18. Industrial policy

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INTRODUCTION

Debates about the vices and virtues of industrial policy punctuate the history of economic ideas. While the wisdom of Adam Smith and David Ricardo about the miracles of markets has been appreciated for more than two centuries, it has also long been understood that societies late to industrialize may require active measures to catch up to the world's leading economies (Gerschenkron, 1962; Hamilton, 1791; List, 1885; Prebisch, 1963). Active coordination of economic production has also routinely been proposed as a means of smoothing turbulence caused by technological change (Galbraith, 1985; Schumpeter, 1942; Shonfield, 1965). Indeed, much contemporary thinking on the subject considers the economy to be in a state of permanent revolution, and calls for active but flexible measures for cultivating national or regional "innovation systems" (Krugman, 1993; Lundvall, 1992; OECD, 1999). Most recently, several esteemed economists have championed industrial policy as a solution to problems of development and economic recovery (Chang, 2009; Greenwald and Stiglitz, 2013; Rodrik, 2007).

Not surprisingly, the technical justification for industrial policy is most pronounced in the literature on the economics of innovation, which rationalizes government intervention on the basis that innovation will be undersupplied by markets (Arrow, 1962; Nelson, 1959). Contention abounds, however, concerning what industrial policy should entail. The dilemma is that the interventionist medicine can prove worse than the disease. Although intervention may be required to overcome obstacles that hold up entrepreneurial activity, intervention introduces moral hazard which may be exploited by rent-seeking agents. Instead of facilitating the provision of public goods, intervention creates alternative avenues through which economic agents may profit at society's expense (Olson, 1982). Debates therefore boil down to disagreement over the appropriate type of intervention. Pathologies associated with perverse incentives caution against outright public subsidization of economic activity. Rather, avoiding moral hazard requires that beneficiaries from industrial policy be accountable. Thus, there is now a preference for arm's-length instruments that support economic coordination among private firms, as opposed to instruments that directly subsidize production (Etzkowitz and Leydesdorff, 2000; Porter, 1990). Yet, despite the erection of some "beneficial constraints", governments nevertheless continue to spend billions on direct subsidies (Lester, 2018; Streeck, 1997).

Analytically, industrial policy can and should be understood as a subset of a larger class of economic coordination problems (Coase, 1937; Milgrom and Roberts, 1990; Ostrom, 1990; Scharpf, 1993; Williamson, 1985). From this perspective, the ability

to analyse and understand industrial policy does not require agreement on its precise definition. While there are good reasons for defining industrial policy in broad terms, those with a more circumscribed definition in mind will find there is nothing to lose, and perhaps much to gain, from conceiving of industrial policy in terms of a more general theory of economic governance.

The remainder of the chapter is divided into four parts. The first part outlines the various rationales for industrial policy, including undersupply of innovation, the provision of other public goods, job creation and strategic protection of inefficient firms. The second section elaborates an analytical framework for understanding economic coordination writ large, and demonstrates the power of the framework for understanding industrial policy. The third part of the chapter engages with the varieties of capitalism literature to articulate two ideal types of industrial policy coordination which exist at opposite ends of a continuum representative of institutional density (Hall and Gingerich, 2009; Hall and Soskice, 2001). One ideal type, typical of liberal political economies, emphasizes expediency and flexibility required to develop radically innovative technologies. The other ideal type, typical of coordinated political economies, emphasizes negotiation and problem-solving required to develop incrementally innovative technologies. The fourth section concludes with a discussion of the conditions necessary for successful industrial policy. As is well known, policy success depends foremost on "good governance" practices that limit rent-seeking (Picciotto, 1995; Streeck, 1997). Beyond good governance, policymakers should avoid attempting feats to which economic actors in their jurisdictions are ill-suited, and should instead tailor policies to areas of comparative institutional advantage.

RATIONALES FOR INDUSTRIAL POLICY

If markets were perfectly competitive there would be no need for industrial policy. Competition would drive markets to equilibrium, where the price of goods would equal the marginal cost of production. Since there is no profit to be made at competitive equilibrium, firms would be incentivized to innovate. Technological advance would continuously move the market toward new competitive equilibria; production would become increasingly more efficient, and prices would continue to fall. The problem is that the natural tendency of markets is not toward competitive equilibrium. On the contrary, efficiency is predominantly a function of scale (Chandler, 1990). Smaller producers cannot compete with their larger, more efficient counterparts and are consequently wiped out or bought up. Paradoxically, competitive markets tend toward monopoly. Monopolists have much less incentive to innovate, as they do not face competition. Instead, profits can be realized in the form of monopoly rents, resulting in "deadweight loss" to society (Brander, 2006).

The tendency for competitive markets to gravitate toward monopoly is a clear instance of market failure. When markets do not work to society's benefit, government is called on to intervene. Competition policy is the appropriate response to monopoly, which is used to break up large firms to encourage competition. Yet, if efficiency is a function of scale, then a producer's incentive to innovate and its ability

to innovate work at cross purposes. Large, monopolistic producers lack incentive for innovation, while small, competitive producers lack capacity for innovation.

The nature of the market system thus creates demand for coordination by some "non-market" entity. As explained later in the chapter, it would be hasty to conclude that government must assume this role, at least insofar as government is typically conceived. Rather, the coordinating entity may be constituted entirely by voluntary association among private actors, or it may be a hierarchically organized, yet wholly private, "technostructure" consisting of managers and engineers, the likes of which characterize large multidivisional firms (Galbraith, 1985; Milgrom and Roberts, 1990). In any case, the purpose of coordination is to overcome barriers that hold up innovation by simultaneously fostering competition and scale (Chandler, 1990). The task is relatively simple in places blessed with strong "national champions" since these tend to be single, integrated firms wherein innovation policy is implemented in-house (Pinchot, 1987). When coordination instead must occur between separate firms, the challenge lies in cultivating trust and assurances among collaborators so that they may form a "cluster" with the requisite economies of scale and scope to compete with other jurisdictions (Axelrod, 1984; Porter, 1990). The central dilemma is that collaborators who take initiative risk exploitation by free-riders, a realization which led Arrow (1962) to define knowledge as a public good.

While the advent of intellectual property rights has gone a long way to solve the public good problem, essentially by rendering knowledge a toll good, relative contribution to intangible goods is often difficult to ascertain and quantify (Phillips, 2007). Thus, hold-up problems may persist despite the institution of intellectual property rights when contributions are "non-separable" (Williamson, 1985). Unfortunately, joint production for innovative purposes often suffers from separability problems, which loom large in pursuits that require problem-solving by trial and error (Kline and Rosenberg, 1986). Participants involved in joint production must expend time and resources on what amount to necessary failures; yet, if a patent is awarded only to whichever entity achieves viability, contributors are disincentivized from becoming involved in the first place. If, on the other hand, a share of any forthcoming spoils is guaranteed to all participants involved in joint production, the project may be undermined by free-riding (Olson, 1965).

Although effective monitoring may allay concerns about free-riding, the monitoring apparatus entails costs. Moreover, the ability to monitor contributions is a function of "task programmability" (Ouchi, 1979). Task programmability refers to the extent that contributors' roles in joint production can be specified in advance, which is necessary for monitoring agents to do their jobs effectively and efficiently. Like separability, task programmability is often not well pronounced when innovation proceeds by trial and error because tasks necessary for production blend into one another, making it difficult for monitors to discern cooperative activity from defection (Mahoney, 1992).

Joint production for innovative purposes is difficult to manage, and thus entails costs and risk. As explained in fuller detail in the next section, productive opportunities are often too risky for private producers to assume the costs. Rather, sometimes

costs associated with joint production must be externalized onto the broader public. This is where government comes in.

Although want for innovation constitutes the most convincing justification for industrial policy, other rationales exist. As is well known, the non-excludable nature of tangible public goods means that essential infrastructure will similarly be under-supplied by markets, thereby justifying intervention. Problems of unemployment also create demand for intervention under the auspices of job creation when private firms are not up to the task. Relatedly, protection of inefficient firms may be considered necessary for any number of reasons; for instance, when there is demand to maintain economic activity in otherwise depressed regions, or when domestic industry is deemed indispensable for strategic reasons (Chandler et al., 1990; Krugman, 1993). Moreover, in industries where innovation results from oligopolistic competition among large firms, governments may face pressure to subsidize national champions to maintain a competitive position in the global economy and sustain employment (Eaton and Grossman, 1986). Finally, firms in industries approaching obsolescence may require incentives to undertake "creative destruction", which can entail re-establishing entire value chains (Langlois, 2007; Schumpeter, 1942).

Regardless of the rationale, when government intervenes in the economy, efforts at market correction may be undermined by "government failure" (McKean, 1965). Although Keynesians may be right about "sticky prices", it is now widely accepted that governments generally do not fare better than the price mechanism at allocating resources (Hayek, 1988; Le Grand, 1991). Equally troublesome is the fact that government intervention invites rent-seeking, moral hazard and clientelism. As noted above, some productive opportunities will be too risky for private actors to take on, whether unilaterally or via voluntary association. However, the very possibility of government subsidies incentivizes firms to "hold out for a hand-out" by exploiting information asymmetries regarding their tolerance for risk. With respect to clientelism, rather than direct public resources toward the most viable projects, politicians may opt instead to "pork barrel" in order to curry the favour of constituents (Olson, 1982).

The drawbacks of industrial policy listed above are by no means mutually exclusive. Indeed, clientelism may follow not only from incentives to pork barrel but also from "capture", whereby private agents exploit information asymmetries to convince government principals that bad ideas are worthy of public support (Atkinson and Coleman, 1989). Fortunately, institutional mechanisms exist to blunt the sting of government failure. To fully appreciate the argument, it is necessary to conceive of industrial policy as a subset of a larger category of economic coordination problems. This is so because potential solutions to problems associated with industrial policy entail retooling conventional instruments, effectively shifting accountability back to beneficiaries from industrial policy. The strategy entails emphasis on coordination, as opposed to direct subsidies on production. Insofar as production must be subsidized, as is sometimes the case, maximizing accountability and self-reliance yields a preference for matching grants and tax incentives.

THE MICROECONOMICS OF INDUSTRIAL POLICY

As discussed in the previous section, industrial policy is justified when it is used to correct market failure. Yet, the possibility that market failures may be more imagined than real belies market correction. Indeed, the ubiquity of principal-agent problems makes industrial policy vulnerable to the ravages of government failure. Although principal-agent problems can be curbed to some extent by investments in capacity for "good governance", it should be kept in mind that principal-agent relationships and their attendant problems affect all organizations, even individual firms (Jensen and Meckling, 1976; Milgrom and Roberts, 1990). The implication is that government failure is a subset of a larger class of "governance failures" (Jessop, 1998). Likewise, as noted earlier, industrial policy is best understood as a subset of a broader class of economic coordination problems. Accordingly, theories of collective action are both adequate and appropriate to explain any productive behaviour.

The question of why economic actors coordinate was parsimoniously answered by James Buchanan and Gordon Tullock in *The Calculus of Consent* (1962). From their perspective, government exists because groups want what they cannot afford. The argument is that, due to transaction costs, producers will be naturally biased toward unilateral action. However, when expected gains from joint production exceed transaction costs, producers will coordinate by voluntary association. Yet society is not governed exclusively by terms of agreements made by voluntary association, but by permanent governments which, by definition, wield coercive authority to force compliance. Government exists because many productive opportunities involve costs that cannot be met by the project's direct beneficiaries, but must instead be externalized onto some other group: the public.

Subsequent analysis has drawn on game theory to produce more fulsome models of collective action (Coleman, 1990; Crouch, 1993; Heckathorn and Maser, 1987; Oliver, 1980; Ostrom, 1990; Schofield, 1975). In his magisterial collection *Games Real Actors Play*, Fritz Scharpf elaborated several models under the umbrella of "negotiated agreements" useful for analysing and understanding collective action problems (1997: chapter 6). Models of "positive coordination" are particularly suited to problems of economic coordination, as they accommodate two dimensions of conflict pertinent to many joint production initiatives: value creation and distribution. Value creation involves negotiations about production strategy, whereas distribution involves negotiation about the distribution of burdens and benefits associated with production. Preferences over the distribution of gains from joint production are considered a function of opportunity costs, where opportunity costs are a function of dependency relationships, which are themselves a function of whether the market for actors' resources is competitive, monopsonistic or monopolistic (Klein et al., 1978). Substantively, actors with monopoly or monopsony advantages have comparatively high opportunity costs, which translate to rents demanded in exchange for participation in joint production. Analytically, the cost of obtaining a producer's participation in joint production must not only exceed the amount the producer can obtain by acting unilaterally, it must also cover substantial transaction costs, such

as those incurred reaching agreements, coordinating production, and establishing and maintaining a monitoring apparatus to detect and punish free-riders (Coase, 1960; Heckathorn, 1989; Oliver, 1980). Moreover, cost of participation will be time-discounted and adjusted for risk; the longer the investment cycle and the riskier the proposal, the higher the cost of participation.

While the expectation is that actors will only engage in positive coordination if expected benefits well exceed opportunity costs, Scharpf observes that options for unilateral action are institutionally determined, and proceeds to rank order institutional arrangements according to the ease with which actors may voluntarily exit negotiations in favour of unilateral pursuits (cf. Hirschman, 1970). According to Scharpf's ranking: "networks" are most threatened by voluntary exit when unilateral action is more attractive than joint production, "regimes" occupy a middle position in that regime members agree not to revert to exit prior to attempting resolution through deliberation (otherwise known as the "voice" stratagem), while "joint decision systems" effectively forbid exit (Scharpf, 1997: 143). Although networks, regimes and joint decision systems have all featured prominently in previous research on industrial policy, agreement on the definitions of these terms is scant (Atkinson and Coleman, 1989; Campbell and Pedersen, 2011; Jones and Bachelor, 1993; Knoke et al., 1996; Stone, 1989; Wilks and Wright, 1987). As conveyed in Figure 18.1, regimes are a subset of networks, while joint decision systems are a subset of regimes. Clusters, meanwhile, may be governed by any of these three institutional arrangements.

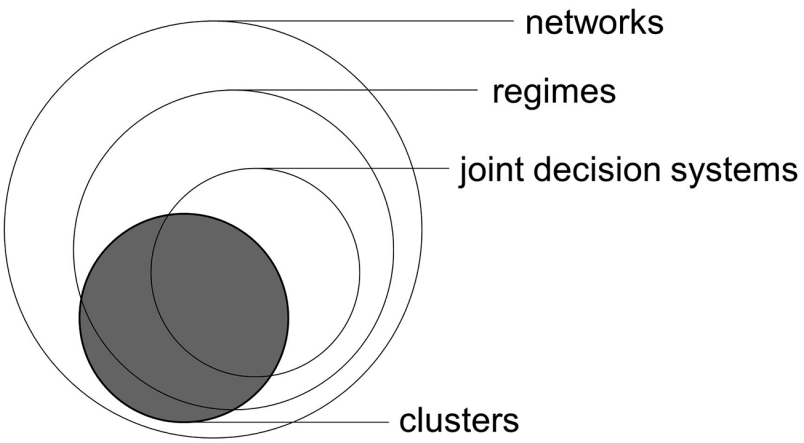


Figure 18.1 Institutional arrangements and industry clusters

Joint decision systems are unique in that actors have no choice but to participate, regardless of losses incurred. Substantively, joint decision systems are found within multidivisional firms and where participation in systems of interest intermediation is mandatory (Cawson, 1985). Otherwise, producers may voluntarily mobilize into networks or regimes.

Per the discussion so far, when gains from value creation are insufficient for costs to be internalized, joint production is not expected without coercion, subsidies or some combination thereof. It is important to keep in mind, however, that institutions which promote cost internalization are widespread. Most legal systems, for instance, permit credible commitments regarding side payments to be made well in advance of any return on investment, such as those that involve putting up equity. Lenders also frequently exhibit risk tolerance, although this follows partly from government incentives, which can be considered an instrument of cost externalization. Indeed, government willingness to underwrite private investment is one of the ways the contemporary "developmental state" is hidden from public view (Block, 2008; Mazzucato, 2013; cf. Zysman, 1983).

The previous point highlights that it is often difficult to distinguish industrial policy from joint production via voluntary association. It is also important to note that the role of government is not limited to that of a capitalist-financier or financial regulator. Rather, government may also fill the role of manager-entrepreneur: a function made possible by the fact that "public entrepreneurs" relieve private actors of transaction costs associated with coordinating economic activity by shifting these costs onto the public (Frohlich et al., 1971; Schneider et al., 1995). Much of what economic development agencies do involves absorbing transaction costs necessary for coordination between private firms. Sometimes these agencies are headed by visionary public entrepreneurs; other times they are staffed by erudite entrepreneurial managers.

Yet, recent decades have witnessed a partial shift from direct government coordination toward government support for arm's-length coordinating entities (Jessop, 1998). This shift is part and parcel of a larger movement toward devolving responsibility to the beneficiaries of industrial policy: a movement which appears to have popular approval, presumably because it avoids government failure by conditioning subsidies such that moral hazard is limited to the in-group, which then has incentive to self-monitor (Ostrom, 1990). Although devolution to arm's-length entities may do nothing by itself to diminish the amount of the required subsidy, the low profile of arm's-length instruments permits industrial policy to play out beyond the limelight.

Normatively, cost externalization is Kaldor-Hicks efficient if the public can be compensated for its investment through future tax revenue. The obvious problem is that many ventures are uncertain, and many do fail. The popular legitimacy of government support is also frequently wanting in places with plurality-based electoral systems, where single-party executives routinely pursue policies that are unpopular with significant segments of the electorate (Lijphart, 2012). By contrast, in countries with proportional representation electoral systems, affected interests possess greater means to block or amend proposals (Tsebelis, 2002). The trade-off is analytically

relevant: governments in liberal countries with plurality-based electoral systems are much more capable of taking swift action on major projects and regulation affecting industry compared to governments in consensual systems with proportional representation (Jones et al., 2009).

It is not a coincidence that countries with proportional representation also exhibit institutionalized joint decision systems at "peak industry" and "meso associational" levels; rather, mandatory participation in dense systems of interest intermediation is an artefact of formal political representation (Cawson, 1985; Katzenstein, 1985). It would, however, be remiss to overlook the fact that mandatory membership in producer associations features rather prominently in liberal countries as well (Atkinson and Coleman, 1989). Moreover, producer associations are often funded partly or wholly by mandatory levies on production (Phillips, 2007). Such instruments of cost internalization and other "beneficial constraints" that limit rent-seeking align with tenets of liberal ideology, namely those that are at odds with "corporate welfare" (Streeck, 1997). Thus, while plurality-based institutions permit cost externalization, popular ideology and the associated threat of electoral punishment act as a check on full-fledged industrial policy (Wilson, 1982). Nevertheless, tendencies toward cost externalization remain quite strong in liberal countries, creating a political environment in which the rhetoric does not match the reality (Block, 2008). So, although theory and evidence related to government failure have had some influence on governments' choice of policy instruments – namely matching grants, loans, tax-based incentives and subsidies to arm's-length coordinating entities – vestiges of the preceding paradigm remain (Lester, 2018).

The discussion hitherto has highlighted that the line delineating voluntary association from full-scale industrial policy is imprecise, which explains enduring terminological debate over what industrial policy entails (Greenwald and Stiglitz, 2013). Economic coordination varies both quantitatively and qualitatively from place to place, and from one industry to another. Yet canonical theories of collective action can accommodate this variation. Microeconomic modelling is a matter of identifying the institutional setting and estimating actors' tolerance for risk as determined by their opportunity, transaction and monitoring costs, the lattermost of which should be considered a function of separability and task programmability. Complexity can then be handled by mapping "ecologies" of nested, sequential games and subjecting different scenarios to simulation analysis (Axelrod, 1997; Scharpf and Mohr, 1994; Smaldino and Lubell, 2014). Macroeconomic modelling entails estimating aggregate effects of economic coordination given institutional constraints and opportunities. The next section demonstrates that the microeconomic theory scales up nicely to the societal level, where one finds varieties of industrial policy.

VARIETIES OF INDUSTRIAL POLICY

As established in the preceding discussion, incentive to undertake technological innovation conflicts with a firm's ability to do so. Small, competitive firms are incentivized by the profit motive to develop more efficient means of producing goods, yet

capacity for innovation is a function of scale. The problem is that firms of sufficient scale tend to reap profit from monopolistic or oligopolistic pricing, not from innovating, and certainly not from initiating creative destruction. This "logic of industrial capitalism" was well appreciated by twentieth-century modernization theorists, who predicted that innovation in the short term would follow from competitive oligopoly – that is, competition between giant corporations – but would diminish as corporate concentration reached its natural conclusion (Schumpeter, 1942; Shonfield, 1965). Modernization theory was, of course, discredited by history: corporate concentration gave way to corporate dissolution and an apparent preference for contractual relationships between firms situated in global value chains (Langlois, 2003).

Two facets of this story are noteworthy. One is that, although less common than they once were, large multidivisional firms continue to exist wherein innovation policy is directed by a managerial "technostructure" (Galbraith, 1985). The longevity of these goliath firms is partly due to historical determinism and partly a consequence of decisions to maintain scale required for in-house research and development (Chandler, 1990). The second facet of note is that contracting within value chains is not based exclusively on spot contracts but is rather coordinated along lines established in the previous section (Scharpf, 1993). Per that discussion, when the "visible hand" of management vanishes and producers no longer possess scale and scope necessary to innovate, government may step in to guide production: government lends a "sustaining hand" (Chandler, 1993; Jones and Bachelor, 1993; Krugman, 1993; Langlois, 2007; Phillips, 2007).

Although global networks of independent firms may leverage exchange rates and wage differentials to achieve scale and scope more efficiently than large multidivisional firms, principal-agent problems that hold up innovation are more pronounced in clusters than they are within firms. The difference stems from the tendency for negotiators to pay greater attention to the distribution dimension of joint production when negotiators represent independent firms than when negotiators all work for the same firm (Lax and Sebenius, 1986; Scharpf, 1997). Demand for external coordination is consequently greater in situations involving clusters of separate firms than it is in situations involving single firms, the latter of which benefit from management whose loyalties are demarcated (cf. Jensen and Meckling, 1976; Milgrom and Roberts, 1990).

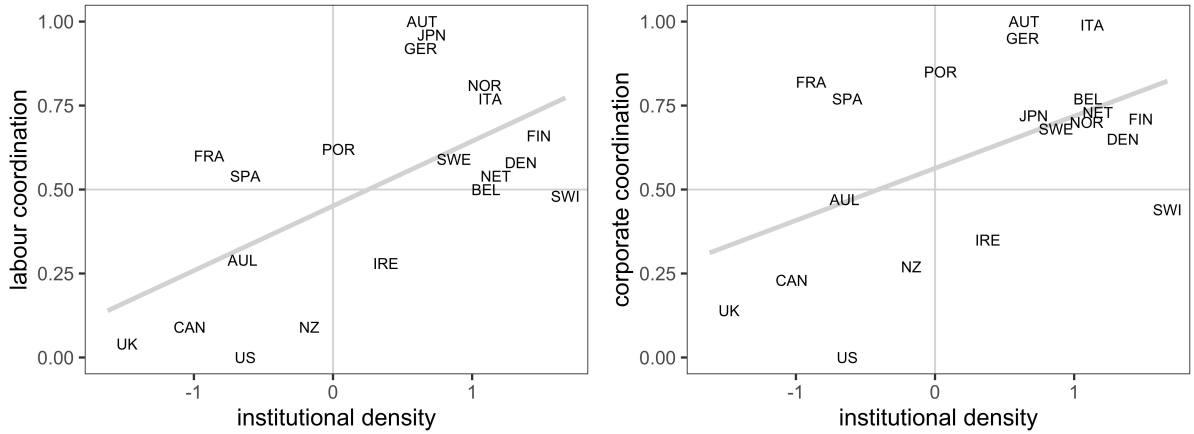
The politics of external coordination featured prominently in bygone theories of corporatist interest intermediation, which evolved into different literatures on national styles, innovation systems and, most recently, varieties of capitalism (Cawson, 1985; Katzenstein, 1985; Lundvall, 1992; Richardson, 1982; Schmitter, 1974). The basic premise of the varieties of capitalism thesis is that economic activity is governed to greater and lesser degrees by two opposing forces: one market and one social (Hall and Soskice, 2001). While the juxtaposition gives rise to two ideal types of political economies – nominally, liberal market economies and coordinated market economies – it is important to keep in mind that there are no empirical instances of either pure type. Rather, countries are arrayed on a continuum, which has given rise more granu-

lar classifications of "mixed market economies", some of which operationalize state direction and bureaucratic capacity as variables in their own right (Schmidt, 2009).

Although critics of the varieties of capitalism typology are no doubt correct that economic coordination can take on innumerable forms, recent research using hierarchical cluster analysis has both reinforced earlier categorizations of OECD economies into liberal and coordinated groups and found that the number of "capitalisms" is a function of the level of analysis (i.e. the number of clusters called by the researcher) (Witt et al., 2018; cf. Amable, 2003; Jessop, 2011). Moreover, although varieties of capitalism is "firm-centric", Figure 18.2 demonstrates that political representation is positively correlated with economic coordination. Apart from Switzerland, all economies defined as coordinated by varieties of capitalism scholars cluster in the top right quadrants in Figure 18.2, whereas all countries defined as liberal, save Ireland, cluster in the bottom left quadrants.

Heated debate also surrounds the claim made by varieties of capitalism scholars that liberal institutions translate to comparative economic advantage in radically innovative industries, while coordinated institutions yield comparative economic advantage in incrementally innovative industries (Akkermans et al., 2009; Taylor, 2004). Empirically, the jury is still out on this matter (Witt and Jackson, 2016). The theoretical basis of the claim centres on asymmetry with respect to the ability of decision-makers to prompt creative destruction. In liberal systems, both corporate and government executives have comparatively greater freedom to act than their counterparts in coordinated systems. In coordinated systems, to the extent that radically innovative ventures are risky, proposals related thereto will be routinely blocked in favour of policies with greater chances of success. Recall that coordinated political economies are characterized by greater pressures for cost internalization, as proportional representation at the political level lends itself to the establishment of mandatory joint decision systems of interest intermediation at the peak bargaining and sector association levels wherein participants are incentivized to cooperate in pursuit of common welfare (Cawson, 1985; Katzenstein, 1985; Knoke et al., 1996). Moreover, excessive cost externalization is likely to be blocked at the level of the political executive, pre-empting proposals that involve significant rent-seeking (Lijphart, 2012; Tsebelis, 2002). Rather, negotiated agreement in coordinated systems translates to capacity-building necessary for competence in incremental innovation. Prevented from engaging in creative destruction because of the social dislocations that would be sustained by represented groups, producers are instead encouraged to discover opportunities to leverage collective competence to improve upon existing products – that is, to engage in incremental innovation.

Insofar as sound industrial policy is that which avoids exorbitant rents, solutions are self-executing in coordinated systems. Liberal systems, by contrast, are vulnerable to rent-seeking, which necessitates that additional measures be taken to avoid harmful policies. Institutionalized flexibility can be both advantageous and disadvantageous. On one hand, decision-makers in liberal systems can pursue risky, high cost, high return ventures with relative expediency, which may yield radically innovative technologies. On the other hand, political actors in liberal systems can easily fall



Notes: Liberal market economies: AUL = Australia, CAN = Canada, IRE = Ireland, NZ = New Zealand, UK = United Kingdom, US = United States. Coordinated market economies: AUT = Austria, BEL = Belgium, DEN = Denmark, FIN = Finland, GER = Germany, JPN = Japan, NET = Netherlands, NOR = Norway, SWE = Sweden, SWI = Switzerland. Mixed market economies: FRA = France, ITA = Italy, POR = Portugal, SPN = Spain. Institutional density is based on Lijphart's (2012) "executives-parties" country scores for the 1981–2010 period. Labour and corporate coordination scores are courtesy of Hall and Gingerich (2009).

Figure 18.2 Relationship between political representation and economic coordination

prey to clientelism, capture, and moral hazard. Separating the wheat from the chaff requires the establishment of "beneficial constraints" that shift responsibility back toward beneficiaries from industrial policy so as to limit rent-seeking behaviour and otherwise internalize costs (Streeck, 1997). Indeed, recent research has found that political economies toward the centre of the institutional density continuum outperform those closer to the liberal and coordinated extremes (Witt and Jackson, 2016). To the extent that worthwhile opportunities are occasionally blocked in highly coordinated systems, the inverse logic applies – and may explain spectacular growth of economies in which comparatively expeditious "corporatism without labour" is the norm (Pempel and Tsunekawa, 1979).

CONCLUSION

Having established that industrial policy is a potential remedy for nagging economic ills, and having established that industrial policy can and frequently does go wrong, the question becomes one of policy design. It should go without saying that principles of good governance ought to be vigorously applied in any joint production venture. Yet, industrial policy routinely fails because rent-seeking is not checked by institutionalized beneficial constraints (Picciotto, 1995; Streeck, 1997). Granted, there is some indication that governments are slowly learning their lessons. A greater share of industrial policy is now formulated at arm's-length from government than it once was, and financing is more internalized than was the case in previous decades. Matching grants have also replaced subsidies to some extent when external financing is necessary. Reform has been far from complete, however.

Aside from good governance, when industrial policy seeks to cultivate technological innovation, it should complement comparative institutional advantage. Generally, industrial policies that require a high degree of coordination should not be attempted in systems with low institutional density, as producers often lack the necessary experience and patience to successfully manage projects, and actors with required competence will be able to demand high rents in exchange for their participation. Inversely, industrial policies that require swift executive decision-making and creative destruction should generally not be attempted in systems with high institutional density, as the initial vision of visionary industrial policy will almost certainly be muddled in the process of negotiation.

Although the basic suggestion is that industrial policy in liberal economies should focus upon radically innovative ventures, while industrial policy in coordinated economies should focus on incrementally innovative ventures, opportunities exist to break out of the mould. Seizing these opportunities requires institutional manipulation. For instance, many liberal economies have come to feature mandatory producer associations that are financed wholly or partly by levies on production. Arrangements such as these may constitute beneficial constraints that serve to check some of the harmful tendencies associated with liberal institutions. These arrangements may also foster interactions that would not otherwise occur. It follows that, with sufficient experience, producers in liberal systems could develop competence for incremental

innovation. In analytical terms, the shift entails movement from voluntary networks toward joint decision systems. Conversely, if actors displaced by creative destruction in coordinated systems could be compensated with side payments, radical innovation could proceed in coordinated economies. The latter shift involves moving from joint decision systems toward voluntary networks. The degree to which institutions governing negotiated agreements align with or depart from the jurisdiction's prevailing variety of capitalism should be a focus of future research on industrial policy, as a research programme along those lines would likely reveal additional, hitherto underappreciated, institutional complementarities with important policy implications.

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