

# INTERNATIONAL COMPETITIVENESS OF POLISH ECONOMY IN YEARS 1995-2005

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**Abstract:** *The aim of article is the analysis of international competitiveness and competitive position of Polish economy in the years 1995-2005. The first, were defined expressions -international competitiveness of economy and -international competitive position with simultaneous indication of suitable factors determining the changes of international competitiveness of economy. On the basis of conducted analysis, one may say, that the international competitiveness and competitive position of Polish economy is relatively low yet. However, in the years 1995-2005 appeared the gradual growth of competitiveness and competitive position of Poland on international arena, what confirms favourable changes of analyzed competitiveness indexes. The possibilities of increasing international competitiveness of Polish economy depend on that, whether Poland will fully use existing chances resulting mainly from the membership in European Union. Moreover, the improvement of international competitiveness of Polish economy depend on overcoming of existing barriers, such as the necessity of public finance reforms, continuation of structural reforms, enlargement of investments, increasing the elasticity of the labour market and the gradual aiming at knowledge based economy.*

**Key words:** competitiveness of economy, international competitive position

## 1. Introduction

In economic literature, it is many definitions of international competitiveness of economy. The most often the international competitiveness of economy is defined as an ability to derive the possibly largest advantages from participation in international division of labour. Next, the international competitive position (called as a competitiveness of outcome type) is the narrower notion than the international competitiveness of economy (the international competitive ability) and it mainly treats to share of economy in international trade sense largo. Therefore, it concerns the international exchange of goods, services and production factors (Misala, 2005).

In practice, there are used many indexes to evaluate the international competitiveness and competitive position of given country. To the most often used measures belong: the indexes of macroeconomic stabilization pentagon, indexes of economic freedom, shares in world trade, indexes of revealed comparative advantages, indexes of intra-industry trade, balance of global capital flows, balance of foreign direct investments and changes of effective exchange rates (Misala, 2001).

## 2. Indexes of international competitiveness of Polish economy

If Poland, according to valid constitution is a social state, then presented outline of conception of social market economy is not simple reflection of existing economic practice. According to conception of social market economy, economic policy should form cohesion integrity with a social policy, which also should be important instrument for economic development. However, in Polish reality, economic policy and social policy are led separately.

In turn, foreign policy of Poland is based on principles of liberal economy. In the area of foreign trade the most attention, concentrate on continuing the process of trade liberalization, as well as on deepening the process of economic integration with European Union. Economic policy led in this way finds one's reflection in changes of indexes of macroeconomic stabilization pentagon [cf. table 1].

Table 1: Indexes of macroeconomic stabilization pentagon for Poland in years 1995-2005 [in %]

Details	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005
GDP growth rate	7,0	6,0	6,8	4,8	4,1	4,0	1,0	1,4	3,7	5,3	3,2
Unemployment rate	14,9	13,2	10,3	10,4	13,1	15,1	17,4	20,0	20,0	19,0	17,6
Inflation rate	27,8	19,9	14,9	11,8	7,3	10,1	5,5	1,9	0,8	3,5	2,1
Share of budget deficit in GDP	-3,3	-2,3	-2,7	-2,4	-2,0	-2,2	-4,3	-5,1	-4,6	-4,5	-2,8
Share of current account deficit in GDP	4,2	-1,0	-3,0	-4,3	-7,5	-6,3	-3,9	-3,5	-1,9	-4,1	-1,6

Source: The own study on the basis of Central Statistical Office data.

From data presented in above table results that generally in years 1995-2005 appeared relative improvement of international competitiveness of Polish economy. What's more, the most noticeable improvement of indexes of macroeconomic stabilization pentagon took down in 2005 year, what shows about essential improvement of Polish competitiveness.

The analysis of individual macroeconomic indexes does not show full sight of economy and this makes difficult for the evaluation of economic situation changes in time. The more effective method of analysis is simultaneous view on several main economic measures of country. One of instrument, which enables evaluation of five such macroeconomic indexes, is the graphic presentations in the form of macroeconomic stabilization pentagon (Babińska, 2004). In that method are used the statistical data concerning five basic macroeconomic measures, such as GDP growth rate (GDP), unemployment rate (U), inflation rate (CPI), share of budget deficit in GDP (G) and share of current account deficit in GDP (CA). The points of macroeconomic stabilization pentagon are scaled in such way, that the better situations in the range of analyzed macroeconomic indexes, the farther from the system centre are laid points marked on individual axes (Bukowski, 2003).

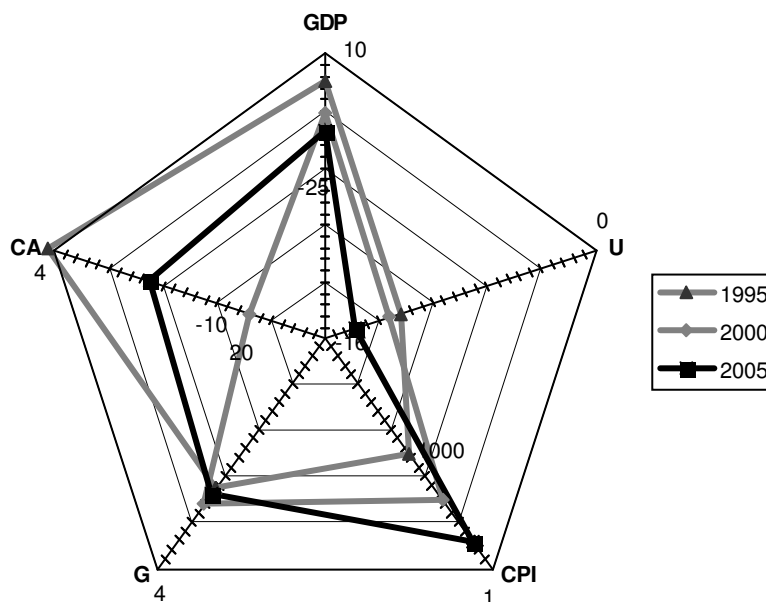


Figure 1. Macroeconomic stabilization pentagon for Poland in years 1995, 2000 and 2005

Source: The own study on the basis of data in table 1.

The macroeconomic stabilization pentagon for Poland characterized in analyzed years by area considerably differs from ideal regular pentagon. Nevertheless, in comparison to 1995, shape of figure appointed by suitable values of macroeconomic indexes in 2000 was in even smaller degree approximate to

shape of regular pentagon. However, the shape of pentagon appointed by macroeconomic variables in 2005 year was in the largest degree approximate to form of regular pentagon, what testifies to increasing international competitiveness of Polish economy. Mentioned development tendencies confirm also the changes of index of economic freedom in years 1995-2005 [cf. table 2].

Table 2: Index of Economic Freedom (IEF) for Poland in years 1995-2005

Details	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005
Rank	66	75	71	54	50	52	50	44	61	55	42
Score	3,51	3,29	3,14	2,91	2,83	2,84	2,69	2,65	2,83	2,81	2,59
Trade policy	4,5	4,5	4,5	2	2	2	2,5	2,5	3	3	2,5
Fiscal burden	4,6	4,4	3,9	4,1	4,3	4,4	3,4	3,5	3,8	3,6	2,9
Government intervention	4	4	2	2	2	2	2	2	2	2	2
Monetary policy	5	5	5	5	4	4	3	3	3	2	1
Foreign investment	2	2	2	2	2	2	2	2	3	3	3
Banking and finance	3	3	3	3	3	3	3	2	2	2	2
Wages and prices	3	3	3	3	3	3	3	3	3	3	3
Property rights	3	2	2	2	2	2	2	2	2	3	3
Regulation	3	3	3	3	3	3	3	3	3	3	3
Informal market	3	2	3	3	3	3	3	3,5	3,5	3,5	3,5

Source: Heritage Foundation, <http://heritage.org>.

The levels of index of economic freedom for Poland characterized in years 1995-2005 considerable variation, but its value placed Poland on distant position among analyzed countries, what it thereby testifies to relatively low competitiveness of Polish economy on international arena. If, Poland in ranking of countries with the highest economic freedom took 66 positions in 1995, and then in 2005 Poland have placed on 42 position. Moreover, on the basis of data showed in above table, one may say, that Poland to 1997 was numbered among rather illiberal economies (*the mostly unfree*), and since 1998 among rather liberal economies (*the mostly free*).

### 3. Measures of international competitive position of Polish economy

The first of analyzed indexes of competitive position of Poland is the share of this country in world trade. The data showed in following table indicate, that Poland in more and more degree gets involved in international trade. What's more, gradual growth of Poland's commitment in world trade in years 1995-2005 is visible both on the export side, as well as on the import side. This confirms the thesis about growing international competitive position of this country [cf. table 3].

Table 3. The share of Polish export and import in world trade in years 1995-2005 [in %]

Share of Poland in:	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005
World export	0,44	0,55	0,46	0,46	0,48	0,50	0,58	0,63	0,71	0,81	0,86
World import	0,55	0,60	0,74	0,75	0,78	0,75	0,77	0,82	0,87	0,94	0,94

Source: The own calculation on the basis of World Trade Organization data.

One of measures illustrating international competitive position of Poland is also balance of foreign trade in years 1995-2005. In this case, the gradually deepening deficit in foreign trade took place to 1998 year. It resulted from the higher dynamic growth of Polish import, in relation to dynamic growth of Polish export. The negative balance of foreign trade has gradually decreased since 1999 year, what testifies to growing international competitiveness of Poland [cf. table 4].

Table 4: Polish foreign trade in years 1995-2005 [in mln USD and in %]

Years	Export	Import	Balance	Trade Coverage Index
	mln USD	mln USD	mln USD	w %
1995	22895	29050	-6155	78,8
1996	24440	37137	-12697	65,8
1997	25751	42308	-16557	60,9
1998	28229	47054	-18825	60,0
1999	27407	45911	-18504	59,7
2000	31651	48940	-17289	64,7
2001	36092	50275	-14183	71,8
2002	41010	55113	-14103	74,4
2003	53577	68004	-14427	78,8
2004	73781	88156	-14375	83,7
2005	89346	100900	-11554	88,5

Source: The own study on the basis of Central Statistical Office data.

Described above development tendencies confirm also the index changes of the import coverage by the export ( $TC_i$  - *Trade Coverage Index*), which belongs to relative measures of competitive position of the country. Namely, analyzing the value changes of trade coverage index it may notice the gradual growth of trade coverage index since 2000 year, what is also the symptom of gradual improvement of Polish competitive position.<sup>1</sup>

The one of the most often used measures of competitive position of given country is *Revealed Comparative Advantage Index* ( $RCA_i$ ). It expresses relative advantage of country A in export of given good (group of goods) to country B (or the group of countries) in relation to the share of the country A in total export to the country B (or the group of countries). Following table shows the data concerning RCA indexes in Polish foreign trade in years 1995-2005 [cf. table 5].

Table 5. *Revealed Comparative Advantage Index* ( $RCA_i$ ) in Polish foreign trade in years 1995-2005 (by CN section)

	CN sections	1995	2000	2003	2005
I	Live animals; animal products	0,72	0,72	0,98	0,90
II	Vegetable products	-0,24	-0,18	0,06	-0,04
III	Fats and oils	-1,35	-1,10	-2,15	-0,88
IV	Prepared foodstuffs	0,08	0,42	0,36	0,38
V	Mineral products	-0,10	-0,76	-0,78	-0,80
VI	Products of the chemical industry	-0,50	-0,65	-0,73	-0,66
VII	Plastics and rubber and articles thereof	-0,75	-0,43	-0,35	-0,31
VIII	Raw hides and skins, articles thereof	-0,07	-0,09	-0,24	-0,43
IX	Wood and articles of wood	1,88	1,47	1,36	1,02
X	Pulp of wood, paper, paperboard and articles thereof	-0,63	-0,10	0,05	0,01
XI	Textiles and textile articles	0,25	0,29	0,00	-0,18
XII	Footwear, headgear and articles thereof	0,65	0,58	0,10	-0,17
XIII	Articles of stone, ceramic products, glass	-0,10	0,08	0,32	0,44

<sup>1</sup> Value of  $TC_i$  index show about export to import relation of given country and it is express in percent.

XIV	Pearls, precious stones and metals, articles thereof	2,56	1,86	1,44	1,01
XV	Base metals and articles thereof	0,80	0,43	0,17	0,09
XVI	Machin. and mechan. applian., elect. engines equipment	-0,74	-0,28	-0,10	-0,12
XVII	Transport equipment	0,57	0,32	0,18	0,45
XVIII	Optical, photographic, measuring, checking instruments and thereof	-1,57	-1,27	-0,72	-0,76
XIX	Arms and ammunition	0,65	-0,21	-1,62	-0,61
XX	Miscellaneous manufactured articles	1,30	1,39	1,46	1,36
XXI	Antics, collections	1,33	0,82	0,65	-0,46

<sup>a)</sup> RCA index was calculated according to equation:

$$RCA_i = \ln\left[\frac{x_i}{m_i} \div \frac{X}{M}\right] \quad (3.1)$$

where:

$x_i$  – value of Polish export of commodity group „i”;

$m_i$  – value of Polish import of commodity group „i”;

$X$  – value of global Polish export;

$M$  – value of global Polish import.

Source: The own study on the basis of Central Statistical Office data.

If indexes of revealed comparative advantage presented above are treating as measures of inter-industry competitiveness of Polish economy, then it is possible to affirm that competitiveness of Poland makes gradual improvement. In whole analyzed period Poland had revealed comparative advantage in the range of such commodities group as "live animals; animal products", "prepared foodstuffs", "wood and articles of wood", "pearls, precious stones and metals, articles thereof", "base metals and articles thereof", "transport equipment" as well as "miscellaneous manufactured articles". However, in the case of remaining commodity groups Poland did not have revealed comparative advantage in the whole of analyzed period. Moreover, in years 1995-2005 it took down the relative improvement of RCA indexes in the range of many commodities having essential share in the global Polish export ("machines and mechanic applicants., electric engines equipment", "transport equipment").

In the contemporary world economy greater and greater role plays intra - industry trade. It consists in simultaneous import and export of finished goods and their components come from the same industry by given country or group of countries in given period (Martin, Blanes, 1999). For the sake of specific structure of Polish trade, the intensity of intra-industry trade is so far comparatively high. It is confirmed by the data of next table [cf. table 6].

Table 6. Intra-industry trade indexes in Polish trade in years 1995-2005 (by CN section).

	CN sections	1995	2000	2003	2005
I	Live animals; animal products	0,68	0,66	0,45	0,63
II	Vegetable products	0,77	0,89	0,99	0,92
III	Fats and oils	0,21	0,17	0,05	0,54
IV	Prepared foodstuffs	0,63	0,72	0,90	0,87
V	Mineral products	0,65	0,73	0,58	0,57
VI	Products of the chemical industry	0,53	0,36	0,39	0,63
VII	Plastics and rubber and articles thereof	0,50	0,52	0,61	0,79
VIII	Raw hides and skins, articles	0,98	0,81	0,85	0,73

	thereof				
IX	Wood and articles of wood	0,20	0,39	0,42	0,58
X	Pulp of wood, paper, paperboard and articles thereof	0,46	0,56	0,71	0,94
XI	Textiles and textile articles	0,91	0,97	0,97	0,85
XII	Footwear, headgear and articles thereof	0,55	0,86	0,90	0,85
XIII	Articles of stone, ceramic products, glass	0,77	0,72	0,92	0,85
XIV	Pearls, precious stones and metals, articles thereof	0,13	0,34	0,46	0,58
XV	Base metals and articles thereof	0,73	1,00	0,94	0,98
XVI	Machin. and mechan. applian., elect. engines equipment	0,48	0,72	0,93	0,88
XVII	Transport equipment	0,85	0,97	0,99	0,84
XVIII	Optical, photographic, measuring, checking instruments and thereof	0,27	0,39	0,56	0,58
XIX	Arms and ammunition	0,51	0,24	0,08	0,65
XX	Miscellaneous manufactured articles	0,47	0,48	0,39	0,45
XXI	Antics, collections	0,47	0,92	0,92	-
	Average	0,56	0,64	0,67	0,70

<sup>a)</sup> IIT index was calculated according to equation:

$$JIT = \frac{(x_i + m_i) - |x_i - m_i|}{x_i + m_i} \quad (3.2.)$$

Where all symbols like in previous equation.

Source: The own study on the basis of Central Statistical Office data.

In years 1995-2005 intensity of intra-industry trade in global Polish trade was on relatively high level. Furthermore, in the case of majority commodity groups it was observed, gradual growth of this intensity. Taking into account the average intensity of Polish intra-industry trade one should affirm, that in global Polish trade have changed relations between intensity of extra-industry and intra-industry trade, in second favour. In 2005-year average intensity of intra-industry trade have increased in relation to 1995 from 56% to 70%.

The next measure of international competitive position of economy is international investment position. The net international investment position is the difference between foreign assets and foreign liabilities and it shows, whether the given country is the net creditor or the net debtor in relation to abroad.

The net international investment position of Poland in years 1995-2005 was negative, what marks that Poland was net debtor in relation to abroad in analyzed period. This is the typical situation for countries with open market economy, in the phase of fast economic development. Next, the relation of the net international investment position to GDP of Poland increased from 20,1 % in 1995 to 43,0 % in 2005. About the relative deterioration of the net international investment position of Poland decided the first of all essential increase in foreign direct investment and portfolio investment inflow do Poland [cf. table 7].

Table 7: International investment position of Poland in years 1995-2005 [in mln USD and in %]

Details	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005
International investment position	-27 338	-29 769	-30 531	-41 788	-49 158	-55 164	-57 731	-73 424	-93 659	-127 498	-123 920
Assets	31 966	28 746	31 908	38 399	40 100	44 835	49 397	51 704	58 556	79 155	92 201
Liabilities	59 304	58 515	62 439	80 187	89 258	99 999	107 128	125 128	152 215	206 653	216 121

International investment position in relation to GDP in %	-20,1	-19,4	-21,7	-23,8	-31,7	-31,9	-30,8	-33,5	-38,8	-45,9	-43,0
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Source: Data of National Polish Bank.

Moreover, to estimation the international competitiveness of the country are also used such indexes as the balance of foreign direct investments in absolute and relative forms (per capita and in relation to GDP). Suitable data are presented in following table [cf. table 8].

Table 8: Absolute and relative amounts of foreign direct investment in Poland in years 995-2005

Details	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005
Inward stocks of foreign direct investment in mln USD	7843	11463	14587	22461	26075	34227	41247	48320	55268	61427	71029
Inward stocks of foreign direct investment per capita w USD	203,2	297,0	377,9	580,4	673,8	886,7	1079,8	1264,9	1450,6	1612,3	1864,3
Inward stocks of foreign direct investment in relation to GDP in %	5,2	7,5	9,5	13,2	15,9	20,5	22,2	25,2	26,4	25,4	28,5

Source: The own study on the basis of Central Statistical Office data.

The inward stocks of foreign direct investment in Poland characterized by increasing trend in analyzed period. The similar situation took place in the case of inward stocks of foreign direct investment in Poland per capita and in relation to GDP. The growth of these indexes goes to show about increasing international attractiveness of Polish market and thus about growing competitiveness of Polish economy in years 1995-2005.

Sometimes the expression of international competitiveness of economy is identified with exchange rate changes of given country. In this case the comfortable tool for practical analysis of competitiveness is the real, effective exchange rate, which expresses external price of given currency with respect to currencies of main trade partners of given country, after elimination the inflation in home and abroad (Jasiński, 2003).

On the basis of analysis of the real, effective exchange rate of Polish zloty in years 1995-2005, it can perceive comparatively high stability of exchange rate of Polish currency, with insignificant tendency to appreciation. Such exchange rate changes of Polish zloty point at comparatively slow increasing of international competitive position of Poland in analyzed period [cf. figure 2].

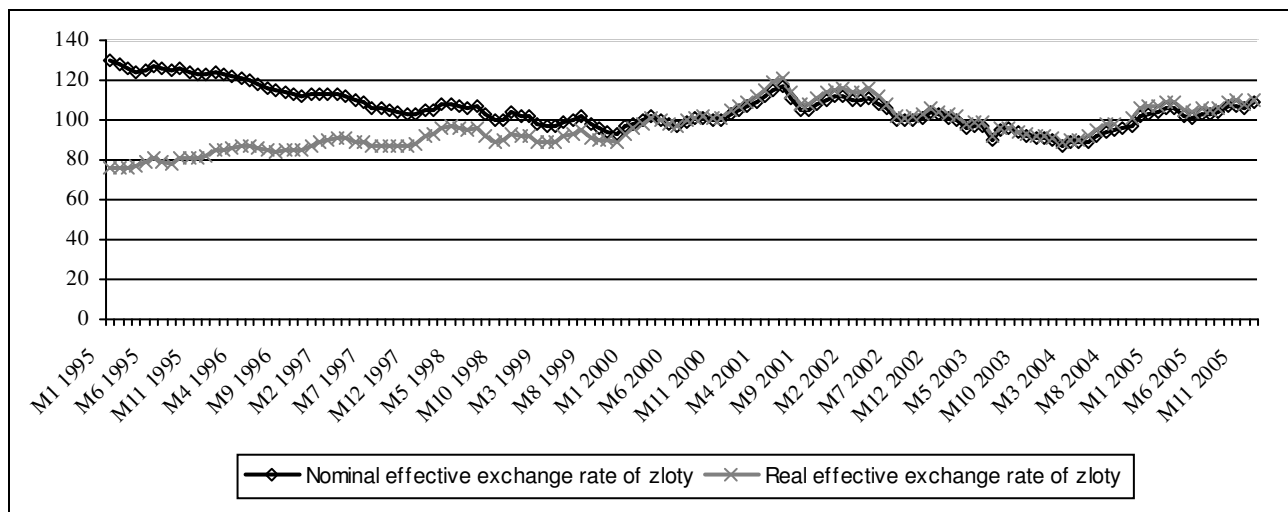


Figure 2 - Nominal and real effective exchange rate changes of Polish zloty in years 1995-2005 (year 2000 equals 100)

Source: International Financial Statistics, IMF.

The index of real, effective exchange rate changes expresses crucial aspect of current competitiveness

of given economy. The exchange rate has substantial influence on foreign trade in a short time, however its meaning in analysis of competitiveness of economy is smaller in a long time.

On the basis of analysis of selected indexes of the international competitiveness and competitive position of Polish economy one may say, that the competitiveness of Poland was on relatively low level in years 1995-2005. What's more, in analyzed period, the international competitiveness of Polish economy improved generally, but the largest growth of Polish competitiveness took place in 2005. Relatively low international competitiveness of Polish economy was mainly determined by internal factors (e.g. the difficult situation in public finances, weakly developed economic infrastructure etc.) as well by external factors (e.g. growing prices of petroleum on the world market, decreasing flows of FDI in the world etc.).

Analyzing changes of indexes of international competitiveness and competitive position of Polish economy, it is necessary to be conscious of indexes disadvantages. Thereby, one should be conservative in formulation the conclusions and recommendations concerning economic policy of given country.

To the basic shortcomings of measures of international competitiveness and competitive position of economy are numbered the comparatively casual relationships with theory of international trade, fragmentariness and arbitrariness in making the opinions as well as the limited usefulness for constructing the foundations of the future economic policy (Misala, 2005).

## 4. Conclusions

On the basis of conducted analysis, one may say, that the international competitiveness and competitive position of Polish economy is yet relatively low (e.g. in comparison to the most economically developed EU members). However, in years 1995-2005 took place gradual growth of competitiveness and competitive position of Poland, what it was confirmed by favourable changes of analyzed competitiveness indexes.

The possibilities of international competitive growth of Polish economy are depended on that, whether Poland will fully use existing chances resulting from the membership in European Union. Moreover, improvement of the international competitiveness of Poland is depended on the possibilities of developmental barriers overcoming, such as the reform of public finances, continuation of structural reforms, increasing the elasticity of the labour market and reorientation of economic policy towards the knowledge based economy.

It is necessary to emphasize, that the growth of competitive ability of Polish economy will be only possible thanks to suitable economic policy focused on competition protection and favourable climate creation for companies' development (especially micro, small and medium firms). The economic policy should also characterize greater elasticity, what will enable quick adaptation to changing conditions in international environment.

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