperation such as the Franco-British Lancaster House agreements, and minilateral organisations and partnerships, such as OCCAR, the Visegrad Group or the European Intervention Initiative (EI2) (Faure, 2019a, 2019b, 2019c).

On the other hand, research on differentiated integration has largely ignored political economies of Europe, nations and sectors – i.e. the institutionally ordered forms of capitalism (Hall, Soskice, 2001; Jullien, Smith, 2014) within which deeper integration either takes place or does not (for some useful exceptions see Bickerton, 2019; Matthijs, Parsons, Toenshoff, 2019). In a nutshell, there is much to be gained by examining differentiated integration from the lens of forms of policy analysis which incorporate political economy and, therefore, industrial stakeholders. By doing this, our analytical aim is to supplement analysis of ‘vertical’ differentiation (variations between policy domains – i.e. sectoral or industrial divide) and ‘horizontal’ (variations between states – i.e. national divide) differentiation, by studying ‘transversal’ differentiation (Faure, 2019d; Faure, Lebrou, 2019), i.e. institutionalised variations between the corporate strategies of firms that cut across a policy domain, an industry or a state.

Our claims and data are set out below in three parts. The first re-examines the arguments and theories which currently dominate research on defence policies and the political economy of the arms industry. The second sets out our own approach, its operationalisation and hypotheses, and justifies our case selection. The third presents the data on these questions, together with its analysis.

Explaining Differentiated European Integration: The Case of Defence Companies

Because it has concentrated almost exclusively upon states inside the EU, the literature on differentiated integration has virtually ignored that of companies, industries and their European collaborations outside the EU, all of which contribute to Europe’s political economy and, moreover, is a trait that is particularly clear in the

case of defence. Nevertheless, three sets of research on this industry have already contributed directly or indirectly to the differentiated integration agenda.

The persistence of national champions due to path dependencies

The work of DeVore (2013: 6) has been prominent in showing that shifts within the governing of arms policies in Europe cannot be explained simply in terms of ‘Europeanisation’ or ‘Brusselisation’. Specifically, he has argued that the EU has no monopoly over legitimate international co-operation in Europe. Instead, the defence field has developed its own ‘polycentric architecture’ made up of no less than 16 different modes of co-operation, each corresponding to configurations that are transatlantic or European, and restrictive or inclusive (DeVore, 2012: 433, 439). In explaining why such polycentrism is so prevalent, DeVore draws upon historical institutionalism and its concept of ‘path dependency’ in particular (Pierson, 2000):

‘early organizational choices should continue shaping the development of international co-operation long after policy-makers’ preferences have changed [...] organizations either tend to develop path dependently along predictable trajectories or new institutions are layered on top of existing ones. In both eventualities, previous organizational outcomes channel and constrain the future evolution of international cooperation’ (DeVore, 2012: 433).

This argument is used to explain both the insertion of transnational organisations within the EU, such as the arms agencies of NATO (e.g. NSO and NAMSA), and the intergovernmental structuring of European defence organisations more generally (e.g. OCCAR). Consequently, DeVore concludes that processes of historically-built inertia ‘will continue to limit the role of the EU and, particularly, its Commission in armaments cooperation’ (2012: 454).

When applied to the differentiated integration of Europe’s defence industry, historical institutionalism is indeed particularly good at explaining the persistence of national champions such as Babcock International for the UK, Rheinmetall in Germany, Saab in Sweden and Leonardo in Italy. It also helps analysts to explain the development at the transatlantic scale of a corporation like BAe Systems (DeVore & Weiss, 2014). Moreover, in the French case other forms of structuralist-informed analysis using the concept of fields have been mobilised to explain the persistence of ‘neo-dirigiste’ public policy and capitalist institutions in the defence industry and beyond (Ansaloni, Smith, 2018). For example, such approaches help explain why large companies such as Dassault Aviation and Naval Group have been able to keep themselves out of European co-operation for so long. However, as for historical institutionalism, structuralist field analysis alone is less well equipped to explain cases where the European integration of firms has actually occurred to a significant degree. From these angles, the creation of Airbus as a European company, but also the emergence of multi-domestic firms such as Thales or MBDA, thus remain unexplained enigmas (table 2).

Table 2. Historical institutionalism's reading of differentiated integration

Explanatory mechanism	Case	Level of European integration theorised	Level of integration actually observed
Path dependency	Leonardo	Weak	Weak
	BAe Systems	Weak	Weak
-	Thales	-	-
-	Airbus	-	-

The emergence of transnational firms in the name of 'economic patriotism'

Indeed, this is precisely why constructivism has been turned to in order to supplement structuralist analysis. Hoeffler, for example, has adopted such an approach to analyse the convergence between German, British and French defence policies towards a model which she defines as

“the combination of the more or less explicit desire of national governments to support their defence industry and policy instruments which combine traditional protectionist elements and others which feature a market logic. This model is different from both a statist, protectionist and dirigiste model on the one hand, and a liberal model on the other wherein the survival of defence firms is left for the market to determine” (Hoeffler, 2013: 643).

What results is “the economic patriotism of states” (Hoeffler, 2012) within which the representatives of the latter ‘use Europe’ (Jacquot & Woll, 2010) to face up to increased international competition within the arms industry, one within which: “‘national’ boundaries endure, and special relationships among national actors continue to exist [...] governments use the European level as a new territory for economic patriotism in the armament sector” (Hoeffler, 2012: 434-6). Indeed, it is argued, this model has emerged in large part because many of the firms involved have undergone ‘privatisation’ (Hoeffler, 2013).

Although this argument is attractive, it does not explain cases where the protectionist model endures, when companies remain mostly public (e.g. Naval Group), nor indeed cases where the state is totally absent from the capitalisation of a firm (e.g. Babcock International Group). This approach is useful, however, for understanding the emergence of transnational firms, such as Thales and MBDA, for whom liberalisation is not seen as a threat, but rather as an instrument which enables them to increase their competitiveness (table 3). Moreover, as Hoeffler (2012: 447) underlines, large European companies such as EADS (now Airbus) ‘are still organised along national lines to a large extent’.

Table 3. Strategic constructivism's reading of differentiated integration

Explanatory mechanism	Case	Level of European integration theorised	Level of integration actually observed
-	Leonardo	-	-
Liberal defence policy ('economic patriotism')	BAe Systems	-	-
	Thales	Intermediate	Intermediate
-	Airbus	-	-

The superposition of (trans)national firms due to change in the international market

A leading economic sociologist, Neil Fligstein (2006, 2008), agrees with Hoeffler that no integrated European company exists in the defence industry and that, more deeply still, its 'architecture' continues to be structured at the national scale. He also recognises that as of the 1990s there has nevertheless been an increase in European co-operation that has modified EADS, BAe Systems and Thales by encouraging industrial restructuring: "National firms maintain national identities despite forces pushing them to join a more international marketplace" (Fligstein, 2006: 950).

Indeed, these forces have been encouraged by governments reacting to two broader and partially contradictory shifts: the end of the Cold War brought to the end straightforward justifications for national markets and large national defence budgets. However, at least in France, such change was successfully resisted in the name of securing supply, maintaining national technological capacities and defending national firms. Meanwhile, at the European scale, for some actors the completion of the EU's Single Market seemed to make more competition between firms possible, and even desirable. Specifically, Fligstein shows first that shifts in the marketplace weakened the capacity of states as shareholders to control 'their' defence companies. Secondly, he also argues that for the firms involved the development of their activities beyond their national frontiers did not radically change their deeply anchored 'identities': "Where governments continue to protect national firms, there is going to be little convergence in the identity of firms and the way that they function" (2006: 959). For him, the result has been 'co-enterprises' rather than mergers into integrated companies, thus rendering the disappearance of national firms highly unlikely (Fligstein, 2008).

Moreover, as Fligstein underlines, European integration of the defence industry is not restricted to the emergence of large multi-domestic firms anchored in national identities, such as EADS and Thales. He also shows how it affects the persistence of national companies such as Saab (Sweden) and Dassault Aviation (France). Indeed, Fligstein highlights the superposition of two types of market in Europe: one made up of national markets (which encompasses the vast majority of defence firms), and another that is transnational and features essentially the defence industry in Europe's three biggest companies (BAe Systems, EADS and Thales).

More generally, Fligstein supplements the other two approaches synthesised above by analysing the superposition of national and transnational defence companies that has taken place since the end of the 1990s. Because his analysis is essentially descriptive, however, this author does little to actually explain why European

integration has had such differentiated impacts in this industry. As variables, the transformation of world politics (how the end of the Cold War generated a unipolar world) and the completion of the EU’s single market simply do not sufficiently explain the resistance to this trend of national companies such as Saab or the emergence of multi-domestic firms such as MBDA. Moreover, like Hoeffler’s, Fligstein’s analysis does not really account for the emergence of companies that have actually integrated at the European scale. This is a serious limitation given that EADS has since become not only the first European company in the defence industry, but also its biggest player. Indeed, the metamorphosis of EADS into Airbus in 2015 was simply not predicted by the three theories resumed above, and thus remains largely unexplained.

Table 4. Interactionist economic sociology’s reading of differentiated integration

Explanatory mechanism	Case	Level of European integration theorised	Level of integration actually observed
Transformation of world politics; EU’s single market	Leonardo	Weak	Weak
	BAe Systems	Weak	Weak
	Thales	Intermediate	Intermediate
-	Airbus	-	-

Ultimately, two lessons can be drawn from this brief literature review. Each of the different theoretical schools examined (historical institutionalism, constructivism, interactionist economic sociology) makes useful contributions to the understanding of the different levels of European integration experienced by defence companies in Europe over the past three decades. However, none of them are capable of understanding this differentiated integration as a whole. Moreover, these theories have also left behind considerable empirical blind spots: data generated on the firms concerned is often superficial, in particular as regards the internal decision-making actors and processes of each company. Indeed, as regards their directors and managers, none of the theories discussed above has taken into consideration the training and career trajectories of these actors and whether or not they have been ‘internationalised’, as well as their relationships to their respective states. For this reason, and in order to build upon the positive aspects of what has been learnt from the research set out above, it is necessary to invest theoretically and empirically in developing a new approach to studying the firms which lie at the heart of the defence industry in Europe.

Taking the differentiated integration pattern seriously through a sociology of (trans)national economic elites

Indeed, it is now time to set out more clearly the value of studying the sociology of company boards in general, and those of the defence industry in particular. Three lines of questioning will be developed to better understand the differentiated European integration of Leonardo, BAe, Thales and Airbus.

The first extends existing research on the institutional ‘architecture’ of Europe’s defence industry (Fligstein, 2001, 2006, 2008), and this by exploring the extent to which their ratios of civilian vs. military production affect the European integration

of each firm. We hypothesise here that the more a company's production is civilian-dominated, the more integrated it will be (table 5). The reasoning here is that products destined for civilian use tend to be sold on open markets and entail less state intervention.

Table 5. The effect of civilian vs. military relations upon the European integration of firms (hypothesis 1)

Case	Degree of European integration	Ratio of civilian production
Leonardo	Weak	Weak
BAe Systems	Weak	Weak
Thales	Intermediate	Intermediate
Airbus	Strong	Strong

Our lines of questioning 2 and 3 shift the unit of analysis examined from firms to their board members, firstly by examining the relationship of each individual to their respective 'home' state, secondly by analysing their degrees of internationalisation. As we explain fully elsewhere, over the last twenty years, within political economy and economic sociology, the study of the sociology of company board members and/or directors has put a great deal more empirical flesh upon the bones of analyses of both corporate decision-making and its degree of fit with national capitalisms (Bourdieu, 1989; Scott, 1991; Dudouet, Grémont, 2010). More precisely, by reconstituting and aggregating the social properties of board members, the aim of such research is not just to generate a descriptive dataset. Instead, through examining the trajectories of each individual around precise research questions, then comparing answers to them within companies, between companies and countries and over time, the goal is to strive towards analysis driven by wider research questions of interest to all sociologically-minded social scientists (Lemerrier & Picard, 2011: 2-6; Dudouet et al., 2015; François, Lemerrier, Reverdy, 2015). What has not been done until now is to apply this approach to specific industries, and to the defence sector in particular.

Specifically, we first analyse the relationship to the state of the board members of our four companies as a means of testing a variable which might explain in part their varying degrees of European integration (table 6). In the defence industry, this question is particularly important as the state is obviously a buyer of expensive military equipment, and indeed often at the origin of 'demand' for the equipment to be developed and built in the first place. Moreover, in particular until the 1980s, a great deal of defence industrial policy has been practised, i.e. preferential treatment for national manufacturers and state investment in research, development and employment in the industry (Serfati, 1996; Dussauge, Cornu, 1998).

But, since 1980, following a wave of privatisations, then moves to 'render competitive' the buying and production of equipment, this situation has changed considerably in France (Hébert, 1995; Hébert, de Penanros, 1995; Fontanel, Hébert, 1997), Germany (Hoeffler, 2013), Italy (see Calcara in this special issue), and the UK (Dowdall, Braddon, Hartley, 2004; Hartley, 2016; Uttley, Wilkinson, 2016, 2017; Faure, 2019a, 2019b). However, a strong national defence industrial base still exists in France, Germany and the UK (Hoeffler, 2012). Consequently, it is still important to study the relationship between the state and the biggest companies from the defence

industry in Europe. Generating data about such linkages via board members provides one means of doing so.

Table 6. The effect of board member-state linkages on the European integration of defence firms (hypothesis 2)

Case	Degree of European integration	Hypothesised level of board member-state proximity
Leonardo	Weak	Strong
BAe Systems	Weak	Strong
Thales	Intermediate	Intermediate
Airbus	Strong	Weak

The second line of questioning this article develops concerns the transnationalisation of company board members, or even of their cosmopolitanisation through the emergence of an ‘international class’ (Wagner, 1998 and 2007; Pinçon, Pinçon-Charlot, 2009: 69-81). Contrary to anecdotal evidence or accounts which focus exclusively upon highly mediated Chief Executive Officers (CEOs), most analysis of the French business world as a whole in fact conclude that

“the internationalization of commerce and capital has not yet been accompanied by an equivalent transnationalization of business leaders (...) they have not emancipated themselves from their national roots (...) [consequently] longstanding business milieux remains an important anchoring factor” (Dudouet & Grémont, 2010: 16).

This analysis has largely been confirmed by earlier research we undertook (Faure, 2015) which showed that in the French defence industry, transnationalisation of this type is even lower than in the automobile sector. In what follows, our data will be used to discuss these results and go beyond the case of France (table 7). Moreover, what we really want to discover here is whether any internationalisation of careers in the four companies studied bears any relation to their respective degree of European integration.

Table 7. The effect of the relative internationalisation of board members upon the European integration of their firm (hypothesis 3)

Case	Degree of European integration	Hypothesised level of board member internationalisation
Leonardo	Weak	Weak
BAe Systems	Weak	Weak
Thales	Intermediate	Intermediate
Airbus	Strong	Strong

These three lines of questioning will now be addressed using data for the period 2007-2017. This timescale has been chosen so as to focus upon the situation the closest to the present day. It is sufficiently long to encompass change within the configuration of the four firms’ economic activity, as well as the careers of their respective board members, in particular change linked to ‘the Great Recession’. As

regards our sources, hypothesis 1 on civilian-military ratios has been operationalised using data from SIPRI's arms industry database.⁴ For hypotheses 2 and 3, however, we have constituted an original database based upon information gleaned from company annual reports, Bloomberg's website and various other internet searches. In total, a population of 148 board members has been studied: 40 for Leonardo, 28 for BAe Systems, 55 for Thales, and 25 for Airbus.

Why the European Integration of Major Defence Firms Has Been so Different: Data and Results

We will now present our data hypothesis by hypothesis. As will be highlighted below, although many of our initial intuitions have held up, others clearly have not.

Firm-level European integration as a function of civilian vs. military production levels

Our first hypothesis assumes that there is a correlation between 1) each firm's ratio of civilian vs. military production and 2) the degree of that firm's European integration. Consequently, at the outset we assumed that such a correlation would hold up in cases where the level of civilian production was low (Leonardo and BAe), intermediate (Thales) and high (Airbus) – see table 5. Using SIPRI's arms industry database, we can confirm hypothesis 1, with the partial exception of Leonardo (table 8 and appendix 2).

As expected, at 4.6% on average, BAe actually produced very few civilian products and services over the period 2007-17. Indeed, this rate is stable throughout this timescale. Moreover, it fits with the low level of European integration of this company. By contrast, the production of Thales is almost perfectly balanced between the military and civilian categories: 53.4% vs 46.6% over the whole period. One should note however, that the military ratio was higher at the end of the 2000s (55%) than it was by 2017 (50%). For this firm then, these results appear to confirm a correlation between a military-civilian ratio that is intermediate and a degree of European integration which merits the same adjective. As for Airbus, unsurprisingly its high ratio of civilian production (75.8%) correlates strongly with a high level of European integration.

The case of Leonardo, however, is more complex. For the period studied as a whole, at 42.2% civilian production was lower than that of military goods and services (57.8%), thus placing it in an intermediate position closer to that of Thales than BAe and thereby refuting hypothesis 1. But over the period significant change occurred with the level of civilian goods falling considerably: whereas at the end of the 2000s Leonardo (then called Finmeccanica) produced around the same ratio of each type (54% military vs 46% civil in 2007, 53% vs 47% in 2008 and 2009), by the end of the 2010s two thirds of its production had become military (65% in 2015, 64% in 2016, 68% in 2017).

4 <https://www.sipri.org/databases/armsindustry> [accessed on April 10, 2019].

Table 8. The effect of civilian-military production rations upon firms' levels of European integration

Case	Degree of European integration	Reputed level of civilian production	Actual level of civilian production
Leonardo	Weak	Weak	Intermediate
BAe Systems	Weak	Weak	Weak
Thales	Intermediate	Intermediate	Intermediate
Airbus	Strong	Strong	Strong

The European integration of defence firms as regards their board member-state linkages

As table 6 sets out above, our second hypothesis is that the more links there are between company's board members and their respective state, the less likely it is that European integration will be deep. Working backwards from the actual integration levels of our four firms, it would thus have been logical to discover strong company elite-state linkage in the cases of BAe Systems and Leonardo, an intermediate one for Thales and a strong one for Airbus.

In the case of Leonardo, the presence of the state within the board of directors does exist, although it is circumscribed, which only partially confirms our hypothesis. Indeed, on average the board of the company comprises only one state official out of a board composed of around 12 members. From 2007 to 2013, Leonardo's annual reports actually make it clear that one member of the board is "appointed by Ministerial Decree, pursuant to Decree-Law No 332/94, converted with amendments into Act No 474/94" but has no voting rights; thus demonstrating an institutionalised presence of the state within the board, but a weak one. After 2013, however, although there is no more mention of a member appointed by Ministerial Decree, the presence of the state is still assured and even increases in influence with the election to the board – and at the position of Chairman – of Giovanni De Gennaro, a senior civil servant who built his career at the Italian Ministry of Interior and then at the Office of the Prime Minister. Thus, although limited quantitatively (and institutionally until 2013), the Italian state still manages to exert some influence within Leonardo's board of directors.

In the case of BAe Systems, however, our data actually underlines that civil servants or ex-civil servants are absent from the boards of BAe Systems,⁵ thus meaning that hypothesis 2 is refuted in this instance. Indeed, the board members of BAe Systems are purely products of the private sector.⁶

As regards Thales on the other hand, our data shows that a significant proportion of its board members continue to have strong links with France's senior civil service,

5 Two of its board members did however work temporarily for the US administration.

6 The British state had close links with British defence firms until the early 1980s (before the wave of privatisation which began in that decade), yet this never translated into the presence of state officials within the board of directors of these companies. This can be explained by the characteristics inherent to the British "variety" of capitalism: "Britain's liberal market economy (LME) is characterised by low levels of business coordination and state intervention, and deregulated markets serve as the primary coordinating mechanism for economic activity" (Fioretos, 2001: 220; see also DeVore, Weiss, 2014).

even if their presence has tended to diminish since 2007. For the period studied as a whole, 53% of Thales's were or had been senior civil servants. Admittedly, part of these figures can be accounted for by the fact that as a shareholder of this company (holding today around 10% of its respective capital), and in accordance with the law, several seats on each board are reserved for representatives of the *Agence des participations de l'Etat*, and the Ministry of Defence's powerful procurement body: the *Direction générale à l'armement* (DGA). But to really understand the linkages between Thales and the state one has to look more closely at the actors who work for or have worked for the latter. As Table 9 sets out, no less than 36% of Thales's board members had in fact left the civil service for jobs in the private sector before beginning to sit on the board of either company. In addition, 13% of Thales's board members had left the state temporarily to work in the private sector, then re-entered the state before becoming a board member. Consequently, and despite the more recent trend outlined earlier, we conclude that the link between Thales and the state is strong, and this despite the intermediate level of European integration of the company. Hypothesis 2 is therefore only partially validated in this instance.

In the case of Airbus, however, there is clearly a strong correlation between the high level of European integration of this company and the relatively weak linkages between its board members and European states. Indeed, although more than a third of board members on average have worked for their respective state at one point in their career, not a single one of this population has remained working for their government while being a member of the board (table 9).

Table 9. Experience of working within the state (%)

		2007	2012	2017	Total (2007-2017)
Leonardo	Private	71.4%	69.2%	66.7%	72.5%
	Still state official	7.1%	7.7%	8.3%	7.5%
	State>Private	0%	0%	0%	0%
	State>Private>State	0%	0%	0%	0%
	In house	0%	0%	0%	0%
	Other ⁷	21.5%	23.1%	25%	20%
BAe Systems	Private	75%	91%	100%	89%
	Still state official	0%	0%	0%	0%
	State>Private	17%	0%	0%	7%
	State>Private>State	0%	0%	0%	0%
	In house	8%	9%	0%	4%
	Other	0%	0%	0%	0%
Thales	Private	50%	45%	50%	38%
	Still state official	12.5%	16.5%	12.5%	14.5%
	State>Private	25%	16.5%	25%	25.5%
	State>Private>State	6.25%	11%	6.25%	13%
	In house	6.25%	11%	6.25%	7%
	Other	0%	0%	0%	2%
Airbus	Private	63.6%	45.6%	58.3%	52%
	Still state official	0%	0%	0%	0%
	State>Private	36.4%	36.4%	33.3%	36%
	State>Private>State	0%	0%	0%	0%
	In house	0%	0%	0%	0%
	Other	0%	18%	8.3%	12%

But one then needs to examine where exactly these board members were educated. As table 10 shows clearly, each of our four firms is quite different in this respect.

In the case of Leonardo, the higher education of their board members has taken place in so many different establishments, we have even decided to give this firm a different version of table 10. Similarly, for BAe such centres of training have also been particularly diverse. ‘Oxbridge’ – which means people who have been trained either in the University of Oxford or in the University of Cambridge – does account for 15% of this population. It is important to underline that this figure is significantly lower than the average of 29% that Maclean et. al (2006) calculated for the boards of all the UK’s top companies in the early 2000s. Nevertheless, as table 10 sets out, since 2007 the Oxbridge influence has increased significantly, going from 8% to

⁷ 62.5% of these persons had begun their career in the private sector, then worked for the state for a certain period of time as a consultant or ministerial adviser, whilst continuing their private activities partially or completely.

27% by 2017.⁸ However, and crucially, in the case of both Leonardo and BAe, the places of higher education of the population studied have no direct link to the state.

By contrast, no less than 60% of Thales's board members were educated within just four elite *grande écoles*: *l'École Polytechnique (X)*, *l'Ecole nationale de l'administration (ENA)*, and the two most prestigious French business schools (HEC and ESSEC). While this is lower than the 77% of board members coming from these 'schools' who sat on all France's biggest companies in 2006 (Dudouet et Grémont, 2010: 122), these figures are still high and demonstrate the continued influence of these places of socialisation and network formation (François, Berkouk, 2018). To be even more precise, 29% of Thales's board members were trained at the Polytechnique and a further 22% at ENA.

The phenomenon observed at Thales is partially repeated within Airbus, where no less than 20% of its board members have also been educated at ENA. However, this of course only concerns its French members, one of no less than 7 nationalities on the board as we will see below. Moreover, it is interesting to note that none of Airbus's directors have been to Oxford or Cambridge.

8 When examined more closely, this shift appears to reflect a trend towards recruitment on the basis of the value accorded to qualifications (as opposed to work experience and 'working oneself up within the firm'), together with the reputation attributed to certain higher education establishments.

Table 10. The higher education of board members (% of each board)

		2007	2012	2017	Total (2007-2017)
BAe Systems	Polytechnique	0%	0%	0%	0%
	ENA	0%	0%	0%	0%
	HEC or ESSEC	0%	0%	0%	0%
	Oxford	0%	9%	9%	4%
	Cambridge	8%	0%	18%	11%
Thales	Polytechnique	38%	17%	25%	29%
	ENA	25%	22%	6%	22%
	HEC or ESSEC	0%	6%	13%	9%
	Oxford	6%	0%	0%	2%
	Cambridge	0%	0%	0%	0%
Airbus	Polytechnique	9%	9%	8,3%	8%
	ENA	27.3%	27.3%	16.7%	20%
	HEC or ESSEC	0%	0%	0%	0%
	Oxford	0%	0%	0%	0%
	Cambridge	0%	0%	0%	0%

			2007	2012	2017	Total (2007-2017)
Leonardo	Degree	Law	28.6%	16.7%	33.3%	30.8%
		Business/Economics	28.6%	25%	33.3%	30.8%
		Engineering	21.4%	33.3%	16.7%	23%
	University	'Sapienza' Università di Roma	14.3%	8.3%	16.7%	15.4%
		Politecnico de Milano	7.1%	16.7%	8.3%	10.3%
		London School of Economics	7.1%	0%	8.3%	7.7%

In summary, the part of our database on the relationship to the state of board members through their employment (table 9) and higher education (table 10), confirms hypothesis 2 for Thales and Airbus, and also does so partially for Leonardo, but refutes it in the case of BAe (table 11). However, this refutation is largely misleading given that other research has already shown that British companies seldom nominate civil servants or ex-civil servants to their boards (McLean, Harvey, 2006).

Table 11. The effect of state-board member linkages on firms' European integration

Case	Degree of European integration	Expected board member-state linkage	Actual board member-state linkage
Leonardo	Weak	Strong	Intermediate
BAe Systems	Weak	Strong	Weak
Thales	Intermediate	Intermediate	Intermediate
Airbus	Strong	Weak	Weak

Does the European Integration of firms correlate to the internationalisation of their board members?

Hypothesis 3 postulated a correlation between each firms' level of European integration and that of the internationalisation of their boards of directors (table 6). We therefore expected the internationalisation of Leonardo's and BAe's directors to be weak, whereas those of Thales and Airbus would be high. To test this hypothesis, our sociological data on board member trajectories will test the extent to which their higher education and subsequent careers have entailed overseas experiences (tables 12 and 13).⁹

In the case of Leonardo, 95% of the members of the boards are Italian. Moreover, the vast majority of them were trained in Italy (a number that actually rises from 71.4% to 91% between 2007 and 2017). For BAe, no less than three quarters of their board members were trained exclusively in their country of origin. For both Leonardo and BAe, therefore, our data on national origins and higher education thus confirms hypothesis 3.

However, it is refuted in the case of Thales where the higher education of its board members features low or intermediate levels of internationalisation. Indeed, for the period studied, not only were 93% of Thales's board members French, but 85% of them have undergone no training outside France.¹⁰

In the case of Airbus, the population is not surprisingly composed of 7 different nationalities, but one should note that no less than 36% have been German and 32% French. Although trained for the most part in their home countries, this must be nuanced when looking at the numbers over time: the number of board members who have studied completely or partially abroad increases from 9% to 33.3% between 2007 and 2017. Therefore, our hypothesis is confirmed: board members of Airbus have clearly and increasingly developed 'internationalised profiles'.

⁹ We recognise that this data may be affected by the perceived need for non-anglophones to train in an English-speaking country. However, at this stage it has not been possible to address this issue because that would require interview-based data.

¹⁰ This result can be understood by looking at the link that Thales maintains with the French state, as mentioned above, which implies certain classic (i.e. path-dependent) career models inherent to the French system, which follow certain traditional lines (e.g. graduating from a French *grande école*, working in state *grand corps*, etc.). Moreover, it also shows the (sector-specific) "resistance" of this model to European integration dynamics (Ansaloni, Smith, 2018). In addition, this persistence of a specifically *French* career path at Thales can also arguably be linked to the specificity of the defense industry in the economic realm (because of its implications for national security).

Table 12. Degree to which the education of board members has internationalised¹¹

		2007	2012	2017	Total (2007-2017)
Leonardo	Uniquely in country of origin	71.4%	75%	91%	76.3%
	Abroad	14.3%	8.3%	9%	13.2%
	Partially abroad	14.3%	16.7%	0%	10.6%
	No higher education	0%	0%	0%	0%
BAe Systems	Uniquely in country of origin	75%	82%	55%	75%
	Abroad	0%	0%	0%	0%
	Partially abroad	0%	0%	18%	7%
	No higher education	25%	18%	27%	18%
Thales	Uniquely in country of origin	81%	89%	87.5%	85.5%
	Abroad	0%	0%	0%	0%
	Partially abroad	6%	5.5%	12.5%	9%
	No higher education	13%	5.5%	0%	5.5%
Airbus	Uniquely in country of origin	91%	82%	66.7%	84%
	Abroad	0%	0%	8.3%	4%
	Partially abroad	9%	18%	25%	12%
	No higher education	0%	0%	0%	0%

Given the average age of entering a board being in the mid-fifties for all four companies, the above findings, and in particular the recent changes observed, probably reflect a deeper change within higher education patterns that, for elite scholars at least, began to take effect in the 1980s, notably around the European Union's Erasmus programme. However, this does not necessarily mean that there is a reduction in board members primarily educated within the country of 'their' firm. This is so for BAe Systems (down from 75% to 55% over the period). Airbus seems to have followed a similar trend (down from 91% to 66.7%), but not at all in the case of Thales (where the corresponding ratio actually went up from 81% to 87.5% of its board members spending all their higher education in France). Similarly, for Leonardo the training of its members has become less internationalised between 2007 and 2017. More generally, and perhaps surprisingly, what all these figures tell us is that over the period studied, and with the exception of Airbus, the internationalisation of the higher education training undergone by defence company board members has remained remarkably low.

Of course, once their studies were over, the socialisation of each individual we have studied has also been affected by the positions they have taken up over the course of their career. This, for instance, could have been the moment where they internationalised their respective profiles by taking up a job in a foreign country. Here, our figures set out in table 13 show that in the case of the board members of our four companies this did in part occur, particularly for Leonardo and Airbus.

¹¹ Principal higher education unit attended.

In the case of Leonardo change over time has been the most spectacular: the careers of their board members have been increasingly internationalised over the period: in 2007 35.7% of them had worked abroad at one point in their career, while this number rises to 66.7% in 2017. Similarly, in the case of Airbus, the vast majority of its board members have had some international work experience at one point in their career (72%).

By contrast, and as expected, the level of internationalisation of BAe's and Thales's directors has been intermediate at 36% and 29% respectively. Nevertheless, for BAe the number of board members having worked outside their country of origin rises respectively by 11 percentage points over the period (whilst for Thales this rate actually decreases slightly).

Table 13. The degree to which careers have internationalised

		2007	2012	2017	Total (2007-2017)
Leonardo	Uniquely in country of origin	64.3%	61.5%	33.3%	47.5%
	Completely abroad	0%	0%	0%	0%
	Partially internationalised	35.7%	38.5%	66.7%	52.5%
BAe Systems	Uniquely in country of origin	75%	82%	64%	64%
	Completely abroad	0%	0%	0%	0%
	Partially internationalised	25%	18%	36%	36%
Thales	Uniquely in country of origin	62.5%	78%	81%	71%
	Completely abroad	0%	0%	0%	0%
	Partially internationalised	37.5%	22%	19%	29%
Airbus	Uniquely in country of origin	27.3%	9%	25%	24%
	Completely abroad	0 %	0%	8.3%	4%
	Partially internationalised	72.7%	91%	66.7%	72%

To sum up the results synthesised in tables 12 and 13 on the internationalisation of board members' higher education and careers, hypothesis 3 is largely confirmed in the cases of Leonardo, BAe and Airbus, but not in that of Thales. This shows that internationalisation is a complex process that the interpretation of results, and future hypotheses on this subject, need to embrace (table 14).

Table 14. The effect of internationalisation of board members upon the European integration of their firms

Case	Degree Of European integration	Expected internationalisation of board members		Actual internationalisation of board members	
		Education	Career	Education	Career
Leonardo	Weak	Weak	Weak	Intermediate	Intermediate
BAe Systems	Weak	Weak	Weak	Weak	Intermediate
Thales	Intermediate	Intermediate	Intermediate	Weak	Intermediate
Airbus	Strong	Strong	Strong	Weak	Strong

For Leonardo, the relatively low level of European integration as a firm correlates strongly with both the overwhelmingly national origin and training of its board members, together with a form of internationalisation which is rarely European in character. Indeed, much the same applies to BAe: their board members come essentially from two countries (the UK and the US), and were mostly trained ‘at home’. Subsequently, their careers have quite often internationalised their profiles, however this has rarely occurred solely in Europe. As for Leonardo their subsequent careers have again quite often been internationalised but, as for Bae¹² in a more Transatlantic than European mode. By contrast, Airbus is a company that is highly integrated at the European scale and whose board has internationalised above all through the career paths of its members (76%) rather than higher education (only 16%). Moreover, this strong internationalisation of careers in Airbus has occurred more according to a European mode of career development than a Transatlantic or global one. By contrast, hypothesis 3 is largely refuted in the case of Thales, firstly because the training of its board members is still highly French and, secondly, because their career has not internationalised strongly. More precisely, the internationalisation of Thales’s board that has occurred has been European rather than ‘global’ in character.

Conclusion

Much more research needs to be conducted upon the boards of defence companies in general, and of the four studied in particular. For example, we need to know much more about hierarchies within boards, the role each member is expected to

12 As Fligstein concluded more generally a decade ago: “Britain has allowed hostile mergers to occur and as such, has been the target for firms from other countries. British firms are also the most aggressive pursuers of mergers with other firms. British firms are also the least European in the sense that they distribute their economic activities more widely around the world, and in particular are big players in the US. Of all European countries, they trade the least with Europe” (2008: 62). [...] “the UK is less economically integrated with Europe than the other countries. This means that their firms are more likely to focus on markets elsewhere, most obviously America” (Fligstein, 2008: 87).

play within them and the interplay between this level of decision-making, the CEO and the management of each company – all data that could only be obtained, and probably with difficulty, by using qualitative research methods. Notwithstanding the limitations of the quantitative and documentary analysis upon which this article is based, it nevertheless provides a number of insights and, above all, a way of addressing our central research question: to what extent have BAe Systems, Airbus, Thales, and Leonardo, as well as their boards, undergone European integration, in particular over the last decade? Specifically, our data has enabled us to address this question in three ways.

Firstly, and as a base for the article as a whole, we have reaffirmed that the ratio between a firm's civilian and military products has an impact upon its level of European integration. Where civilian production and thus exposure to more open markets is high, and as Airbus highlights, firms have tended strongly to integrate at the European scale. Conversely, where a dependence upon military products and therefore public procurement is high, European integration is relatively low (the cases of BAe Systems and Leonardo). This may indicate the reproduction of socially constructed roles regarding the regulation of the European defence industry, which are internalised by both statesmen and companies and foster stronger economic regulation when it comes to military goods, since these can directly affect national security. Moreover, equitable mixtures between civilian and military products, such as that of Thales, correlate with a level of European integration we label intermediate.

Our second means of testing for European integration within our four company boards has been to investigate their linkages with their respective states. In the case of BAe, although such links undoubtedly exist to both the UK and US governments, this has clearly still not entailed any involvement by senior civil servants, or indeed ex-civil servants, on its board. The same can also be said for Leonardo as regards the Italian government, although to a lesser extent, since the presence of the state is still noticeable as regards its board. By contrast, because of enduring state-industry relations in France, the presence of such actors on the board of Thales but also Airbus is strong.¹³

As our third line of enquiry on elite socialisation shows, for the French actors in our population working for Thales or Airbus, their link to their home state has been strengthened by the linkages between many board members generated, at least potentially, when having been trained within a select number of national higher education establishments. Indeed, crucially for this article, virtually no significant European integration can be observed around the higher education training of company board members. Indeed, there is clearly no European 'school' for the defence industry that would be the equivalent of *Le Collège de Bruges* for senior European civil servants. This said, some very recent changes appear to have begun to occur on this point.¹⁴ More importantly still, the internationalisation of careers has increased over our period of study and has begun to have statistical significance

13 These results can be linked to the analyses developed by the Variety of Capitalisms (VoC) literature (Hall, Sossice, 2001), which identifies stronger relations between the state and companies both in France (Clift, 2012) and in Italy (Della Sala, 2004).

14 Change over time could usefully be examined more closely in future research. Here, the case of BAe Systems is interesting: whereas in 2007 none of its board members had spent any of their period in higher education overseas, ten years later no less than 18% had done so. A similar trend has occurred within Thales. By 2017, twice as many board members had been partially educated overseas (12.5%) compared to the 2007 board.

within all the four boards we have studied. Nevertheless, this certainly does not mean that ‘an international class’ of actors has emerged in this industry. Instead it provides further evidence for the conclusion on this point Fligstein reached more than a decade ago about European integration as a whole:

‘there is little evidence that this convergence has produced a capitalist elite that transcends national borders and American-style systems of corporate governance and labor relations. Indeed, large firms remain owned by people in particular societies, by and large, and dependent on their home governments for many things’ (Fligstein, 2008: 64).

Ultimately, this sociological study of BAe Systems’, Airbus’, Thales’ and Leonardo’s board members enables research to go beyond the controversy between convergence (Hoeffler, 2013) and divergence of national defence capitalisms (Joana & Mérand, 2013; DeVore, 2015), and this by reaching a counter-intuitive conclusion, namely their simultaneity. This research has revealed both similar political phenomena, such as the weak internationalisation of leaders’ professional trajectories, and persistent divergences, such as their relationship to the state. In short, it seems time that analysis stopped locking socio-economic reality into a given ‘national context’ and accepted that sub-national, transnational or supranational divisions now also structure companies, industries and capitalism (Faure, Joltreau, Smith, 2019). More generally, this article can also be read as an invitation to include the governance of corporations such as large defence manufacturers in research into European integration, the structuration of contemporary capitalism and its possible effects upon European defence capacities and policies. Studying boards of directors provides a means of supplementing the analysis of decision-making by raising questions about, and providing data on, the social environments within which actor perceptions and preferences have been shaped and forged.

Appendices

Appendix 1. Composition of the four boards in terms of age, sex and longevity (2007-2017)

		2007	2012	2017	Average (2007-2017)
Leonardo	Number of board members	14	13	12	12
	Average age at entry	58.8	56	55.2	56.5
	Average number of years in office	5.2	4.5	4.9	4.2
	Percentage of women members	0%	8%	33%	10%
BAe Systems	Number of board members	12	11	11	11,4
	Average age at entry	50.8	56.5	54.4	55.6
	Average number of years in office	7.2	6.5	5.1	5.9
	Percentage of women members	0%	27 %	36 %	18 %
Thales	Number of board members	16	18	16	17,7
	Average age at entry	53.9	57.3	55.1	55.6
	Average number of years in office	8	5,9	5,7	5
	Percentage of women members	6%	22%	50%	25%
Airbus	Number of board members	11	11	12	11
	Average age at entry	55.4	54.7	57.8	56.7
	Average number of years in office	7.4	6.5	6	5.8
	Percentage of women members	0%	0%	25%	16%

Appendix 2. Military/civilian production ratio of the four largest defence companies based in Europe (2007-2017)¹⁵

	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	Average
Leonardo	54/46	53/47	53/47	58/42	60/40	57/43	50/50	54/46	65/35	64/36	68/32	57.8/42.2
BAe Systems	95/5	95/5	95/5	95/5	95/5	95/5	94/6	94/6	99/1	95/5	98/2	95.4/4.6
Thales	56/46	58/42	57/43	57/43	52/48	49/51	55/45	50/50	52/48	50/50	51/49	53.4/46.6
EADS /Airbus	24/76	28/72	27/73	27/73	24/76	21/79	20/80	18/82	18/82	17/83	15/85	24.2/75.8

¹⁵ Arms sales as a % of total sales from 2007 to 2017: <https://www.sipri.org/databases/armsindustry> [accessed on April 10, 2019].

Bibliography

- Adler-Nissen, Rebecca. "Behind the Scenes of Differentiated Integration: Circumventing National Opt-Outs in Justice and Home Affairs." *Journal of European Public Policy* 16, no. 1 (2009): 62–80. <https://doi.org/10.1080/13501760802453239>
- Adler-Nissen, Rebecca *Opting Out of the European Union: Diplomacy, Sovereignty and European Integration*. Cambridge: Cambridge University Press, 2014. <https://doi.org/10.1017/CBO9781107337916>
- Ansaloni, Matthieu, and Smith, Andy. "The Neo-Dirigiste Production of French Capitalism since 1980: The View from Three Major Industries." *Defence Studies* 16, no. 2 (2018): 154–78.
- Bickerton, Christopher J. "The limits of differentiation: capitalist diversity and labour mobility as drivers of Brexit." *Comparative European Politics* 17, no. 2 (2019): 231–245. <https://doi.org/10.1057/s41295-019-00160-x>
- Bonelli, Laurent, and Jeanpierre, Laurent. "L'économie, l'international et La Sociologie : Combinaisons et Variations." *Cultures et Conflits* 4, no. 108 (2017): 7–14.
- Bourdieu, Pierre. *La Noblesse d'État: Grandes Écoles et Esprit de Corps*. Paris: Les éditions de Minuit, 1989.
- Chopin, Thierry, and Lequesne, Christian. "Differentiation as a Double-Edged Sword: Member States' Practices and Brexit." *International Affairs* 92, no. 3 (2016): 531–45. <https://doi.org/10.1111/1468-2346.12608>
- Clift, Ben. "Comparative Capitalism, Ideational Political Economy and French Post-Dirigiste Responses to the Global Financial Crisis", *New Political Economy*, 17(4): 565-590. <https://doi.org/10.1080/13563467.2012.636147>
- De la Brosse, Guillaume. "Deploying Financial Tools in Support of European Defence Cooperation." Comment. Armament Industry European Research Group (ARES), 2017.
- Della Salla, Vincent. "The Italian model of capitalism: on the road between globalization and Europeanization?" *Journal of European Public Policy* 11, no. 6 (2004): 1041-1057. <https://doi.org/10.1080/1350176042000298093>
- DeVore, Marc. "Explaining European Armaments Cooperation: Interests, Institutional Design and Armaments Organizations." *European Foreign Affairs Review* 18, no. 1 (2013): 1–28.
- DeVore, Marc "Organizing International Armaments Cooperation: Institutional Design and Path Dependencies in Europe." *European Security* 21, no. 3 (2012): 432–58. <https://doi.org/10.1080/09662839.2012.667806>
- DeVore, Marc, and Weiss, Moritz. "Who's in the Cockpit ? The Political Economy of Collaborative Aircraft Decisions." *Review of International Political Economy* 21, no. 2 (2014): 497–533. <https://doi.org/10.1080/09692290.2013.787947>
- Dezalay, Yves, Bigo, Didier and Cohen, Antonin. « Enquêteur sur l'internationalisation des noblesses d'État. Retour réflexif sur des stratégies de double jeu. Entretien avec Yves Dezalay ; propos recueillis par Didier Bigo et Antonin Cohen », *Cultures & Conflits* 98, no. 2 (2015) : 15-52. <https://doi.org/10.4000/conflits.18987>

- Dowdall, Paul, Braddon, Derek and Hartley, Keith. "The UK Defence Electronics Industry: Adjusting to Change." *Defence and Peace Economics* 15, no. 6 (2004): 565–86. <https://doi.org/10.1080/1024269042000246684>
- Dudouet F-X., Grémont E. *Les grands patrons en France. Du capitalisme de l'État à la financiarisation*, Paris : Lignes de Repères, 2010.
- Dudouet F-X., Grémont E., Vion A. "La centralité des banques dans les réseaux d'administrateurs. Les conditions sociales de l'émission monétaire", *Revue française de socio-économie*, 2 (2015): 37–50. <https://doi.org/10.3917/rfse.hs1.0037>
- Dumas, Françoise and Straumann, Éric. «Les enjeux européens de l'industrie de défense». Assemblée nationale Information Report, n° 1672, 2019.
- Dussauge, Pierre, and Cornu, Christophe. *L'industrie Française de l'armement. Coopérations, Restructuration et Intégrations Européennes*. Paris: Economica, 1998.
- Dyson, Kenneth, and Sepos, Angelos. *Which Europe? The Politics of Differentiated Integration*. Basingstoke: Palgrave Macmillan, 2010. <https://doi.org/10.1057/9780230289529>
- Fabbrini, Sergio, Schmidt, Vivien A. "Introduction: differentiation and beyond." *Comparative European Politics* 17, no. 2 (2019): 173–5. <https://doi.org/10.1057/s41295-019-00163-8>
- Faure, Samuel B.H. L'internationalisation différenciée des producteurs d'armes et d'automobiles. Le cas des entreprises françaises. 2015. (unpublished research).
- Faure, Samuel B.H. Varieties of international co-operation: France's 'flexilateral' policy in the context of Brexit. *French Politics*, 17, no. 1 (2019a): 1–25. <https://doi.org/10.1057/s41253-019-00079-5>
- Faure, Samuel B.H. *Le double rapport du Royaume-Uni à l'Europe. Acquérir (ou pas) des armements européens*. Paris: SciencesPo, n° 244, 2019b. (Étude du CERI).
- Faure, Samuel B.H. Franco-British Defence Co-operation in the Context of Brexit. In Johnson, Robert, Matlary, Janne Haaland eds. *The United Kingdom's Defence After Brexit*. Basingstoke: Palgrave, 2019c, 103–125. https://doi.org/10.1007/978-3-319-97169-8_5
- Faure, Samuel B.H. Circulation of Single Market Regulations within the CSDP: The Case of the 'Defense Package.' In Delcour, Laure, Tulmets, Elsa (eds). *Policy Transfer in International Relations and EU Studies: Towards an Interdisciplinary and Comparative Approach*. London: Routledge, 2019d, 85–107. <https://doi.org/10.4324/9781315098234-5>
- Faure, Samuel B.H., Joltreau, Thibaut, Smith, Andy. "Qui gouverne les grandes entreprises de la défense? Contribution sociologique à l'étude des capitalismes en France et au Royaume-Uni", *Revue internationale de politique comparée*, 2019, 26 (1): 1–36.
- Faure, Samuel B.H., Lebrou, Vincent. L'Europe à l'âge de la géométrie variable. *Politique européenne*. 2020. Forthcoming.
- Fioretos, Orfeo. "The Domestic Sources of Multilateral Preferences: Varieties of Capitalism in the European Community." In Peter A. Hall and David Soskice (eds.), *Varieties of Capitalism: The Institutional Foundations of Comparative Advantage*. Oxford University Press, 2001, 213–244. <https://doi.org/10.1093/0199247757.003.0006>

- Fleurant, Aude-Emmanuel, Alexandra Kuimova, Nan Tian, Pieter D. Wezeman, and Siemon T. Wezeman. "The SIPRI Top 100 Arms-Producing and Military Services Companies, 2017." SIPRI Fact Sheet. Stockholm: SIPRI, December 2018.
- Fligstein, Neil. Markets and Firms. In Favell, Adrian, Guiraudon, Virginie eds. *Sociology of the European Union*. London: Palgrave Macmillan, 2011, 100–124. https://doi.org/10.1007/978-0-230-34390-0_5
- Fligstein, Neil. "Sense Making and the Emergence of a New Form of Market Governance: The Case of the European Defense Industry." *American Behavioral Scientist* 49 (2006): 949–60. <https://doi.org/10.1177/0002764205285174>
- Fligstein, Neil. "Social Skill and the Theory of Fields." *Sociological Theory* 19, no. 2 (2001): 105–25. <https://doi.org/10.1111/0735-2751.00132>
- Fligstein, Neil. *The Architecture of Markets: An Economic Sociology of Capitalist Societies*. Oxford: Oxford University Press, 2001. <https://doi.org/10.1515/9780691186269>
- Fligstein, Neil. "The Creation of Markets: The Cases of the Defense, Telecommunications, and Football Industries." In *Euro-Clash. The EU, European Identity, and the Future of Europe*, 89–122. Oxford: Oxford University Press, 2008. <https://doi.org/10.1093/acprof:oso/9780199580859.003.0004>
- Fontanel, Jacques, and Jean-Paul Hébert. "The End of the 'French Grandeur Policy.'" *Defence and Peace Economics* 8 (1997): 37–55. <https://doi.org/10.1080/10430719708404868>
- François P., Lemerrier C. et Reverdy T. "L'entreprise et ses actionnaires", *Revue française de sociologie* 56, no. 3 (2015): 501-524. <https://doi.org/10.3917/rfs.563.0501>
- François, Pierre, and Berkouk, Nicolas. "Les concours sont-ils neutres ? Concurrence et parrainage dans l'accès à l'École polytechnique." *Sociologie* 9, no. 2 (2018): 169-196. <https://doi.org/10.3917/socio.092.0169>
- Hall, Peter A., Soskice, David. *Varieties of Capitalism. The Institutional Foundations of Comparative Advantage*. Oxford : Oxford University Press, 2001.
- Haroche, Pierre. Supranationalism strikes back: a neofunctionalist account of the European Defence Fund. *Journal of European Public Policy*. 2019. <https://doi.org/10.1080/13501763.2019.1609570>
- Hartley, Keith. "UK Defence Inflation and Cost Escalation." *Defence and Peace Economics* 27, no. 2 (2016): 535–48. <https://doi.org/10.1080/10242694.2015.1123464>
- Hébert, Jean-Paul. *Production d'armement. Mutation Du Système Français*. Paris: La Documentation française, 1995.
- Hébert, Jean-Paul, and Roland de Penanros. "The Role of the State in the French Defense Industry Conversion." *Defence and Peace Economics* 6, no. 3 (1995): 207–20. <https://doi.org/10.1080/10430719508404826>
- Hoeffler, Catherine. "European Armament Co-Operation and the Renewal of Industrial Policy Motive." *Journal of European Public Policy* 19, no. 3 (2012): 435–51. <https://doi.org/10.1080/13501763.2011.640803>
- Hoeffler, Catherine. "L'émergence d'une Politique Industrielle de Défense Libérale En Europe. Appréhender Le Changement de La Politique d'armement Par Ses Instruments." *Gouvernement et Action Publique* 4, no. 4 (2013): 641–65.

- Howorth, Jolyon. Differentiation in security and defence policy. *Comparative European Politics* 17, no. 5 (2019): 261–277. <https://doi.org/10.3917/gap.134.0641>
- Jacquot, Sophie, and Woll, Cornelia. *Les Usages de l'Europe. Acteurs et Transformations Européennes*. Logiques Politiques. Paris: L'Harmattan, 2004.
- Joana J., & Mérand F. (2013). 'Politiques de défense et variétés du militarisme libéral.' *Gouvernement et action publique*, 4 (4), 549–566. <https://doi.org/10.3917/gap.134.0547>
- Jullien, Bernard, and Smith, Andy. 'Conceptualizing the role of politics in the economy: industries and their institutionalizations.' *Review of International Political Economy* 18, no 3 (2011): 358–383. <https://doi.org/10.1080/09692291003723615>
- Jullien, Bernard, and Smith, Andy. *The EU's Government of Industries. Markets, Institutions and Politics*. Londres: Routledge, 2014.
- Le comité de rédaction. "Élites Transnationales. Introduction." *Cultures et Conflits* 98, no. 2 (2015): 7–13. <https://doi.org/10.4000/conflits.18986>
- Lemercier C., Picard E. "Quelle approche prosopographique?", in Rollet L. et Nabonnaud P. (dir.), *Les uns et les autres. Biographies et prosopographies en histoire des sciences*. Nancy: Presses universitaires de Nancy, 2011, 605-630.
- Leruth, Benjamin, and Christopher Lord. "Differentiated Integration in the European Union: A Concept, a Process, a System or a Theory?" *Journal of European Public Policy* 22, no. 6 (2015): 754–63. <https://doi.org/10.1080/13501763.2015.1021196>
- Mclean M., Harvey C., Press J. *Business Elites and Corporate Governance in France and the UK*. Basingstoke: Palgrave, 2006. <https://doi.org/10.1057/9780230511736>
- Matthijs, Matthias, Parsons, Craig, Toenshoff, Christina. "Ever tighter union? Brexit, Grexit, and frustrated differentiation in the single market and Eurozone." *Comparative European Politics* 17, no. 2 (2019): 209–230. <https://doi.org/10.1057/s41295-019-00165-6>
- Pierson, Paul. "Increasing Returns, Path Dependence, and the Study of Politics." *The American Political Science Review* 94, no. 2 (2000): 251–67. <https://doi.org/10.2307/2586011>
- Pinçon M., Pinçon-Charlot M. "Une classe internationale" in *Sociologie de la bourgeoisie*. Paris : La Découverte, 2009.
- Rayroux, Antoine. *L'Union européenne et le maintien de la paix en Afrique*. Montréal, Les Presses de l'Université de Montréal, 2017. <https://doi.org/10.4000/books.pum.11222>
- Schimmelfennig, Frank, Leuffen, Dirk, and Rittberger, Berthold. "The European Union as a System of Differentiated Integration: Interdependence, Politicization and Differentiation." *Journal of European Public Policy* 22, no. 6 (2015): 764–82. <https://doi.org/10.1080/13501763.2015.1020835>
- Scott J. "Networks of corporate power: a comparative assessment", *Annual Review of Sociology* 17 (1991): 181-203. <https://doi.org/10.1146/annurev.soc.17.1.181>
- Serfati, Claude. *Les Industries Européennes d'armement. De La Coopération à l'intégration?* Paris: La Documentation française, 1996.
- Uttley, Matthew R. H., and Benedict Wilkinson. "A Spin of the Wheel? Defence Procurement and Defence Industries in the Brexit Debates." *International Affairs* 92, no. 3 (2016): 569–86. <https://doi.org/10.1111/1468-2346.12605>

- Uttley, Matthew R. H., and Benedict Wilkinson. "Contingent Choices: The Future of United Kingdom Defence Procurement and Defence Industries in the Post-Brexit Era." *Global Affairs* 2, no. 5 (2017): 491–502.
- Wagner, A-C. *Les nouvelles élites de la mondialisation*. Paris : PUF, 1998. <https://doi.org/10.3917/puf.wagne.1998.01>
- Wagner, A-C. *Les classes sociales dans la mondialisation*. Paris : La Découverte, 2007.
- Webber, Douglas. *European Disintegration? The Politics of Crisis in the European Union*. The European Union Series. Basingstoke: Palgrave Macmillan, 2018.