The role of hedging in the process of globalization

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UDK/UDC: 336.764.21
JEL classification / JEL klasifikacija: G13
Review / Pregledni rad
Received / Primljen: February 23, 2009 / 23. veljače 2009.
Accepted for publishing / Prihvaćeno za tisak: June 15, 2009 / 15. lipnja 2009.

Summary

Future markets are the result of trying to eliminate or reduce risk, i.e. an attempt to avoid instability of prices in international business. Since trading on future markets reduces the risk of business, it significantly increases the scope of trade and number of stakeholders, which logically leads into integration processes.

Economic integrations when regarded as binding, connecting, uniting of business functions or the entire markets are inevitable in all-prevailing trend of globalization which, when regarded economically is the process of involving the company in international business.

Constant alteration of factors in international business results with the fact that existing forms of business relations do not respond to newly arisen conditions, thus permanent changes are necessary. This dynamics of business and market relations generates the increasing degree of business risk to which companies react with strategies aiming to eliminate or reduce the risk.

Futures markets, i.e. stock markets and business exchange are one of the most interesting and the most important segments of international trade. Futures markets offer us the great possibilities for business activities; they enable the realization of speculative operations, as well as hedging operations by which the risks of price increase and decrease are neutralized.

The role of futures markets in the world economy has a huge importance; unfortunately Croatia belongs to those countries which still have not even developed basic financial

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derivatives. On the other hand, we witness the major problems in business activities regarding instability, risk and great market sensitivity.

This paper shows the historical development of future markets and their influence to different sorts and degrees of economic integrations. It demonstrates as well the mutual connection and conditionality of future markets and integrating processes.

Key words: futures market, risk, economic integration, globalization.

1. INTRODUCTION

Trade in futures contracts, especially trading options on futures belongs to the most sophisticated form of trading. That form of trading takes place on futures markets or on stock exchanges.

Generally speaking, futures business relates to the sale and purchase of commodities, securities, foreign currency and similar in a predetermined period of time in which delivery and payment are agreed upon by a specific subsequent deadline. Options stand for financial instruments which grant the buyer the right but not the obligation to perform a transaction in the future.¹

Futures markets have grown as producers and other users of certain commodities tried to avoid the instability of commodity rates. Those are the markets in which instruments derived from basic commodities or securities are exchanged. Hence, there are future markets and options markets.²

The average daily volume of the above mentioned markets is equal to the gross domestic product of France, which says enough about the importance and significance of those markets in the modern world.³ The Croatian share is nonexistent or almost unnoticed in this huge traffic, and there are no tendencies to change this situation.

The current international market is marked by fast technological changes, globalization, deregulation, less obstacles for international investments and integral changes in communication and information exchange. Companies and industries which have until recently been present only on their own national markets (where one monopolist very often ruled, well protected by laws and regulations), are now forced to develop competitive abilities in order to enter the international market and to adjust to modern trends such as: a strong influence of multinational companies, formation of networked companies, creation of strategic alliances and partnerships to enter new markets etc. As a result of these processes and trends a unique world market exists in which only the most efficient competitors will be able to survive. At the same time, there are trends such as globalization, and notions such as global village, global factory, global products (such as Coca Cola, Levi’s

² Foley B.J., „Tržišta kapitala” – Mate d.o.o., Zagreb 1993
³ Gray J., „Lažna zora” – Masmedia, Zagreb 2002
jeans, McDonald's hamburgers etc). However, specific national differences still exist and need to be well understood in order to achieve success in international business.

The story is basically the same for metal industry as well as for car industry, for banking or insurance businesses, for nautical or airline transport. We live in an era of huge transformation of market competition. Companies which used to be leaders in their national markets and were well protected from international competition because of certain obstacles that obstructed the development of international business and investment now have to transform their businesses in the global and much more competitive markets. In order to respond adequately to market challenges, there are two important elements that have to be taken into account. Namely, in order for a subject to react to demand changes on the market it is necessary to have enough time and financial potential. When talking about “protection” on futures markets, first we need to mention one of the four basic strategies of trading – hedging. Hedging represents the process which takes place on a futures market, or more precisely the processes of a trader who strives to eliminate or reduce the risk of loss which can happen due to market instability. It is important to say that hedgers (traders who use hedging) actually use the futures market to protect themselves against the risk of sudden price increase or price reduction, and not for speculative purposes to gain windfall profit.5

2. STRATEGIES OF TRADING ON FUTURES MARKET

Futures markets grew as producers and other users of certain commodities tried to avoid the instability of commodity rates. Simple examples of such techniques could have been seen on the cotton Exchange in Liverpool in the late 18th century: buyers and sellers would agree on a price, quantity and possible delivery date of the commodities while these commodities were still at sea. If the ship entered the harbor by the delivery date and the cargo was of a suitable quality and quantity, the agreement would be performed by payment and takeover of commodities.6

Futures trading gained complete recognition in the middle of the 19th century when the Chicago Board of Trade (CBOT) was founded; after the golden standard and system of fixed exchange rate in 1971, futures trading started to develop unstoppably.

Futures business activities are contracts, i.e. legally binding agreements for sale and purchase, concluded on the floor. Futures dealings are very popular on international exchanges.

Futures are however mostly traded on over the counter markets (OTC) among financial institutions or among financial institutions and their clients. One of the parties in the contract takes the second position and agrees on the purchase of commodities for a specific date in the future and at a futures price. The other party in the futures business takes a short position and accepts to sell certain assets (financial or material) on the same

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date at a futures price. The futures price is a statement of value of delivery of a high grade commodity in a certain place at a specific period in time. All three attributes (quality, place and time) are determined within a futures contract. The only competitive element is the price agreed upon on the floor. Commodities delivered in a different period in time will probably also have a different price. So, the main function of futures markets is not to buy or sell physical commodities but to form futures prices which are actually the spot prices on the day of delivery or on due day.

That is why futures markets are in jargon called “market forecasters”. Considering mutual integration of most world exchanges, transparency and information flow, the prices actually perform the function of integration of world markets. Futures prices differ according to delivery months, i.e. the futures price increases if the delivery month gets further. The simple reason is the cost of storage of commodities. The most important characteristic of futures price and current cash price is that they both move in the same direction.

Prices for futures business, as well as for all other sorts of fair trading are determined by buyers and sellers, i.e. supply and demand for commodities and services. The prices are determined according to customer’s willingness to pay for a certain product.

On the Croatian financial market there is almost no futures or options trading since the market is not developed enough and is at its beginnings (small solvency, small number of participants, small capitalization) so that domestic traders, who will be discussed later, can apply the strategies only on the international futures markets. Nowadays, oil is daily traded three times more than it is produced. The reason for such an increase in trade volume can be found in the introduction of financial derivates such as futures and options used mainly for negotiation on price movement. In another words, stock exchanges have become huge “betting places” where participants bet on a price increase or reduction. The most important function of futures markets is speculation while the second one is hedging, i.e. protection against the risk of change.

2.1. Strategies

Strategies of trading on futures markets can be divided into:

- speculations (one-sided and range)
- arbitrage
- hedging
- trading options on futures

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2.1.1. One-sided speculations

One-sided speculation means taking a so-called long or short position on the futures market. To take a long position on the futures market means to buy a futures contract. Speculators who buy the futures contract expect a rise in futures prices. They are known as "bulls". If futures prices increase, they will close their starting long position at a higher price and thus make profit.

To take a short position on the futures market means to sell a futures contract. Speculators who take a short position expect the drop in futures prices as it is the only way to make a profit, considering the fact that they close their short position at a lower futures price. They are known as "bears". With one-sided speculation the profit is gained only if the price movement is correctly foreseen. If the movement is not correctly foreseen, they lose.

2.1.2. Range speculations or spread

Spread belongs to less risky trading strategies. At the same time two or more opposite futures options of the same commodity are taken on different futures markets and in different delivery or arrival months. Thus, if we lose in one field we will make profit in the other one. It is crucial to make a profit in order for our business to have sense. This is a common classification.

2.1.3. Arbitrage

Arbitrage stands for a strategy of simultaneous purchase or sale of contracts on different markets. It offers the possibility to make a safe profit without risky investment. It is used when the difference of futures prices between two months of delivery is big enough to cover for all commodities’ expenses and when futures positions previously taken are closed by physical delivery of commodities, and not by clearance.

2.1.4. Hedging

Nothing is safe in the current material and financial world. As governments change there are collapses of financial and real systems of certain countries and natural disasters; all those political and social changes affect the prices of different instruments and commodities on worldwide markets.

One of very efficient and widely applicable instruments of insurance against such and similar changes is hedging. It was developed by modern traders and managers who had to solve the problems of big losses. Global trading, liberalizations of almost all world economies and large scale of possibilities to trade on futures markets have introduced both hedging and an increase in competitive positions of almost all global companies.

Hedging involves two steps: initial position which represents purchase or sale of futures (depending on the need) and offsetting that initial position with identical contract of opposite sign. Hedging is a process of protection against
2.1.4.1. Short hedging

Short hedging as a risk protection instrument is used by those who cultivate, store or distribute real commodities. This form of hedging covers the risk of reduction in value of unsold commodities in the case of price downfall. First the producer concludes the

10 http://www.forexcroatia.hr/prezent/Financijskelzvedenice.ppt
transaction by which he sells a commodity on the futures market (until the prices have not fallen). He intends to compensate later with a futures purchase (when prices have already fallen). Producers most often use the profit to compensate for the losses due to stored commodities or due to an undeveloped agriculture economy. If he makes a mistake about the price movement and prices start to rise instead of fall, the value of his supplies starts to grow. Contrary to the spot business, he loses on the futures transaction and the result is again somewhere around zero. The rules of trading and hedging of commodity contracts function the same way as trading with financial instruments.

2.1.4.2. Long hedging
In the modern world of trade, an exporter will integrate the spot and futures business instead of using a traditional way of doing business. By using the long hedging strategy, the exporter will buy a futures contract with subsequent falling due, which is determined on certain quantity of commodities. When the deadline has expired, the exporter closes the position on the futures market with a contra-operation. He buys the necessary quantity on the spot market and delivers it at an (agreed-upon) strike price. With this combination of spot and futures markets, the exporter protects himself against loss, and probably against profit as well. It is not important to him on which market he made a profit and on which he incurred losses. The exporter has accomplished his plan to completely protect himself against the risk of price change on the spot market.

2.1.4.3. Cross hedging
Cross hedge can be a strategy starting with a long or short position. The point of the entire strategy which makes cross hedging different from other types of hedging lies in the fact that the futures position is taken in commodities which are not traded on the futures markets. However, the futures position follows the dynamics of commodities which are listed on the exchange. (E.g. fishmeal is not traded on the exchange and soy flour is).

By using hedging, some do not protect themselves from all existing risks but the most important ones. Hedging considerably reduces the risk of price change, while traders daily search and find other instruments for other forms of risk protection.

2.1.5. Options
Options are also derivative instruments, i.e. option value and other option trading characteristics are related to assets on which the option is based.\textsuperscript{11} Trading options on futures is the most sophisticated form of trading developed in 1980s on the USA stock exchanges. Today, options on all futures are traded on all futures markets.

Options are everywhere, hidden in commercial contracts and sale and purchase transactions which at first sight have nothing to do with the world of finance. Options

represent the second big group of financial derivatives, i.e. derivative securities. In broad financial practice it is believed that every contract which gives the right to one contracted party to buy or sell is called an option. However, this perception does not always have to be correct, as options do not own all elements of a classic contract. Options characteristically have a legal right but no obligation of performing stock-exchange transactions. So, options are a specific type of financial derivatives which reflect certain "contingent" rights because payments depend on the probability of playing certain roles in the future. In case of an options transmission, relationships are regulated by a specific agreement – option agreement by which the option buyer / owner is given the right to buy or sell certain assets at a fixed price within a certain period of time.

Options are based on the following assets: foreign currencies, bonds, stock products, futures contracts etc. The price paid for an option is called a premium. The price in the contract is called exercise or strike price.

3. THE NOTION OF INTERNATIONAL BUSINESS

International business stands for a business activity of a company related to international trade or international investment. Generally speaking, international business is a process of transferring a commodity from one owner to another with the purpose that they both get the commodity they do not produce themselves. In order for international business to take place, it is necessary to have two partners from different states interested in product or service exchange, out of which they expect mutual benefit.

International trade involves export of products or services to other countries, as well as import of products and services from other countries. Import ensures raw materials, production materials, energy and final products for which domestic production would have to use more resources or would not be able to produce them at all. Export is used in order for international trade to affect the increase in productivity, cost-effectiveness and employment as well as increase in the income of a national economy.

International investment appears when a company invests its resources into business activities outside the borders of its country. Thus, it is a source of supply of capital, new ideas, knowledge and know-how all of which are extremely important for any economy development.

International business, defined as the overall exchange of products, services and resources of one country with foreign countries, is the constituent part of any state’s economic system. In this way the process of money making is not limited anymore by state borders but is divided among countries. Such distribution of activities is called the international distribution of activities. The place where international exchange takes place is called international market.

International market is an area of countries which perform constant mutual exchange. Such market on which certain countries exchange products and services, depending on

12 www.investopedia.com/university/options

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geographical scope, can range from regional markets, multinational, intercontinental and world market to the global market of today.\textsuperscript{13}

The type of product which takes part in the exchange is as important for an international market as its geographical scope. Products and services intended for general use and consumption have a wider market, which means that a large number of salesmen and buyers are involved. Contrary to this, some products are intended for local consumption and have much closer exchange market. They are not part of international trade nor do they appear on an international market in big quantities. The width of an international market was long determined by geographical distance and size of transport costs which increased the commodity price on the buyer’s destination. Modern information and telecommunications (mobile phones, fax machines, Internet, e-mails, satellite telecommunications etc.) have connected the two most distant parts of an international market. This made possible for all countries to compete on equal terms on certain markets regardless of their geographical position. Standardizing prices of similar commodities on an international market have become possible and international comparison in production efficiency has been enabled, resulting in production specialization and international distribution of activities.

3.1. Importance of international business

International business enables optimal allocation of scant resources in the world in order to satisfy the needs of the population as much as possible. International business enables national economies to have faster economic growth, increase in production efficiency due to domestic capacities utilization, better living standards, application of technological progress, as well as development of new knowledge and organizational solutions.

A company’s involvement in international business leads to market enlargement for their products which stimulates productivity, efficiency and lower prices. Production specialization and export of products produced at a low cost, i.e. import of those products produced at higher cost is a basic principle of exchange, i.e. the principle of comparative advantage.

International business has always been a constituent part of the economy. However, before the industrial revolution, the biggest part of production was used by the producers themselves. There was no developed market, nor any distribution to producers and consumers. There were small groups spending the potential excess of production. Trade did exist, although big quantities of products and services were not exchanged.

Industrial revolution improved the means of production. This enabled better production efficiency as well as creation and maintenance of reserves. Sectors were divided into production and consumption. Trade and market gained higher importance. Market mechanisms, distribution of activities, trade and market started to develop. One market restricted by national boundaries became insufficient for absorbing the entire national production. Besides this, production was not able to satisfy all the needs for raw materials,

\textsuperscript{13} Lazibat T. Kolaković, M: Međunarodno poslovanje u uvjetima globalizacije, Sinergija, Zagreb, 2004, p.130.
energy, reproduction material and tools on the national market. Despite all obstacles (social, cultural, religious, language, geographical, political and economic), markets spread outside the national borders and became international, i.e. global. This enabled the encounter of overall producers’ supply and consumers’ demand from the entire world.

3.2. Globalization of world economy

Globalization, obstacle elimination, irrelevance of national borders, strategic orientation towards national competitive advantages and equality of participants are the main features of modern international trade. Proximity, enterprise abilities and geographical dispersion of business activities are some of the aspects which mark modern world companies on international markets. Knowledge and intellectual capital make decisive business resources. Dissemination of information and communication technology is a phenomenon of modern business activities. All these trends have led to a huge increase in international exchange.

Globalization is a process by which obstacles in the international economic exchange become irrelevant and by which economic integration between countries is increased. The process of globalization started after the Second World War. It basically changed the world economy affecting the international market and production processes.

Globalization is erasing geographical borders and erasing economic systems in which national markets were separate, mutually isolated entities because of trade barriers, distance barriers, time difference, culture and constitutional order. Globalization leads to the creation of a global market and global products, to the reinforcement of interconnection of national and regional economies. The result is interchange and creation of an entirely new – global culture. Multinational companies such as Coca-Cola, McDonald’s, IBM, Sony etc. are leaders in this process. By offering unique products worldwide, they help to create a global market. However, companies do not have to be as large as those multinational corporations to benefit from market globalization.

It is important to emphasize however that national markets will not completely disappear or melt into the global market. Thus, it is of utmost importance to recognize the differences in consumers’ tastes and preferences between certain national markets. Those differences stipulate different business and marketing strategies, as well as products with specific characteristics adjusted to local conditions.

Abolition of trade barriers has made market and production globalization theoretically possible. Technological progress has turned it into reality. In fact, globalization is a result of technological progress especially in the field of information and communication technology.

3.3. Value creation by global expansion

Basic intention of a company in a market economy is to create additional value and profit. Company makes profit if the output price is higher than production costs.
achieve this, the company has to produce a product which is appreciated and esteemed by consumers. The price which consumers are ready to pay for the product shows the product's value. This is why one can not say that a business organization creates value. By offering standard products on the global market and by producing those products at the most suitable place, a global company can implement the economy of scale which is not accessible to smaller domestic companies.

Global expansion is a process of transferring important business operations and market activities outside the domestic country. It demands significant investments in business activities in different countries. So, managers who opt for global expansion expect:

- Profit increase
- Reduction or elimination of high transport costs
- Share increase on the world market
- Provision of international technical, design and marketing skills.

The best indicators of company efficiency are:
- The market share of a company and
- Profitability, i.e. the success of a company’s business.

Companies which operate on the international market can make profit according to their enterprise abilities and expertise, or gain competitive advantage by dispersing certain activities from their value chain to places where they can be most efficiently performed.

It is important to say that enterprise abilities can sometimes be invisible. They are hidden deeply inside the company and they develop as knowledge and experience accumulates. Companies should recognize their enterprise abilities and use them in order to be successful in the long run. In order for enterprise abilities to be efficient, they must develop and progress through continuous organizational learning. Enterprise abilities can not remain static, as only those companies which invest and upgrade their abilities can expect to grow and develop on the global market. Accumulation of skills and capabilities improves the abilities of the enterprise and drives its potential growth. Know-how reduces the costs of investments into business expansion or of development of new products. Moreover, the value of alternative expansions caused by enterprise abilities grows proportionally with the growth of the market insecurity of global economy. This is particularly important for companies which do business on the global market. “Invisible” commodities such as education, technical and IT skills, organizational routines etc. are important to build competitive advantage and to achieve economy of scale and scope. Implementation of enterprise abilities ensures global diversification, application of new technologies and reduction of uncertainty.

4. RISK AND UNCERTAINTY

Nowadays business decisions are reached in conditions of uncertainty and high level of risk. As these two terms are often mixed up, it is necessary to emphasize that risk presents a condition in which possible decision outcomes are familiar and whose probability can be evaluated. On the other hand, uncertainty is a case, i.e. condition in which the result of a
certain decision is completely unpredictable and whose probability is completely unknown. So, uncertainty is a more subjective phenomenon, while risk is an objective phenomenon and contains relevant knowledge on alternatives.

Risk can be measured, i.e. quantified by standard deviation (standard measure of dispersion), i.e. by deviation of expectation value (middle value). Hence, we are talking about measuring variability.

\[ \sigma_y = \sqrt{\frac{\sum_{i=1}^{n} (y_i - \bar{y})^2}{n}} \]

\( \delta = \) standard deviation  
\( Y = \) original information  
\( n = \) frequency

From the standard definition of deviation it can be concluded that it measures dispersion from expectation (middle) value, meaning that risk is lower when standard deviation is lower and vice versa.

For comparison of risk degrees, coefficient of variability can be useful as a relative measure (V)

\[ V_y = \frac{\sigma_y}{\bar{y}} \times 100 \]

which sets standard deviation and expected value in a ratio and actually represents a true measure of risk.

For illustration we could take an example of oil price movement on world markets.

**Figure 1:** Crude oil prices for the period 1998-2008

![Graph showing crude oil prices from 1998 to 2008](image)


Standard deviation = 29.72 \$/barrel
Arithmetic mean = 43.09 \$/barrel
Coefficient of variability = 68.97\%

Considering that standard deviation is around 69% of the expected value, we can conclude that in this case the risk of a price change is rather big.

In order to be able to compare risk grades we will take an example of oil price movements on the world market, but this time in a shorter period of time (12 months).

**Figure 2**: Crude oil prices for the period Feb. 2008–Feb. 2009

![Crude oil prices graph](image)

Source: [www.nyse.tv/crude-oil-price-history.htm](http://www.nyse.tv/crude-oil-price-history.htm)

Standard deviation = 47.29 \$/barrel
Arithmetic mean = 92.10 \$/barrel
Coefficient of variability = 51.35\%

If we look at these two examples, or if we look at a real picture, we may conclude that, regardless of the absolute amount of standard deviation, long-term oil business is more risky than short-term one.

### 5. CONCLUSION

Economic integration and trading on futures markets are definitely not new in economic history, but they have lately been more present in the modern world. Regardless of present serious problems and interruptions in the world economy, and regardless of how and for how long the world will be recovering from changes arisen in the global economy,
The role of futures and options markets in the world integration process which definitely involves risk and risk protection will always be of topical interest.

Beginnings of modern futures trading and hedging as a strategy of protection against unfavorable events was already present in the second half of the 18th century on cotton exchange in Liverpool when strong integration (and expansion), economic and political processes started to develop. Thus, it is no wonder that the development of economic process of integration has evolved simultaneously with the development of futures markets, especially during the last thirty years.

The reason is rather logical: strengthening economic integration increases the degree of risk which in turn calls for protection strategies which develop and cause stronger integration processes again causing higher degrees of risk – and so it goes on in circle. Very soon such movements end up with more or less painful consequences. This *circulus vitiosus* always continues on higher level than the initial one. Exchanges became a unique place for all sorts of business, i.e. they developed beyond their basic postulates and reasons for existing. The question of whether exchanges in general and futures trading have reached their peak and whether they are threatened by a complete collapse should be considered. Furthermore, it is uncertain whether they will survive in this form or they will even grow and have more significance. It is absolutely certain that commodity, currency and securities exchanges will change each in their own direction. The role of futures markets in the world economy has huge significance, while Croatia unfortunately still belongs to those countries where neither financial derivatives nor business strategies have yet developed.

On Croatian financial market there is no futures or options trading since the market is not developed enough and is at its beginnings (small solvency, small number of participants, small capitalization etc.). Thus, Croatian investors can apply all the mentioned strategies in this paper only on the international financial market.

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ULOGA HEDGINGA (TERMINSKOG TRŽIŠTA) U PROCESU GLOBALIZACIJE

Ivo Šperanda

Sažetak

Terminska tržišta su rezultat pokušaja eliminacije ili reduciranja rizika, odnosno izbjegavanje nestabilnosti cijena u međunarodnom poslovanju. Obzirom da se trgovanjem na terminskim tržištima smanjuje rizik poslovanja to izaziva značajno povećanje obima trgovine i broja sudionika u trgovini, što logično vodi u integracijske procese.

Ekonomsko integriranje, shvaćene kao povezivanje, spajanje, ujedinjenje poslovnih funkcija ili čitavih tržišta, su neizbježne u sveprisutnom trendu globalizacije koja u ekonomskom smislu jest proces uključivanja poduzeća u međunarodno poslovanje.

Stalna mijena čimbenika u međunarodnom poslovanju rezultira činjenicom da postojeći oblici poslovnih odnosa ne odgovaraju novonastalim prilikama i zbog toga su permanentne promjene nužne. Ovakva dinamika poslovnih i tržišnih odnosa generira povećani stupanj rizika u poslovanju koji poduzeća reagiraju strategijama koje za cilj imaju eliminaciju ili smanjenje rizika.

U radu je dat prikaz povijesnog razvoja terminskih tržišta i njihov utjecaj na različite vrste i stupnjeve ekonomskih integracija, te se ukazuje na međusobnu povezanost i uvjetovano- nost terminskih tržišta i integracijskih procesa.

Ključne riječi: terminsko tržište, rizik, ekonomsko integriranje, globalizacija.

JEL klasifikacija: G13

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