

New Economy – an analysis of the competitiveness related to education of students and managers

Nová ekonomika – diagnostika konkurencieschopnosti vo vzdelávaní študentov a agromanažérov

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Abstract: New Economy deals with competitiveness analysed by international comparative advantage of commodity and regional trade. According to New Economy we are forced to quantify the contribution of tradable goods and services into international competitiveness. New Economy shifts the current national competitiveness into a higher comparative advantage of comparable commodities of the world competitiveness. The methodology of calculation of domestic inputs and outputs is expanded by inputs and outputs of the comparable countries, integrated territories or also international agro-commodity trade.

Key words: New Economy, competitiveness, comparative advantage, indexes RCA, RCA I, RCA II

Abstrakt: Nová ekonomika predstavuje konkurencieschopnosť diagnostikovanú aj medzinárodnou komparatívnou výhodou komoditného a regionálneho obchodu. Nová ekonomika nás núti kvantifikovane objektivizovať vstup obchodovateľného tovaru a služieb do medzinárodnej konkurencieschopnosti. Nová ekonomika posúva doterajšiu národnú konkurencieschopnosť do vyššej komparatívnej výhody porovnateľných komodít svetovej konkurencieschopnosti. Metodológia výpočtu domácich vstupov a výstupov sa rozširuje o vstupy a výstupy komparovaných krajín, integračných teritórií alebo i medzinárodného obchodu agrokomodít.

Kľúčové slová: nová ekonomika, konkurencieschopnosť, komparatívna výhoda, ukazovatele RCA, RCA I, RCA II

INTRODUCTION

New Economy must have a place in the curricula of agricultural trade specialization. E-economics has a new feature formed by information and communication technology (ICT), competitiveness, expansion of globalisation, and permanent structural changes. Education of students and agricultural managers must be oriented in a more general fashion taking into account the attributes of New Economy.

The New Economy is an aggregation of information, internet, network and digital economics, it is more than a reformed economic policy. The former national economy, regional and local economy expands into a global economy – into global economics. The current preferred division of labour and too much propagated narrow specialisation of education, production, trade is significantly integrated to chains, in the expectation of added value in each of their component. The New Economy is oriented on lifelong education in different areas and disagrees with a one-sided and specialised education. International competitiveness means that a country is capable to penetrate with goods and services into foreign and world markets and in this space, to achieve comparative advantages.

MATERIAL AND METHODS

Problems of world competitiveness indexes – *Information Society Index (ISI)* takes into account education of students and agricultural managers, with specialisation on national economy, sectors of economy and with the possibility to use it also in educational and advisory institutions, *World Competitiveness Index (WCI)*, *Growth Competitiveness Index (GCI)*, *Microeconomic Competitiveness Index (MCI)*, *Index of Business Environment (IPP)* and innovated indexes – *Rate of Comparative Advantages and Specialisation (RCA, RCA I, RCA II, DRC I, DRC II, Michalek index, etc.)*.

The publication activity with the orientation on theoretical aspects of NEW ECONOMY AND COMPETITIVENESS is presented by Jeníček (2000, 2004), Koski-Rouvinen (2002), on NEW ECONOMY particularly by Rouvinen (2001), in world and international trade by Podolák (2004), Podolák, Serenčák (2003), in electronic trade Vokorokosová (2002), comparative advantages of agro-trade is monitored by Matošková (2003), while Božík (1998) deal with the competitiveness of agricultural producers in the SR.

We analyse the competitiveness of the SR with indexes of comparative advantages because a long-run low ef-

fectiveness of foreign trade and agro-trade of the SR is the reflection of high imports of industrial and foodstuff materials and often also of imports of foodstuff with a high added value. Slovak competitiveness is practically maintained by using cost and price competitiveness (low salaries, low prices, less sophisticated products) and this can create trade and production risks for the SR after the accession into the EU.

Rate of Comparative Advantages RCA

$$RCA = \ln(x/m)/(X/M)$$

x = value of commodities export,

m = value of commodities import,

X = value of aggregate export (of agro-trade),

M = value of aggregate import (of agro-trade)

New Economy – *e Economy* – in its content means quantified competitiveness, shown by *electronic competitiveness* particularly in the area of international and foreign trade payments and settlements. The existing comparative advantage of commodity trade (RCA) shifts from national to worldwide competitiveness through the following methodology:

Growth Competitiveness Index

$$RCA_1 = \frac{(X_{ij})}{X_i} / \frac{(X_{..j})}{X_{..}}$$

X_{ij} = export of country “ i ” in the commodity group “ j ”

X_i = aggregate export of country “ i ”

$X_{..j}$ = world export in the commodity group “ j ”

$X_{..}$ = aggregate world export

The equation compares the rate of certain country exports in the given commodity group with the given country aggregate export share in aggregate world exports.

RCA_1 is > 1 indicates that in the country, there exist unintended comparative advantages by exporting commodities from the particular commodity group.

Index of clear trade efficiency

$$RCA_2 = \frac{(X_{ij} - M_{ij})}{X_{ij} + K_{ij}}$$

X_{ij} = export of country “ i ” in the commodity group “ j ”

M_{ij} = import of country “ i ” in the commodity group “ j ”

This index is used for net trade efficiency evaluation of a certain country. Index values are in the following range:

from -1 , when there is no export (points from comparative disadvantages)

to $+1$, when there is no import (shows comparative advantages).

New Economy thus relative to the past enriches the methodological quantification and analysis of competi-

tiveness with respect to the globalisation of world economy.

RESULTS AND DISCUSSION

The analysis of competitiveness and comparative advantage in agro-trade becomes the priority in the end should be reflected in educational process about New Economy. In the international trade policy, we emphasise the dynamism of commodity and territorial foreign agro-trade as a basic assumption for creating competitive advantage.

In the actual global trade development, it is necessary to identify more exactly competitiveness and competitive advantage. The competitiveness theory “as a tendency of trade development” uses many indexes of comparative advantages “as a result of quantification” in the commodity and territorial trade development.

Index RCA (Jeníček 2000) enables to analyse international competitiveness for specific branches, but most of all it is applied to national trade competitiveness of the formulation of comparative advantages of the commodity and territorial trade. New Economy and new theory of international trade creates a new point of view on the competitiveness and comparative advantage theory (Vokorokošová 2003), which is augmented by the country speculations rate in the export and about the indexes of comparative advantages (RCA I, RCA II) and world competitiveness. There are also many problems and complications with the definition of these concepts. E.g. in the group “fresh food”, the SR achieved in the year 2002 world the market value of specialisation index 0.37 and 152nd place of all countries.

Quantification of *agro-commodities comparative advantage* “RCA” was monitored by the VÚEPP (Matošková 2003) with the significant comparative advantage of the commodities: molasses, malt, milk and milk products, grain, mill products and live animals. Comparative disadvantage is mostly in the following commodities: meat products, fishes, vegetable products, fruit, products of grain, etc.

Objectivity of the comparative advantage calculation – RCA is marked by a lot of imperfections, e.g. disparity between export and import capabilities, methodologically the index of calculation respects so called national inputs and outputs, a more significant comparative advantage was obtained by secondary products (molasses, reeds) and not by the main products (sugar, corn), etc.

Commodity comparative advantage of agro-commodities was changed markedly by the territory trade orientation. E.g. we achieved permanent comparative advantage with the CEFTA countries and from the EU countries just in agro-trade with Austria, Belgium and with Sweden. The highest comparative disadvantage was reached in the trade with Ireland, Spain, Greece and with Denmark (Table 1).

A more objective quantification of international competitiveness is achieved through *index of comparative*

advantage *RCA I* and through index of clear trade efficiency *RCA II*. For key commodities (Table 2), we quantify the comparative advantage *RCA* of the national commodity trade of the SR in the year 2002 and through complex indexes *RCA I* and *RCA II*, we quantify competitiveness of the SR in international trade with selected countries.

From the achieved results, we conclude that values of the indexes *RCA* mean comparative advantage and internal commodity competitiveness of Slovak grains (*RCA*

0.72) for Slovak malt (4.09), for milk (1.30), etc. The mentioned quantification is presented in the Green Report and is used in further policy decisions.

The calculation methodology of the indicator *RCA I* contains national and international inputs and outputs, indicates uncovered comparative advantages by the export of commodity groups (e.g. malt of the SR) to commodity group "malt" in other countries. Results in the year 2002 imply competitiveness and trade comparative advantages for Slovak malt export, for grain products, milk and milk products and for sugar.

The results of the indicator *RCA II* signalise exposed comparative advantages and competitiveness of the SR in net trade efficiency for grain products, malt, milk and for milk products. The commodities manifesting mainly exposed comparative disadvantages of the SR: meat-live animals.

CONCLUSION

With accession of the SR into the EU (May 2004), the territorial orientation of agro-trade of the SR changes considerably. The internal EU market for Slovakia absorbs over 90% of our exports, 85% of imports comes from the EU while the EU has 85% share in the negative trade balance of agricultural trade in the SR. We expect that the common market will influence our competitiveness and formation of competitive environment taking into account the attributes of New Economy.

REFERENCES

- Božík M. (2000): Konkurencieschopnosť a dôsledky vstupu do EÚ na Slovenský poľnohospodársky sektor. *Zemědělská ekonomika*, 46 (2): 59–67.
- Jeníček V. (2000): Konkurencieschopnosť. *Zemědělská ekonomika*, 46 (4): 181–190.
- Jeníček V. (2004): Economic growth and new economy. *Agricultural Economics – Czech*, 50 (1): 1–8.
- Koski H., Rouvinen P. (2001): The End of New Economy. *Taloustieto Oy Helsinki*.

Table 1. Comparative advantage in territorial agro-trade of the SR

	2000	2001	2002	2003
EU	−0.57	−0.37	−0.43	−0.37
Belgium	−0.03	0.40	0.70	0.56
Denmark	−0.94	−1.50	−1.53	−1.63
Finland	−1.47	−1.83	−1.22	1.13
France	−1.36	−1.11	−1.32	−0.64
Greece	−1.47	−2.12	−1.60	−1.82
Netherlands	−0.08	−0.34	−0.79	−0.59
Ireland	−5.53		−5.23	−3.59
Luxembourg		1.78		
Germany	−0.16	−0.34	−0.52	−0.30
Portugal		2.35	−1.61	−1.75
Austria	−0.13	0.07	0.40	0.12
Spain	−3.18	−3.17	−2.35	−2.37
Sweden	1.32	1.72	1.68	1.29
Italy	−0.57	−0.76	−0.67	−0.43
Great Britain	−0.70	−0.18	−0.21	−0.95
CEFTA	0.39	0.32	0.35	0.45
Czech Republic	0.23	0.13	0.17	0.30
Hungary	0.54	0.33	0.71	0.70
Poland	0.81	1.01	0.72	0.65
Romania	2.08	2.53	2.46	2.58
Slovenia	1.22	1.60	1.33	1.74
Bulgaria	1.85	1.37	0.24	1.18

Source: Custom Statistics, own calculation

Table 2. National and international competitiveness (2002)

	RCA SR	RCA I.				RCA II.			
		Hungary	France	USA	SR	Hungary	France	USA	SR
Grains	0.72	23.246	18.093	31.206	6.626	0.858	0.767	0.837	0.000
Products of grains	−0.62	6.629	16.915	9.92	43.631	−0.164	0.092	−0.117	0.050
Malt	4.09	19.659	34.285	2.581	293.772	0.733	0.954	−0.217	0.950
Sugar	0.21	4.327	23.297	0.627	16.483	0.417	0.662	−0.830	−0.103
Milk and milk products	1.30	7.475	22.546	3.225	29.595	0.44	0.358	0.327	0.292
Meat (live animals)	0.87	33.597	11.689	17.081	3.422	0.741	0.053	0.222	−0.633

Source: FAOSTAT, own calculation

- Matušková D. (2003): Monitorovanie vývoja trhov krajín CEFTA. VÚEPP Bratislava, 32 p.; ISBN 80-8058-294-7.
- Podolák A. (2004): Vzdelávanie k novej ekonomike. SME Bratislava, 8 p.
- Podolák A., Serenčes R. (2003): Postavenie agrokomodit v medzinárodnom obchode. *Agricultural Economics – Czech*, 49 (8): 391–395.
- Pokrivčák J., Bielik P. (2001): Selected problems of restructuring and transforming of agriculture. *Zemědělská ekonomika*, 47 (8): 356–360.
- Rouvinen P. (2002): Competitiveness in the new Economy. Research Institute of the Finnish Economy. Helsinki; ISSN 0781-6847.
- Vokorokošová R., Čarnický S. (2003): Komparatívne a konkurenčné výhody Slovenska. *Ekonomický časopis EU Bratislava*, 51 (9): 1065–1076.
- Svetové ekonomické fórum: Správa o globálnej konkurencieschopnosti, www.weforum.org

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