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An Illusion Of Development And Technological Decline In Poland

Jolanta Sala, PhD

The Faculty of Management, Department of Econometrics, Statistics and Information Technologies, Powiślański Collage in Kwidzyn, Poland

Postal Address: 11 Listopada 29, 82-500 Kwidzyn, Poland

Author's Personal/Organizational Website: www.psw.kwidzyn.edu.pl

Email: [jolasala \(at\) interia.pl](mailto:jolasala@interia.pl)

Prof. Jolanta Sala is the Head of Department of Econometrics, Statistics and Information Technologies, Powiślański Collage in Kwidzyn, Poland. Her areas of interest are IS Analyses & Development, Software Engineering and Decision Support Systems.

Halina Tańska, PhD

The Faculty of Mathematics and Computer Science, Department of Multimedia and Computer Graphics, University of Warmia and Mazury in Olsztyn

Postal Address: Żołnierska 14, 10-689 Olsztyn, Poland

Author's Personal/Organizational Website: www.wmii.uwm.edu.pl

Email: [tanska \(at\) uwm.edu.pl](mailto:tanska@uwm.edu.pl)

Dr. Halina Tańska is the Vice-Dean of Faculty of Mathematics and Computer Science, University of Warmia and Mazury in Olsztyn. Her areas of interest are IS Analyses & Development, Software Engineering and Decision Support Systems.

Abstract

Professional IT specialists are still being shocked by inadequacy between the fast IT development in 1970's and technological decline in 21st century. The stagnation of ICT technologies and their application in social and economic practices in Poland inspired the authors to search for causes and conditions. The authors present the divergent

interpretations of New Entrepreneurship state from the perspective of micro and macroeconomics. The analyses showed that either “new” or “old” economics is not going to develop without proper economic, institutional, regulative or social and cultural changes. Unfortunately, the transformation of past two decades is an illusion of development.

Keywords: social and economical transformation results; the macro-diagnosis of IT development; e-commerce decline; research study; Poland

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1. Introduction

The authors present an approach towards research which is specific for the instrumentarium of “economic cybernetics and information technology” (CEil)¹. This approach was successfully developed by the staff from CEil Institute at The University of Gdańsk in Sopot as well as at many other academic centers, e.g. in Wrocław, Szczecin, Katowice. The approach was formally shaped at the beginning of the 70ties, among others by Prof. T. Peche on the basis of scientific achievements of Prof. O. Lange and H. Greniewski. The pillar of school from Sopot were Prof. J. Kozubski and T. Kulawczuk (the trend of operational research and econometrics), M. Krzysztofiak and W. Charemza (the trend of statistics), W. Nowaczek, B. Kubiak and A. Jaszczak (the trend of electronic data processing) as well as W. Lewczyński (the trend of accountancy according to matrix calculus and input-output analysis by Leontief). The 70ties proved to be very dynamic if we consider scientific, didactic achievements as well as cooperation of the university with economic in practice, especially with ship industry and marine market. Unfortunately, the policy of supervising scientific development in a communist country was blocking its potential (it was claimed that the whole science should be subordinated to spreading communism) and was stopped by the period of social-political transformation which took place in the 80ties. Economic transformation of the 90ties ultimately leveled most representatives of this approach. Unfortunately, “there was too much dirty politics, people’s weaknesses, ideology and secret services” (Jaroszyński, 2010) which has been documented in the archives of The Institute of National Remembrance (IPN).

The dynamic, innovation and entrepreneurship were very impressive in the 70ties, although the state was the main owner. Information technologies were created, implemented and used with success at university as well as in economy. There was also the possibility of confronting homemade IT solutions with the ones from the East as well as with the leading western countries (the cooperation with ICL was especially

¹ Word „cybernetics” derives from Greek “Kybernetikos” – steering. Cybernetics according to O. Lange is: „The science devoted to the structure of elements connected by mutual relations of reciprocal impact in an abstract way” (p.23). „Economic cybernetics, which uses a notion device and the methods of general cybernetics (...) works out specific methods of analysis and synthesis of social-economic systems. The idea of its specification is treating the process of production, exchange and consumption as social processes which is the difference between economic cybernetics, technical cybernetics and many „branch cybernetics”, p.280 (Flakiewicz, 1989).

fruitful). We experienced genuine increase and development, although it is a fact that there were many “illusions of development” cherished by “the instrument of propaganda and censorship”. It is worth diagnosing why the present situation is so far from the former level and identifying the causes to attempt to amend this dissatisfying state.

2. Step by step

The authors done research in the 80ties and 90ties and continued their work in the field of electronic data processing focusing on technologies and methodological aspects of IT revolution. In the country we were chasing global changes with difficulty, but from the perspective of pioneer initiatives we accompanied consecutive breakthroughs. The only surprising thing was the prolonging effect of moving from pioneer solutions (the prototype and pilot ones) to the common ones. In the area of making ICT innovations more popular (in the context of national social-economic life scale) they had a shallow character of novelties and curiosities. In the “cogs” of consecutive massive potential invisible “sand” appeared and wasted previous achievements and eliminated possibilities of achieving expected social-economic transformations. The financial means were not big enough to pay for costly innovations. Nevertheless this simple explanation was less and less credible while observing further failures in the sense of benefiting from prepared and implemented IT undertakings.

The stagnation in the development of ICT technology and its usage in Polish social-economic practice in the last two decades of XX century inspired the authors to look for causes and considerations. Step by step they had been discovering factors combining the phenomenon of “slowing down” in entrepreneurship in ICT sector and innovating usage of ICT in other areas of social-economic life. On one hand they had very poor conditions to do research, on the other hand they had huge potential instrumentarium of “economic cybernetics and IT”. The partial results of author’s research were regularly published during the first decade of XXI century (2-4 short articles every year). The analysis and observation done from micro and macroeconomic perspective exposed “illusion of development” step by step until the technological decline in Poland became obvious and proved the deepening economic backwardness.

3. Time for conclusion from the perspective of e-commerce entrepreneurship

Until now the authors haven’t worked out the results of their observations from the perspective of national situation of e-commerce development. Unfortunately this perspective processes according to the script described before. Obviously e-commerce develops in Poland in a fascinating way. From the scientific point of view the meaning of e-commerce has changed over the last 30 years. In the 80ties and 90ties in Poland EDI technology (Electronic Data Interchange) was developing in a dynamic way, especially at the University in Łódź and in the branch of car industry in the B2B context. There were thematic scientific conferences and trainings, there were non profit associates (NGO) and commercial organizations. The growth and acceptance of credit cards in the 1990s (B2C) were also forms of e-commerce (former in B2B context). The Internet became popular worldwide around 1995 when the first Internet online shopping started. By the end of 2000, many Polish business companies offered their services via the World Wide

Web (especially in SME, as well as many new-established private micro-enterprises)². In 2005 media in Poland celebrated Internet commerce boom “Polish e-commerce impresses with its pace of growth. Only in 2004 online shops tripled their turnover reaching the level of billion Polish zlotys. It is more than they had made between 1999 and 2002”. GEMIUS money.pl stated (Rabij, 2005) at that time that the value of e-commerce market reached: 48 mln zł in 2001, 152 mln zł in 2002, 328 mln zł in 2003, 921 mln zł in 2004. It also pointed out the percentage of Polish Internet-users doing e-shoppings of 42,3%. It is worth underlining the immense social interest of Poles in auctions³, the success of allegro service is especially noticeable (as well as swistak and others)⁴.

Polish entrepreneurship in this field is positive and uplifting. It is likely that conference publications will show the full view of this reality. So it is worth focusing on “brakes” of this phenomenon, the causes limiting achieving expected benefits from undeniably innovating new entrepreneurship which proves that its potential is immense.

The most synthetic conclusion of research experience of the authors can be presented by using a model prepared by GEM consortium (Global Entrepreneurship Monitor). GEM is the world’s leading research consortium dedicated to understanding the relationship between entrepreneurship and national economic development. GEM has already published 11 annual reports from their monitoring. In the last report (Bosma, 2010) it published a model which specifies the intentions of accepted methodology on a very high level of abstraction, presented in the picture 1.

The 11th report of the GEM series focuses on the impact of the recession on entrepreneurship and the extent to which entrepreneurship can help to reverse a downward economic trend. Also included are: 1) a special report on global perspectives of social entrepreneurship; 2) an analysis of the impact of the recession on funding to support new businesses; and 3) updates on entrepreneurial attitudes and perceptions, entrepreneurial activity, and entrepreneurial aspirations are also included.

GEM report contains the analysis of current situations in 54 countries from all over the world, unfortunately Poland is not included. Nevertheless it is an essential source of verification of over 10-year-old research done by the authors which identifies and explains the relationship between new entrepreneurship and national economic development in Poland. The authors, similar to GEM, planned a broad social, cultural and political context and used similar to 19 (see Picture 1) sources of data (of course

² These interpretations are commonly accepted: electronic commerce (e-commerce) means promotion and sales of goods and services as well as concluding commerce agreements. It involves transactions done by nets based on IP protocol and other computer nets as well as by using the standard of electronic data exchange EDI (Rozkruta, 2010).

³ eBay is one point of view: founded by computer programmer Pierre Omidyar as AuctionWeb (1995), eBay acquires PayPal for \$1.5 billion (2002).

⁴ Monitoring of on-line auctions for 4 biggest services in Poland (allegro.pl, swistak.pl, ebay.pl, kiermasz.pl) was prepared by www.aukcjepl.info since 2001. The ranking of services (present state from 21.06.2010) states: in the order of quantity – 91.76%, 6.24%, 1.95%, 0.05%, in order of value (in mln zł) – 7.4, 0.5, 0.156, 0.004.

concerning only one country – Poland). Nevertheless the authors think it lacks perfection and the classification of countries is insufficient, especially when detailed analysis of situation in Poland is taken under consideration. The countries in GEM report are grouped into three stages of economic development as defined by the World Economic Forum’s Global Competitiveness Report: factor-driven, efficiency-driven and innovation-driven. This classification in phases of economic development is based on the level of GDP per capita and the extent to which countries are factor-driven in terms of the shares of primary goods export compared to total export.

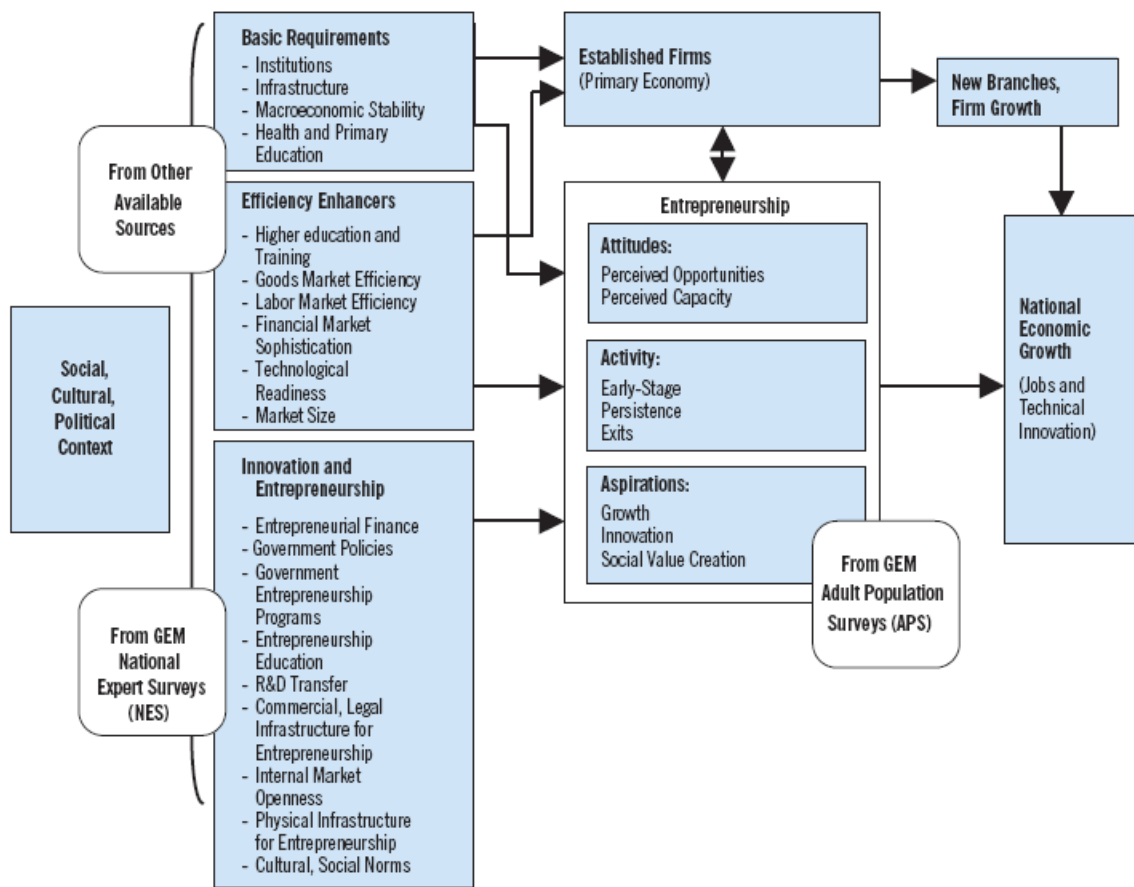


Figure 1: The GEM Model
 Source: N.Bosma, J.Levie, *Global Entrepreneurship Monitor. 2009 Executive Report*, Global Entrepreneurship Research Association, 2010, p. 12

4. Illusion and decline

The detailed research done by the authors was devoted to instrumentarium oriented for the holistic direction of “economic cybernetics and IT”. The first stage of summary had an authorial model published in 2007 (Sala, 2007, 2009), however it had to be verified because the phenomenon of “grey zone” in Polish economy had to be taken into consideration (Sala, 2010) as well as thanks to very detailed macroeconomic analysis of the 20th century in Poland (Śliwiński, 2010). The notions such as “illusion of

development” and “technological decline” were defined and precisely justified by their author. Both notions fully present the conclusions discovered by the authors, although they were achieved by using completely different instrument which is neoclassic “economic theory of development”. Considering the cases which took place in Polish economy according to ‘the function of production’ category and using three factors (work, capital and technological development) clearly showed the significance and the situation and urgent need to make changes.

It is clear that the most serious danger is “the illusion of development” which has been operating in Poland for more than 20 years and, as a result, the factors of growth presented in the media which are chosen in a tedious way, preferring the National Gross Product and hiding the faults of this measure, there is no account of Polish National Gross Product since 1990 (and, as a result, no account for National Income⁵). Detailed analysis shows clearly that the decline from the 80ties in Poland was not overcome, it still exists and, what is more, it is deepening.

The part of material prepared by Prof. A. Śliwiński is titled “technological decline” and presents key macroeconomic proof of the lack of technological development in Poland. So if there are any cases of technological development from the macroeconomic perspective, they are only exceptions which confirm the rule. There are few aspects but the dynamic of investments, which is the notion of new investments, is crucial. This analysis underlines “outrageous manipulating with the notion of investment which tendentiously overestimates the dynamics of investment in Poland”.

Unbelievable deformation of the definition of investment took place at the beginning of the 90ties, then in 1995. Immense amounts were added, and they still are. They don’t create the capital, so the picture of investment dynamic in 1990-2008 was made up and for that reason “investments cannot be the notion of technological development because they were not credible enough to make necessary structural changes”. We know indicators which are really unreliable such as the number of patented discoveries in a country, the number of national licenses sold abroad, the level of using fixed assets, mostly machines and appliances. “Moreover, there is an immense “brain drain” by other countries which is influenced by unstoppable liquidation of Polish research-scientific centers and hopeless conditions of scientific and material promotion”⁶. So, “in the span of 20 years Poland has lost the most of its scientific-technical potential. Its economy hasn’t become more modern after connection with foreign markets which was foretold by “the reformers”. On the contrary, it reached a technological decline which will be very difficult to overcome” (Śliwiński, 2010, part 3, p.4).

The authors spare here the conclusions connected to macroeconomic analysis of the work because they have devoted few earlier and detailed materials to this matter from the perspective of the development of Polish academic staff for the informative and

⁵“in the publications of international statistic institutions National Income vanishes because it is not measured in a way which is used all over the world. Only two countries avoid making their in public: Poland and Hungary” (Śliwiński, 2010, part.4, p.27)

⁶“The essence of the problem is that foreign capital doesn’t generate the need for Polish technical achievements” and “the intellectual market” has been dying for over thirty years and there won’t be nothing left soon (Śliwiński, 2010, part.3, p.18, p.22).

knowledge society. Prof. A. Śliwiński exposed even more wide aspect of political economy considering the factor of employment. So the theory of economic development shows the illusion of development and for that reason in Poland “more attention should be paid to the idea of economic drawback and the influence of global phenomena (also economic crisis)” (Śliwiński, 2010, part 5, p.4).

5. Confirmation – the results of research

It is obvious that modern enterprises use IT technologies while connecting with the clients by opening Internet services to offer electronic commerce (e-purchases and e-sales). The electronic form can make the income bigger. It helps to increase the share in the market and make the brand of a product more popular. Unfortunately, except for the connection to the Internet and the habit of making purchases in the traditional way as well as lack of trust in the security of paying on-line, the problem of scale of this phenomena estimated from the macro and microeconomic perspective is the barrier in developing e-commerce.

In 2008, according to the report made by GUS, over 11 000 of companies operating in Poland made orders via the Internet (e-purchases), which is 24% less than in 2007. This form of purchase was used by big companies (29%), then by medium (17,1%) and small (10,2%)⁷. The comparison of % share of e-purchases (11,9%) and e-sales (7,1%) in general (pic. 2) done by Polish enterprises in 2007 and 2008 shows that the interest in e-purchases is bigger. The % share of enterprises using e-sales increased in 2008 by 10,9 (big companies), 7,1% (medium) and 2% (small) and e-sales was used by less companies than in 2007⁸.

⁷ They were IT companies – 56%, radio and television 21%. The share of enterprises in different regions of Poland is uneven because in most cases the companies from specific voivodeships were making purchases via the Internet – Opole Voivodeship – 17%, Mazovian Voivodeship – 15%, and this type of purchasing was rarely chosen by companies from Warmia and Masuria – 9% and Subcarpathian Voivodeship – 9%.

⁸ According to the authors who prepared the material for GUS from 2008, IT companies (12%) and hotels (11%) use e-sales most often. This form is seldom used by construction building companies – 1%. According to EUTOSTAT in the EU-27 countries in 2008 the more active on-line sellers were tourism companies – 36-41% and the IT companies reached the level of 19%.

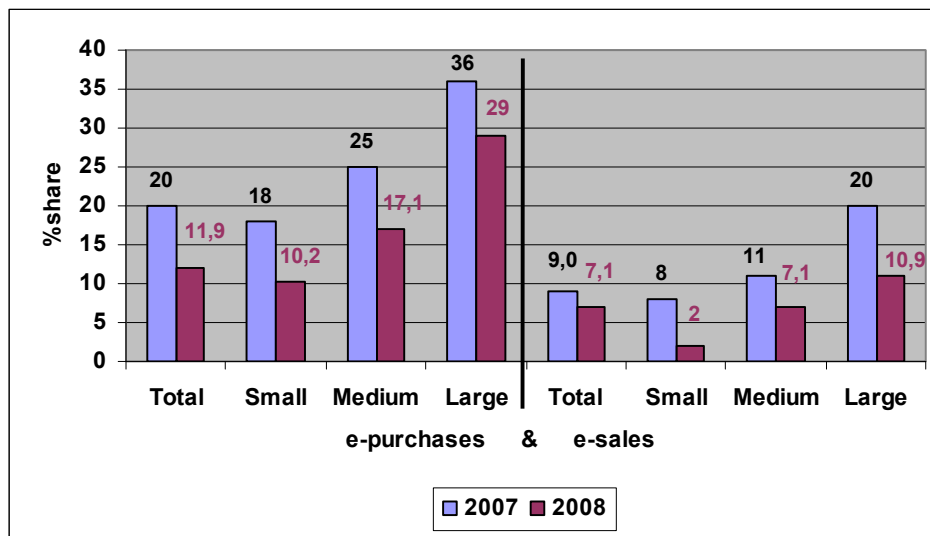


Figure 2: The comparison of e-purchases and e-sales performed by Polish companies in 2007-2008 according to their size.
 Source: Own research based on Tkaczyk, 2007 and Rozkruta, 2010.

E-sales can be done in different ways. Quite often it is done by static internet services which present what company offers and enable to make an order. Some entrepreneurs use more dynamic WWW services which allow to pay on-line. An additional feature is more complex system – interactive graphic interface which enables a good connection with the client. EUTOSTAT presents similar tendency (European business, 2009) of the percentage of the share of small, medium and big enterprises, however the scale for Poland and the EU-27 countries is significantly lower while considering e-purchases and e-sales (picture 3).

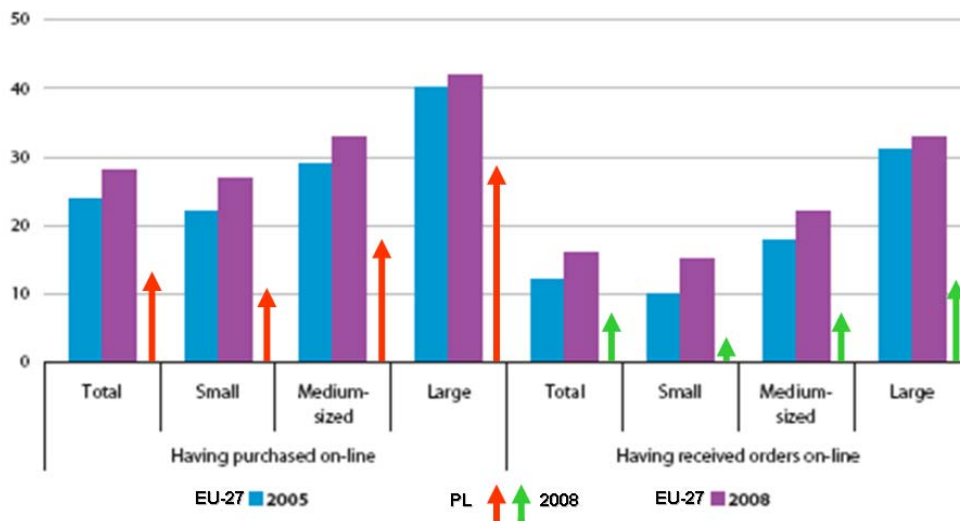


Figure 3: Proportion of enterprises purchasing and selling on-line, EU-27 & PL (%)
 Source: Own research based on Rozkruta, 2010 and European business (2009).

The phenomenon of e-purchases and e-sales decreased (pic.2) in 2008 compared to 2007 is identified among other things with the outsourcing of services by the analytics but these are not correct diagnosis. Moreover, it should be underlined that at present big companies operating in Poland use mostly foreign capital so the scale of national initiative is even smaller.

The comparison of net amount of e-purchases and e-sales in 2007 and 2008 (pic. 5) shows the growing tendency in the case of purchases done by the Internet. In the case of e-sales however, there was an increase of net amount in small and large enterprises but net amount in general was smaller in 2008 than in 2007.

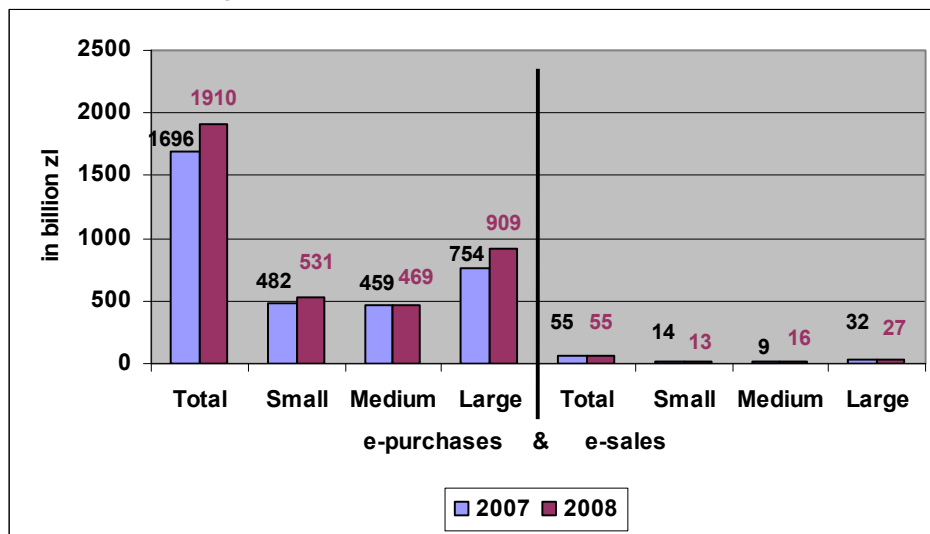


Figure: 5 Net amount of e-purchases & e-sales
 Source: Own research based on Tkaczyk, 2007 and Rozkruta, 2010.

6. Conclusion

According to the analysis neither “new” nor “old” economy will develop without proper economic, institutional, regulating changes as well as the social and cultural ones. Unfortunately the transformation⁹ of the 20th century in Poland was an illusion of development and we can cite our Polish poet, Zbigniew Herbert: “our society will stop in an “semantic collapse”, such state of mind in which our knowledge of things, values, ideals will still be devastated and sustained on purpose by most media” (Reszczyński, 2010). These words haven’t lost their validity. To sum up, we should take up actions which use new IT technologies to add values to the development of new economics – new economy.

⁹ It seems that when analyzing the transformation in Poland we shouldn’t spare abuses such as economic swindles. On the list of sociologists from the University of Mikołaj Kopernik in Toruń there are over 100 cases from the 20th century. Estimating financial

References

- Bosma N., Levie J. (2010). Global Entrepreneurship Monitor. 2009 Executive Report, Global Entrepreneurship Research Association, p.12.
- Flakiewicz W., Oleński J. (1989). Cybernetyka, PWE, Warszawa, p.23, p.280.
- Jaroszyński P. (2010). Kariera naukowa ręcznie sterowana (Scientific career steered by hand), Nasz dziennik, Nr 10 (3636).
- Rabij M. (2005). Jeśli marzysz o własnym interesie, wejdź do sieci (If you dream about your own business, enter the net). Newsweek nr 45, p.50-52.
- Reszczyński W. (2010). W dewastacji semantycznej (In semantic devastation), Autonomic essay, Nasz dziennik, Nr 17 (3643).
- Rozkruta D. (2010). Społeczeństwo informacyjne w Polsce. Wyniki badań statystycznych z lat 2004-2008, GUS, Warszawa 2010, p.47-49.
- Sala J., Tańska H. (2007). Kierunki przemian społeczno-gospodarczych w Polsce na przełomie XX i XXI wieku, (in:) H. Babis, G. Wolska (ed.), Przeobrażenia na rynku łączności i kierunki jego rozwoju, Zeszyty naukowe, Wydawnictwo Naukowe Uniwersytetu Szczecińskiego, Szczecin, p. 85-93.
- Sala J., Tańska H. (2009). Information Management Tools. Experiences of Generations of Designers, (in:) B.Kubiak, A.Korowicki (ed.), Information Management, Gdansk University Press, Gdansk, p. 368-374.
- Sala J., Tańska H. (2010). Modele referencyjne a „szara strefa”, (in:) Mosdorf R., Siemieniuk N. (ed.) Zastosowanie technologii informacyjnych w zarządzaniu wiedzą i procesami gospodarczymi. Białystok 2010, p. 261-270.
- Śliwinski A. (2010). Polska po dwudziestu latach. Raport społeczno-gospodarczy, Europejski Monitor Ekonomiczny, http://www.monitorekonomiczny.pl/s17/Artyku%C5%82y/a88/Polska_po_dwudzies_tu_latach_Raport_spo%C5%82eczno-gospodarczy.html , Warszawa, part.3, p.4,18,22; part.4, p.26, 27; part 5, p.4.
- Tkaczyk W. (2008). Społeczeństwo informacyjne w Polsce. Wyniki badań statystycznych z lat 2004-2006, GUS, Warszawa 2008, p.85-94.
- Tunia P. (2010). Najwięksi aferzyści unikają kary (The ultimate swindlers are being let off), Nasz dziennik, Nr 17 (3643).
- European business (2009). Facts and figures, Statistical Books, EUROSTAT EC, 2009, http://ec.europa.eu/eurostat/KS-BW-09-001_EN.pdf , p.17

lost is very difficult and the courts over the procedure only by 30%. The examples of swindles are: FOZZ, Art.-B, Bogatina, privatization (Tunia, 2010).