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existujúcej zásobovacej politiky. Nakoniec sa venuje pozornosť systému *JIT* a jeho implementácie do *EOQ* prostredia.

Kľúčové slová: zásobovací proces, plánovanie požiadaviek materiálu, nedostatok zásob, systém *JIT*

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WORLD NON-AGRICULTURAL AND AGRICULTURAL TRADE

SVETOVÝ OBCHOD S NEPOLNOHOSPODÁRSKYMÍ A POLNOHOSPODÁRSKYMÍ KOMODITAMI

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The work analyses agricultural and non-agricultural world trade, terms of trade, world agricultural process and world agricultural export.

Key words: world trade, agricultural trade, export flows, prices of commodities, terms of trade

Trade has been a common activity since the stone age. From exchanging animal furs for grain to the development of currencies and the first bonds in the Middle Ages, exchanges have increased throughout history along with transportation improvements. Since the Industrial Revolution, trade development has gained a new impetus. From 1720 to 1971, world trade increased 460 times or by 2.7% annually.

Over 1948 - 1997, trade grew at an annual rate of 6 % while world production only increased at 3.7% per annum. The ratio of imports and exports to GDP in developed and developing countries increased from 17% to 24% and from 23% to 38% respectively between 1985 and 1997. Trade also increased at a faster annual average rate than the world economy. The latter grew annually at a rate of 3.1% and 2% during 1980 - 1990 and 1990 - 1995 respectively while trade increased by 5.3% and 6.8% over the same periods. The increase in trade has been accompanied by a shift from bulk commodities to more processed commodities, which have a greater share of value-added.

There are several reasons for explaining this increasing trend:

- One reason commonly put forward to explain a dramatic increase in trade is the extraordinary breakthroughs which occurred in transport, communication and informa-

tion technologies. New technologies made trading easier and reduced considerably trading costs. For example, between 1930 and 1960 the cost of air transport fell by more than 80% and that of telecommunications by more than 98%. The reduction in costs of computing was comparable between 1960 and 1990;

- This increase is also a result of intense and lengthy negotiations to improve the trading environment. Negotiations have taken place both at the international level (UNCTAD, GATT and later WTO) and the regional level (regional trade agreements). They have facilitated a continual reduction in tariffs between 1976 and 1994 and a progressive reduction in/or elimination of non-tariff barriers to trade.

Efforts have been made and time invested in such negotiations because decision-makers are largely convinced that countries can potentially draw advantages from trade. In order to take an advantage of trade, several countries have recently created regional economic blocs (EU, NAFTA, ASEAN, MERCOSUR, etc.). Within these blocs, trade barriers have been reduced or eliminated, and exchanges have increased.

Figure 1 World trade and industrial production growth rates (1780-1971)
Obrazok 1 Tempo rastu svetového obchodu a priemyselnej výroby v rokoch 1780-1981

(1) priemerný ročný rast v %
Source: W. Rostow. 1978 : The world economy
Prameň: W. Rostow. 1978 : Svetová ekonomika

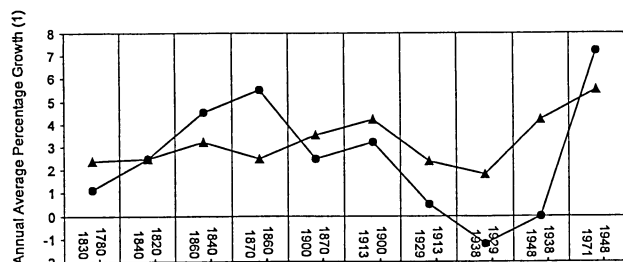
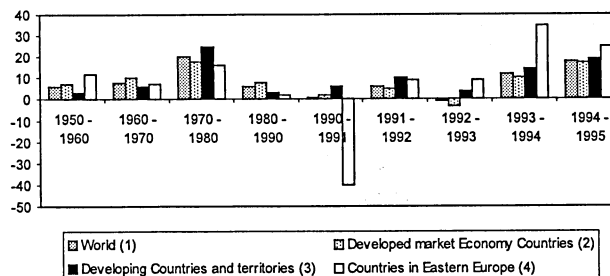


Figure 2 Annual Average Growth of exports and imports (%)
Obrazok 2 Priemerný ročný rast exportu a importu (%)

(1) svet, (2) krajiny s rozvinutou trhovou ekonomikou, (3) rozvíjajúce sa krajiny a teritória, (4) krajiny východnej Európy
Source: Annual report 1998. International Trade Statistics
Prameň: Výročná správa 1998. Medzinárodná obchodná štatistika.



Trade growth was stronger in developing than in developed countries in the 1970 and it has been since 1990. Figure 2 shows this evolution. Even during the world recession of 1992 – 93, developing countries managed to continue increasing their trade while world trade, and particularly trade by developed countries, contracted. In contrast to this relatively good performance of developing countries, the least-developed countries have seen their trade grow slower than world trade and their share in total trade was reduced from about 0.9% in 1980 to below 0.5% in 1995.

World trade flows

Trade between developed countries represents the bulk of international exchange. Trade between USA, Japan, and the EU accounts for around 1/3 of world trade while 1/5 of world trade is among EU members. Asia has seen its share increase since the 1980s.

Africa and Latin America have a much smaller share of trade than other continents. Internal trade within these continents is minimal, their exchanges take place mostly with developed countries.

The establishment of regional economic blocs has brought increased exchanges between neighbouring member countries. Regional blocs facilitate the flow of commodities

among members by reducing trade barriers and increasing a speed and quantity of transactions. This has been especially the case of MERCOSUR in Latin America, ASEAN in East Asia, NAFTA in North America, and the EU in Europe.

Experts disagree on whether the creation of trade blocs is an obstacle to world trade liberalisation or, on the contrary, a stage towards the creation of a freer international market.

Table 1 shows export flows between some major groupings as a percentage of total world exports. The importance of the three main trade poles appears not only with respect to their exchanges with other groups but also in terms of their internal trade flows.

The development of world trade has been accompanied by the establishment of a number of international institutions. At the global level, trade issues have long been discussed at the General Agreement on Tariffs and Trade (GATT) and at the United Nations Conference on Trade and Development (UNCTAD). GATT was created in 1948 to establish the rules of international trade. Within the framework of GATT, a number of negotiation rounds were organised, the last of which, the Uruguay Round, culminated with an agreement that led to the creation on January 1, 1995, of the World Trade Organisation (WTO).

Created in 1964, UNCTAD is the main UN arena for discussing in an integrated manner the problems related to

Table 1 Exports Flows in 1994 as percentage of World Exports

Exports in % of world exports (1)	World (2)	Eastern Europe (3)	Western Europe (4)	North America (5)	Japan (6)	Australia/ New Zealand (7)	Africa (8)	Latin America (9)	Asia (excl. Japan) (10)
Eastern Europe (3)	3.3	1.0	1.5	0.1	0.1	0.0	0.0	0.0	0.3
Western Europe (4)	41.5	1.6	27.8	3.4	0.9	0.3	1.2	1.1	4.0
North America (5)	15.4	0.1	2.8	5.7	1.4	0.3	0.2	2.2	2.6
Japan (6)	9.4	0.0	1.5	3.0	0.0	0.2	0.2	0.4	4.0
Australia/ New Zealand (7)	1.4	0.0	0.2	0.1	0.3	0.1	0.0	0.0	0.5
Africa (8)	2.2	0.0	1.2	0.3	0.1	0.0	0.2	0.0	0.2
Latin America (9)	4.5	0.0	0.8	2.1	0.2	0.0	0.1	0.9	0.3
Asia (excl. Japan) (10)	21.4	0.4	3.5	4.4	2.6	0.3	0.4	0.5	8.8

Tabulka 1 Podiel jednotlivých častí sveta na svetovom exporte (%)

(1) % podiel na svetovom exporte, (2) svet, (3) východná Európa, (4) západná Európa, (5) Severná Amerika, (6) Japonsko, (7) Austrália/Nový Zéland, (8) Afrika, (9) Latinská Amerika, (10) Ázia (s výnimkou Japonska)

Source: UNCTAD, Handbook 1995
Prameň: UNCTAD, Príručka 1995

development, trade, international finance and investment, technology and sustainable development. At the commodity level a number of organisations have been created to regulate markets. The most famous inter-governmental organisation of this type is OPEC, the organisation of oil producing countries.

As far as agriculture is concerned, a number of commodity agreements have been concluded to regulate markets. The objective of these agreements has often been to seek to stabilisation of prices and limit competition by establishing quotas for member countries.

The most important and currently active agricultural commodity agreements are:

- rubber,
- jute and jute products,
- sugar,
- cocoa,
- tropical wood,
- olive oil,
- wheat,
- coffee.

The development of world markets has also been accompanied by the emergence of new mechanisms, such as future markets, which have contributed to the reduction of market fluctuations. Concomitant with rising trade and establishment of these intergovernmental institutions, there has been a major expansion of trans-national corporations. A trans-national corporation is a private profit-making organisation that performs activities of production, distribution, and research in more than one country. Geographical mobility is one of its key features.

Globalisation of the world economy, liberalisation processes, measures to attract foreign direct investment (FDI) into the economies, structural adjustment policies and a decline in international transport and communication costs have been crucial for the spreading of activities of trans-national organizations. These favourable conditions enabled trans-national organisations to grow fast and acquire a prominence in production and international trade. This has helped to increase interdependence of economies. Freer and speedier capital transfers have also contributed to this development. Trans-national corporations are also a way of responding to imperfect international markets where transactions are very costly because of the need for ensuring

the quality of the products purchased and the difficulty to enforce contracts signed with foreign operators.

The WTO estimates that in 1995 1/3 of international trade was conducted by trans-national corporations. This proportion is believed to have reached 40 % today. A large proportion of international exchange by Trans-national takes place inside a given corporation (or between branches of this corporation). Therefore, it does not use the mechanisms of competitive international markets. The prices used in these transactions are often substantially different from market prices and can be used as instrument to transfer income to countries where tax rules are more favourable.

WTO regulations apply to member governments. They do not affect directly decisions that may be taken within a private firm or association. If there is evidence that some trade practices by a trans-national are not in conformity with WTO regulations, it is impossible for a competitor to sue the corporation within WTO. The only claims which can be discussed within WTO are those made by a particular member state with respect to policies implemented by other member states.

A rapidly growing share of international trade is therefore de facto taking place outside the scope of WTO and may not be in conformity with the principles which determine its rules. Some WTO members have already raised this issue - several reports have been prepared by WTO experts - but no decision has yet been taken by the organisation on this important matter.

It is estimated that there are around 40,000 trans-national corporations. The first 500 are large companies and control 70% of world trade as well as 80% of the foreign investments of trans national organisations. It is believed that forty per cent of the world trade is conducted by trans-nationals.

In 1995, 29% of World GDP belonged to the 200 largest trans-national corporations.

These corporations have succeeded in taking a leading position in a number of agricultural commodities: 20 control coffee trade, 6 of them hold 70% of wheat trade, one controls 98 % of the production of packed tea (Source: EFTA, 1998, Anuario de Comercio Justo, 1998-2000).

Evolution of agricultural commodities flows

The value of exports and imports of agricultural commodities increased considerably after 1970. Policy reform implemented

Figure 3 World agriculture imports and exports, 1970-1997
Obrázok 3 Svetový import a export poľnohospodárskych komodít v rokoch 1970-1997
(1) hodnota v miliardách USD, (2) import (hodnota), (3) export (hodnota)
Source: FAO, Statistical Database, 1999
Prameň: FAO, štatistická databáza, 1999

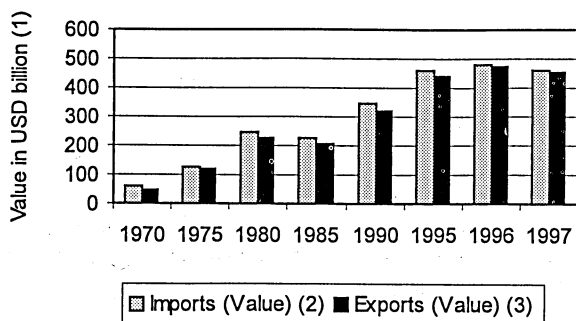
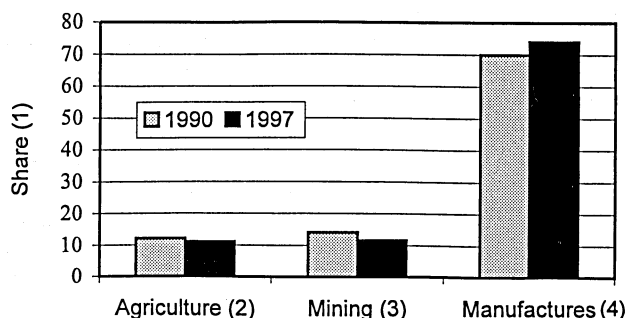


Figure 4 Share of world merchandise exports by sector
Obrázok 4 Podiel výrobkov na svetom exporte podľa sektorov
(1) podiel, (2) poľnohospodárstvo, (3) ťažobný priemysel, (4) výrobné odvetvia
Source: WTO, Annual report 1998
Prameň: WTO, Výročná správa 1998



under Structural Adjustment Programmes supported by the World Bank and the International Monetary Fund can be considered as the main explanation for this trend in developing countries after 1980. The reduction of protectionism, following the signature of various international and regional trade agreements, particularly of Uruguay Round Agreements, is the main explanatory factor in the case of developed countries. Another reason for growth of trade flows is the creation of trade blocs, which resulted in an intensification of agricultural trade among their members. Figure 3 illustrates the evolution of trade of agricultural commodities.

The increase in agricultural trade has been slower than that of manufactured goods and similar to that of mining products. Figure 4 shows how the relative share of agriculture and mining in world merchandise exports decreased in the 1990s. Thus, while the share of agricultural trade decreased by 1.3 percentage points between 1990 and 1997, that of manufactured goods increased by 3.4 percentage points.

This evolution can be in part explained by an increasing proportion of products originating from agriculture that are being traded as processed food or manufactured products. The fact that the Uruguay Round Agreements envisage lower tariff cuts in agriculture than in other sectors may also further reinforce this trend. However, agricultural trade generally grew faster than production, as seen in Figure 5.

There is a great variation among commodities of the output share that is traded. Table 2 provides information on this share for some of the main agricultural commodities, ranked according to the value of the trade to production ratio.

It is worth noticing that nearly all of the 10 most traded agricultural commodities - relatively to their production - are essentially produced by developing countries and represent the main source of foreign exchange for many of these countries. This makes these countries extremely vulnerable to the variations in the markets for these commodities.

The most traded basic food commodity, relative to its production, is vegetable oil. Wheat is the cereal whose trade represents the largest share of total production (approximately 4%). Basically the largest world producers (China, India, etc.) are also its largest consumers.

Not surprisingly, the least traded commodities, relatively to their production, are bulky food commodities such as yam and plantain, and highly perishable commodities like sugar cane.

Evolution of prices of agricultural commodities

A number of developing countries are highly dependent on exports of certain agricultural commodities (e.g. cocoa, coffee, tea or rubber), which constitute a major determinant of income and an important source of foreign exchange. This is particularly true for the least-developed countries for which primary commodities (in particular minerals and tropical agricultural products) make up to 70% of total trade.

Stable and remunerative world prices for these agricultural commodities are essential in order to secure a stable and sufficient income needed by these countries to invest in their development.

As seen in Fig. 6, there was a considerable variation of prices of major agricultural commodities from 1980 to 1998.

Simultaneously, the trend followed by prices of most agricultural commodities has been a dramatic fall with the exception of bananas that performed comparatively well over 1980-1990. The prices of sugar, agricultural raw materials,

Table 2 The most traded agricultural commodities. Percentage of trade to total production, selected years 1961-1996

Products (1)	1961	1970	1980	1990	1996
Cocoa * (2)	108	104	113	128	148
Coffee (3)	60	89	85	91	94
Rubber (4)	107	95	88	81	77
Tobacco (5)	27	26	33	32	57
Veneer Sheets (6)	28	27	32	41	45
Sugar (Raw Equivalent) (7)	58	48	50	40	43
Vegetable Oils (8)	17	21	31	37	40
Tea (9)	52	51	46	42	38
Fish, Seafood (10)	29	34	29	33	36
Cotton, Lint (11)	40	33	35	28	30
Soybeans (12)	16	29	33	24	27
Peas (13)	4	5	7	16	25
Bananas (14)	18	18	19	20	25
Wheat (15)	21	19	23	19	20
Milk, Skimmed (16)	4	11	15	9	15
Bovine Meat (17)	6	8	10	11	12
Poultry Meat (18)	3	3	6	6	12
Cassava (19)	3	6	15	20	10
Pig meat (20)	4	4	5	6	8
Rice (Milled Equivalent) (21)	4	3	5	4	5
Potatoes (22)	1	1	3	4	5
Eggs (23)	4	2	3	3	2
Plantains (24)	0.21	0.36	0.31	0.59	0.46
Yams (25)	0.00	0.04	0.12	0.12	0.08
Sugar Cane (26)	0.02	0.01	0.01	0.01	0.01

Tabuľka 2 Najčastejšie obchodované poľnohospodárske komodity. Percentuálny pomer medzi obchodom a produkciou, 1961-1996

(1) výrobky, (2) kakao, (3) káva, (4) kaučuk, (5) tabak, (6) dýhy, (7) cukor (surový ekvivalent), (8) rastlinné oleje, (9) čaj, (10) ryby, plody mora, (11) odzrená bavlna, (12) sója, (13) hrach, (14) banány, (15) pšenica, (16) odstredené mlieko, (17) hovädzie mäso, (18) hydinové mäso, (19) maniok, (20) bravčové mäso, (21) ryža (mletý ekvivalent), (22) zemiaky, (23) vajcia, (24) múčnaté banány, (25) sladké zemiaky, (26) cukrová trstina

* The case of cocoa illustrates the importance of re-exports of certain commodities. In this case an important share of trade is made of re-exports of cocoa paste and powder by the Netherlands.

* Pripad kakaa poukazuje na význam reexportu komodit. Významný podiel na obchode Holandska má opätovný vývoz kakaa vo forme pasty a prášku. FAO, 1998, Commodity market review - 1997-1998.

Source:
Prameň:

FAO, 1998, Prehľad trhu komodit - 1997-1998

beverage crops, cereals and meat fell by 50 % or more over the same period.

This implied that developing countries specialising in agricultural exports have had to export more to maintain a steady flow of income.

After 1988, this negative trend came to a halt and prices have remained more stable since then.

In order to analyse this global trend, economists use the concept of commodity terms of trade, which is defined as the purchasing capacity of one unit in terms of another.

Figure 5 World Agriculture Merchandise Trade and Output, 1950-1997
Obrázok 5 Svetový obchod a celková produkcia poľnohospodárskych komodít, 1950-1997

(1) priemerná ročná zmena v objeme, (2) obchod, (3) celková produkcia
 Source: WTO, Annual report 1998, International Trade statistics
 Prameň: WTO, Výročná správa 1998, Medzinárodná obchodná štatistika

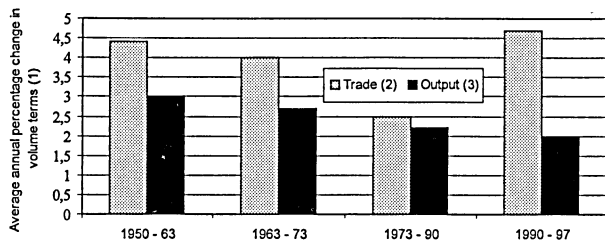
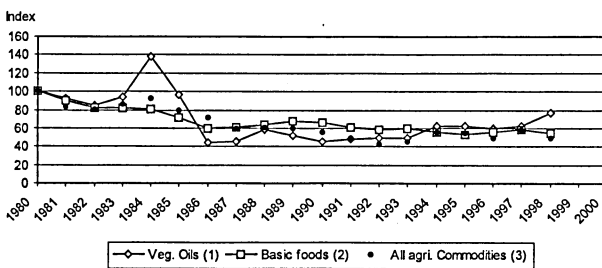


Figure 6 Indices of real prices of agricultural commodities (1980 = 100)
Obrázok 6 Indexy reálnych cien poľnohospodárskych komodít (1980 = 100)

(1) rastlinné oleje, (2) základné potraviny, (3) všetky poľnohospodárske komodity
 Source: Commodities Division, FAO
 Prameň: Divízia komodít, FAO



Terms of trade between manufactured products and agricultural commodities.

By analysing the evolution of the terms of trade between agricultural commodities and manufactured products we obtain information on the capacity for agricultural commodities to be exchanged favourably with manufactured products, i.e. how much can be imported of manufactured products by exporting one unit of agricultural commodity.

Between 1980 and 1998 international prices of agricultural commodities reduced by about 35% while those of manufactured products increased by 40%. The terms of trade between agricultural commodities and manufactured products deteriorated considerably, falling by more than 50% (Fig. 7).

The largest agricultural traders

Developed countries largely dominate the trade of agricultural commodities. Among the 10 largest exporters of agricultural commodities, Brazil is the only developing country. The other nine are among developed countries, of which 6 are EU members. Similarly, the 10 main importers of agricultural commodities are all developed countries.

Consequently, it is clear that most of the trade in agricultural products occurs among developed countries, a major part being intra-EU trade (approximately 1/5 of world agricultural trade). In 1997, intra-EU agricultural exports had a value of US\$ 178 billion. Meanwhile, intra-Asia agricultural trade had a value of only US\$ 30 billions.

Figure 7 Terms of trade between manufactured products and agricultural commodities, 1980-1998

Obrázok 7 Obchodné podmienky výmeny vyrobeného tovaru a poľnohospodárskych komodít, 1980-1998
 (1) všetky poľnohospodárske komodity, (2) vyrobený tovar (index MUV), (3) obchodné podmienky výmeny

Source: UNCTAD, 1999, Handbook of International Trade and Statistics
 Prameň: UNCTAD, 1999, Príručka medzinárodného obchodu a štatistiky

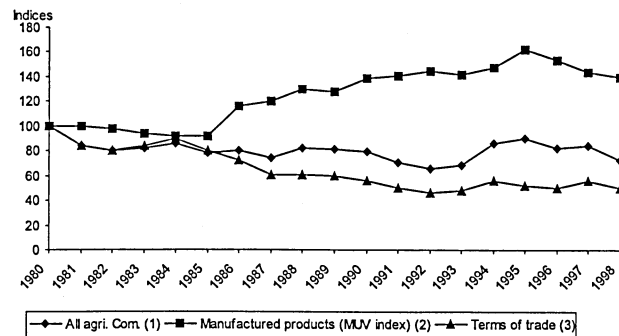
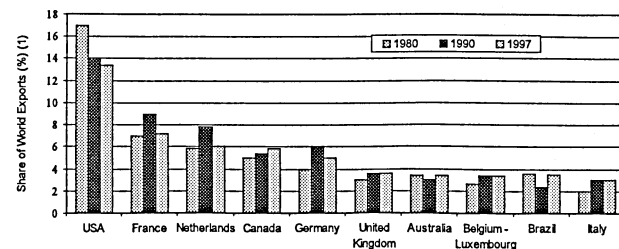


Figure 8 Ten leading exporters of agricultural products, 1980, 1990 and 1997

Obrázok 8 Desiat hlavných vývozcov poľnohospodárskych produktov - 1980, 1990 a 1997

(1) podiel svetového exportu
 Source: WTO, Annual report 1998, International Trade Statistics
 Prameň: WTO, Výročná správa 1998, Medzinárodná obchodná štatistika



Conclusions

There has been a considerable increase in trade flows since the end of World War II. Today about 1/3 of world output is traded internationally. Technological breakthroughs in transport and communication and international agreements leading to more liberal trade policies are some of the reasons explaining this trend. Increased flows of commodities have been accompanied by a rapid growth of capital and, to a lesser extent, technology transfers. Movements of labour, however, have not followed the same trend, because of increasing barriers to the free movement of workers. Despite it has increased, trade among developing countries remains rather small and represents only a minor share of the total world trade. Although trade grew faster during the 1970s and 1990s in developing than in developed countries, the latter are responsible for the bulk of international exchange. Trans-national corporations have been particularly active in trade and have seen their importance grow. In 1998, they accounted for the estimated 40% of the exchanges taking place in the world. Within this context of a

rapid growth of trade, agriculture has lagged behind. In spite of the sustained growth of trade in agricultural commodities, a share of these commodities in world trade has been progressively reduced. This evolution can be in part caused by an increasing proportion of products originating from agriculture which are being traded as processed food or manufactured products. The fact that the Uruguay Agreement envisages lower tariff cuts in agriculture than in other sectors may further reinforce this trend. Developing countries produce a large proportion of the most actively traded agricultural commodities. For many developing countries, these commodities are the major source of foreign exchange. But the prices of agricultural commodities have dropped dramatically between 1980 and 1998, in contrast with an increase in the prices of manufactured goods. The terms of trade between agricultural commodities and manufactured products fell by more than 50% over this period. This may have contributed to a relatively slower increase of trade in agricultural products compared to the products manufactured by other sectors. It has also meant that developing countries dependent on agricultural exports have had to increase their agricultural exports in order to buy the same amount of manufactured products. Forthcoming negotiations under WTO should be an important opportunity for developing countries to improve their market position in order to better capture the advantages of trade liberalisation. For this, they will need to be well informed and organised.

Súhrn

Práca je zameraná na analýzu svetového obchodu s poľnohospodárskymi a priemyselnými výrobkami, obchodné podmienky výmeny tovaru, vývoj v poľnohospodárskom obchode a svetový export poľnohospodárskych komodít.

Kľúčové slová: svetový obchod, agroobchod, export, ceny komodít, obchodné podmienky

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