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Wilfred Dolfsma & Łukasz Mamica

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Industrial Policy—An Institutional Economic Framework for Assessment

***Wilfred Dolfsma and
Łukasz Mamica***

Abstract: In this article we suggest an institutional economic approach to classifying government policies, thus offering suggestions to improve the expected outcomes of government policy as well. We elaborate the argument for industrial policy-government policy to directly influence investment and resource allocation decisions by private companies. By adopting dimensions for industries that are stable over time, we can suggest which policies are suitable for which industries.

Keywords: industrial policy, policy assessment, government policy

JEL Classification Codes: D78, H10, L50, O25

In one form or another industrial policy has never been off the portfolio of government policies. Industrial policy, the intentional attempt by government to directly influence investment and resource allocation decisions by private companies, generally aims to ensure societal goals are reached that a market will not deliver. Industrial policy can take a number of different forms. Industrial policy thus, by definition, is aimed to progressively change the course of economic development (cf. Bush 1989). The forms industrial policy takes is best understood in terms of the formal and possibly also informal institutions that an industrial policy seeks to alter (Dolfsma 2013, 2019). Location decisions, levels and directions of innovation efforts, and decisions affecting employment levels are among the different industrial policy measures adopted (e.g., Dolfsma and Seo 2013). There is also policy that more indirectly impacts private companies, among which are product, consumer, and production (safety) regulations. In this article we focus on industrial policy that directly impacts private firms.

Economists have tended to be dismissive of industrial policy as it might move the economy away from the level economic playing field that is believed to benefit the economy as a whole. Government is deemed not to have the information and information processing powers to promote economic outcomes better than those produced by a free market (Hayek 1945).

Indeed, the evidence of the effects of industrial policy are mixed (cf. OECD 2014). In this article we offer what we believe is a start for an understanding of why industrial

Wilfred Dolfsma is the 2019 Clarence E. Ayres scholar, full professor and chairholder at Wageningen University, Social Sciences Department, Business Management and Organization group. Łukasz Mamica is associate professor at the Cracow University of Economics, Department of Public Economics. This project was financed by the Polish Ministry of Science and Higher Education within the "Regional Initiative of Excellence" Program. For 2019–2022. Project no.: 021/RID/2018/19. Total financing: 11,897,131.40 PLN.

policy may not have always been successful. We suggest a generic way, from an institutional economic point of view, to analyze government policy in general and industrial policy in particular. Institutional economic literature would suggest identifying dimensions of economic activities that are relatively stable over time, yet also allow one to capture relevant industry characteristics. Thus, one may formulate catered policies that can be in place over an extended period of time.

An Explanation of Industrial Policy Results

It is our suggestion that when industrial policy has been less successful, this is when it was implemented in circumstances that were not conducive to the policy. An industrial policy that is not successful targets firms or firm activities that do not fit the circumstances suitable for that policy. A policy's effects on the economy, to wit, depend on the circumstances under which it is implemented. In other words, fit between circumstances and dimensions of a policy is important to explain the outcomes of a policy.

Since industrial policy is to be specific to circumstances, yet also should not change too quickly if a government's policy is not to be (seen to) fail (Dolfsma 2013), dimensions of a policy's implementation circumstances should be identified that are sufficiently stable over time yet offer sufficiently specific characterization of circumstances. As such, this article offers a generalization of the policy advice for innovation policy suggested by Wilfred Dolfsma and Dongback Seo (2013). We argue here that institutional economics is both robust so it can offer insights that sustain over time, yet also offers the intellectual flexibility to understand how specific circumstances might affect the outcomes of implementing a policy.

We suggest that potentially a large number of different circumstances characterizing the circumstances in which a policy, including an industrial policy, can be implemented. For simplicity's sake, for this article and perhaps too as a suggestion to policymakers, two characteristics may be identified. In the case of innovation policy, Dolfsma and Seo (2013) suggested cumulativeness of technological knowledge development on the one hand, and network effects in the products which derive from the technological knowledge on the other hand. Based on these characterizations, policies are identified that may be expected to be successful in the specific circumstances.

Industrial Policy—Predictability and Focus

We suggest that when two dimensions focused on should be chosen to (1) be about circumstances not policy objectives, and (2) reflect how best to cater policy to circumstances, particularly from a policy maker's point of view. The latter considerations can vary from country to country. For analytical purposes, from an academic point of view, we suggest adopting two dimensions offering insights about which industrial policy might be useful. The dimensions were chosen to determine the extent to which industries targeted by policies are locally embedded. Locally embedded industries may be argued to more benefit from policies, or, alternatively, the policies are more likely to be successful in meeting their stated goals. Needless to say, the classifications suggested are approximate and suggestive: borderline cases are to be expected.

Firms located in a specific country or region within a country, classified as belonging to a particular industry might, first, sell their goods or services either locally or globally. Secondly, such firms might source their inputs either locally or globally. In most industries, we suggest relevant inputs most importantly are skilled labor. One may take different dimensions, for instance if once purpose of classifying regions and industries, or of designing policies is a different one.¹ Table 1 indicates how one might classify the economic circumstances for industries and regions when adopting the two dimensions just introduced.

The examples of industries and regions mentioned in each of the cells might require some explanation, perhaps those in cells C and D in particular. The firms mentioned in cell C are global players yet rely heavily on users as “prosumers” from across the globe to cater the service-experience to local circumstances. It is only because of the localized nature of the service-experience that these companies can be successful, yet the technical infrastructure created allows for scaling to a global level. Companies in Cell C might also be firms that cater to highly specialized demand in niche markets that perhaps are highly regulated and where market institutions are highly concentrated in time or place. Luxury or art markets are an example and so might be military goods—these are sold at events where entry is restricted to a selected few customers only.

Firms in Cell D are firms that sell globally, and also source inputs globally. These are firms on the lookout for new developments wherever they may occur, to incorporate them into their business model that is suited to quickly test potential, further develop, and scale-up. In comparison to firms in Cell B, firms in Cell D can expect the source of input to come to them, and, if successful, they have the resources to acquire sources of input. For firms in Cell D, it is important to have diverse sources of inputs that need not be brought together to produce goods or services. Firms in Cell D, if and when successful, are masters of what might be called using a concept from evolutionary biology in a metaphorical way “speciation” (Levinthal 1989).

Table 1: Characterizing Industries

		Outputs Sold	
		Local	Global
Inputs Sourced (especially skilled labor)	Local	Cell A Traditional and artisanal industries (e.g., agriculture), “pure” services	Cell B Silicon Valley, London City (fintech), Krakow’s professional services cluster; extraction of minerals
	Global	Cell C Social media tech (Facebook, Uber), luxury goods, art, military	Cell D Entertainment industries, pharmaceuticals

Firms in Cell A produce with local sources of input—these tend not to be highly specialized. They also sell their wares locally. Firms in Cell A are firms in either the very early (nascent) or the mature phases in the industry life cycle (Dolfsma and Van der Velde 2014) that do not (yet) enjoy large economies of scale. Firms in Cell B sell their wares globally. For firms in Cell B, it is important to have diverse sources of inputs that are brought together

¹ One could consider the extent of tie-in with global supply chains, and labor or capital intensity of production as possible dimensions to assess circumstances in which an industrial policy is to be implemented and in shaping the details of such a policy.

to produce. For tech firms in IT, for instance, key employees need to be trained locally—in California universities—even (Ferrary 2003). Cities in which B-cell companies are able to offer well-paid jobs while maintaining the high quality of life are able to attract qualified workers from outside. Firms from Cell B need their employees to socialize. For example, in Krakow, where the global business services sector employs approximately 70,000 people, a steady increase in the number of foreign employees working in this sector is observed. The attractiveness of Krakow as a location for the Global Business Services sector is strengthened by a well-developed system of teaching many foreign languages. Educational policy is, in this case, an important tool to strengthen the competitiveness of the local economic ecosystem.

Firms in Cell C, in part connected with social media tech like Uber or Airbnb, are seen as having a number of negative consequences at the local level. Not only do they lead to the outflow of local resources to the headquarters of these companies but also by enabling them to pay lower taxes or not to pay taxes at all are a division of unfair competition for other companies. The effect of Airbnb's activity is not only growth of perceived risk (Yi, Yuan, and Yoo 2020) but also a decrease in the competitiveness of hotels and the associated decline in employment. In addition, from the point of view of residents, housing resources are used inefficiently. As a result of rising housing prices and limited availability of affordable housing, especially for young people, there may be an outflow of labor from a given area and so firms in the affected area might struggle to remain competitive. Regulation of firms in Cell C can counteract or at least minimize their negative impact on the local socio-economic system.

Catering Industrial Policies to Local Economic Circumstances

When adopting these two particular dimensions, we suggest, it is possible and fruitful to discuss which economic circumstances relevant for industries would fit with what government industrial policies. Table 2 is suggestive and not exhaustive; again, starting one's analysis using different dimensions might lead to different observations and suggestions that could be valid as well.

Table 2: Characterizing Industrial Policies

		Outputs Sold	
		Local	Global
Inputs Sourced (especially skilled labor)	Local	Cell A Non-Economic growth policy (employment spread, sustainability); stimulate basic R&D	Cell B Quality of life improvements; support for universities; improvement of University- Industry exchanges
		Cell C Migration law; growth pole; regulations (e.g., anti-trust law, privacy)	Cell D Support for industry conditional on/timed to allow for developing local economic ties
	Global		

In Cell A, a government would implement policies that do not per se seek to stimulate overall economic growth. For instance, it may aim to bring employment to disenfranchised regions. Or it may stimulate more environmentally sustainable economic activities. Activities

that are currently local but have the potential to grow (well) outside of a local area might also be considered for possible targeting, such as by stimulating basic Research and Development (R&D). Government may seek to stimulate this, so such economic activities could move to Cell B. Economic activities in Cell B rely relatively heavily on local sources, in particular skilled labor and have a global market. Government industrial policy is best aimed at supporting the local sources of input. Stimulating university-industry exchange is one such example (De Wit-de Vries et al. 2019). The activities undertaken within Cell B are in line with the concept of the creative class (Florida 2003) strongly associated with cities offering high quality of life. The maintenance of an appropriate critical mass of specialists in a given area is a key condition for sustained development.

The danger of industrial policy for companies in Cell D is that they perceive it as extra income that does not affect substantial business decisions about strategic direction and investments. The outcome of this might be for companies to relocate as soon as the policy stops. Nokia is an example of an internationally operating company drawn to the Bochum region in Germany because of subsidies only; when the subsidies stopped, nothing kept Nokia there and so it relocated in 2008 (Haupt and Krieger 2019). Our suggestion is to make any policy aimed at companies that may be classified as being part of Cell D conditional on establishing local economic linkages, preferably perhaps, by sourcing inputs locally. Companies should thus be enticed to move to Cell B.

Companies that sell locally but source globally, in Cell C, are companies that have a dedicated customer base, and are particularly dependent on input from skilled laborers to be on site, collaborating closely with what might be called “complex knowledge” that requires a lot of direct interaction based on shared implicit knowledge (cf. Hansen 1999). Industrial policy in this cell should have a strong regional component. The expectation for regulation, even at the local level of Cell C companies in the area of social media tech, is shown by the example of London, where in November 2019 transport supervision refused to grant Uber a license to operate in the city.

Policy-Circumstance Mismatches

Migration policy, making it more difficult or less difficult for skilled workers from abroad to enter and to contribute to the economic activities in a country will favor Cell C industries as they need to source their input globally. Firms from Cell B industries, however, will not be stimulated. Firms from Cell D might actually be hurt, in time, as the inputs (employees) that they source globally now become available locally. Firms in entertainment industries, for instance, depend on the diversity of experiences and knowledge that their international “employees” bring—should these become “local,” the diversity disappears. Firms in Cell A might benefit to the extent that additional laborers are available that can be hired at competitive wages. If not, they will not be stimulated.

Another policy that can be considered is enhancing industry-university exchange. This type of activity fits in with the assumptions of the European industrial policy which began to evolve from focus on declining industries towards those based on R&D, which is consistent with the neo-Weberian approach in public management (Mamica 2017). This is argued to favor firms in industries in Cell B since the local inputs they rely on will have enhanced value. The exchange typically involves knowledge that is quite readily applicable and will thus not be useful for firms in industries in Cell A since these need no additional

knowledge when they are in a mature phase, or more fundamental knowledge when they are in a nascent phase. Firms in industries in Cell C and Cell D source globally: enhancing and making accessible the knowledge available locally will not help them.

The factor that can cause the current production and distribution system to undergo major transformation is the spread of 3D printing, which is the process of direct transfer of ideas (understood as digital vectors) into physical objects using only one universal device. Produced in this way, objects can be milled and the same material reused, so re-materialization and de-materialization of ideas could be done by individual consumers who become producers. These processes together with re-localization of de-localized production from low-paid labor countries to developed ones may be called “re-de economy” (see Mamica 2018) can fundamentally change industrial policy relationships.

Conclusions

Mainstream economic literature and liberal politics do not favor industrial policies of any kind. Industrial policy, government policy to directly influence investment and resource allocation decisions by private companies, go beyond targeted subsidizing, however. Policies to stimulate innovation and entrepreneurship are also forms of industrial policy, and these tend to be looked upon more favorably. In part, this lack of enthusiasm is due to the mixed results from industrial policies. Institutional economics has been more favorably inclined towards industrial policy, and, importantly, also offers insights as to why policies may have been less successful than hoped for. Institutional economics naturally focuses its analysis on what industrial policy seeks to address for progressive change: formal and informal institutions. With such insights from institutional economics, developed to some degree in this short article, one can better target industrial policies, increasing the chances of success. The key is to identify dimensions of industries that help cater to national or regional economic circumstances appropriately that are sufficiently enduring so as to allow for stable policy to be formulated.

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