



# Institutions and diversification: Related versus unrelated diversification in a varieties of capitalism framework



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## ABSTRACT

The varieties of capitalism literature has drawn little attention to industrial renewal and diversification, while the related diversification literature has neglected the institutional dimension of industrial change. Bringing together both literatures, the paper proposes that institutions have an impact on the direction of the diversification process, in particular on whether countries gain a comparative advantage in new sectors that are close or far from what is already part of their existing industrial structure. We investigate the diversification process in 23 developed countries by means of detailed product trade data in the period 1995–2010. Our results show that relatedness is a stronger driver of diversification into new products in coordinated market economies, while liberal market economies show a higher probability to move in more unrelated industries: their overarching institutional framework gives countries more freedom to make a jump in their industrial evolution. In particular, we found that the role of relatedness as driver of diversification into new sectors is stronger in the presence of institutions that focus more on ‘non-market’ coordination in the domains of labor relations, corporate governance relations, product market relations, and inter-firm relations.

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## 1. Introduction

Institutions play a crucial role in market economies, because they help firms to solve complex coordination problems with other economic actors in the labor market (Freeman, 2007), the financial market (La Porta et al., 1998) and the product market (Nicoletti et al., 2000). Over the last 15 years, a literature summarized under the label of ‘varieties of capitalism’ (Hall and Soskice, 2001) has investigated the existence and persistence of different institutional arrangements across developed countries. The varieties of capitalism (VoC) approach claims that the institutional framework in a country determines its pattern of economic and technological specialization. Coordinated market economies (CME’s), where firms rely on more lasting, non-market relations, would specialize in incremental innovations – and in sectors where incremental innovations prevail, as CME’s are more characterized by specific assets

that cannot be readily put to other use. Liberal market economies (LME’s), where firms coordinate their activities through hierarchies and market arrangements, would specialize in radical innovations – and in sectors where radical innovations prevail, because they are characterized by generic assets (Hall and Soskice 2001).

Empirical studies have found mixed support for these claims (Taylor, 2004; Allen et al., 2006; Akkermans et al., 2009; Meelen, 2013). Other deficiencies of the VoC literature are the use of only two predefined institutional categories (LME and CME) (Geffen and Kenyon, 2006) that do not necessarily fit with mixed market economies (Schneider and Paunescu, 2012) or emerging market economies (Kumar et al., 2013), the neglect of inefficiencies and tensions that might exist within institutional systems rather than complementarities (Crouch, 2005; Jessop, 2011), the ignorance of regional varieties within the same institutional system (Asheim and Coenen, 2006; Gertler, 2010), and a preoccupation with institutional stability rather than change (Deeg and Jackson, 2007). These critiques have led to intense debates and stimulated further developments in the VoC framework, like a more explicit focus on institutional dynamics (Hall, 2007; Hall and Thelen 2009). In the paper, we criticize another aspect of the overly static nature of the VoC approach, like the claim that institutions determine the outcomes of the innovation process, and in particular, whether

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countries have more success in radical or incremental innovations (Hall and Soskice, 2001). Little attention has been drawn in the VoC literature to the question whether the institutional framework of countries affects economic renewal and conditions particular patterns of industrial diversification.

Within the field of evolutionary economic geography, there is an expanding literature that investigates the intensity and nature of industrial diversification (Boschma and Frenken, 2011). These studies show that countries (Hausmann and Klinger, 2007) and regions (Neffke et al., 2011; Boschma et al., 2013; Essletzbichler, 2015) tend to expand and diversify in sectors that are strongly related to their current activities. Doing so, they claim that the patterns of diversification of countries can be explained mostly by the presence or lack of related sectors in the economy: developed countries are specialized in products strongly related to many other products and therefore enjoy higher diversification opportunities. However, the related diversification approach does not say much about the differences that the diversification process can display across countries (Boschma and Capone 2015; Petralia et al., 2015). More in particular, this literature has ignored the possible effect of (national) institutions on the intensity and nature of the diversification process.

This paper will bring together both streams of literature. What the VoC literature can learn from the related diversification literature is adopting a dynamic approach to industrial change. What the related diversification literature can learn from the VoC literature is a focus on the impact of institutions on the nature of the innovation process. We propose that institutions – and in particular coordination institutions that are the prime focus in the VoC approach – condition the direction of the diversification process, that is whether countries gain comparative advantage in new sectors that are more or less related to their current productive structure. More specifically, our hypothesis is that CME's diversify mostly in related sectors, while LME's have a higher probability to engage and succeed in less related diversification. Our analyses of the diversification process in 23 countries in the period 1995–2010 by means of product trade data confirm our hypothesis: relatedness is indeed a stronger driver of diversification into new products in countries with institutions associated to CME's, while countries with institutions typical of LME's show a higher tendency to move in more unrelated industries.

The contribution of the paper is twofold. First, the paper introduces a dynamic element in the VoC literature by focusing on diversification rather than on specialization patterns in countries. In our approach, institutions determine the direction of diversification, that is whether new sectors are related more or less to the existing productive structure. Doing so, we use multiple institutional categories to measure the effect of institutions on diversification. Second, the paper introduces institutions in the literature on related diversification. While national and regional institutions have been recognized as important elements that influence the diversification process, so far their direct role in determining the direction of industrial diversification has been substantially neglected in empirical studies. In that sense, we also contribute to a wider debate that concerns the role of institutions in evolutionary economic geography (Boschma and Frenken, 2009; MacKinnon et al., 2009; Strambach, 2010; Crescenzi and Rodríguez-Pose, 2011; Menzel and Kammer, 2012).

The paper is organized as follows. First, we review the current debate on the VoC hypothesis and discuss the basic elements of the related diversification literature. In the empirical section, we provide some descriptive analysis of the data, and then we present the econometric analysis. We conclude by discussing the implications of our work.

## 2. Varieties of capitalism and the nature of diversification

According to the VoC approach (Hall and Soskice, 2001), a firm must establish proper relations with other economic actors and solve coordination problems in five domains. The first domain is industrial relations: here the coordination problem is about the regulation of wages and working conditions. The second domain concerns corporate governance: firms interact with investors to ensure proper access to finance. In the product domain, firms have to deal with customers and competitors, in the inter-firm relations domain, firms must gain access to relevant inputs and technologies through other firms, and in the training and education domain, firms must ensure that their incoming workforce acquire the necessary skills.

Hall and Soskice (2001) distinguish between two modes of coordination in the five domains. First, firms can use a market coordination mode, which is based on competitive, more fluid markets: information diffuses through the price system, and economic actors compete with each other and rely on extensive formal contracts. Alternatively, firms can use a strategic coordination mode, which is based on networks of relations: information diffuses through private networks, and economic actors collaborate with each other and accept incomplete contracts.<sup>1</sup> Institutional arrangements across domains are believed to cluster together, which are called institutional complementarities (Amable, 2000; Hall and Gingerich, 2009): countries adopting a market coordination mode in a domain tend to adopt the same mode also in other domains, and are referred to as Liberal Market Economies (LME's). Alternatively, countries adopting a strategic interaction mode in a domain, tend to adopt the same mode also in other domains, and are referred to as Coordinated Market Economies (CME's).

Due to the internal logic of each institutional system, Hall and Soskice (2001) argue that "... firms and other actors in coordinated market economies should be more willing to invest in specific and co-specific assets (i.e., assets that cannot readily be turned to another purpose and assets whose returns depend heavily on the active cooperation of others), while those in liberal market economies should invest more extensively in switchable assets (i.e., assets whose value can be realized if diverted to other purposes)" (p. 17). The dominant institutional arrangement has important implications for economic and innovation performance. Hall and Soskice (2001) claim that "the national institutional frameworks [...] provide nations with comparative advantages in particular activities and products. In the presence of trade, these advantages should give rise to cross-national patterns of specialization" (p. 38). They argue that this is true in particular in the innovation domain: LME's have a comparative advantage in radical innovations and a comparative disadvantage in incremental innovations. Conversely, CME's have a comparative advantage in incremental innovations and a comparative disadvantage in radical innovations.<sup>2</sup>

As a simple test for their hypothesis, Hall and Soskice (2001) compared patents for Germany and the United States in 1983–84

<sup>1</sup> To see how different can be these two coordination modes, consider the domain of corporate governance and the problem of getting access to finance. A market coordination mode requires firms to publicly disclose information to investors, and this information quickly translates into valuation changes in equity and bond markets, allowing all investors to monitor the performance of the companies. In a strategic coordination mode, firms are financed by investors that can monitor their performance through private sources of information to which they have access in virtue of their being major suppliers or clients, members of the same industry association, part of the supervisory boards. For further examples, see Hall and Soskice (2001).

<sup>2</sup> There are other institutional approaches that link institutions to the nature of the innovation process. In fact, there is a recurrent claim in the literature that some institutional frameworks are more responsive to radical change (see e.g., Ergas 1984; Hollingsworth 2009; Acemoglu et al., 2014). This paper will concentrate on the VoC literature.

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