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Bernd Walgenbach\*

## International Competition between Stock Exchanges

*Stock exchanges are increasingly competing with one another internationally as a result of the globalisation of securities markets. What effect is this trend having on the stock exchanges? What consequences does it have for economic policy?*

Until quite recently, the notion that international competition between stock exchanges is desirable and achievable was probably alien to both stock exchange "practicians" and theoreticians of the capital market. In the eyes of practicians, a stock market needs to have the greatest possible breadth and depth, so that competition between exchanges appears to be neither possible nor sensible, since it fragments the trading volume and hence reduces market breadth and depth. In fact, most European countries have a central stock market, so that there is no national competition between different exchanges. Where regional stock exchanges do exist, competition is often subject to legal restrictions or regulated by cartel agreements.

For theoreticians, there is another reason why international competition between stock exchanges is not self-evident, for competition is conceivable only between tradable goods. As long as investors invest only in domestic shares, international competition between different stock exchanges will not develop, as in this instance the services of the stock exchange are a purely domestic good.

Stock market services do not become an internationally tradable good merely because investors invest in an international spread of shares. It is true that the shares are then competing internationally, but the same does not necessarily apply to stock exchange services. National characteristics – deriving from company law or complicated deposit procedures for handling stock exchange transactions, for instance – and communication and information problems that have the same effect as trade barriers can maintain the domestic nature of stock

exchange services and make share listing abroad so expensive that no competition to each country's stock market can develop.

The removal of trade barriers is therefore a prerequisite for international competition between stock exchanges. This can be achieved, for example, by reducing communication and information costs. Indeed, the extremely rapid developments that have occurred in EDP have led to a reduction in communication and dealing costs. As a result, national frontiers are no longer the barriers they once were. This article will describe the effects of these developments on the stock markets and examine their implications for economic policy.

In the international securities market, it is only in exceptional cases that competition is due to companies having their shares listed solely on a stock exchange outside their home country. Second listing has had a more profound effect in this respect: many shares have been admitted to stock markets abroad as well as being listed in the company's home country.

There are many motives for seeking a second listing on a foreign stock exchange. Apart from reasons of prestige, one of the main deciding factors for the companies concerned is the greater scope for refinancing. As a result of developments in the financial markets, the shares of international companies are now held by investors in almost all countries with free capital markets. For investors living in another country, however, transaction costs may make it relatively expensive to buy shares in the company's home stock market. Costs are lower if the foreign companies are listed in the investor's own country, increasing the attraction of an investment in their shares.

With growing interest being shown in international investment opportunities, it has also become interesting

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for stock exchange authorities to list foreign shares in order to meet the investment wishes of domestic investors and hence to boost their own share turnover.

**Globalisation**

Investors can now choose between buying foreign shares in their own country or purchasing the same shares in the home country of the issuing company. For example, a large number of American shares are now traded on German stock exchanges, German shares are being increasingly traded in London and British shares are listed on American exchanges. The competitive pressure generated by this second listing has triggered far-reaching changes in dealing practices. National differences in the cost of stock exchange transactions and the services provided have become so great that investors are now also buying and selling shares from their home countries in foreign stock exchanges. As a result, many stock exchanges in the smaller central European countries, for instance, fear that they will lose part of their trading volume to more attractive competitors, especially the London Stock Exchange.<sup>1</sup>

Direct competition between stock exchanges as a result of the globalisation of stock markets has led to two developments. First, it has forced stock exchanges to redouble their innovation efforts, thereby raising questions as to the range of products and services they offer. Secondly, it has focussed public attention on the pricing practices of the securities market.

It is primarily the expansion in the range of services that has made the headlines. International competition has been boosted especially by the increasing use of certificates for dealing in listed foreign shares. In the USA foreign shares are traded predominantly in the form of American Depositary Receipts (ADRs), which are claims on corresponding securities deposits;<sup>2</sup> similar arrangements also apply in the Federal Republic of Germany for trading in foreign shares. In this way regulations prohibiting the listing of foreign companies' shares can be circumvented, problems arising from differences in disclosure requirements can be overcome and complicated forms of share transfer, as in the case of registered shares, can be simplified. Table 1 shows the number of foreign companies listed on the various stock exchanges.

**Innovation**

In order to increase the number of listed domestic companies, new market segments have been created with less stringent listing requirements, mainly as regards the volume of shares to be introduced and the size of the company, but also with regard to the age of the company and the technical procedure for admission.

Inasfar as these matters were governed by law or listing regulations, legislation has had to be amended – in the Federal Republic of Germany, for example, by means of the Stock Exchange Listing Law of 16th December 1986 – thus giving new companies access to existing dealing procedures. In the case of small companies, this took

**Table 1**  
**Number of Listed Joint Stock Companies**

	All joint stock companies				of which: foreign joint stock companies				foreign companies as percentage of total	
	1986	1987	1988	1989	1986	1987	1988	1989	1986	1989
Belgium (Brussels)	331	337	337	338	140	145	151	153	42.3	45.3
Fed. Rep. of Germany	673	983	1083	1163	181	409	474	535	26.9	46.0
Denmark (Copenhagen)	281	280	267	265	7	8	7	8	2.5	3.0
Finland (Helsinki)	52	52	69	82	3	3	3	4	5.8	4.9
France (Paris)	798	857	860	876	200	207	221	228	25.1	26.0
United Kingdom	2685	2658	2580	2559	512	523	526	544	19.1	21.3
Italy (Milan)	184	204	211	217	0	0	0	0	–	–
Japan (Tokyo)	1551	1620	1683	1716	52	88	112	119	3.4	6.9
Japan (Osaka)	1050	1070	1091	1117	0	0	0	0	–	–
Canada (Toronto)	1085	1208	1212	1214	51	61	67	68	4.7	5.6
Canada (Montreal)	642	738	735	693	22	24	26	26	3.4	3.8
Luxembourg	183	192	197	204	136	141	145	150	74.3	73.5
Netherlands (Amsterdam)	458	475	460	480	239	227	228	229	52.2	47.7
Austria (Vienna)	100	105	111	120	32	36	37	39	32.0	32.5
Sweden (Stockholm)	161	157	151	144	7	7	9	9	4.3	6.3
Switzerland (Zürich)	316	353	380	406	194	211	219	229	61.4	56.4
USA (NYSE)	1575	1647	1681	1721	59	– <sup>a</sup>	77	87	3.7	5.1
USA (Amex)	796	869	895	860	49	51	55	59	6.2	6.9
USA (NASDAQ)	4417	4706	4451	4293	244	272	271	267	5.5	6.2

<sup>a</sup> No data  
Sources: AG der deutschen Wertpapierbörsen; own calculations.

place under the slogan of lowering the threshold for admission to the securities markets. Changes of this kind have occurred in many countries, as witnessed by the development of the "geregelter Markt" in Germany, the "third market" in London, the "second marché" in France and the "mercato ristretto" in Italy.<sup>3</sup>

In addition to the extension of existing forms of trading, the development of new products has played a role in stock market innovation. The volatility of interest rates and exchange rates in the early eighties exposed investors to increased risk that could be limited by means of a number of familiar but now little used hedging methods and a few new techniques. In the stock exchange field this is done via futures and options markets, where mainly forward and option deals are concluded in currencies, fixed-interest securities and shares to guard against price and exchange rate fluctuations.<sup>4</sup> The options exchanges that have been developed to handle these hedging instruments include the European Options Exchange in Amsterdam, the Liffe in London, the Goffex in Switzerland and the recently opened German Futures Exchange in Germany. Since the new products are generally traded on newly created bourses, the established markets are now exposed to keener competition.

The competition coming from the new marketplaces illustrates one effect of international competition particularly clearly. The long-established futures exchange in Chicago and the first European futures exchanges in Amsterdam and especially London have very quickly been able to offer investors in other countries hedging facilities that were not available in their home markets. To prevent investors from transferring their other

securities business as well to the more innovative exchanges, other stock markets have been forced to follow suit by introducing the new hedging instruments.

Securities dealing is changing shape not only as a result of product innovation, in other words a widening of the existing range of services, but also process innovation, that is to say organisational changes. In the Federal Republic of Germany and a number of other countries trading sessions have been extended and additional scope for innovation has been exploited by improving the stock exchanges' information link-up via price information systems. The Frankfurt Stock Exchange, which operates a computerised price information system called KISS, has also introduced another EDP-based dealing aid in the form of the securities order system BOSS.<sup>5</sup> In London, where securities trading underwent a fundamental change in 1986, the next process innovation will be the changeover to a paperless clearing procedure.<sup>6</sup>

### Price Competition between Stock Exchanges

At first sight, product and process innovation in the stock markets appears to have occurred independently of economic policy measures. However, the creation of new market segments showed that a number of innovations required a liberalisation of stock exchange and commercial law. In Germany, for example, in addition to the new listing requirements mentioned above, the introduction of options markets necessitated a change in the legal liability of private investors engaging in forward transactions. Hence in many countries deregulation was a prerequisite for stock market innovation. The pace of deregulation was a factor in the ability of stock exchanges

**Table 2**  
**The Cost of Securities Transactions**

(as percentage of transaction value)

	Bank/Broker's fees <sup>1</sup>	Stock exchange duties	Taxes	Total costs <sup>2</sup>
Belgium	0.7-1.4	0.025	0.350	1.1-1.8
Fed. Rep. of Germany	1	0.080	0.250	1.4
Denmark	n.a. <sup>a</sup>	-	0.500	n.a. <sup>a</sup>
France	0.6-1	-	0.300	0.9-1.3
United Kingdom	0.3-1.5	-	0.500 <sup>b</sup>	0.6-1.7
Canada	1-3	-	-	1-3
Luxembourg	0.8	-	-	0.8
Netherlands	0.7-1.5	-	-	0.7-1.5
Austria	0.5	0.175	0.070	0.7
Switzerland	0.8-1.1	0.005	0.085	0.9-1.2
USA	0.5-8	-	- <sup>c</sup>	0.5-8
Australia	1-1.7	-	-	1-1.7
Spain	0.5-0.8	min. 0.300	0.200	1-1.3
Hong Kong	0.5-1.6	0.025	0.300	0.8-1.9

<sup>1</sup> Bank/Broker's fees are indications based on at least three responses. <sup>2</sup> For a single transaction.

<sup>a</sup> No information available. <sup>b</sup> On sales only. <sup>c</sup> New York State levies a duty of 3.5 cents per share.

Source: Findings of a survey.

to compete in terms of innovation. A policy of rapid deregulation gave the stock markets concerned a temporary locational advantage.

A second effect of competition between different stock exchanges is to be seen in the growing importance of the cost of securities transactions. As well as stimulating innovation, competition has also led to keener pricing. The demand for stock exchange services is influenced by transaction costs as well as the profit outlook for the traded companies or the willingness of investors to take risks. Transaction costs consist of bank charges, fees charged by the stock exchange organisation and taxes. A survey of banks and securities houses has been carried out to establish whether transaction costs are really a significant factor in the choice of stock exchange. Although the findings must be interpreted with caution owing to the problems inherent in making price comparisons, the survey revealed that costs do indeed differ, in some cases substantially (see Table 2).

The level and nature of transaction costs differ markedly from one country to another. Whereas in some countries bank charges are the only costs, other countries levy additional stock exchange charges and/or taxes. Bank charges are usually the most important cost factor. In a number of countries, such as the Federal Republic of Germany, Austria, France, Belgium and Switzerland, bank charges are calculated as a percentage of the transaction value. In the United Kingdom, Canada and the United States, on the other hand, commission rates are negotiated individually in each case between the securities house and the customer. Here the level of commission varies according to factors such as the value of the individual share, the denomination of the purchase

order, the stock exchange, the state of the market and above all the size of the investor. It is true that in the first group of countries as well charges are often agreed individually between the bank and the customer, but they continue to be based solely on the value of the transaction. It is therefore relatively easy to compare bank charges among these countries. The differences that emerge here are not inconsiderable, whereas the level of total costs differs only marginally. Differences in bank charges are therefore evened out by stock exchange charges and taxes. This may be due to the fact that competition between the continental European stock exchanges leads to a standardisation of transaction costs owing to the exchanges' geographic proximity.

The picture is completely different if one compares the countries in the first group with those in the second. Large investors, in particular, may in some cases obtain far more favourable terms in countries with negotiated bank charges than in the first group of countries. For example, charges of 0.35% are reported in London, half the amount permitted by the Swiss charges agreement for transactions up to Sfr. 150,000. The cost calculation is different for small and medium-sized investors; in individual cases transaction costs are exorbitantly high on the stock exchanges with negotiated charges. Costs of between 3 and 4% of the value of the shares are not uncommon for small investors in Canada or the USA.

### Reasons for Cost Differences

Prices therefore differ substantially, especially between stock exchanges in the two groups of countries. The resulting competitive pressure is attenuated at present by the continuing substantial transaction costs for private

<sup>1</sup> See, for example, "Börsenplatz London immer offensiver", in: Handelsblatt of 26. 7. 1989, and "London zweitgrößte deutsche Börse", in: Börsen-Zeitung of 16. 11. 1989.

<sup>2</sup> An American Depositary Receipt (ADR) is a deposit certificate for non-American shares which is issued in the name of the shareholder and can therefore be transferred easily through the US securities clearing.

<sup>3</sup> The development of new market segments is reviewed in Hartmut Schmidt: Freiverkehrsmärkte an Europas Börsen, in: Die Bank, No. 6, 1987, pp. 288-298.

<sup>4</sup> On experience with computer-assisted trading in Tokyo, see Andreas Gadow: Elektronik hat die Markttransparenz in Japan seit 1982 merklich verbessert (Börsen der Zukunft XI), in: Handelsblatt of 11. 3. 1987.

<sup>5</sup> Cf. Beate Reszat: Devisenkurssicherung und Währungsspekulation, HWWA-Report 73, Hamburg 1987.

<sup>6</sup> On these developments, see Clive Wolman: The battle of the paper mountain, in: Financial Times of 3. 4. 1989, and "Langsame Modernisierung der Londoner Aktienbörse", in: Neue Zürcher Zeitung of 17. 1. 1990.

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investors – otherwise the large cost differences could not be maintained – but trade barriers in the communications field are steadily falling away. To be able to judge the long-term competitive prospects of individual stock markets, we must therefore determine the origins of the cost differences.

Cost differences might be ascribed first to differences in the stock exchanges' endowment with the necessary production factors, such as qualified staff. On the other hand, however, qualified human resources are mobile and other necessary production factors such as equipment and premises do not have a significant effect on the level of costs. The actual composition of operating costs should therefore not differ substantially from one stock exchange to another. It must therefore be assumed that the level of transaction charges depends not only on operating costs but also on the nature of the services provided and on other cost factors determined by government regulation.

Cost factors due to regulation relate to the economic policy framework, such as company law, stock exchange law and state supervision, but also other direct state intervention in the respective markets. To illustrate the influence the state has on stock exchange dealing, a distinction has to be made between state influence on bank charges, stock exchange duties and the level of taxes.

The taxes on stock exchange transactions in the various stock markets are shown in Table 2. Stock exchange turnover taxes are levied in a number of countries in a variety of forms. In most cases they are calculated on the basis of the quoted value of the traded shares. There are also taxes levied on the number of blocks of shares or per transaction. In some instances taxes are levied on both purchases and sales of securities, in others on only one or other.

The tax on stock exchange transactions is not only relatively high in relation to transaction costs, it also differs widely among the countries considered. It can therefore be assumed that such taxes have a significant effect on the competitiveness of individual stock markets.

### **Charges**

Direct charges for the operation of the stock exchange are a second cost component induced by regulation (see Table 2). Here too, arrangements differ from one country to another. In Germany the broker charges a commission in addition to the fee charged by the bank. In this instance the stock exchange fees therefore contain an item that in some other countries would be rolled into the bank charges. Non-broker stock exchange charges are

customary in Belgium, Hong Kong, the Netherlands, Spain and Switzerland. An interesting new development with regard to charges that are directly due to economic policy is the proposal being discussed in the United States to pass the cost of operating the regulatory Securities and Exchange Commission on to market participants.

These various charges are not particularly high, however, in comparison with the other cost determinants. Moreover, they are not a sufficient basis for judging the efficiency of stock exchange dealing, as in order to do that the financing of stock exchanges in some of the countries under examination, in other words a portion of the bank charges, would have to be included.

As regards the third cost component, namely the fees charged by banks and securities houses, the first point to note is that they are not influenced directly by economic policy. However, they differ widely from one country to another, rather than converging as would be expected on the basis of the composition of operating costs, and one reason for this may be indirect cost effects exerted by governments. For example, the regulation of stock exchange operations has an indirect impact on costs. German stock exchange legislation, for instance, prescribes the structure of the stock exchange and regulates such matters as the composition of a stock exchange's corporate bodies and the involvement of brokers as well as supervision by state commissioners.

The level of banks' or brokers' fees also depends, however, on whether trading takes place on a trading floor, as in Germany, or entirely via computers, as in the International Stock Exchange in London. Where trading is on the floor, the banks have higher staff costs, whereas with computerised trading EDP costs arise and possibly higher risk costs as a result of the lack of contact between dealers. These cost differences cannot be quantified individually. At any rate, if the manner in which the stock exchange is organised is determined not by market forces but by legal prescriptions, economic policy also has a direct impact on the competitiveness of the country's stock market via the costs incurred by the banks and the resulting scale of charges.

### **Economic Policy Objectives**

This leads to the question as to the objectives that economic policy should pursue in the direct and indirect regulation of the stock exchange. The most difficult issues relate to taxation. It is true that a stock exchange turnover tax is technically a tax on a particular service, the existence of which induces inefficient avoidance moves; apart from discouraging investors from making sensible portfolio adjustments, it causes transactions to be shifted

abroad. Nevertheless, the level of stock exchange turnover tax must always be viewed in the light of the country's entire tax system. The influencing of competition through exchange turnover taxes now appears to be no more than a temporary problem, however; efforts to abolish such taxes are being made in a number of countries. In Germany stock exchange turnover tax will disappear on 1st January 1991 and there are also plans to abolish stamp duty in London.

The question as to the format of the regulatory arrangements is easier to answer. At first sight it might be assumed that the aim of regulation or deregulation was to strengthen the domestic financial market. Apart from the feasibility of achieving this objective, on closer inspection it can be seen that the production of domestic financial services may contribute less to raising welfare than importing financial services and exporting other domestically produced goods and services. The country's domestic product may therefore also be boosted by international trade in financial services. Economic policy should therefore aim for efficiency, in other words to raise the productive potential of the stock market.

This efficiency objective is best achieved in securities trading if state intervention is kept to a minimum. Nevertheless, economic policy still exerts a strong influence on the institutional shape of the stock exchanges. Even state intervention such as the introduction of securities commissions and stock exchange watchdogs, which are justified on the grounds of investor protection, appear difficult to reconcile with the efficiency objective. Against the background of international competition between stock exchanges the question arises why state supervisory bodies should supervise investors or even forbid them to engage in particular types of transaction.

Prohibiting transactions in the domestic market merely causes the business to shift to other countries where there is no such intervention. The intensification of competition between financial markets therefore exerts pressure on economic policy-makers to deregulate the stock market. Deregulation is a prerequisite for greater efficiency. International competition between financial markets is therefore also a welcome development from the economic point of view.

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Rasul Shams

**INTERESSEGRUPPEN UND ANPASSUNGSKONFLIKTE IN ENTWICKLUNGSLÄNDERN**

**Fallstudie III Jamaika**

At the HWWA-Institute case studies are being conducted within the framework of a research project supported by the Deutsche Forschungsgemeinschaft (DFG), which are intended to enable statements based on empirical data to be made regarding the extent to which the conception and implementation of adjustment programmes tends to reduce or sharpen conflicts.

The studies are based on the assumption that the success or failure of the adjustment programmes is determined decisively by the activities of interest groups. This third case study deals with Jamaica, which as a small island economy is particularly suited for an exemplary examination of the usual arguments regarding the conflict potential of adjustment policies. (Only available in German.)

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