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PRODUCT INNOVATIONS PROPENSITY AT THE COMPANY LEVEL  
IN CENTRALLY PLANNED ECONOMIES  
(Case Study of Poland)

1. Introduction

The present economic situation in Poland is characterized with a deep economic crisis, shortages in supply of capital and industrial goods, small differentiation of assortment, wide range of the Centre's interference in activities of companies (among others in pricing), unified organizational structure of the market, administrative allocation of capital goods, etc. The economic reform introduced in these conditions in 1982 aimed among others at restoration of market functions including allocation - effectiveness mechanisms stimulated by the market and stimulation of innovation propensity within the entire national economy should be attributed to its basic units i.e. companies. There exists however, a dilemma here which is not easy to solve. In the economic system characterized with a decisive predominance of directive-type elements, all kinds of innovations including development of a new product were steered by the Centre with all research and development activities being subordinated and controlled by it<sup>1</sup>. In the present changed situation, the central steering of innovations has been partly curbed but simultaneously barriers resulting from contradictions within the reform's guidelines as well as those concerning other variables cause that innovation propensity at different levels of the economy has not been stimulated.

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<sup>1</sup> The organizational structure of the national economy according to branches and sectors caused that research and development

The aim of this study is to answer a question whether mechanisms stimulating product innovations in companies have been released by the economic reform in Poland.

Innovations are referred here to development of new products. Two hypotheses have been formulated:

1. Autonomy of companies in decision-making and the accepted objective function of these companies should promote releasing of initiatives directed at product innovations.

2. Restoration of the market functions is an indispensable condition for development of new product.

Verification of the accepted hypotheses encounters difficulties. When stressing the market function as a stimulator of product innovations it should be remembered that this market does not exist in practice. And although horizontal contacts between companies are maintained, the demand-supply-pricing mechanism operates only to a limited extent.

In the economic situation characterized with a deep depression, there appear, moreover, conflicts of objectives between features and requirements of product innovations and mechanisms put into operation within the framework of the economic reform.

The results presented in this article refer only to product innovation and they constitute a part of a wider research programme concerning operation of companies in the economic reform. The empirical data for the study have been provided by studies carried out by the author within a two years' period - 1982 and 1983 in 9 industrial companies in Łódź region. The sample included: 9 textile companies (clothing, knitted goods and carpets), 2 food producers (frozen foods and confectionery), 1 chemical works (cosmetics) and 1 pharmaceutical company. Most of them were big firms possessing a strong, often monopolistic position on the market. There were applied two research methods. First there were used questionnaire surveys. Then, in each of the companies there were conducted also profound interviews with the management.

The small number of companies encompassed by this study may raise doubts concerning generalization of results. Yet, owing to unification of economic process in Poland, similar conditions of

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institutes were subordinated to branch ministries. This situation hampered interdisciplinary studies and promoted such studies that were focussed on narrowly conceived industrial branches.

operation of companies as well as utilization of studies carried out by other authors in the analysis of legislative process, the conclusions presented in this article are adequate to reality.

## 2. Barriers for Introducing Product Innovations

Product innovations call for decentralization all the way down to the basic management level (company) of decisions concerning range (profile) of activity. They should concern, first of all: differentiation of product assortment, production of substitutes developed by different companies, freedom in creation of own market channels etc. The performed studies revealed that the economic reform equipped companies with bigger decision-making powers in the sphere of product strategy. This factor did not lead, however, to greater adaptability of companies in relation to the market. The product strategy showed characteristic features for its strategy at the time of crisis. Production series were lengthened, innovation propensity declined and assortment shrank. Product development was not subordinated to requirements of the market and was a result of shortages in supply. A company coming across gaps in procurement of industrial goods was trying to fill them with substitutes. Scope of changes deriving from substitution was for particular products different. It ranged from small changes e.g. in the taste of sweets to very important ones concerning e.g. replacement of raw material used in production of carpets.

Forced out substitution exerted influence on the way product innovation was understood by companies. It was typical for product orientation. Companies considered new product as the one, that was not produced yet in their firm, eg. production of shirts in a company producing typically children's wear. In the above mentioned firm, broadening of assortment was connected with profitability of production. Production manager stated that they would produce shirts because they could put market prices on them (these prices were not limited or fixed by the Centre and they could be quite high). "I understand social aims, he said, but we must have some profit, the workers are interested only in profit. Otherwise lots of them will quit."

New product was also understood by companies as the one that differed from the previously produced goods in pattern, design (eg.

in textile industry) or composition of ingredients or raw materials (eg. confectionery, carpets), while from the point of view of buyers these changes were often of minor importance. The share of product innovations viewed in this way in total production of the companies under survey was different in each case. On the average it ranged from 5 to 20 per cent. Only in the carpet factory the scope of forced out substitution was very high and accounted for 60 per cent. Product innovations, which sprang up as a result of forced out substitution were usually accompanied by deterioration of quality. Only two companies introduced a new product - in foods and chemical (cosmetics) industries. The companies continued thus to preserve a traditional attitude towards innovation. The seller's market causes that new technologies during shorter periods are prompted by gaps in supply of industrial goods. It is only in a longer time period that the influence of changes in technological environment and the market begins to be felt. This among others explains a low propensity of companies to embark on product innovations. Of course the ensuing changes in technology may be motivated by corresponding changes in price related to factors of production. Of essential or perhaps decisive importance is, however, such a change in technology which reduces degree of the company's uncertainty or which is hoped to reduce it in the future<sup>2</sup>.

Shortages on the side of supply created a necessity of expanding the scope of centralized allocation of raw materials and hard currency. Such allocation regardless of the form in which it is applied exerts a negative influence on product innovations. It found its expression in the fixing of preferential of obligatory production tasks (the so-called "operational programmes") as well as in "government orders" representing also a centralized form of production steering and imposing an obligation on companies to supply specific products. Various forms of such allocation constitute a form of the Centre's interference in decision-making autonomy of companies, and especially with regard to the product, and generate a return to the economic-management system based on commands and centralized allocation of industrial products. They lead to consolidation of previous production directions as by their very nature they tend to give preference to well known products.

<sup>2</sup> J. K o r n a i, *Economics of Shortage*, Vol. 1, North-Holland Publishing Company, Amsterdam 1980.



New products remain outside the range of the government preferences and encounter barriers in supply of industrial products and raw materials for their production.

At the foundations of new product development lies a necessity of maintaining free production capacities. In Poland, the seller's market causes that there exists a pressure on full utilization of production capacities. Our studies revealed, however, that they are utilized only in 70 to 80 per cent. Unfortunately, they are not treated as the company's reserves allowing to increase its adaptability to the market but they are rather a function of shortages in supply of industrial products and in employment. They are of a compulsory character and are not a result of strategic anticipations of the company. Despite underutilization of production capacities by the socialized industry, a part of these capacities has not been made available to economic units in all sectors having new concepts, initiatives, and means that could facilitate product innovations. There are missing appropriate regulations in the system and impulses in the economic policy<sup>3</sup>.

Development of a new product calls for formulation of long-term objectives in activity of companies, and thus for strategic thinking. Assumptions of the economic reform are of long-term character, and consequently, they should ensure stabilization of the company. However, a shift from the centralistic to parametric system of management must encounter some obstacles, which is due, among others, to the economic situation. Accordingly, there are often passed ad hoc new acts of law being make-shift solutions and constituting a barrier on the way of strategic thinking. Lack of stability is observed, first of all, in the taxation system. The performed studies revealed that companies were taken unawares by changes in scale of taxation. This generated an atmosphere of considerable uncertainty, uneasy anticipation, and irrational decisions in companies. It is obvious that the taxation system cannot undergo any major changes over a short period of time. It

<sup>3</sup> J. Maciejka and J. Mujzał, *Innowacyjność systemu* [Innovativeness of the System], "Przegląd Techniczny" 1983, nr 14, p. 22. We must agree, however, with a statement that artificial reservation of production capacities by means of commands, e.g. their blocking during a certain period of time is a nonsensical procedure as it fails to ensure bigger elasticity and only lowers their level of utilization.

should not constitute, however, one of causes behind the company's uncertainty generating self-preservation activities and unexpected reactions of companies. It is well known that uncertainty does not create favourable conditions for new product development and it causes that maximization of profits over a short period of time becomes the main objective in activity of companies, which does not induce them to undertaking a risk immanently connected with development of new products.

Product innovations require a differentiated organizational structure of the market not only with regard to the number of companies in the market but also their size. Processes of organizational concentration in Poland in the seventies led to creation of big companies holding a monopolistic position. This monopolistic position along with big size of such companies, which are as a rule characterized with a low degree of adaptability and elasticity, exert a negative influence on development of new products. That is why irrespective of self-correcting factors released by the economic reform, there is needed a consistent state policy oriented at growth in the number of small companies and their share in the market. The present experience teaches, however, that this policy is not coherent with general development needs e.g. emergency fiscal measures led to a shut-down of many plants in the small-commodity sector.

Similarly, achievements in the field of antitrust policy are insignificant as well. It refers to almost all areas of the structural policy and to liberalization of market entries and exists, gaining autonomy by plants functioning within big multi-plant companies previously, barriers in access to particular industrial branches, efforts made to eliminate restoration of monopolistic branch structures, activation of competition by means of import, utilization of new initiatives aiming at establishment of small economic units based on local resources and satisfying needs of local markets.

It must be added that lack of any progress in this field is among others, a result of a profound disequilibrium, which generates centralized allocation systems as well as monopolistic trends promoted by the Centre towards creation of organizational structures corresponding to centralized management of the national economy.

Development of a new product is connected with investment outlays. In the period of centralistic planning, ease with which credits were obtained as well as prestige character of investments and the fact that they were an argument for stimulation of demand all caused that it was easy to develop a new product through purchases of licences and know-how. At the same time, consumers were putting higher requirements before products. Today, demand does not represent any constraint in activity of companies and the only pressure on development of a new product is that on the side of foreign markets. Meanwhile, entry with a new product into a foreign market is difficult. Quality of products is not competitive. Companies having no experience in application of the strategy through product in the domestic market are unable to develop it in a foreign market and focus their attention on competition through prices. On the other hand, there are missing system solutions and mechanisms that would stimulate export orientation in companies. Despite the fact that the state once in a while launches emergency measures to promote export such as leaving a part of revenues in hard currency in the company, premiums for implementation of export tasks, or a system of reliefs in income tax, no long-term policy in this sphere has been elaborated as yet<sup>4</sup>.

It is worth noting here that the very fact of preparing production meant for export represents an important factor in development of new products in the domestic market.

As regards restoration of companies' market orientation it is necessary to manipulate this market with a product. Taking into account, however, the aspect of companies' financial feeding there are in operation constraints to such behaviour as development of new products while a simultaneous production orientation of companies is not profitable. It is primarily due to principles of the financial system and especially to measures used in evaluation of companies' performance. Since the economic-financial system could guarantee only restriction of companies' inclination to collecting excessive profits and employees' excessive participation in these profits without stimulating activities promoting higher effectiveness, it was already in August 1982 that increase in average wages was tied with increase in labour productivity measured

<sup>4</sup> J. S o b o t a, Handel zagraniczny [Foreign Trade], "Życie Gospodarcze" 1984, nr 3.

by sold production<sup>5</sup>. It meant a return to gross measures criticized in the past, which are known to lead to neutralization of pro-innovation and pro-effectiveness attitudes.

Restoration of the market functions and adoption of market orientation by the company must be preceded by creation of internal motivation in the company. What is meant here is not only economic motivation but non-economic as well. As regards economic motivation, there is no direct relationship in companies between development of new products and material incentives. In accordance with principles of the economic reform, the economic system of motivation is based on self-financing with the amount of financial resources remaining in the company being dependent upon its financial results or net profit. The main source from which innovations are financed is the development fund (diminished by repayment of investment credits). An additional factor that should promote innovations are tax reliefs, which increase net profit and thus the development fund in companies. Also the wage fund is created from net profit with increase of this fund being dependent on net production dynamics. Such a formula of economic motivation implies that the company striving to maximize its profits and in this way to obtain a bigger wage fund will be interested in improving its economic effectiveness, among others, through introduction of product innovations<sup>6</sup>.

The efficiency of a system constructed in this way proved to be illusory in conditions of deep market disequilibrium as companies were able to increase their profits and thus their wage funds through pricing-assortment speculations raising their production value and ensuring short-term profitability for themselves.

Since the assumptions of the economic reform aimed at a slow reorientation of companies (from production to market orientation) and reconstruction of demand-supply-pricing mechanisms, there were applied several price categories which were to help and accomplish

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<sup>5</sup> Uchwała nr 186 Rady Ministrów w sprawie dodatkowych zachęt do zwiększania produkcji w przedsiębiorstwach gospodarki społecznej [Act No. 186 of the Council of Ministers on Incentives to Increase Production in Socialized Enterprises], "Monitor Polski" 1982, nr 20 and Uchwała nr 175 [Act No. 175], ibidem.

<sup>6</sup> See: J. P e n c, Warunki przyswajania innowacji w przedsiębiorstwie [Conditions of Innovation Absorption in Company], [in:]



these assumptions. Some categories of prices were to be directly and indirectly regulated by the state on the basis of the cost-accounting method. This concerned products satisfying basic needs. Prices for remaining products were to be fixed according to the economic reform is characterized, however, with a paradoxical situation. Namely, liberalization and decentralization of prices with simultaneous preservation of the former organizational structure of the market and the seller's market generated a trend towards inflating prices as a result of rising production costs, the so-called "cost inflation", which was accompanied by the demand-inflation mechanism in the form of "sucking" price upwards to the level balancing demand with supply<sup>7</sup>. It is worth adding that these are not prices which adjust themselves to the market but the market adjusts itself to prices fixed on the basis of the cost-accounting method. This restricts innovation processes (with the exception of innovations resulting from a forced substitution) and does not induce companies to reduce their costs. On the other hand, in the situation of prices fixed on the basis of the market situation, considerable progressive taxation (especially with regard to corporate income tax), and big shortages in supply, companies tend to reduce their production while simultaneously reaping monopoly profits. Then, corrective mechanisms were applied, which would block manipulation of the market with a product even in these areas where it was possible. An indirect tax on trade in the so-called luxury products was introduced without giving any special preferences to new products. Independence of companies in the sphere of pricing was limited as well. The growing extent to which the Centre interferes with pricing impeded achievement of the market equilibrium and exerts a negative influence on development of new products.

It should be finally noted that non-economic factors such as e.g. socio-economic and administrative factors exert a strong although not always very effective influence on innovations. On the other hand, attitudes of the managerial cadre that would promote innovations are not properly stimulated.

Ruch prawniczy, ekonomiczny i socjologiczny, Warszawa-Poznań 1984, p. 245.

<sup>7</sup> G. W. K o ł o d k o, *Leczyć przyczyny - nie skutki* [It is Necessary to Treat Causes and not Effects], "Polityka" 1983, nr 15, p. 5.

### 3. Conclusion

The economic reform in Poland envisages gradual restoration of the market. So far it has proved impossible to reconstruct the market functions and thus, the market does not create pro-innovation motivations. In this situation, there are applied make-shift measures to develop new products mainly in the form of economic-financial mechanisms stimulated by the Centre. Their effectiveness is, however, very small due to difficult starting conditions in which companies have to operate, which generates a return to management methods based on directives. The degree of initiatives that spring from companies is thus restricted as quite often their freedom of activity cannot be reconciled with the general social interest. Search for mechanisms in the sphere of the economy's functioning is oriented at a successful combination of centralized and decentralized management, of the market mechanism with principles of central planning, which proves, however, to be very difficult in the present situation in Poland and other centrally planned economies.

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#### SKŁONNOŚĆ DO INNOWACJI W PRZEDSIĘBIORSTWIE W GOSPODARCE CENTRALNIE PLANOWANEJ NA PRZYKŁADZIE POLSKI

W artykule podjęto próbę oceny skłonności przedsiębiorstw do rozwoju innowacji produktów wynikające z zasad reformy gospodarczej. Weryfikacji podlegają 2 hipotezy: po pierwsze - samodzielność decyzyjna przedsiębiorstw oraz przyjęta ich funkcja celu powinny wpływać na wyzwolenie inicjatyw w kierunku rozwoju nowego produktu; po drugie - odtworzenie funkcji rynku jest niezbędnym warunkiem rozwoju nowego produktu. Wskazano na bariery rozwoju nowego produktu wynikające ze sprzeczności w ramach reformy a także innych zmiennych.

Podstawę źródłową rozważań stanowią badania empiryczne przeprowadzane w latach 1982 i 1983 w 9 przedsiębiorstwach produkcyjnych różnych branż na terenie Łodzi. Posłużono się kwestionariuszem ankietowym skierowanym do przedstawicieli dyrekcji tych przedsiębiorstw, przeprowadzono także wywiady głębinowe z członkami kadry kierowniczej.

Rozważania wykazały, iż dotychczas nie udało się uruchomić mechanizmów ekonomiczno-finansowych, które stymulowałyby w przedsiębiorstwach rozwój innowacji produktów.