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INFLUENCE OF CAPITALISTIC MODEL ON INDUSTRIAL POLICY CONDUCTED BY STATE - THE CASE OF GERMANY

WPŁYW MODELU KAPITALIZMU NA POLITYKĘ PRZEMYSŁOWĄ PROWADZONĄ PRZEZ PAŃSTWO - PRZYKŁAD NIEMIEC

Streszczenie

Do wybuchu kryzysu gospodarczego w 2008 roku w debacie ekonomicznej na temat zasad prowadzenia polityki przemysłowej dominowało podejście neoliberalne- państwo nie powinno ingerować w rynek i zrezygnować z polityki przemysłowej. Jednakże kryzys gospodarczy doprowadził do zmiany paradygmatu.

Celem artykułu jest odpowiedź na pytanie, w jakim stopniu i w jaki sposób model kapitalizmu wpływa na kształt polityki przemysłowej prowadzonej przez państwo. W artykule analizie zostały poddane Niemcy- główne założenia i cele prowadzonej przez nie polityki przemysłowej. Wykorzystanymi metodami badawczymi są przegląd literatury oraz analiza opisowa niemieckiego modelu kapitalistycznego w świetle teorii Hall i Soskice oraz klasyfikacji Amable'a.

Artykuł wskazuje, że polityka przemysłowa prowadzona przez Niemcy jest dostosowana do niemieckiego modelu kapitalizmu, a głównym czynnikiem, który ją kształtuje, jest koncepcja społecznej gospodarki rynkowej.

Key words: industrial policy, coordinated market economy, social market economy

JEL Classification: L52, O25

Introduction

In the light of the recently prevailing new-liberal economics the best industrial policy is no industrial policy at all. This statement, having its roots in the belief that the government should not interfere with the market as it regulates itself in the most efficient way, has led to a withdrawal from industrial policy programs by many governments around the world, including those of transitional economies. However, as a result of a current economic crisis and a different pace of growth and development of countries the debate on the need of comprehensive industrial policy has come back. Depending on the ideological background governments implement different reforms and elaborate programs in order to support national industries, enhance competitiveness and increase level of innovations. The ideas of an effective industrial policy differs a lot, from ones advocating only horizontal one to those strongly supporting the vertical activities like picking the winners and developing the infant industries.

The aim of this paper is to answer the question in which extent differences in capitalistic model and institutional framework influence the industrial policy conducted by the state and which factors play the most important role. Is the industrial policy independent from institutional surrounding in which it is implemented or may we observe its correlation with a certain type of a capitalistic model? Can the model of capitalism prevailing in a particular

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country determine its way of conducting an industrial policy? In order to begin the discussion on this topic the authors present the case of Germany and try to answer the question whether the model of a coordinated market economy is the one in which in the same time the coherent and comprehensive industrial policy is conducted.

The paper has an objective to signalize the problem of correlation between an industrial policy model with a certain type of a capitalistic model. The authors hope that the problem raised will lead to a broader research within the field with the usage of a longitudinal study and data coming from various countries in which various models of capitalism are presented. In identifying the framework for the analysis of an industrial policy the authors will use the distinction used by Lall and Tuebal (1998) as far as types of industrial policy are concerned:

- “functional” policies which improve market operations; for example policies designed to enhance competitive pressures (competitions policy; lowering tariffs);
- “horizontal” policies which cross sectors, such as generalized incentives to promote greater R&D and training;
- “selective” policies designed to promote advance of particular sectors (for example preferential access to capital; sector-specific subsidies) or particular firms (for example promotion of “national champions”).

Moreover, in order to analyze the German model and formulate the conclusion on its correlation with the type of an industrial policy the authors refer both to Hall and Soskice's and Amable's classifications of capitalism.

The structure of the paper is organized as follows. In chapter 2 the nature of industrial policy in the light of academic disputes on its classifications, purposefulness and application is presented. In chapter 3 the German industrial policy from the perspective of the state's capitalistic model and its institutional framework is analyzed. The concluding remarks are presented in chapter 4.

The main research method used in the analysis is literature review of the industrial policy and ways of its conduct as well as descriptive analysis of the German capitalistic model in the light of the Hall and Soskice's and Amable's classifications of capitalism. The German industrial policy, its main assumptions and objectives are presented and analyzed.

Nature of industrial policy

The industrial policy and particularly its influence on national competitiveness and economic development is a very controversial topic (both on theoretical and empirical grounds) and until very recently strongly neglected by the mainstream economists. The problem is incredibly complex. It stems from the fact that knowledge on the role of

economic policy in economic growth is still highly unsatisfactorily¹. It seems even more controversial as far as selective policy is concerned. Few of mainstream economists support the idea that the government is to decide which production branches should be developed or created. However, the recent economic changes fueled by i. a. global economic crisis have given an impulse to rethink many economic concepts, one of which is industrial policy.

The problem of industrial policy is at the center of the contemporary discussion on the importance of national competitiveness and factors contributing to its growth. The relevance is of high importance not only for the highly developed states, but maybe even more for developing ones as their are the most active in policies design aimed at enhancing competitiveness and transition economies, which at the beginning usually resigned from state intervention and industrial policy as tools easing the process of systemic transformation². In the 90s the need for a deeper analysis of methods of national competitiveness gaining arouse in transition states and some focus was given to industrial policy as the consequence of international trade liberalization plan launched by their policy-makers³.

There are many trials of dividing industrial policy. In Japanese practice, which was for several years one of the patterns to follow, especially for transition economies, the following differentiation could be made⁴:

- industrial policies related with resource allocation to industries,
 - industrial policies related with infrastructures for industries as a general,
 - industrial policies related with resource allocation between industries,
 - (ii) industrial policies related with organization,
 - industrial policies related with organization of each industry (industrial restructuring, intensification, curtailment of operations, adjustment of production and investment),
 - small and medium enterprise policies as cross-sectoral industrial organization
- Policies.

However, every state can apply its own categorization as far as description of the term is concerned. The particularism in this issue is observed in the relevant literature and

¹ Barro R., Sala-i-Martin X. (1992), *Convergence*, Journal of Political Economy, 100: 223-51.

² Rapacki R., Maszczyk P. (2011), *Economics of Systemic Transformation*, Warsaw.

³ Lubiński, Michalski, Misła, (1995), *Międzynarodowa konkurencyjność gospodarki. Pojęcie i sposoby mierzenia*, [w:] *Studia nad konkurencyjnością*, Warszawa.

⁴ Komiya (1984), *Three stages of Japan's industrial policy after the World War II*, Research Institute of International Trade and Industry, Ministry of International Trade and Industry, 1992 – 33, pp.3-4.

governmental documents on economic and industrial policy⁵. In Polish practice the industrial policy is associated mainly with:

- issue oriented (horizontal) industrial policies
 - export promotion policy
 - technology policy
- sector oriented industrial policies
 - transformation of the ownership structure
 - bringing up small and medium enterprises
 - restructuring of energy and defense sectors
 - development of high opportunity sectors
 - improvement of infrastructures
- regional policies,

which is supposed to enable the main function of industrial policy that is to increase the international competitiveness and to maintain economic growth in the open economy⁶. Such an aim is generally stated as the prime one by the majority of both academic and policy-practice-related publications, and enhanced by the World Bank which sees industrial policy as: “a policy process to foster restructuring and technological dynamism which offers solutions that go beyond traditional focus on background conditions and improvement of investment climate” and justifies its relevance on the basis of the certain empirical evidence like surprising frequency of spontaneous growth episodes in “poorly” endowed economies; sharp disparities in regional developments within national economies subject to the same general rules; and the periodic successes of economies that change their institutional endowments by growing (China) rather than growing by first fixing endowments (World Bank) that seem to contradict the conventional economics' belief that economies with appropriate endowments (investment climate, institutions, property and trade laws, etc) grow, and those without-not. From such a perspective, the World Bank proposes to view the policy-making as a process dealing with vested interests mandates focus on entry points, priorities, sequencing and alliances. Such an approach considers institutional agenda of invested climate analysis as a vast ‘wish list’ of required changes rather than a realistic policy proposal: “ (...) From a broader analytical perspective, one needs to view capabilities of governments, private

⁵ Lipowski (1997), *Polityka przemysłowa a wzrost konkurencyjności*, Wydawnictwo Naukowe PWN.

⁶ Yoshii M. (2002), *Industrial Policies in Romania: How to Increase Competitiveness*, Kobe University, Economic Review, v. 48, p. 77-94.

sector firms and other agents as endogenous variables. To be useful for a policy-maker, a theory of industrial policy should view policy making and policy implementation as a focus of analysis in itself, as an endogenous process of experimentation and learning, rather than conventionally brief afterthought of positive analysis” (World Bank).

The debate on whether industrial policy may contribute to economic growth and national competitiveness is constantly present in the literature (Graham 1994; Rodrick 2004, 2009; Pack and Saggi 2006; DCED 2011). Many counter arguments are rooted in a broader philosophical attitude, to which an opposition towards the governmental involvement in economy belongs. First of all, the skepticism related to effectiveness of the government and administrative machinery in their actions aiming at enhancing national growth and competitiveness are concerned⁷. The adversaries of industrial policy point out the government’s inability to gather detailed information about a sector/branch which is available to entrepreneurs and firms working in this area of economy. The lack of sufficient information may badly influence the policy formulation and negatively affect the industry⁸. Secondly, one of the crucial factor is of personal nature- detailed industrial policies in particular sector specific ones pursued by many governments require excellent administrators. Jenkins who compared industrial performance in Asian and Latin American countries arrived to conclusion that effectiveness of state interventions was a key variable in explaining successes and failures⁹. Thirdly, the concerns about fiscal constraints of industrial policy are expressed and in many cases (especially in developing economies) the point is made about policies involving substantial additional government spending, which do not operate within current fiscal situation in a given state. Moreover, the need for recognition of political pressures on the government using active industrial policy is presented and attention paid to unequal position of industrial groups on the one side and consumers and tax-payers on the other side¹⁰. Finally, the problem of commitment which is in principle the result of reversible policies (subsidies, protection) is underlined as a factor deteriorating firm's incentive to invest in the targeted sectors and generally- to upgrade and compete¹¹.

Another significant group of academics focus on changes of industrial policy in a particular country trying to draw conclusions concerning outcomes of reforms or researching

⁷ Krueger A. O. (1990), *Government failures in development*. Journal of Economic Perspectives, p. 9-23.

⁸ Hay D. A., Vickers J. S., (1998), *The economics of market dominance*, Blackwell, Oxford, UK.

⁹ Jenkins R. (1991), *The political economy of industrialization: a comparison of Latin America and East Asian Newly Industrializing Countries*, Development and Change, v. 22, p.197-231.

¹⁰ Hay D. A., Vickers J. S., op.cit.

¹¹ Karp L., Perloff J. M., (1995), *Why industrial policies fail: limited commitment*, International Economic Review, v. 36, p. 887-905.

specific forms of industrial policy in longitude studies. Several important documentations of the industrial policy shift have been created. One of them is Schmidt's analysis of the shift of French industrial policy from static in 1970s to market oriented during the Mitterand's presidency (80s, 90s), which is currently sought by many developing states¹².

Influence of German capitalistic model on its industrial policy

Capitalistic model in Germany

The capitalistic model in Germany is described in the varieties of capitalism framework introduced by Peter A. Hall and David Soskice¹³ as the coordinated market economy (CME), in which companies depend more heavily on non market relationships to coordinate their endeavors with other market participants. These non-market relations comprise of more extensive relational contracting, network monitoring, support for effective information-sharing and reliance on collaborative relationships. In contrast to the liberal market economies in which equilibrium is usually the result of demand and supply conditions in competitive markets, in the CMEs the equilibria result from strategic interaction among firms and other actors. The aim of institutions is to reduce the uncertainty about behavior of other actors and make credible commitments including exchange of information, monitoring and sanctioning. Firms usually engage in strategic interactions with institutions, including powerful business or employer associations, strong trade unions, networks of cross-shareholding, suppliers of finance, and legal and regulatory systems aim at facilitating information-sharing and collaboration¹⁴. According to the classification drew up by Amable Germany represents the continental European model, characterized by high degree of employment protection and less developed welfare state than in social-democratic model. The financial system is centralized and encourages long-term corporate strategies. There exists coordinated wage bargaining and solidarity wage setting.

Since the German unification the literature has been mainly focused on the erosion of the German model of capitalism and emphasized its institutional decline and rise of neo-liberalism. However, the outbreak of the financial and economic crisis in 2008 questioned the virtue of the neo-liberal approach and opened a debate about the appropriate economic policy.

¹² Schmidt T. V. A. (1996), *From state to market? The transformation of French business and government*, Cambridge University Press.

¹³ Hall P., Soskice D. (2001), *Varieties of Capitalism. The Institutional Foundations of Comparative Advantage*, Oxford University Press, Oxford.

¹⁴ Hall P., Soskice D. (2001), *Varieties of Capitalism. The Institutional Foundations of Comparative Advantage*, Oxford University Press, Oxford, p. 1-19.

Germany is an economy with the industry-based coordination, which depends on trade unions and industrial associations organized along specific industrial sectors. It results in cultivation of industry-specific skills, wage setting by sectors and industry-specific corporate collaboration. It combines external competitiveness and normalized high-wage employment. Institutions that embed economy and shape its performance are politically negotiated and legally constitutionalized. Markets are politically instituted and socially regulated, and in most industrial sectors concentration is low. Wide areas of social life, e.g. health care, education, social insurance, are not governed by market principles. Competitive markets coexist with an extensive social welfare state and social regulation often interferes with the distributive outcome of markets. Apart from this, small firms are in various forms protected from competition of large industry or are assisted publicly in competition with them. Moreover, German political economy is characterized by cooperation among competitors and bargaining among associations. Membership in associations performing quasi-public functions is usually obligatory; it helps in overcoming free-rider problems of collective goods provision. Business associations regulate markets by turning price into quality competition, promoting product specialization, setting and enforcing high quality standards, whereas employer associations prevent low-wage competition. Competition is more sought in product specialization rather than in mass production.

Besides German firms are not just networks of private contracts or property of shareholders, they are social institutions, whose internal order is a matter of public interest and is subject to social regulation. Capital and labor markets are highly organized and directly participate in the everyday operation of a firm; consequently, managers of large German firms are forced to continuously negotiate decisions with them. As a result, decision taking process is longer, but decisions already taken are easier to implement. Moreover, many companies are continuously privately held, only small part of the productive capital is traded at the stock exchange. Shareholding is concentrated and companies do not often change owners¹⁵. Additionally, German enterprises are marked by socially based, corporatist culture, which is founded on strong trade unions and labor participation in management. The financial system and market for corporate governance is a “relationship-based” system, in which large shareholders are more common and powerful, and companies enjoy close relationships with banks. It creates significant barriers for hostile takeovers. The system provides companies

¹⁵ Streek W. (1995), *German Capitalism: Does it exist? Can it survive?*, MPIFG Discussion Paper 95/5, Max-Planck-Institut für Gesellschaftsforschung, November, Köln, p.7-13.

with access to finance which is not entirely dependent on financial data publicly available or current returns, what enables companies to invest in projects generating returns in long term. The main source of capital acquisition is long-term bank credit, rather than equity. Banks usually have proxy vote on shares held in deposit. It allows them to effectively monitor company's performance, grant companies long-term loans and create incentives not to speculate with stock. Thanks to the so called "patient capital" there is not so much pressure on short term profits and dependence on balance-sheet criteria. Shareholders are able to monitor company's performance thanks to numerous networks linking companies with their counterparts, e.g. membership in a business association that gathers information about companies. Furthermore, in Germany companies generally cultivate close relationships with their main suppliers and clients and are often engaged with other companies in joint research or product development. Apart from this, long-term employment contracts prevail and managerial premia or remuneration do not depend on profitability and stock-option schemes. Consequently, managers focus more on their reputation and their incentives are more aligned with those of a company.

What is more, in Germany wages are set during the industry-level bargains between trade unions and employer associations. Thanks to it they are equal at an appropriate skill level across an industry. It prevents workers' poaching and limits inflationary effects of wage settlement. At the company level the system is complemented by works councils comprising of employees representatives and where applicable supervisory board representation. Works councils have some power over layoffs and changes in working conditions making it difficult for employers to dismiss workers. Such a solution transforms workforce into a more fixed production factor than in a market driven economies and encourages higher employer's investment in employee's skills. Furthermore, in Germany there is a well developed, publicly subsidized vocational training system supervised by trade unions and employer associations. They cooperate with public officials and private firms in order to design the most effective programs fitting companies' needs.

Additionally, typical for Germany is the fact that significant amount of research and investment in research and development (R&D) are financed jointly by companies in collaboration with quasi public research institutes. There is also a developed system of contract law which encourages relational contracting among companies. German institutions support such forms of relational contracting and technology transfer which are difficult to achieve in liberal coordinated economies e.g. strategies focusing on product differentiation or

on market niches¹⁶. Finally, German economic culture is traditionalist. Savings rates are high and consumer credit is not so widespread. There is also a socially established preference for quality, what mitigates price competition. Also market's security is valued, as opposed to speculation. Main cultural values are collectivism and discipline, autonomy from organizational control and market pressure. There is also a strong social support for short working hours and a qualification-based organization of work¹⁷.

Industrial policy in Germany-overview

Germany is the world's leading exporter. In years 2003-2008 it was the leader in export of goods, and in 2011 its share of worldwide export in goods accounted of 7,6% % after USA (10,3%) and China (10,3%). Goods exported by Germany were worth 1 289,2 bln euro and its surplus over import amounted 131,4 bln euro. German most important export goods in 2011 were vehicles and vehicle parts (17,4%), machines (15,2%), chemical products (9,5%) computer/electrical and optical equipment (6,2%). Export of goods and services counts for 50,1% of the German GDP, while 28% of the GDP is created by industry¹⁸. Due to ongoing integration process in Europe, increasing globalization and opening of new markets the level of integration of the German industry with international markets is constantly growing. Globalization is a great opportunity for German industry, however, it is also a great challenge for Germany to maintain and increase its leading position in major export sectors in times of increased competition and rapid technological developments. Consequently, conduct of an appropriate industrial policy fostering consolidation of German international competitive and innovative edge, creation of jobs and asserting Germany as an attractive location for foreign investment is crucial.

The main priority of the German government's industrial policy is to improve the general conditions for doing business. The guiding vision is that of the Social Market Economy conceived by Ludwig Erhard according to which the state should largely limit its industrial policy to the establishment of a general policy environment conducive to dynamic economic development. Central priority should be ensuring domestic companies and their employees conditions of fair competition on international markets. Direct government

¹⁶ Hall P., Soskice D. (2001), *Varieties of Capitalism. The Institutional Foundations of Comparative Advantage*, Oxford University Press, Oxford, p.21-27.

¹⁷ Allen Ch., Meigs J. (2009), *Ideas, institutions and organized capitalism: Germany, Europe and 21 st century path dependent economic policy models*, paper presented at "The 21st annual meeting of SASE-Capitalism in crisis: What's next? Economic regulation and social solidarity after the fall of finance capitalism, Sciences PO, Paris France, 16-18 July 2009, p.2-13.

¹⁸Data from Federal Statistical Office, *Facts about German foreign trade in 2011*, Federal Ministry of Economics and Technology, [online, access 31.05.2012], <http://www.bmwi.de/English/Redaktion/Pdf/facts-about-german-foreign-trade-in-2011,property=pdf,bereich=bmwi,sprache=en,rwb=true.pdf>.

interventions should be restricted to rare exceptional cases and attaining and enhancing competitiveness should lie in companies' competences. Industrial policy must prioritize establishment of right conditions for innovation and production in economic sectors and provide appropriate infrastructure. These would foster growth and employment. The aim of the state is to provide public infrastructure, not only roads, but also infrastructure for information and communication technology, enforce compliance with rules and legislative framework, guarantying fair competition and reduce market power of single firms without direct intervention into the economic structures. It must pursue market-based principles and safeguard competitiveness. The state is expected to act as a responsive and expert contact point for businesses.

German industrial policy is multi-level and interdisciplinary. Its task is to ensure that justified interests and concerns of industrial companies and their employees are taken into consideration in the political decision-making process so that domestic industries and industrial sites can engage in fair competition on world markets. Industrial policy is horizontally oriented, the most crucial policies concern:

- research and innovation;
- education, training and skills development;
- taxes, social insurance contributions and bureaucracy;
- energy and raw materials;
- environment;
- foreign trade and investment;
- infrastructure;

In the last years the German industrial policy shifted to environmentally compatible economic activities. State provides companies with reliable policy conditions not only in industrial, but also in environmental and climate policy. It must remain technology neutral-not encouraging developing and using specific technologies. The main areas of German industrial policy are policies to cope with market failures in the context of R&D caused by limits to privately exclusive access to scientific and business knowledge; policies to overcome specific restrictions to market access and strategies for SMEs; policies to promote economic and social cohesion between regions; policies concentrated on innovation and development of high tech technologies and markets with growth potential as well as policies aimed at securing energy supply. Moreover, state supports development of large-scale technologies e.g. aerospace and aircraft as well as SMEs in overcoming difficulties in access to financial capital. The central

aspects of the industrial policy are:

- assuring enough skilled workers in the future by harnessing the full potential of the domestic workforce, attracting German talent working abroad to come back to Germany and by encouraging foreign specialists to work in Germany;
- establishing a pro-innovation climate, facilitating technical progress and new ideas, enhancing innovation by making financing conditions for innovation and R&D more favorable, shortening the approval procedure for innovation projects, promoting direct research and improving research-related infrastructure e.g. data networks;
- ensuring cost-effective management of environmental and climate protection and granting priority to market-based instruments rather than to regulations, improving energy and material efficiency, intensifying research and use of technology e.g. in area of alternative driving concepts, more efficient energy storage, safety and cost-effectiveness;
- securing supply of energy and raw materials in the long term by greater involvement abroad, improved recycling, raw material substitution, material efficiency and greater use of secondary raw materials;
- guaranteeing open and efficient markets creating fair framework conditions by reviewing regulation, eliminating unnecessary bureaucracy and cost burdens for industry, promoting expansion of renewable energies;
- enabling compatible production processes and products with high value added by encouraging production stages of high value to remain in Germany, ensuring positive business conditions¹⁹.

One of the main pillars of the German industrial policy is the policy aimed at the SMEs, which are the key engine of growth and employment of the German economy. They represent 99,7% of all business, account for nearly 49% of total net value added by companies and provide roughly 60% of all jobs requiring social insurance contributions. They are of great significance while tapping new growth markets, developing new technologies and creating joint business ventures with foreign partners. On the other hand, they face difficulties resulting from intense international competition. As a consequence, the main aim of the SME policy is to shape and fine-tune such a policy framework that would enable SMEs to tap their full potential for growth and innovation. In 2011 Germany launched a new initiative–

¹⁹ *In focus: Germany as a competitive industrial nation (2010)*, Federal Ministry of Economics and Technology, October 2010, [online, access 31.05.2012], <http://www.bmwi.de/English/Redaktion/Pdf/germany-industry-nation,property=pdf,bereich=bmwi,sprache=en,rwb=true.pdf>, p.16-32.

“Building on SMEs: greater responsibility, greater freedom”, which aims at improving conditions for entrepreneurship, creating greater freedom and flexibility for SMEs and providing additional stimuli for growth and jobs in Germany. It targets 7 priority areas crucial for the success of SMEs i.e. innovation, skilled workers, business start-ups and business succession, market opportunities abroad, financing, raw material, energy and materials efficiency, reducing bureaucracy.

Another key feature of the German industrial policy aimed at maintaining and enhancing competitiveness of domestic companies is promotion of innovation and R&D. In 2006 the “High-Tech strategy for Germany” bundling all government activities and support measures in the fields of innovation and technology was launched. It is geared towards research, technology and human creativity in the following areas:

- climate, energy;
- health, nutrition;
- mobility, transport;
- security;
- communication and information.

It points out the way forward for key technologies like materials and microsystems technologies, nanotechnology, information and communication technologies, aerospace and biotechnology. It also supports innovative small businesses and high-tech start-ups. Besides significant importance is laid on creation of innovative policy environment i. a. through tax incentives for venture capital, an innovation-oriented approach to public procurement and promotion of standards that would boost implementation and dissemination of German hi-tech products. Another project (combining private and public funding) is “Technology Campaign”. Its target is to enhance technological prowess of German companies, mainly by improving policy framework for research and innovation, promoting research and innovation among SMEs and developing key technologies. Apart from this, there exists also the Central Innovation Programme for SMEs providing grants and low-interest loans to assist SMEs in financing research and innovation projects. It supports collaboration between business and research centers to facilitate transfer of scientific findings on the market²⁰

In order to ensure that German companies meet its demand for qualified workers the government provides training and vocational policy. It states clear and transparent training

²⁰ *Forschung und Innovation für Deutschland. Bilanz und Perspektive (2009)*, Bundesministerium für Bildung und Forschung, Berlin 2009, [online, access 31.05.2012], http://www.bmbf.de/pub/forschung_und_innovation_fuer_deutschland.pdf, p. 11-16.

regulations and lays out minimum standards which must be easy for companies to follow and fulfill. Germany has a “dual system” of vocational education combining traineeship with education in vocational schools. The system takes into account differences in young’s people potential and divergent employer’s demands. In some specific vocational fields e.g. in electrical industry more permeability is allowed.

Energy policy is the next important part of the German industrial policy. Its main priorities are economic efficiency, security of supply and environmental compatibility. Germany as a country poor in natural resources is dependent on energy imports. To maximize the energy security, the diverse mix of energy sources and energy suppliers must be ensured. It is especially crucial in the light of the government’s decision to phase out the nuclear power. Nowadays, one of the greatest challenges in the field of energy policy is effective climate protection and usage of renewable energy sources. German government promotes rational use of energy and increased share of renewable energies in total supply. Since 2002 the German government is involved in supporting global dissemination and transfer of technologies for renewable energies. Showcasing Germany’s technical expertise and organizing business trips to and from German facilitate business contacts between companies in the renewable energy sector. In 2007 the government launched the “Integrated Energy and Climate Programme” promoting greater efficiency in energy usage and use of low-carbon energy. The priority is to achieve positive environmental outcomes without exerting negative impact on consumers and competitiveness of German enterprises.

Germany’s external economic policy concentrates on strengthening competitive position of domestic enterprises, especially SMEs, on international markets. German government supports firms in opening up foreign markets for their products and services, promotes foreign investment, international cooperation and cross-border fusions. It also cooperates with business associations to help SMEs to participate in larger contracts. It also acts on forward-looking trends and supports German companies on markets having the biggest economic potential like health care industry, security technology sector, renewable energy sector, electric mobility and knowledge-intensive sectors (biotechnology, pharmaceutical, environmental and medical technology). Apart from this, it provides political support for the German defense industry in compliance with security rules as well as for aerospace industry concentrating mainly on marketing of earth remote sensing data and services as well as Galileo satellite navigation system. Promoting business partnerships with foreign companies is also an integral part of the government’s activities, not to mention the expansion of the network of bilateral chambers of industry and commerce in markets of increasing interest to

Germany.

Conclusion

German capitalism combines low wage inequality, regulated labor market, high wages and international competitiveness. The German postwar state can be described as enabling state, in which there are robust constitutional limitations on discretionary government policies and vertical fragmentation of power between federal government and “Länder”. Federal system limits competencies of central government, making political change slow and policies not immediately responsive to electoral majorities. Moreover, existence of independent institutions such as Bundesbank or Federal Cartel Office, or strong constitutional protections, like e.g. the right of trade unions and employers associations to regulate wages and working conditions without the government participation limit sovereignty of federal government and depoliticize the system. Consequently, such a system encourages stable and predictable government policies, reduces rapid political innovations and policy changes, what enables economic agents to have stable expectations, long-term objectives and build lasting relations with one another.

German industrial policy is adapted to the German variety of capitalism, trying to take advantage of its strengths and improve weaknesses. It is also shaped by social changes and global challenges such as climate change, demographic shifts and dwindling fossil fuel supplies. It is oriented towards ensuring high competitiveness of German manufacturing sector as well as enhancing research and innovation capacity, especially of small and medium-sized companies. Moreover, German government intensifies activities in key export sectors, promotes foreign trade and investment, mainly in areas with highest economic potential, and tries to secure supply of raw materials and skilled work force as well as assure energy security. The main factors shaping conduct of industrial policy are the concept of the social market economy and the fact that Germany is the CME. The state strives to protect freedom of all market participants on supply and demand side, and in the same time it ensures social equity. It rejects interventionism, guarantees effective competition within open markets and prevents exercise of market power. It fosters willingness and ability of individuals to take personal initiative and act independently, i.a. by implementing policies supporting SMEs. Simultaneously, in accordance with the principle of social equity, the state provides an effective level of social security.

The main characteristics of the conduct of the German industrial policy resulting from its variety of capitalism are as follows. The business, employer’s and employee’s associations play a key role in shaping and making changes in the legislative framework, exerting

influential, consultative role. Intensive dialogue between government and industry enabling detection and remedy of weaknesses and malfunctions within the economic environment is well established. Moreover, the state puts great emphasis on securing supply of qualified workforce (attracting specialists from abroad, recognition of diplomas obtained abroad, system of vocational training). Typical is also continuous state support of certain sectors like aircraft, military defense, energy with direct R&D contractual aid as well as networking between private companies and research institutes. The private expertise and public-private partnerships including intermediary functions of employers associations, development banks, committees and foundations are very important. Apart from this, the state offers wide range of infrastructural support and engages in research and development. Finally, Länder have strong position and possess institutional capacities in stimulating industrial development, so cooperation between federal and local government in conceptualizing and implementing programs are of great importance (Karl, Moeller, Wink, 2003, p. 28-32, 40-43).

The German industrial policy is foremost criticized for high investment in one side technologies like e.g. in nuclear energy and the resignation of it or subsidizing deconstruction of coal industry. It is also often said that German economy lacks flexibility in response to technological changes and internationalization of capital markets. High degree of employment protection interacts with other labor rigidities and with demand shocks creating an “insider-outsider” problem. Moreover, extensive cross-shareholding, long-term bank finance and co-determination, while encouraging long-term approach to investment and innovation, prevents reallocation of capital and resources to new technologies with the scale seen e.g. in liberal market economies. Nevertheless, Germany managed to develop specialization areas which suit its institutional structures. Its system with successful vocational training and long-term cooperation approach is suited to engineering industries which rely on incremental innovation, long-term investment and production of customer-specific products (Bronk, 2000), and that is why Germany specializes in these areas.

Country such as Germany -oriented on export of innovative, manufacturing goods and with developed industry needs an active industrial policy which would initiate research networks, provide infrastructure, promote innovation and stimulate development of future growth markets. It must also foster creation of human capital, because in an innovative economy demand for skilled labor is high. Rapid development of new technologies also used in industry requires that business, policy makers and social partners respond rapidly and flexibly to new developments that is why Germany cannot rest on its laurels. It must continue to invest in innovative technologies and search for innovation. It cannot adhere to current

production models and resisting global megatrends.

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