

Foreign direct investment impact on Polish labor market.

The case of employment fluctuations

in GlaxoSmithKline Pharmaceuticals in Poznań

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Abstract

Foreign direct investment has a strong impact on the level of employment and its structure in companies. The article presents the structure of factors regulating and adjusting the employment scale to real productivity needs. The presentation is based on one of the best examples of foreign direct investment in Poland - GlaxoSmithKline Pharmaceuticals, Joint Stock company. The privatization process is like a mirror of destabilized economy. The correction of employment structure inside the company reflects the overall employment fluctuation in economy and even the structural unemployment classification. The model built on the GSK example, describes the 8 years long process of employment adjustment and can be recognized as a benchmark for the employment transition in foreign companies in Poland.

Keywords: foreign investment, employment, labor capital, Poland.

Introduction

Since the beginning of transition process in Poland the foreign direct investors have strengthened their position in economy. The evaluation of their role of economic development is still the point of discussion and investigation. The foreign direct investment (FDI) is the characteristic feature of transition because of privatization of state ownership. The analysis of attractiveness of Poland as the investment region indicates that Poland is the most attractive country for the FDI¹.

¹ The conclusion is based on the Foreign Direct Investment Index constructed by A.T. Kearney in 1998', *Poland at the top of the list of the most attractive countries for investors*. Ministry of Economy, www.web.mg.gov.pl.

The factors deciding about the level of attractiveness consists of geographical settlement conditions, wide scope of qualifications represented by population of young people at working age², stabilized relationship between employees and employers in private sector. Polish people quite willingly undertake work in foreign companies. They consider the fact that good education is an important factor deciding about employment. Moreover the salary in foreign companies is much higher than in Polish private firms which makes the labor offer very desirable. Talking about salaries, it is important to mention that relative labor cost in Poland is significantly lower than in western Europe. For example in 2002 the hour cost of highly qualified labor in Poland equals 2,5 USD and in France – 19 USD, in Germany-22 USD³.

The most important part of invested capital is the spending on improvement of human capital.

Foreign direct investments in Poland between 1994 and 2003

The characteristic factor for emerging markets is high demand for foreign capital, technologies. The State role in such a case is creation of comfort base for the coming capital. Therefore the important factor deciding about foreign investment in the last 15 years were government instruments.

1. Government incentives and guarantees for FDI were very diversified, and included the following⁴:

- § full profit and dividend repatriation (after taxation),
- § in-kind contributions to foreign-owned equity capital in the form of fixed assets are free of customs duty,
- § funds from liquidation of a company or from the sale of stock or shares may be repatriated,
- § bilateral treaties have been signed with several countries for the protection of investments, providing for fair treatment of all investments and guaranteeing the investor's right to manage, obtain profits and utilize them,
- § double taxation agreements have been signed between Poland and many other countries,

² Over 62% employed are below the age level of 40 years. K. Cieslińska, W. Jarmołowicz, Direct Foreign Investment in Poland and Wielkopolska and their role in economic activity, in: Polish Economy in European Integration Conditions, ed. W. Jarmołowicz, Poznań University of Economy, Poznań 2005.

³ EIU Business Background, Business environment at Glance, 14.03.05.

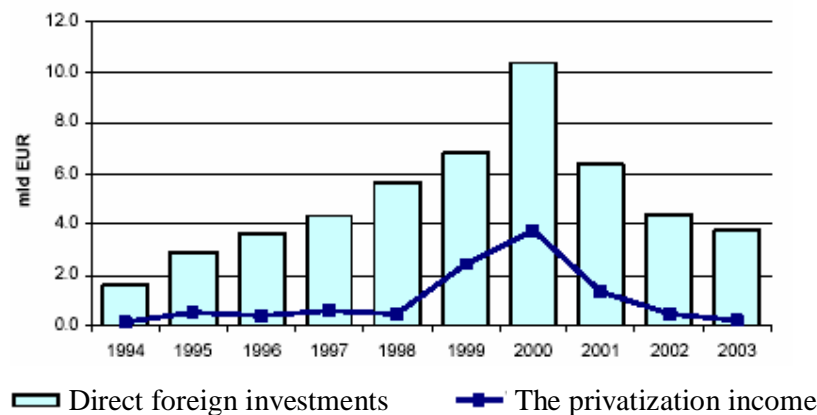
⁴ Investment in Poland, KPMG N.V., Warsaw 2004, p.13.

§ certain additional guarantees and incentives may be obtained through negotiation with local authorities. These guarantees can result in real estate tax relief, local taxes and charges relief, certain local infrastructure support.

However the governmental incentives are often supplementary to market parameters characterizing the expected gains. Another factor deciding about investment in Poland is the biggest consumer market in Middle Europe.

2. The demographic structure in Poland is quite an advantage for investors from outside. The society consists of over 40 million inhabitants. In it we have 64% citizens below the age 25. So it creates high consumption potential. The more important issue is the value of labor capital. This is and was in the past the main trump of Polish economy, because we have highly educated, easily approachable workers, managers speaking foreign languages⁵. One more advantage deciding about keeping investment in Poland, in spite of weak transport infrastructure was low labor cost in comparison to western countries. The decrease of direct investments since 2000⁶, (see Figure 1.) was connected with decrease of labor cost. Changes in costs show strong competition between countries in the central-western region of Europe. Countries create their competitiveness trying in that way to strengthen incentives for foreign investors.

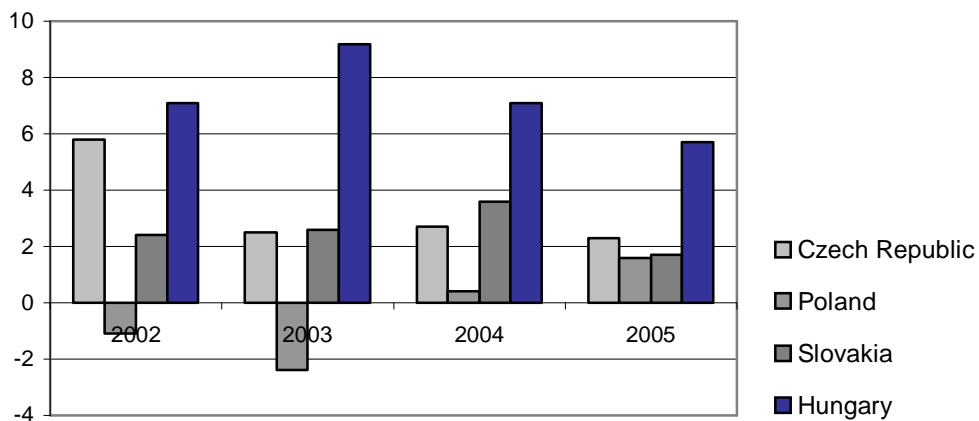
Figure 1. Balance of direct foreign investments



Source: The balance of payment, National Polish Bank 2004.

Figure 2. The dynamics of labor cost in Central-Eastern European countries in years 2002-2005 (%), (previous year = 100)

⁵ The example concerns Toyota company which had troubles with recruiting appropriate workers to newly opened factory in Czech Republic in 2004. Rzeczpospolita 10.10.2004, see also: Poland, STI OUTLOOK 2002 – Country Response To Policy Questionnaire, www.oecd.org.



Source: OECD Employment Outlook 2004.

In Poland labor cost had been reduced by 2,4 % in 2003, when in Czech Republic, Slovakia, Hungary increased by 2,5%-9,2%. In 2003 the real wages increased in Poland by 10,1% in relation to 2002'. In Hungary real wage growth was the highest – 32% and in Czech Republic - 16,6%, Slovakia – 4,5%⁶.

3. The strong deregulation and high speed of privatization process and economic reform as well, undertaken at the beginning of transition, opened wide possibilities for investors from abroad. The improvement of economy condition since early nineties resulted in the realization of decisions concerning the participation of Poland in international organizations as WTO, OECD, NATO, and EU. Nowadays this process is finished. That's why Poland has been for years one of the most attractive economies to locate investments.

The flow of investment varied in the last 10 years. A quite slow inflow began in 1993 and consequently increased till 2000. In 2000 the inflow was the highest (10601 USD) and what was interesting was the fact that it occurred simultaneously with very weak economy condition (0,2 growth rate in 2000). In the period of 2000 and 2003 the economy oscillated close to a crisis phase. After 2000 the inflow of foreign direct investment got weaker but still stayed significant for the whole economy. The sum of foreign direct capital investment presented in Table 1. did not exceed 30% of the sum of the whole investment in the country in 2002⁷.

⁶ Rzeczpospolita 10.10.2004.

⁷ Foreign capital equals 13,5% of company sector. K. Cieslińska, W. Jarmolowicz, Direct Foreign Investment in Poland and Wielkopolska and their role in economic activity, in: Polish Economy in European Integration Conditions, ed. W. Jarmolowicz, Poznań University of Economy, Poznań 2005.

Table 1: The biggest foreign investment in Poland in 2002.

Company	Sum of capital (in mln USD)	County of source	Sector
KBC Bank N.V.	442,0	Belgium	Banking, insurance
RWE Plus AG	388,0	Germany	Energy
Tesco Plc	320,0	Great Britain	Trade
Rodamco N.V.	240,0	The Netherlands	Construction
European	239,6	International	Investment
ITI Group N.V.	150,0	The Netherlands	Media
Energis Plc	150,0	Great Britain	Telecommunication
Credit Agricole S.A.	146,8	France	Banking
GlaxoSmithKline Pharmaceuticals S.A.	139,5	Great Britain	Pharmaceutical products
Volkswagen AG	126,7	Germany	Automobile

Source: Trends and recent developments in foreign direct investment, International Investments Perspectives, OECD, 08.2002.

The structure of investment is geographically diversified. According to PAIiIZ⁸ data, foreign investors settle their business most willingly in the biggest regions in Poland like mazowieckie, śląskie, wielkopolskie voivodeships. Concentration of investment in biggest and also richest regions strengthens the difference of status between least and most developed regions in the country. The impulse if investment in a chosen, priority region influences the region's competitiveness. Since 1994 the disproportion in the area of employment, GDP between regions got deeper⁹.

The foreign investment of GlaxoSmithKline Pharmaceuticals in Poznań¹⁰

One of biggest foreign direct investments in Poland was the purchasing of Polish Pharmaceuticals Company "Polfa" by British concern "Glaxo Welcome", Joint Stock

⁸ PAIiIZ-State Agency of Information and Foreign Investment, see also: Trends and recent developments in foreign direct investment, International Investments Perspectives, OECD, 08.2002.

⁹ Poland, International Economic Report 2003-2004, World Economy Research Institute, Warsaw School of Economics, Warsaw 2004.

¹⁰ This fragment of paper was prepared basing on the report: Impact of foreign investors on regional and local development: The case of GlaxoSmithKline Pharmaceuticals S.A. in Poznań, based on the data of the GSK Human Resources Department, ed. T. Strykiewicz, Poznań 2004.

Company (since 2001' "GlaxoSmithKline" - GSK)¹¹. The decision of purchasing was based on high profitability of the Polish firm, labor effectiveness and GMP-Good Manufacturing Practice certificates ownership. On the other hand the privatization of profitable company was needed because of serious lack of investment capital and obsolete technology. The realized transaction resulted in the increase of market position of GSK. Nowadays the concern's participation in Polish pharmaceuticals market amounts to about 9%. The described privatization differed from the remaining privatization transactions. The "Polfa" purchasing was related to realization of a good social security program. Conditions included in the social security program were:

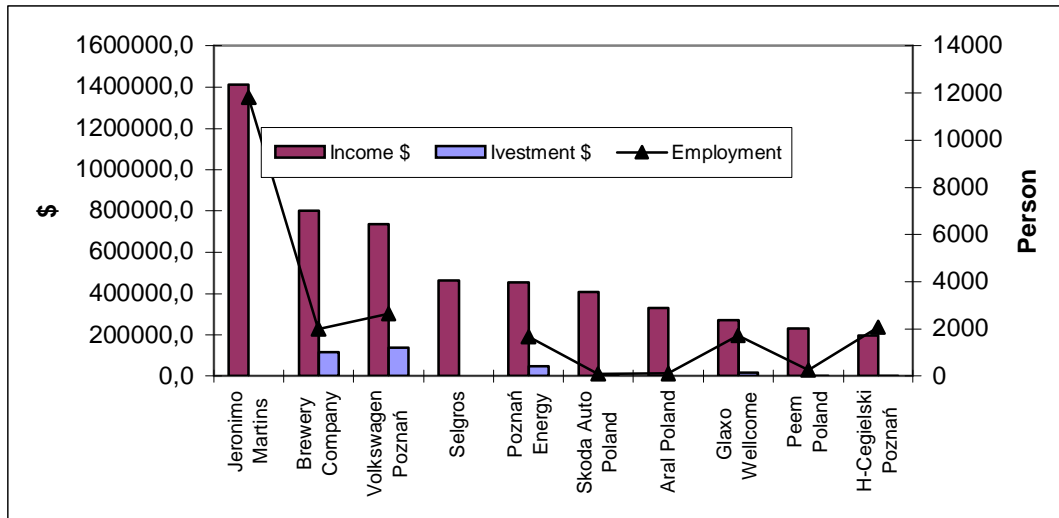
- § guarantees of employment at the level of about 1400 persons,
- § unchanged basic salary structure and valorization of salaries due to inflation index at least,
- § preservation of social privileges, bonus scheme,
- § employees became shareholders of 15% shares and bonus "privatization share", which equalled 10,5 monthly wages.

The wide proposition of social security program was designed to be effective for a long term period . It resulted from the need of the new proprietor's acceptance. This factor was and still is important for labor engagement in the production process. On the other hand the financial base was so advantageous and the share of spending on labor factor so low that the labor related expenditure was possible and implemented.

The social package was consequently implemented although the financial results of the company were not the best in comparison to other foreign and domestic companies in Poznań. The changes in income, investments and employment in the period of 2001-2003 are presented as comparison between largest enterprises in Poznań.

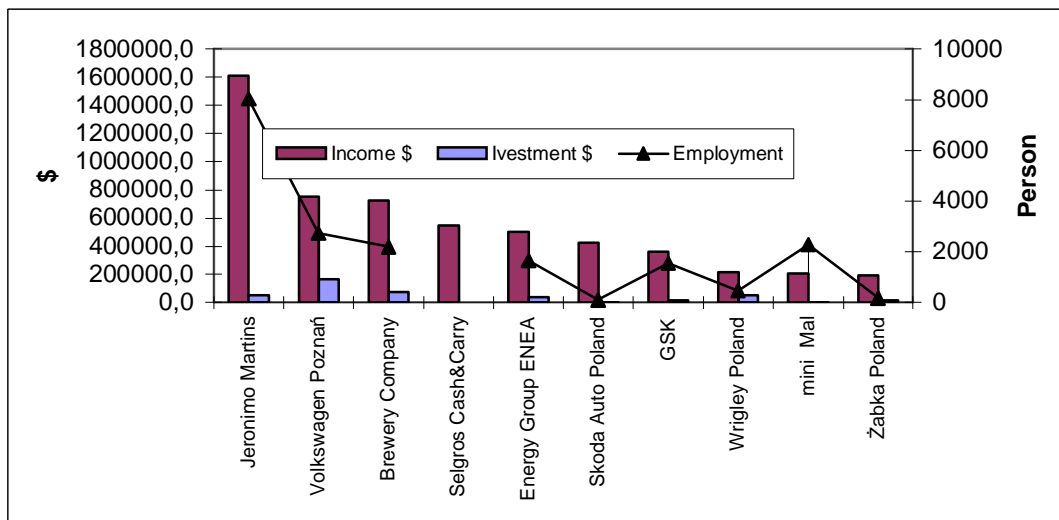
¹¹ The global participation of GSK in pharmaceuticals market amounts to ca 7%.

Figure 3. Poznań's largest enterprises in 2001



Source: List of 500, Rzeczpospolita i Polityka, 2004.

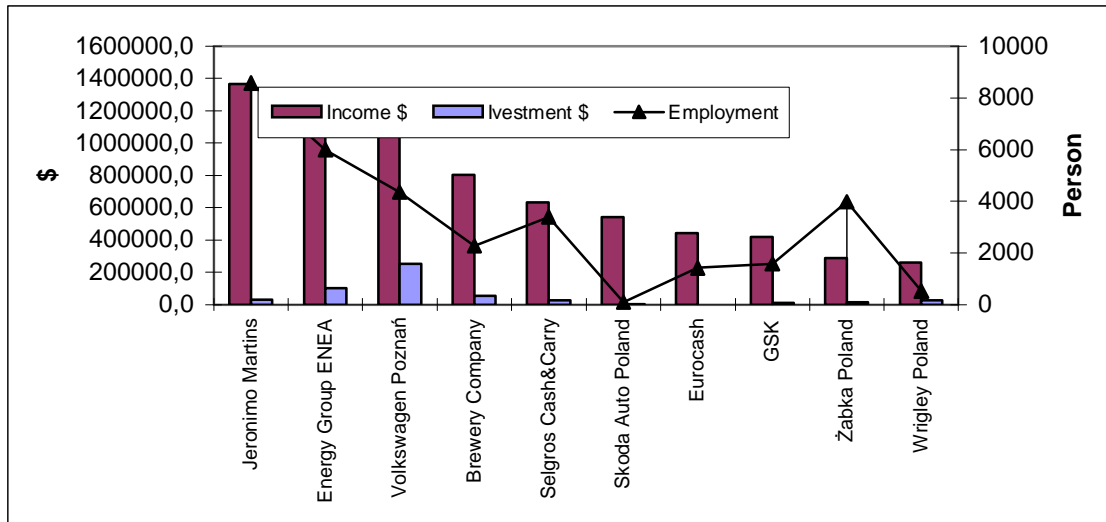
Figure 4. Poznań's largest enterprises in 2002



Source: List of 500, Rzeczpospolita i Polityka, 2004.

As it can be seen GSK isn't a major company in Poznań. It reached, in the period of 2001-2003, 7-8 position among the biggest firms. Moreover, comparing such productive companies as Volkswagen Poznań, Brewery company and GSK we can say that the level of employment was proportional to the level of income in 2003. But considering the same relation in 2001 the relation of labor and income didn't occur.

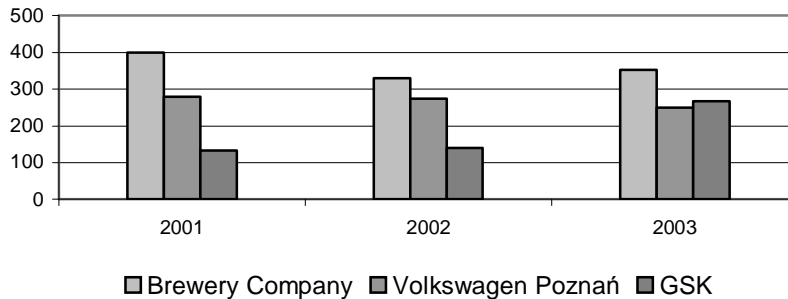
Figure 5. Poznań's largest enterprises in 2003



Source: List of 500, Rzeczpospolita i Polityka, 2004.

In 2001 the level of labor force and income in GSK was significantly higher than in Volkswagen and Brewery company where the income was much higher and labor force level similar to GSK.

Figure 6. Relation of the level of production to employment in chosen firms.



Source: Impact of foreign investors on regional and local development: The case of GlaxoSmithKline Pharmaceuticals S.A. in Poznań, based on the data of the GSK Human Resources Department, ed. T. Stryjakiewicz, Poznań 2004.

The result of short analysis shows that in the period of 2001-2003 in GSK quite a high number of employees were employed in proportion to annual income. This situation in GSK was determined among others by high dynamics in adjustment of labor quality to required level and automatization of production process. Moreover the Brewery company (a Polish

company) and Volkswagen Poznań (a German factory) existed in Polish economy before “Polfa” was sold to “Glaxo Wellcome” (in 1998).

Labor force in GSK

The level and structure of qualification in GSK is permanently changing. At the beginning of privatization employment amounted to 1497 persons. Till 2004 employment was dynamically adjusted to anticipated level of about 900 employed. Reduction of employment was determined by a group of reasons. One of them was technological aspect of production. Modernization of technology resulted in decrease of employment and increase of labor effectiveness. Automatization of production and storage phase caused reduction of number of work places. Consequently changes in technology determined reorganization of company structure and processes system. Moreover as the effect of new management systems implementation a number of work places were united into kind of conglomerates. Moreover part of activities like cleaning, washing were outsourced. As a result the number of employed decreased and labor cost was reduced.

Table 2. Employment level in GSK Poznań in period of 1998-2004

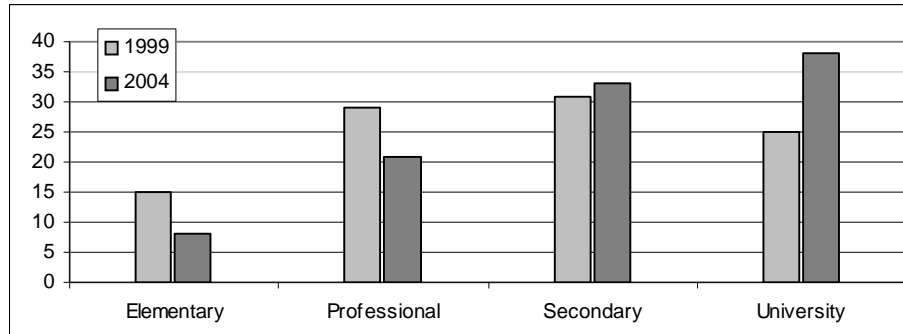
Year	Employment	Women (%)	Changes in overall employment
1998	1455	n.a.	
1999	1397	66	-58
2000	1181	65	-216
2001	1119	65	-62
2002	922	63	-197
2003	901	63	-21
2004	891	63	-10

Source: Human Resources Department data, GSK.

Changes in production reduced the number of production workers. The average decline rate between 1998-2003 amounts to 4%. The reduction of employment is a permanent process. The highest decline of employees took place in 2000 when the department of medical threads, where the production was very labor-intensive, was liquidated. The organizational and technological improvement of production caused another wave of dismissals in 2002. In order to create the quality changes in employment the restructuring

process of work places was undertaken. When the participation of “production group” declined within six years by 4% per year, the “intellectual group” was reinforced by new employment in average by 5% per year. So the dismissing process concerned first of all the “productive group”. Part of workers from “productive group” raised their qualifications and were included in the “intellectual group”, due to reemployment process.

Figure 7. Structure of education level in GSK Poznań in 1999 and 2004 (in %)



Source: Source: Human Resources Department data, GSK.

Significant decline of employment (by 7 percentage points) concerned the elementary education group. Another seriously reduced group was the professionally educated group, where decline amounted to 8 percentage points. The secondary education group increased by 2 percentage points and the number of university educated workers increased by 13 percentage points between 1999 and 2004. Highly educated workers are nowadays a predominant group of the employed.

The changes in quality of labor depends on positive stimulation of human capital as well. Scholarship activity of GSK concentrates on professional and general courses improving managerial and language skills. GSK subsidizes also university study courses for a group of workers per year. The dynamics of scholarship activity is presented in table below.

Table 3. Scholarship activity in 1998, 2001, 2003

Categories/years	1998	2001	2003
Scholarship spending(in\$)	372,2	967,7	1923,2
Number of scholarship	297	690	825
Number of participants	1171	5078	9767

Source: Source: Human Resources Department data, GSK.

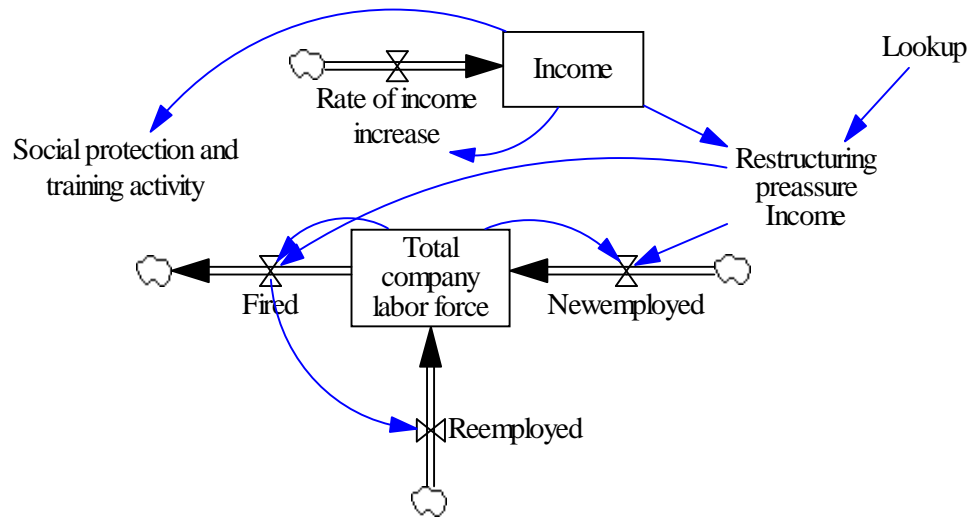
The scholarship activity presented in Table 3 was significantly developed. All categories characterizing scholarship activity increased during last 4 years. Scholarship realized in GSK had a longitudinal effect. In the factory work 28 internal trainers previously educated. Besides implemented system of permanent workers evaluation since 2004 in GSK has been operating a competence system, career paths helping in building individual plans of skills enrichment.

Simultaneously GSK realizes quite an intensive social care program, in accordance with promises included in privatization transaction. Social care concerns among others medical care, sport and recreation, free of charge parking place, private insurance for 95 % of workers. Special care is offered to the fired workers. They received from 2 to 12 months remuneration, and could take part in scholarship. GSK help ex-workers in job seeking, offers expert advertisement. The successful cooperation in each field of factory operation resulted in the prize for the best employer in 2004 awarded to GSK.

Model of employment fluctuations in GlaxoSmithKline Pharmaceuticals in Poznań

Due to several basic specific reasons the author was motivated to build a system dynamics simulation model. The structure of the model presents the way of decision process regulating level of employment. Model values are based on the case of GSK Poznań, which is the example of good practice on labor market. The employment decisions have changed the employment level in the factory during the last 10 years. They resulted from a number of reasons which are not specially specific for this one factory but quite general in similar companies being foreign direct investments in Poland. It seems that the obtained outcomes can become prediction of labor level evolution in foreign firms developing business in Poland. The model shows also a short prediction scenario of employment level in GSK in case of the unchanged set of regulators being active and the *ceteris paribus* rule being valid. Moreover, the presented results of some scenarios are enriched by outcomes of system dynamic model showing reality according to other assumptions.

Figure 8. The system dynamics model used to simulate changes of employment level in GSK Poznań.



Source: Author's work.

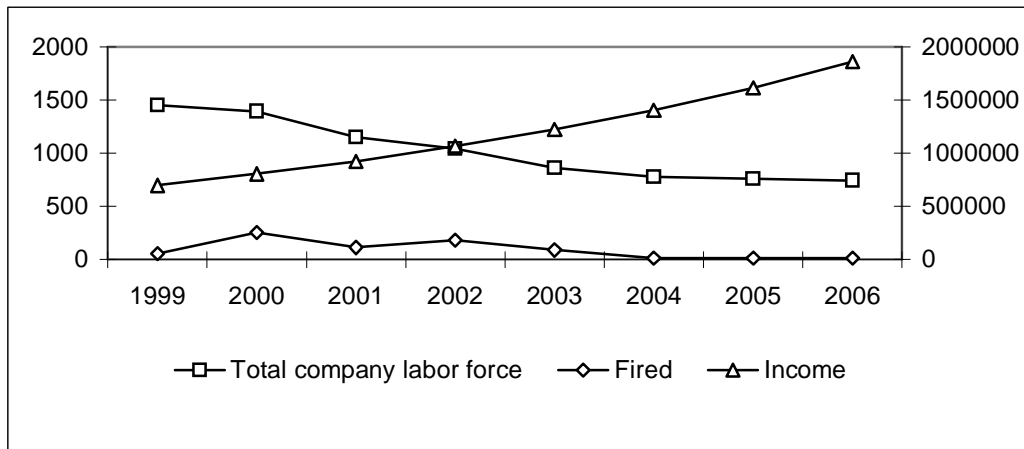
At the beginning of the simulation period the total labor force and income are based on the situation prevailing in 1998 when company “Polfa” was sold to a foreign investor; “Glaxo Wellcome”. Assuming a real trend in relation between income and occurring labor force fluctuation, the simulation showed changes in the level of total company labor force and flows in the model. As can be seen the model is a simplification of very complex issues, which are the subject of many operational decisions. For example the flow of labor force reduction is determined not only by internal factory plans but also by the reaction to competition force. The ‘restructuring pressure income’ as the transmission index is defined through lookup function presenting a group of causes generating the labor regulation created by income increase. The total company labor force is regulated by two inflows. In the model it is assumed that the rate of new-employment increases the company employment by 1%. As statistics show, since 1995 in FDI the employment dynamics has been lower than FDI inflow dynamics. This is caused more by technology than labor-intensive investments¹². Moreover employment in factory depends on current level of employment and possibilities of new-employment created by income capacity. The process of employment reduction is connected with reemployment process. The overall company policy aims at securing workers with wide experience because they can become coaches for workers with smaller experience. The rate of

¹² E. Sadowska-Cieślak, Foreign Direct Investment Impact on Polish Economy, CASE Foundation, Center For Social And Economic Studies, Warsaw 2000, p. 11.

reemployment is higher than new-employment, and amounts to 2% of fired workers for scenario 0. Because the data for 2005 and 2006 are not available, they were forecasted. The 2 year prognosis is based on prediction of stabilization of employment at the level of 800 persons.

The simulation results of scenario 0 confirm the real trends of variables fluctuation. It means that the model structure is comparable to feedbacks existing in reality. As can be seen in figure 9, income permanently increases and simultaneously the number of work places decreases. Reduction of employment in GSK is present each year. Nevertheless there occurred two serious reductions, in 2000, after two years of GSK existence in Poznań, 273 workers and after another two years 221 workers were fired. As it could be predicted, in 2004 there should have occurred another reduction of labor force, but the number of fired has been the lowest – 39 workers, since 1998. Because of this the optimistic prognosis for next two years is reasonable and assumes stabilization of employment.

Figure 9. Changes in company labor force, number of fired, level of income in period 1999- 2006



The result of two scenarios is based on changes in flows values. In scenario 1 the percent of new-employed was reduced from 1% to 0,1%, and value of reemployed was decreased from 2% to 1%, see figure 11. The stabilization of employment requires the decrease in new-employment and reemployment inside the company. Changing the values of two flows the effect of total labor force stayed unchanged and stabilized at the level of under 800 employed, see figure 10.

Figure 11. Number of new-employed and reemployed in period 1999-2006

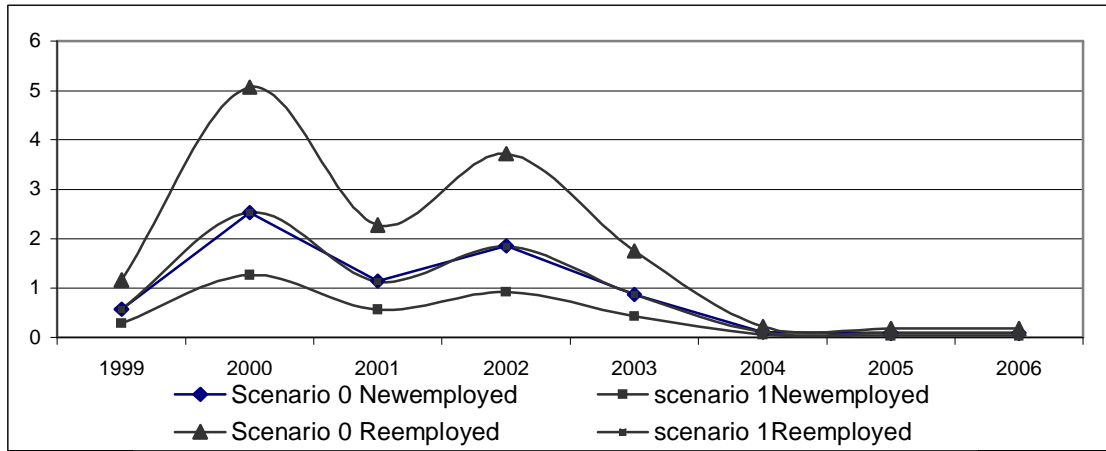
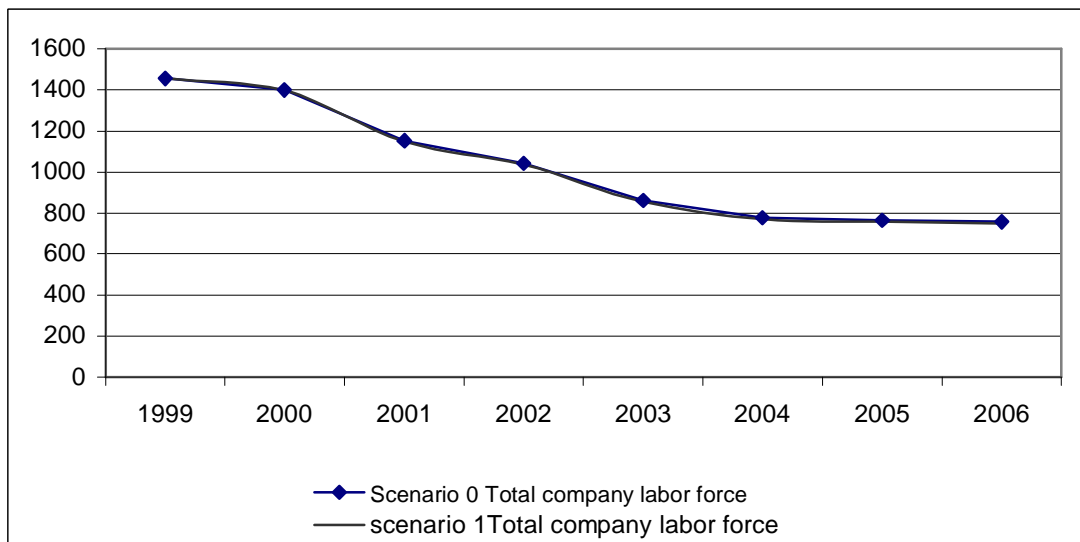


Figure 10. Total labor force in GSK in period 1999-2006



Summary

It is important to remember that human beings are a fundamental natural resource, are the wealth of a country. Leaving this resource partly unused will make an economy poorer. During the transformation process, which started in 1990, the macroeconomic, legal and infrastructural conditions for market economy have been created. They resulted in the

increase of foreign direct investment, which increased considerably in 2000. Nevertheless, even now being integrated in European Union the transition process well advanced has not been finished yet, and new investments are needed to strengthen the current expansion phase. The GSK in Poznań is the best example of FDI practice. We need more such investments, making the employment structure in the region efficient and highly qualified. Moreover the employers like GSK are also needed specially because of help offered to fired workers.

Concluding, it is important to point out that to achieve a growth of social profit in the economy, to limit unemployment, and achieve the increase of employment we need to create new workplaces. In order to increase demand for work in this expansion period it is necessary to give permanent prospects of development in the private sector.

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Supplement: Mathematical model for scenario 1

- (01) FINAL TIME = 2006
Units: Year
The final time for the simulation.
- (02) Fired= Total company labor force*Restructuring preasureIncome
Units: **undefined**
- (03) Income= INTEG (Rate of income increase, 700000)
Units: **undefined**
- (04) INITIAL TIME = 1999
Units: Year
The initial time for the simulation.
- (05) Lookup([(0,0)-(2e+006,0.5)],(700000,0.04),(800000,0.2),(840000,0.05),(1.12e+006,0.21),(1.303e+006,0.02),(1.4e+006,0.015),(1.45e+006,0.012))
Units: **undefined**
- (06) Newemployed= 0.001*Restructuring preasureIncome*Total company labor force
Units: **undefined**
- (07) Rate of income increase= 0.15*Income
Units: **undefined**
- (08) Reemployed= Fired*0.01
Units: **undefined**
- (09) Restructuring preasureIncome= Lookup(Income)
Units: **undefined**
- (10) SAVEPER = TIME STEP
Units: Year [0,?]
The frequency with which output is stored.
- (11) Social protection and training activity= 0.1*Income
Units: **undefined**
- (12) TIME STEP = 1

Units: Year [0,?]
The time step for the simulation.

- (13) Total company labor force= INTEG (+Newemployed+Reemployed-Fired, 1455)
Units: person