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ABSTRACT

Sovereignty and national pride throw up potentially the biggest obstacles in the path of a global stock exchange, being all the more insurmountable because of their bases in emotional politics as opposed to economic logic. A global stock exchange could come about if New York, London and Tokyo could consolidate their current baton-passing activity into a more formal, integrated arrangement--possibly creating a new super exchange on top of their existing domestic operations. There would need to be a single regulatory regime, with one set of trading rules dominating over those of individual nations. One of the Big Three could come to dominate globally. Thirdly, an existing smaller exchange could start to compete aggressively in the international market, taking advantage of technological developments, its existing domestic expertise and a supportive regulatory environment. Finally, then, businesses could create a completely new institution, along the lines of the screen-based international currency dealing operations of Reuters or Dow Jones Telerate. Technologically, a global stock exchange could happen now; the networks and computing power are available and there is already screen-based global trading in other markets--notably currency. Institutionally, it almost does happen now, through the activities of the Big Three--although this is not a single international operation. Politically, the trend towards the necessary relinquishment of national sovereignty that would be a prerequisite for a supra-national market is detectable. All three of these prerequisites--the technology, the institution and the political will--would need to be firmly in place before a global stock exchange actually came about. (AEF)

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Creating a global stock exchange: does the present national system have a future?

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Conjure up a stock exchange in your mind's eye. Typically you envision a neo-classical building in the heart of the financial district with a trading floor crammed with besuited young men frantically shouting and gesticulating among bits of torn paper and surrounded by flickering screens. The images may alter with each city or part of the world but the one constant feature in all of them will undoubtedly be the screens.

Watch those screens carefully. With their high-powered telecommunications links, they are the central nervous system of the world's financial markets which snake their way from Tokyo through London to New York like a main circuit-cable. Without them, the markets won't function. A decade ago the screens may still have been there but they were video screens, not digital. While capable of informing, they were incapable of trading. Trading was effected through personal interaction, comprising handshakes, and seemingly quaint traditions like the London Stock Exchange motto — 'my word is my bond' — were in fact, the essence of deal making.

Others will recall the stock exchange in almost every large British city. Liverpool, Birmingham, Bristol and Glasgow all had exchanges dedicated to meeting the capital needs of the big companies associated with the region's commerce.

It is only this year that settlements of London's stock exchange deals have become fully automated and full electronic trading has yet to arrive. It was only weeks after the 1986 introduction of SEAO — Stock Exchange Automated Quotations — that the first major computer crash rendered dealing impossible. But with the benefits of hindsight, those attempts at market-making using networks of ridiculously under-powered personal computers seems a little naïve by today's standards. And having gone through this much change, surely it would be equally naïve to expect the status quo to last?

Just what is this 'status quo'? Three major stock markets strategically located across the world in New York, London and Tokyo supposedly allow for round-the-clock trading. But this only applies to the stocks of a relatively small group of truly global companies which sport global brands — including Sony, Volkswagen, BAT Industries and Microsoft. While the United States is far and away the biggest of the three markets in terms of market capitalisation, the London Stock Exchange could be described as the most global of the three. In 1995 the market value of all shares in the UK represented 125% of national income, compared with 77% in the US. The figure for Germany is just 24% while Tokyo's share is also small by comparison.

The ever-increasing globalisation of the world economy and the companies within it has been the main factor behind the polarisation of equity trading centres. The late 1980s saw a spectacular increase in mergers and acquisitions activity with hostile takeovers, leveraged buyouts and asset stripping perfected by such practitioners as Hanson and KKR. Recorded UK mergers and acquisitions reached as many as 1528 in 1987 before dropping to below 1000 in 1990. Whole new information services sprang up devoted to recording M&A activity, from the FT to IFR Securities Data and Corporate Money.

The political and economic impact of the changes over the past decade, including the collapse of the Soviet Union and the creation of the single European market, cannot be underestimated. While other regions of the world form trading blocs, such as NAFTA in North America and APEC among nations of the Pacific Rim, they must be set within the context of the economic globalisation in order best to be understood. While the nations of Europe feverishly debate the relative merits of establishing a pan-European federal state, global superpowers like the US seem strangely disinterested. But with the increasingly global nature of the world economy and the fact that the commercial power of many companies supersedes that of many countries — note that a recent study by UNCTAD found that one-third of world trade takes place among parent companies and their foreign affiliates — Americans can be forgiven for looking upon the formation of a regional trading bloc as passé.

In much the same way as Britain's regional exchanges became eclipsed by London it should be expected that emergence of the Big Three would start to mean the decline of other, smaller stock exchanges throughout the world. But in actual fact, national and regional stock exchanges remain in nearly every financial centre, from Berlin to Bratislava and from Chicago to Guandong. The 1995 *Euroclear IFR Handbook of World Stock & Commodity Exchanges* lists some 250 with the number growing. Only last August two Malaysian companies, STI and Petra Khyra Investments, agreed to set up a stock exchange in the Russian republic of Tartarstan.

Telecommunications, in combination with reliable computerised dealing and settlement systems, are the other side to the global stock exchange equation. Screen-based trading — which has reached markets as far away as Bombay and Istanbul — offers the speed, transparency and efficiency required in today's global economy. But not every public company starts out by seeking an international presence. Many simply require

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efficient access to capital in local currencies to local finance growth and have no need for the expenses of a global stock exchange.

Finally, the Big Three stock markets all face competition. The principal American stock market, the New York Stock Exchange, is not alone. It has rivals in the much smaller American Stock Exchange and particularly NASDAQ — the National Association of Securities Dealers Automated Quotation system. This deals mainly in smaller over-the-counter stocks and, significantly, has been reporting bids and offers electronically for a quarter of a century. The challenge to Tokyo may be more potential than actual but Singapore is currently in the process of turning itself into a wired community and looking hungrily for a world financial role.

London is facing the biggest challenge to its primacy in the European time zone because of its inability to commit itself to the process of European monetary union. Not surprisingly, both Frankfurt and Paris are claiming that, if it is not prepared to participate, there can be no continuing global role for London as a financial centre with regard to foreign exchange markets.

However, the pluralism and diversity of the world's many stock exchanges is both a strength and a weakness. The last decade has seen the growth in Europe of new secondary stock. London now has the Alternative Investment Market, which aside from the sort of hiccups one would expect when floating newer, higher growth, higher risk companies, has successfully replaced the former Unlisted Securities Market with a more viable source of public equity. Paris has its rival Nouveau Marché, which is linked to Frankfurt's Neuer Markt. Meanwhile the Belgian, French and German exchanges are establishing, through a series of parallel listings of national exchanges aimed at innovative high-growth companies, something called Euro NM.

But the most formidable of the new European exchanges is the new pan-European EASDAQ, which has taken advantage of the 1995 Investment Securities Directive and the Mutual Recognition Directive issued by the European Union allowing European companies to issue prospectuses in any member state. EASDAQ is aimed at helping fast-growing companies — particularly high-tech and biotech companies — raise capital from a broad pan-European investor base.

EASDAQ has particularly strong systemic credentials. Its automated-quotation trading system will be run by the International Securities Markets Association (ISMA) and will be modelled on its existing trade confirmation system (TRAX) which is used successfully for the Eurobond market. The exchange will be quote-driven by market-makers but includes an in-built ability for periodic order-matching of securities. Clearing and settlement will be provided by Intersettle, an established system used by Swiss banks. Finally, the exchange's regulatory framework will be modelled on the US's Securities and Exchange Commission so EASDAQ is drawing off of as much existing experience as it can, which seems sensible.

While these numerous, competing and often conflicting smaller markets have their problems, the net result will be to increase competition amongst the equity markets which will enhance fund-raising options for smaller to medium sized, higher growth companies. As it is sectors such as high-tech and biotech which have not developed as successfully in Europe as in the US, it is hoped that the development of such exchanges will change this.

Local stock markets can facilitate and accelerate growth in emerging markets. In eastern Europe, for example, every economic liberalisation begins with privatisation of state enterprises. With a legacy more often than not of chronic over-staffing and under-investment, plus an almost total lack of market strategy, these companies may not yet be of interest to international investors. So a stock market operating in the local currency — which may not necessarily be a convertible one — is a *sine qua non*. And the fact that both the technology and the regulatory systems are likely to have been imported from the West will tend to create *de facto* world standards which could in due course ease the transition to global trading.

But what the present world set-up fails to do is take full advantage of rapidly falling costs and increasing capacity in both computing and telecommunications. It is plainly not the most efficient way of doing things if you are a multinational company seeking access to footloose capital, wherever it may be held currently, to finance activities that could take place anywhere on the globe. The present limited international arrangements more resemble a relay race, with the baton passed from one market to another as the sun travels round. And, just occasionally, the baton gets dropped.

Take Black Monday — 19 October 1987. Less than a year after London's Big Bang, a sharp fall in share prices in New York was exacerbated as first London and then Tokyo reacted by opening lower and closing even lower still. Could it have been avoided if all trading during that fateful 24 hours had taken place, not in three stock markets but in one? Possibly not — stock exchanges are febrile places and, at the time, at least part of the blame for the collapse was put on programme trading, which could presumably flourish in a single global exchange. But the fact remains that what we have now is not the most efficient arrangement, bearing in mind what technology could offer.

So if we already have something approaching a global stock exchange — albeit a tripartite one — and the technology available to permit total integration at a reasonable cost, why isn't it happening? There are three main areas which need to be investigated.

Technological issues

You only need to think of TAURUS to realise that we have by no means cracked all the technological problems. Having established an effective system for reporting trades, the London Stock Exchange then looked at computerising the final settlement of deals and came up with TAURUS — Transfer and Automated Registration of

Uncertified Stock. The basic idea was to reduce the need for handling share certificates by letting a computer system act as a clearing house. But it was an unqualified disaster which was abandoned in 1993, to be replaced in July of this year by Crest — not a moment too soon, because all of London's international competitors have paperless settlement systems.

Even so, it's going to take until April next year to transfer all securities from the present manual Talisman system. At the moment, armies of clerks play 'Snap' with cheques from buyers and receipts from sellers. To the outsider it must seem extraordinary that with a decade's experience behind us in high speed computerised trading in so many different kinds of financial market, it should have proved so difficult to come up with a viable settlement system. But it did — and there's a moral here for the creators of a global stock exchange.

Also newly arrived, at the end of August, was the London Stock Exchange's Sequence trading system. A decade after the Big Bang, dealers are still reporting details of trades by phone instead of entering them into the computer themselves, and full electronic trading is still not due to be implemented until next year.

There are more lessons to be learned from the general state of global telecommunications at their present stage of development. Not for one moment am I suggesting that market makers in a global stock exchange would use the public version of the Internet. That would be akin to making the police catch the bus every time they wanted to chase someone. Nevertheless, the chronic congestion and at times tenuous links on what might eventually become the information superhighway should carry warnings for the creators of the global area network that would be necessary for a world stock exchange. Here in Britain we're currently facing the prospect of the third wholesale reorganisation of telephone numbers in less than a decade.

The technological infrastructure is there: it is a question of how much credibility it can garner from investors and companies. Until all the participants have the confidence that the system is secure against abuses, and that it is capable of handling the immense bulk of securities required of it, the technology will remain limited by the people behind it. Common sense suggests that it would be foolish to create a system that didn't use world standards. At least part of the operations of a global stock exchange would need to be potentially accessible to millions of people who might only use it occasionally. I'm thinking in particular about the global equivalents of TOPIC or the Regulatory News Service, where market transparency demands that prices and company announcements be disseminated instantly as widely as possible. The same rules would have to apply, too, to the images of documents such as Perfect Information distribute now. The moral is that however big the network is, it won't be big enough.

In September 1995, two California University students broke a new Internet encryption system almost as soon as it was launched by working out how to predict the random numbers that Netscape allocated to online credit card transactions. Internet front runners such as Netscape and Microsoft are talking about effective encryption technology by next year. But first of all you have to allow for the tendency in the industry to talk up developments that subsequently don't quite deliver what they promised. And, in any case, those base level standards won't be good enough for a global stock exchange. To gain any credibility it will have to be demonstrably secure, while at the same time offering worldwide access to its services using world standard protocols. That's a tall order.

The same exacting standards will have to apply to the settlement system. Again, the pundits assure us that secure payment systems via the Internet are a matter of a few months away, and maybe they are. But let's not fool ourselves that there won't be teething problems. Again, the bulk standard security arrangements for the public Internet will not be good enough for a global stock exchange. It will need to be like Caesar's wife — above suspicion. Most current corporate fraud never comes out into the open because of the potential damage that might be done to the victim company's credibility. Can you imagine the damage that would be done if the same were true of a global stock exchange? For every fraud that did come to light there would be suspicions of a dozen more, and that could be fatal. Again, therefore, the settlement system must meet the twin requirements of transparency allied to security.

But let's be positive and say that the technological problems are short term ones. There's no shortage of straws in the wind. Entrepreneur Peter Levin launched in the spring a service called Display.IT, which uses the Net to distribute financial data at a claimed cost saving of 90% over conventional feeds such as Reuters. Ofex, the tiny unregulated London market, posts its mid prices free on the Net. About now, the Deutsche Borse is to start offering Internet banking services, allowing customers to query securities accounts and place orders for securities transactions.

Regulatory and institutional issues

But hand in hand with the technology go regulatory and institutional issues. There are currently scores of independent stock exchanges serving radically different markets. And if we believe that our current systems of financial regulations are the best that could be devised, we should keep an open mind. We've seen two recent examples of breakdown — the Nick Leeson affair, in which a Singapore based trader brought down the venerable Barings Bank and, more recently, revelations of losses at Deutsche Morgan Grenfell's unit trust business as a result of 'bizarre' investments by Peter Young.

There's been a measure of harmonisation of securities legislation in the European Union over the years, with Directives covering issues such as minimum standards, mutual recognition of competent authorities, and a European 'passport' for securities dealing activities. Measures such as the Admissions Directive, the Listing Particulars Directive and the Interim Reports Directive date back to the late 1970s and early 1980s, and progress generally has been slow. Stock market regulation is fundamentally a national matter, and rules and regulations

vary widely from country to country. For a global stock exchange to be perceived as being effectively regulated, it would have to meet the requirements of perhaps dozens of different legislatures. Individual governments would be perfectly capable of imposing onerous additional requirements on local dealers if they were not satisfied with the regulatory arrangements, to the detriment of the global exchange's operation.

The establishment of EASDAQ offers one example: Many practitioners expressed concern over differences regarding investors' rights in different countries. European investors used to UK-styled pre-emption rights with their focus on shareholder value are worried that companies listed on EASDAQ will be able to waive such rights by convening an EGM whenever matters deemed significant to the company arise. Equally, US companies with a dual listing on NASDAQ and EASDAQ — which EASDAQ is keen to attract — will be frustrated with the need to convene an EGM in the first place because they are unused to having to deal with pre-emption rights at all. Thus, a cross-border exchange will face challenges in creating a single set of rules that appeals to investors from every country.

Looking at the issue of European monetary union, other problems have become evident. France and Germany have been claiming that London banks should have to pay a premium to carry out transactions involving the new currency. While the main impact would be on London's foreign exchange markets, such restrictions might also compromise London's position as Europe's financial centre. Lawyers have also been discussing the possibility that the arrival of the single currency could annul certain cross-border contracts, suggesting that swaps and derivatives contracts could be challenged under UK law if both the currencies involved disappeared. The Bank of England's deputy governor, Howard Davies, denied last September that the City's premier financial role would be damaged by membership or non-membership. Nevertheless the EMU issue currently seems to be splitting industrial and financial sector leaders in Britain, and the lesson for a global stock exchange is that both national and supranational law, over which it would have no direct influence, could affect its operations.

If you look at the current Big Three stock markets, even their regulatory arrangements differ in important particulars. London has a competing market maker system with full electronic display of bid and offer prices. Tokyo trades its most active stocks on the stock exchange floor and it has regular member firms, who act as brokers and dealers, and so-called *saitori* members who function solely as intermediaries in transactions between regular members. New York has a wide diversity of participants including member firms who can function as both agents and dealers, and also as brokers on the trading floor, executing customer orders; also participating in New York are independent brokers, specialist dealers in individual securities, and institutional and individual investors. Round the clock trading only works because these three quite different markets are more or less in the right place to facilitate global trading, because they are big, and because they are internationally perceived as being reasonably safely regulated.

NASDAQ is the trading system for the United States over-the-counter market, dealing largely — but not exclusively — in smaller company securities. It does also trade in large company stocks, including those listed on other stock exchanges. Of its 180,000 terminals in use in 1995, about 25,000 were outside the United States. NASDAQ was designated a United Kingdom recognised investment exchange in 1988, under the Financial Services Act 1986; NASDAQ International has been operating since early 1992 and it allows investors to trade United States stocks before the New York Stock Exchange opens.

NASDAQ also has a sister exchange in EASDAQ — which we have already discussed — in which it has a 10% stake. The two exchanges, although separate, will use very similar trading, settlement and regulatory systems and will encourage companies from North America and Europe to seek a dual-listing to take advantage of investment opportunities on both continents.

A further possible model is the Tradepoint Investment Exchange, a tiny rival to the London Stock Exchange. Last February it announced a deal with the data and information provider Bloomberg, whereby users of the 55,000 Bloomberg terminals worldwide would be able to use them to execute trades in UK shares. Tradepoint's executive director Stephen Wilson acknowledged at the time that this would give his exchange a global reach that it could not have built for itself. And these are early days for Tradepoint anyway. It lost £5.7 million in the year to March 31, gaining only £77,706 in trading income in its first eleven months.

Nevertheless, the lesson is clear — given business confidence and political will, international stock markets can be created.

Sovereignty and national pride

Much more problematic than the regulatory arrangements, I suspect, are the more nebulous issues of sovereignty and national pride. As we've already seen, a stock exchange is one of the first institutions that a newly emerging market economy wants to create — and not merely for economic reasons. The relatively small number of quoted companies tend to contribute disproportionately to their country's gross domestic product. Consequently, stock markets are perceived politically as being a vital weapon against competitor countries.

As many continental European companies face up to the need to increase their proportion of equity funding to foster growth and compete in a global economy, they will also have to face up to the prospect of foreign ownership of their companies. This has proved to be a particularly galling prospect for French companies which are said to be energetically supporting the development of equity markets on the continent — witness the many we have so far discussed — as a means of avoiding what they perceive to be the 'humiliation' of Anglo-Saxon dominance in the form of US and UK investors.

The issue of nationality and sovereignty is also central to the debate over European monetary union. Cynics could argue that pro-EMU governments aim to take advantage of the new *status quo* it will establish while those on the anti-EMU side are accused of being regressive and insular by appealing to petty nationalism. Michael Cassidy, chairman of the Corporation of London Policy & Resources Committee, is quite clear about the perceived threat to London that an enlarged Europe presents: 'It is politically driven by the French and the Germans. They are envious of the market share London has developed in recent years.'

So sovereignty and national pride throw up potentially the biggest obstacles in the path of a global stock exchange, being all the more insurmountable because of their basis in emotional politics as opposed to economic logic. Business could in theory create a global stock exchange if it chose. Indeed, as we have seen, there are already models. But a truly global exchange — a single institution, operating electronically in every world region — would still have to be subject to the national law of the countries where its dealing terminals were located, and some politicians could be obstructive.

How could a global stock exchange come about? Firstly, the Big Three — in New York, London and Tokyo — could consolidate their current baton-passing activity into a more formal, integrated arrangement — possibly creating a new super exchange on top of their existing domestic operations. Naturally such an exchange would have to adopt a single computer system for displaying prices, striking deals and back office settlement. But there would also need to be a single regulatory regime, with one set of trading rules dominating over those of individual nations. As we have already seen, current arrangements in the three countries are quite different and the creation of a single regulatory regime would require the acquiescence of governments in three competing economic blocs to the domination of a single system representing the most successful option. Deciding on and establishing such a system presents many tricky problems.

One of the Big Three could come to dominate globally. The US market capitalisation is twice that of Japan and five times that of the United Kingdom and should dominate on that basis. But in terms of foreign equity trading, London has well over half the market share, New York another third and the rest of the world picks up the balance. This gives London a genuine international edge over New York, which is enhanced by its time zone positioning in that it is possible for traders from London feasibly to trade with those in the Far East and the US, being positioned between the two.

Thirdly, an existing smaller exchange could start to compete aggressively in the international market, taking advantage of technological developments, its existing domestic expertise and a supportive regulatory environment. But quite apart from having to win international credibility, any likely candidate would be coming from a long way behind. Freewheeling Hong Kong may be sixth in market capitalisation but at a mere 7% that of the United States. Wired and squeaky clean Singapore is seventeenth, at 2.5% that of the States. And if you look at growth rates, in terms of numbers of listed companies, Hong Kong and Singapore are fourteenth and nineteenth respectively. The markets with the greatest increases in listings — Portugal, Indonesia and Turkey are the top three — don't frankly look like front runners for a global stock exchange.

Finally, then, businesses could create a completely new institution, along the lines of the screen-based international currency dealing operations of Reuters or Dow Jones Telerate. But, in regulation and disclosure terms, it's a very long way from dealing in currency to trading the stocks of companies. As the recent hurdles faced by the brave AIM and Ofex show, it costs a lot to maintain the due diligence that is necessary to run a market in company shares. Maybe we have a sort of model in NASDAQ. But NASDAQ is a vehicle for trading US stocks, and its overseas operations require legal recognition in the individual countries concerned. EASDAQ is perhaps the boldest initiative so far, based as it is firmly within the equally ambitious European Union. There can be little doubt that the City of London has been watching its first few steps with great interest. The time may not be right for the establishment of a pan-European or global market yet but we will learn plenty from this pilot operation which will establish the form such an international exchange will take in the future.

So will it ever happen? Technologically, it could happen now; the networks and computing power are available and there is already screen-based global trading in other markets — notably currency. In a sense therefore the rash of interest over the last few years in the information superhighway is not an issue. Global stock exchange trading was feasible before that anyway.

Institutionally, it almost does happen now, through the activities of the Big Three — although this is not a single international operation. Politically, the trend towards the necessarily relinquishment of national sovereignty that would be a prerequisite for a supra-national market is detectable — in the halting progress towards European monetary union, for example, and in the ever-increasing globalisation of business and companies.

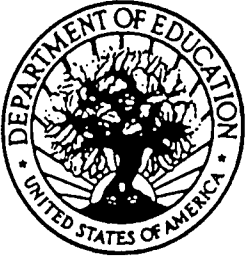
All three of these prerequisites — the technology, the institution and the political will — would need to be firmly in place before a global stock exchange actually came about, and that could take some time. All the same, if there's any such thing as a safe prediction, one is that change usually comes faster than expected — whether it be the take-up of the Internet or the demise of the stock exchange trading floor. So let us not be timid in our predictions — a global stock exchange is a question of 'when?', not 'whether?'.

And if we bid farewell to the concrete tower of Old Broad Street and the neo-classical facade of Wall Street, how long before we wave their occupants bye-bye as well? Program trading is a crude device at present — the fundamental decisions for its operation are made by people. Blindly applied, it played its part in the crash of Black Monday. But the predictive models that drive it can only improve. Even if computers never beat flesh-and-blood traders in our global stock exchange, they only need to match them to win. But computers will always be reliant on their human creators so the integrity of a global stock exchange system will be determined by the individuals who operate them.

Economic man makes economic decisions based on perfect information. Therefore, the establishment of an

effective stock exchange will only work if it has access to Perfect Information.

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