

Asia's International Financial Centers in the Globalized World Economy

An Evolutionary View

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Asia's International Financial Centers in the Globalized World Economy

An Evolutionary View

1. Dynamics and stability in the spatial geography of the financial sector

Financial markets have been quoted as one of the best examples to show the impact of globalization. This was attributed to the high mobility of capital flows. Therefore, one might be inclined to describe the financial sector itself as footloose. On the other hand, the locations of financial activities have reflected remarkable tendencies of agglomeration. Financial activities are spread all around the world, but only in few locations. Moreover, the stability of these locations has in the past decades been strong: London, New York and Tokyo are still and have been the most important centers for financial activities. Finally, the past decades have been a time of highly dynamic developments above all in Asia. New economies have been emerging and established rankings of economic leaders and followers have been challenged. The picture we get is therefore complex. It leads us to the question whether in a global world economy with high degrees of mobility and especially in a highly dynamic region like the Asia Pacific established agglomerations of financial activities will continue to keep their importance and whether new agglomerations can rise. Will Tokyo also be the most important location for financial activities in Asia in the future? Empirically, it becomes obvious that Tokyo's role has above all been challenged by its two major competitors Singapore and Hong Kong. Answering this question implies analyzing the following aspects:

- How and where do new financial centers emerge?
- Which are the processes that lead to a reinforcement or decline of their growth? Which are the major agents that decide about the spatial geography of the financial system?
- What is the relationship between different financial centers? Is there a spatial and functional division of labour among these locations?
- Under which conditions do old financial centers "die"? Under which conditions are they surpassed by competitors?

Certainly, these questions will primarily have to be answered by having a look on past and present developments. However, they also pose major challenges to theoretical modeling. We will therefore start by reviewing the existing literature as well as the empirical indicators that are available. Adequate theoretical starting-points, their opportunities as well as their restrictions will be presented at the end of the paper.

2. Spatial and functional characteristics of financial centers

Financial centers are “areas in which high level financial functions are concentrated.” They can among other things be distinguished according to their spatial importance and their specialization scheme. As regards their importance from a spatial point of view world financial centers have been distinguished from international financial centers and regional financial centers. Regional financial centers have been defined as “host centers in which are concentrated financial activities that cater to clients outside regions”.¹ Another definition is that of “locations where the sustainable level of financial transactions, both investment and borrowing, by far exceeds that justified by domestic economic and trade activities.”² On the other hand, we find the idea of banking centers as places where banking activities related to international businesses are concentrated. These have been distinguished into

- a) cities through which domestic capital flows to the outside world take place as in New York and London,
- b) cities which by virtue of their geographical location serve as a center where foreign lending and trading of foreign currencies take place like in Hong Kong or Singapore or
- c) places where because of their favorable banking and tax laws foreign lending and borrowing occur (offshore centers).³

The distinction into global, international and regional centers is not necessarily an optimal starting-point. On the one hand, it stresses the distributional function of these centers which is at the same time taken as an indicator for their importance. They do not stress the fact that these central locations are also characterized by a high degree of attractiveness for companies in the financial sector. To get a better idea of the role of financial centers, we would have to apply several *indicators* measuring different aspects. The global, international or regional scale of the flows leaving and entering the centers is not only difficult to prove because of problems to get the relevant data, but it may also be less convincing because of the global size of company networks we observe today. Moreover, with new technologies, access to markets seems to be possible on a global scale. In addition to this, the size and importance of a financial center depends on the volume of cross-border activities, but also on the volume of

¹ Johnson, H. G. (1976): Panama as a regional financial center, in: Economic Development and Cultural Change, January.

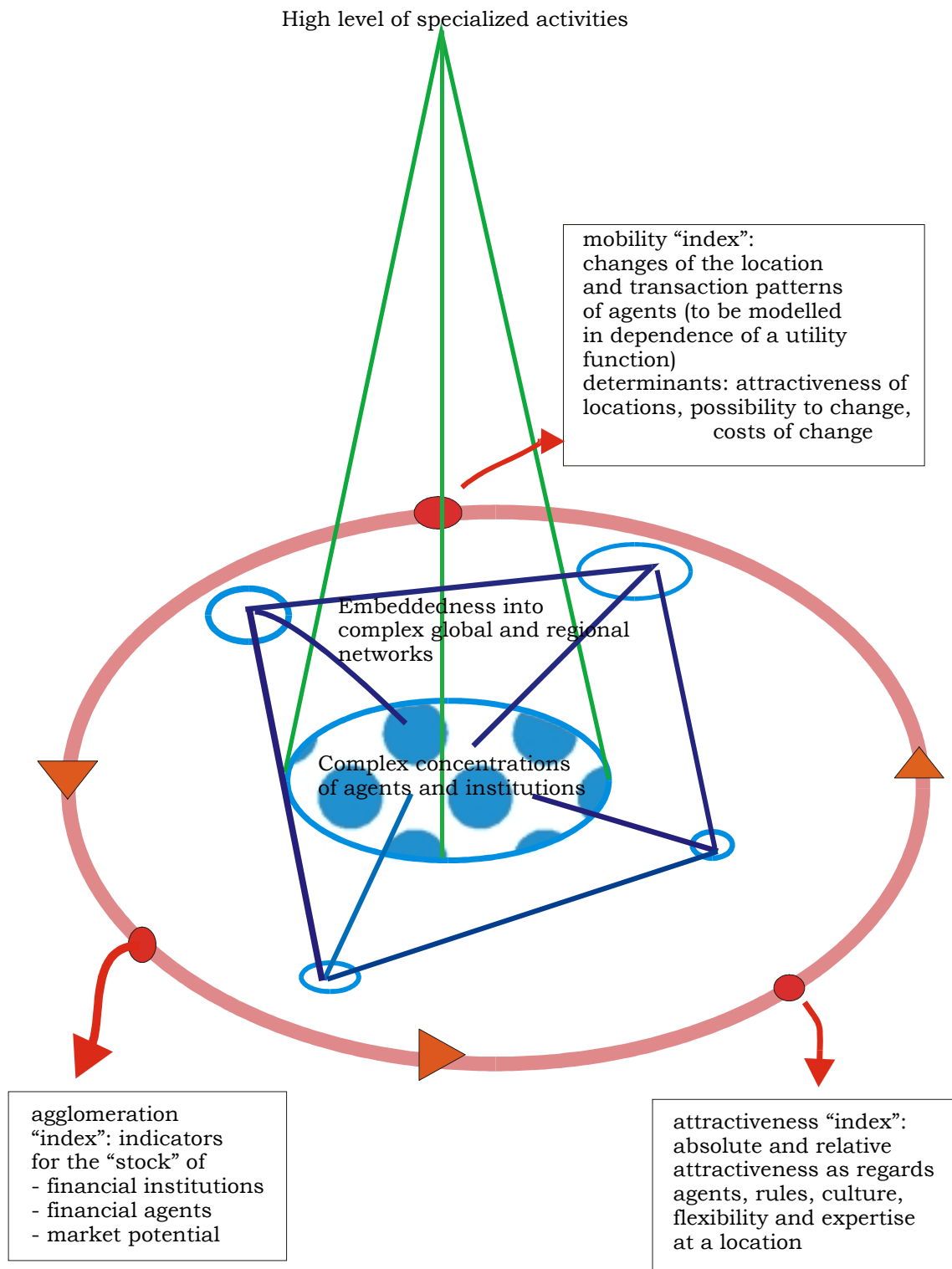
² Khoury, S. J. (1987): The International Financial Centers: Developing the Competitive Edge, in: Park, Y. S./ Essayyad, M. (eds): International Banking and Financial Centers, Boston, ch. 4.

³ Sing, F. P. (1987): International Banking Centers in Asia, in: Park, Y. S./ Essayyad, M. (eds): International Banking and Financial Centers, Boston, ch. 4.

those activities that are settled on a local level because proximity is a necessary element of a number of transactions in the financial sector. Another indicator might be the number and nationality of regional headquarters in the finance and other sectors, the importance of these firms and the existence of institutionalized markets.⁴ Moreover, the level of financial activities might be indicated by numbers like the stock market turnover etc. During the last decades changes in the geography of finance in Asia seem to have been reflected by the relocation of headquarters from Tokyo to other places rather than a declining market capitalization or turnover at its stock exchange e.g.

⁴ Park states that “the significance of the presence of foreign financial sector in the host country determines classification of a financial center as either national or international”; Park, Y. S. (1987): Introduction to International Financial Centers: Their Origin and Recent Developments, in: Park, Y. S./ Essayyad, M. (eds): International Banking and Financial Centers, Boston, ch. 1.

Fig. 1: Financial centers



Moreover, the question whether there is a spatial and functional division of labour among the main financial centers is of major importance.

3. Agglomeration in financial centers

Apart from their relative position to each other a phenomenon that needs further explanation is the strong agglomeration of financial activities. Especially, it has been argued that the traditional operations of banks are complemented in financial centers by a set of so-called producer services. Several arguments have been forwarded to explain this:

- Price discovery works best when many sellers and buyers are gathered together. This minimizes searching costs.
- Financial activities strongly depend on information.
- Finance serves the needs of industry. Companies headquarters are usually based in big cities, even when their main operations are elsewhere.
- Finance requires a high proportion of skilled people, services, infrastructure and face-to-face contacts.
- There is a special culture in financial centers that can be summarized as information, expertise and contacts.⁵ Moreover, this culture and experience is a matter of learning so that lock-in effects may be created in time.

On the other hand, some authors have assumed that financial centers suppose of an information hinterland that may be characterized by natural aspects like time zones, by institutional or historical relationships or technological structures of communication. Especially the latter underlie fast changes today which may also imply changes in the information hinterland of financial centers.

Related to this is the argument that different financial activities rely more or less on trust, confidence and personal contacts and thus on spatial proximity than others. This is reflected in the following table.

⁵ Thrift, N. (1994): On the Social and Cultural Determinants of International Financial Centres: the Case of the City of London, in: Corbridge, S. / Marting, R. / Thrift, N. (eds.): Money, Power and Space, Oxford, ch. 14.

Table 1: Sensitivity to physical proximity in international banking transactions

LOW	MEDIUM	HIGH
<ul style="list-style-type: none"> ▪ interbank payments ▪ foreign exchange dealing ▪ small securities trade ▪ international cash management for corporate customers ▪ participation in syndicates for corporate customers 	<ul style="list-style-type: none"> ▪ trade-related finance ▪ participation in issuing 	<ul style="list-style-type: none"> ▪ mergers and acquisitions ▪ management buy-outs ▪ portfolio management for investors ▪ swaps ▪ large securities trades ▪ lead management of syndicates

Source: ter Hart, H. W. / Piersma, J. (1990): Direct representation in international financial markets: the case of foreign banks in Amsterdam, in: Tijdschrift voor Economische en Sociale Geografie, Vol. 81, pp. 82-92

However, the question why do these services cluster does not seem to be the most interesting question as it is a phenomenon that can be found as regards many complementary functions. What might be more interesting is

- a) the question why some huge centers like Tokyo may persist despite the fact that everybody is well aware of the disadvantages and
- b) in how far innovativeness may be a feature small centers can put against the market potentials of large centers.

4. Origins and determinants of the rise and sustainability of financial centers

Empirically, many cases can be observed where financial centers are located in countries that suppose of a huge domestic market as a basis for the development of the financial sector. Referring to Asia this has nowadays been cited as one of the favorable conditions Hong Kong enjoys because of its access to the huge demand for capital generated in China and the large potential savings there. Historically, Hong Kong has been a location providing access to Mainland China from the outside world.

Moreover, history has shown that financial centers often emerge at locations where trade flows meet. These flows are automatically related to needs of finance and assurance. This argument may be relevant both for Hong Kong as well as Singapore. Taking into account the strong persistence of such centers (lock-in) Singapore also has the advantage of its past position in the British colonial system.

Certainly, the infrastructure of a financial center in the widest sense is important: stable political conditions, reliable transport and communication infrastructures, moderate taxes, a functioning legal framework to protect lenders and investors, flexibility and openness.

Although both, Singapore and Hong Kong have a very good infrastructure, one main argument in favor of Singapore is its function as a “safe haven”. Meanwhile Tokyo has in the past decade often been cited as an example of a very bad environment as regards its high loans and wages, an old fashioned regulation system and a relatively bad infrastructure. Whether this will change as a consequence of the big bang will have to be discussed.

In addition to this, it has been argued that the central roles of London, Tokyo and New York in international finance in a large part reflect the central importance of the TNC’s of their respective nations. Trade in goods and services, FDI, the repatriation of income and the international exchange of financial instruments all involve financial transactions. On the other hand, the stock of inward direct investment has been counted as an important determinant for the role of a financial center. For example, in the case of Tokyo its reluctance to foster foreign direct investment has been criticized. This attitude stands in strong contrast to the aggressive strategy Singapore pursues in this context. However, recently the Japanese government has underlined that it considers inward direct investment an important aspect of Japan’s economic development. These arguments show that in order to get an idea of the dynamics at work in financial centers we will have to clarify our ideas about

- the relevant agents, activities and institutions,
- their rules of decision-making and
- their interaction.

The main activities whose agglomeration constitutes a financial center are trading in stocks, futures, options, derivatives, securities and bonds, international lending, foreign exchange, offshore trading, services in the field of insurance, advisory services, financial and asset management; these are partly institutionalized markets. The agents to be taken into account are banks of different types (whose activities also depend on the regulation at a location), money brokers, stockbroking companies, insurance companies, investment advisors and others. Especially as regards banks, we have to distinguish different segments of activities: corporate banking, retail banking, private banking, investment banking and asset management etc. These have different customer segments.

At present several trends can be observed: On the one hand, electronic communication networks seem to substitute traditional market institutions and intermediaries. There are predictions that financial centers may lose certain types of “commoditised” activities to lower

cost locations.⁶ Whether this will also concern the agglomeration of companies' headquarters and their skilled employees can up to now be doubted. On the other hand, a wave of mergers has been observed, both as regards institutions and banks. It has been argued that bank mergers are also fostered by regulation and supervision requirements that are changing. Markets have been demutualized and merged, brokerage commissions have been liberalized and crossborder trading platforms as well as international market alliances have been taken into consideration. Thus, it becomes obvious, that a rethinking of strategies may be necessary, for market institutions, political decision-makers and economic agents. In order to keep their role as a spatial intermediary for financial transactions traditional centers will have to redefine their position in the value chain as service providers and centers for decision-making as well as access to information.

5. The present empirical picture of financial centers

The role of financial centers has been evaluated by ex-post measurements of their performance as well as an analysis of the input factors that might serve as favorable conditions for their present and future development. A number of the aspects relevant in this respect are also those that have besides others been used by IMD studies to evaluate the competitiveness of countries. Possible indicators are listed in the following table 2.

⁶ The Economist (1998), May 9th.

Table 2: Criteria to measure the attractiveness and “size” of financial centers

EX-POST EVALUATION	INPUT-FACTORS
<ul style="list-style-type: none"> ▪ stock market capitalization/ value traded on stock markets ▪ number of banks among the world's top 500 ranked by assets ▪ banking sector assets as a percentage of GDP ▪ international lending ▪ availability of venture capital ▪ presence of international of law companies, auditing companies and other advisory and management companies ▪ diversity of traded values and contracts 	<ul style="list-style-type: none"> ▪ direct investment flows inward/ direct investment stocks inward/ growth of direct investment stocks inward ▪ adaptation of economic policies to changes in the economic environment ▪ legal system that contributes to the competitiveness of a country/ location ▪ transparency of policy intentions ▪ adequate public service ▪ bureaucracy that contributes to development ▪ little corruption ▪ market access of foreign financial institutions ▪ listed domestic companies at stock exchange ▪ rights and responsibilities of shareholders ▪ importance of insider trading ▪ legal regulation of financial institutions ▪ guarantee of confidentiality of financial transactions ▪ information about activities of financial institutions ▪ availability of skills in finance and information technology ▪ investment in telecommunications, computers in use, computers per capita, connections to the internet, use of new information technology

As regards those measures that are generally used to evaluate the importance of the main financial places, one major problem is that most of the data are related to countries rather than locations. This is also true for measurements of the IMD which intends to measure the competitiveness of countries rather than places. While this problem is less important in the case of Hong Kong and not at all for Singapore, it is of major interest in the case of Japan where financial transactions are done at several places apart from Tokyo.

Concerning *Tokyo's* position we may state that Japan's IMD ranking shows a declining position in the last years. Although its ratings are good as regards the domestic economy and the field of science and technology, major weaknesses can be found in the field of government, infrastructure, internationalization, the area of finance and management as well as people. Certainly, Tokyo has been the largest financial center in Asia up to now. This may create certain lock-in effects as regards its future position. However, the 90s have been

characterized by a weakening position of Tokyo to which the government has responded with its big bang program. It has been argued that the importance of Tokyo in the past has been due to Japan's economic power in the region. Foreign direct investment had little importance in Japan and the activities seem to be national rather than international. Traditionally, there has been a strict separation of financial services until recently. The stock market was underdeveloped and corporate governance has been criticized as weak. This is why a lot of competence has in the nineties left Tokyo in favor of Singapore as a location for example. The reasons for this were the degree of internationality of the place, world market standards, attractive infrastructure etc. Despite all these aspects Tokyo has kept an important position and today it seems to have a revival. Companies start relocating to Tokyo with the argumentation that the liquidity and the financial know how is high there. The recent reforms seem to have opened major opportunities for firms there. They aim at making Japan's financial system "free, fair and global". Some of the most important contents of these reforms were:

- Abolishing compartmentalization of the financial industry: Previously compartmentalization was done by kinds of financial services requiring a license for each segment of the industry and requiring that the institutions operate exclusively in the area specified by the license. Moreover, authorities consistently denied entry of new participants into any of the markets of banking, securities and insurance that were compartmentalized. The banking sector was subdivided into long- and short-term finance and a few long-term credit banks were given exclusive authority to issue five-year fixed rate debentures that were dominating the market. Recently, the barriers separating these different sectors have been eliminated. There has been a new law allowing financial institutions to establish holding companies. Thus, parent corporations are able to offer a range of financial services under one umbrella.
- Price- and non-price competition was restricted through the regulation of deposit rates, stock brokerage commissions and insurance premia. Innovations were largely disallowed. Recently, stock brokerage commissions have been liberalized however.
- Moreover, foreign exchange transactions have been liberalized. While before, only authorized foreign exchange banks were allowed to conduct transactions in other currencies (which encouraged Japanese multinationals to transfer much of their foreign exchange operations to subsidiaries in London, New York, Singapore and Hong Kong),

now any business enterprise can enter into foreign-market transactions without government authorization.

Thus, new driving forces seem to have emerged to revive Tokyo's position as an international financial center. TSE decision-makers have in 1998 formulated the following aims:

- strengthen Tokyo's position as a central market place for Japan's stocks,
- expand the derivatives market based on yen products,
- function as a hub market in Asia.

Meanwhile, *Singapore* profits from its historical importance as a trading place in the British colonial system. It is praised for its political stability, its reliable environment and good infrastructure. Until the 90s there was a dual listing at with the Malayan stock market. In 1968 the Asian dollar market was created together with an Asian Currency Unit. The offshore Asian Dollar Market is by far larger than the domestic market with total assets being more than 2,5 times higher (excluding the Post Office Savings Bank). There were tax incentives in a number of areas to encourage foreign engagement in Singapore's markets. Singapore has a relatively strong position in the trade of Euro-Dollar and Euro-Yen interest futures and the Japanese Nikkei 225 future, whose trade is even higher than in Tokyo. Recently, measures have been taken to lift a 40 % limit on foreign investor's shareholding in local banks, to establish a 5-year liberalization package, to allow joint ventures with local firms to provide advisory and drafting services for onshore, cross-border and offshore financial transactions. There has been a demutualization and merger of SES and SIMEX with the aim to create "a seamless supermarket of financial products". The possibility of establishing exchange alliances within and across time zones has been explored. Stronger foreign competition has been allowed and there are clear signs that a few strong banks will be encouraged through merger. Singapore has the advantage of overlapping business hours with Tokyo, Sidney and London. The monetary authority of Singapore has argued that there cannot be more than two local banks of sufficient size because of the size of the country. For Singapore it is obvious, that the financial services sector is very strong being responsible for 11 % of GDP. It is the world's ninth largest offshore lending centre and the world's fourth most busy foreign exchange dealing center (after London, New York and Tokyo) . There are more than 700 financial institutions. Out of the 141 commercial banks in Singapore 9 are local. Over 370 companies are listed on the mainboard of the Singapore Stock Exchange and on SESDAQ which lists small to medium-sized companies. Singapore International Monetary Exchange

was the first financial futures exchange to be launched in Asia in 1984. Singapore has attained a strong position as an intermediary between foreign users and foreign providers of capital.

Compared to Singapore, *Hong Kong* is clearly the larger financial center. Hong Kong has advantages because of its good access to Mainland China. Hong Kong might therefore serve as an intermediary between “foreign” users of capital in Mainland China and domestic providers of capital (Hong Kong based banks). Project financing for China’s enormous and growing infrastructural needs will constitute a big opportunity for Hong Kong. However, there is competition from Shanghai and there have been rumors that the stock markets of Shanghai and Shenzhen will be merged in the near future. In the past Hong Kong has profited from its proximity to major international borrowers such as Korea, Philippines, Taiwan, Japan and of course China. The stock exchange of Hong Kong nowadays ranks tenth in the world in terms of market capitalization and second in Asia (after Tokyo). It not only serves Hong Kong, but also acts as an important source of funding for companies in the Asian region, particularly Mainland China. There are about 185 authorized institutions and representative offices of banks from 41 countries. Of the world’s top 100 banks 78 have established business in Hong Kong. Around 60 % of the banking business is denominated in foreign currencies. Hong Kong is the seventh largest foreign exchange trading centre in the world after UK, US, Tokyo, Singapore, Germany and Switzerland. Finally, it is among the world’s largest gold bullion markets. Hong Kong seems to try to take a double role of a regional center for Asia and a channel for foreign capital into China. Up to now there have been three different kinds of Chinese companies entering Hong Kong’s markets: The first are Chinese companies seeking a Hong Kong listing (H share listing). The second are companies that are incorporated in Hong Kong, but whose main assets are in Mainland China. Finally, there are companies incorporated in Hong Kong whose assets are mainly in Hong Kong or outside China. Authorities stress that after the resume of exercise by China, Hong Kong’s financial and monetary system remains entirely separate from that of Mainland China. Despite the many similarities between Hong Kong and Singapore, there are also major differences: E. g public ownership in major local corporations in Singapore has been higher than in Hong Kong. While Singapore is moreover specialized in electronics manufacturing, Hong Kong has experienced a relocation of its manufacturing base towards Mainland China. Both locations have served as a homebase for regional headquarters.

Some of the main facts are represented in table 3. While IMD indicators for Singapore and Hong Kong may be useful, it does not seem reasonable to generalize the results for Japan for Tokyo. We therefore refrain from presenting these data.

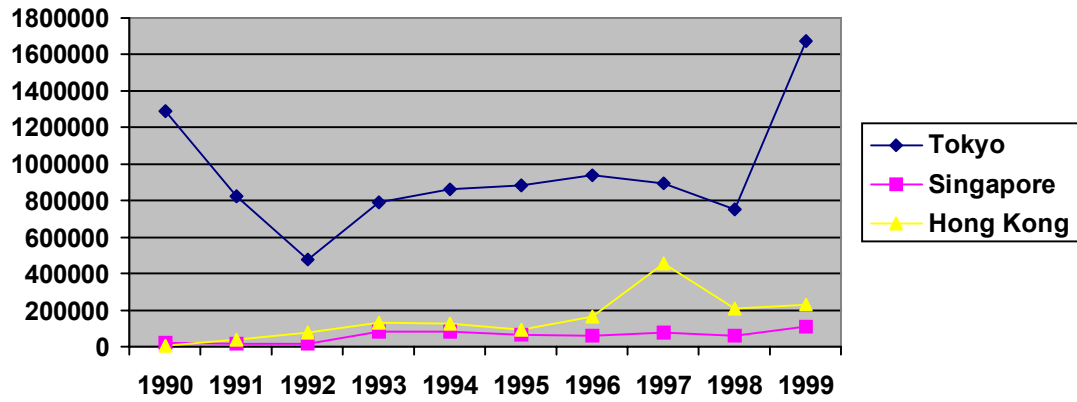
Table 3: Some empirical facts about the current position of the three locations

Singapore	Hong Kong	Tokyo
<ul style="list-style-type: none"> - <u>Stock Exchange of Singapore (SES)</u> - over 317 companies (274 domestic and 42 foreign) listed (including SESDAQ) - market capitalization US-\$ 192, 983 mio - share turnover US-\$ 107,406 mio. 	<ul style="list-style-type: none"> - <u>Stock Exchange of Hong Kong (SEHK)</u> - tenth largest in world in terms of market capitalization - second largest in Asia - share turnover US-\$ 230,032 - 701 companies (688 domestic, 13 foreign) listed - market capitalization US-\$ 608,159 mio. 	<ul style="list-style-type: none"> - <u>Tokyo Stock Exchange (TSE)</u> - 1932 companies (1889 domestic, 43 foreign) listed - market capitalization US-\$ 4,455,348 mio. - share turnover US-\$ 1,675,641 mio.
<ul style="list-style-type: none"> - <u>Singapore International Money Exchange (SIMEX)</u> - first financial futures exchange to be launched in 1984 - linked to Chicago Monetary Exchange - world's fifth largest derivatives trading center 	<ul style="list-style-type: none"> - <u>Hong Kong Futures Exchange</u> 	<ul style="list-style-type: none"> - <u>Tokyo International Financial Futures Exchange (TIFFE)</u>
<ul style="list-style-type: none"> - bond turnover US-\$ 3,789 mio 	<ul style="list-style-type: none"> - bond turnover US-\$ 8 mio 	<ul style="list-style-type: none"> - bond turnover US-\$ 49,339 mio.
<ul style="list-style-type: none"> - <u>1968 launch of Asian dollar market</u> - ninth largest offshore center in world 		
<ul style="list-style-type: none"> - <u>foreign exchange</u> - fourth largest in world after London, New York, Tokyo - daily turnover US \$ 139 bill. 	<ul style="list-style-type: none"> - <u>foreign exchange</u> - seventh largest in world - turnover US \$ 79 bill. 	<ul style="list-style-type: none"> - <u>foreign exchange</u> - turnover in Japan 148.6 bill. US-\$
<ul style="list-style-type: none"> - <u>financial institutions</u> - more than 700, 141 banks (full, restricted and offshore) 	<ul style="list-style-type: none"> - <u>financial institutions</u> - 285 authorized and representative offices of banks - 78 of world top 100 present 	

Source: National financial institutions

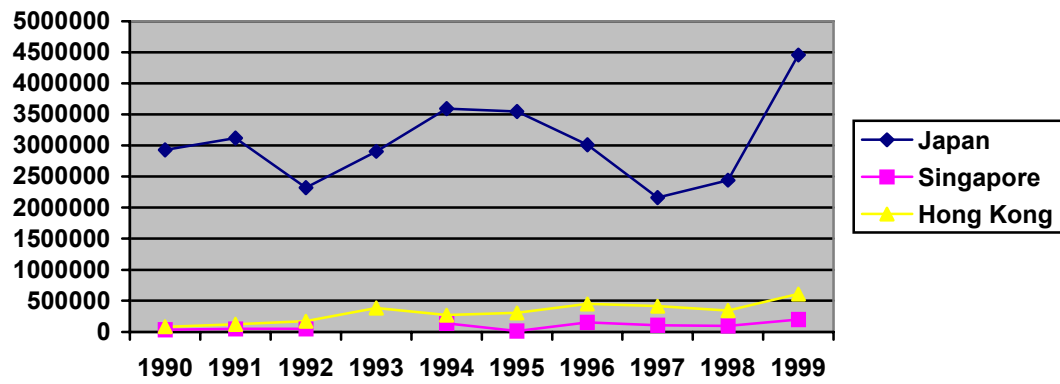
Figures 2-4 show the stock market turnover, the market capitalization and the number of firms listed at the three locations during the last decade.

Fig.2: Share Turnover on International Exchanges, mio US-\$



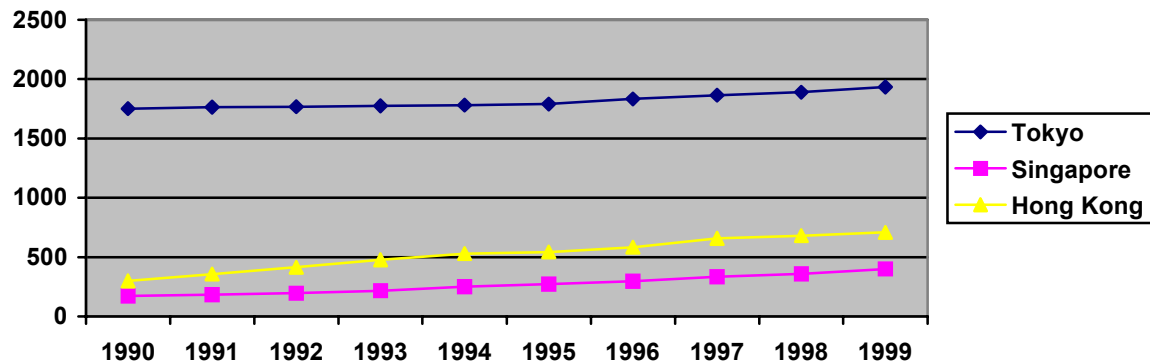
Source: Deutsche Börse

Fig. 3: Market Capitalization of Shares of Domestic Companies. mio. US-\$



Source: FIBV

Fig. 4: Total number of listed companies at the stock market



Source: FIBV

The different orientation towards domestic transactions versus international orientation of a center might also be indicated by the number of European and North American banks located in the three places (table 4).

Table 4: European and North American banks located in Asia-Pacific nations 1995

Home country	Hong Kong	Japan	Singapore
Austria	2		
Belgium	3		2
Canada	6	5	5
Finland			2
France	9	7	9
Germany	10	7	8
Ireland			1
Italy	7	4	5
Luxembourg			1
Netherlands	3	2	4
Norway			2
Spain	3	3	1
Sweden	2	1	2
Switzerland	3	3	3
UK	7	6	7
US	15	16	12
Total	70	54	64

Source: Asia Pacific Viewpoint, Vol. 39, No. 2, p. 154

6. Scenarios for the future geographic landscape of the financial sector in Asia

Up to now Tokyo has been the most important financial center in Asia. This was reflected by the financial liquidity traded there. However, in the nineties, Tokyo was criticized for its bad conditions, lacking flexibility, old-fashioned rules and high costs. This is why the question of competing financial places was raised. There were arguments that Tokyo kept its position mainly because of lock-in effects related to the masses traded there. It could be observed that a number of firms changed their regional headquarters to Singapore or Hong Kong. These had the advantage of a higher degree of internationalization, flexibility and openness. However, recently, the big bang program may be a starting-point to regain dynamism in Tokyo and change its face from a “reluctant”⁷ – although big – center existing from its former growth rather than its future dynamics to a more innovative, “aggressive” place. According to many observers, the reactions to this decision seem to have been prompt. Firms were willing to relocate to Tokyo so that a substitution of Tokyo by Singapore seems to be less probable. This shows that sometimes it is not the financial center in general that seems to be tied to a location. Certainly, centers with huge market potentials create lock-in effects. These can only with difficulties be overcome by smaller centers, even if these offer a better value-added which may be their only possibility to excel among the big. However, evaluating the importance of Hong Kong and Singapore, we have to take into account that especially Hong Kong has some very special features that are unique. On the other hand, it will have to be seen how fast Tokyo is able to change its face. Moreover, we have to take into account that in many senses, Tokyo’s development as a financial center cannot be evaluated without considering the many weaknesses the Japanese economy and political system is suffering. Having a look at the three centers there are good arguments to consider them at least as partly complementary rather than purely competitive. Hong Kong has its advantage in China-related business. Tokyo is indispensable in serving Japanese financial needs. Singapore’s long-run advantage in this context seems to be not that clear provided that Japan might be able to reform its financial system in the long run. Up to now Singapore has had advantages as a hub connecting foreign users and providers of capital. Ultimately however, the importance of the three centers may have to be measured not only by the flows entering them and leaving them resp. the transactions settled at a location, but above all by the degree to which they serve as a basis of companies in the financial sector. This locational choice will be decided in favour of

⁷ Dufey, G. (1983): Banking in the Asian Pacific area, in: Moxon, R./ Truitt, J. F./ Roehl, T. (eds.): Asia Pacific Dynamics, Greenwich.

the best and most flexible policy framework and it will be reinforced by agglomeration advantages that may – as has been seen in the case of Tokyo – be difficult to overcome.

In the same way as financial centers persist in time, their emergence also takes time which may be a reason why we should not expect a sudden upsurge of Shanghai as a regional financial center.

Moreover, there may be a number of soft factors shaping the future of financial centers. This is well expressed in the following quotation: “Singapore is a great service centre for foreign banks, but does not yet have a genuine financial trading culture”.⁸

7. Stylized facts to develop the theoretical basis

In order to develop the theoretical basis of explanations for the spatial geography of the financial sector, it will be necessary to point on some stylized facts that seem to be important for the evolution and decline of financial centers.

- Financial centers seem to differ concerning their spatial importance (regional, international and global financial centers). This seems to be related to the availability of information (information hinterland) as well as to the distance sensitivity of the functions fulfilled in a center. It may also be due to traditional regional linkages. In the following the relationship between Singapore, Hong Kong and Tokyo will be analyzed leaving aside the roles of London and New York.
- The relationship between the productive and the financial sector seems to be of major importance. In this respect emphasis will have to be put on the location of headquarters of multinational firms, on the strategies and networks of multinational firms. The international scale of financial centers might therefore be due to a lacking distance sensitivity of transactions as well as to the global scale of networks of multinational firms, both in the banking as well as in the production sector.
- Current trend show that innovation and development of markets, transactions and environmental conditions is a major element of maintaining competitiveness in a center. It seems as if some parts of the financial sector are more dependent on upgrading and renewing, while others rely on local learning and expertise. Moreover, the financial masses traded are an important aspect for the locational decision of major agents.

⁸ Financial Times, Country views, www.ft.com/ftsurveys/industry/sc3e56.htm.

Past and current developments in Asia show that financial activities are a matter of volume. A favorable environment may be a temporary advantage Hong Kong and Singapore have profited from, but Tokyo seems to have kept its importance because of its size and this is why reform programs seem to have met strong willingness of firms to relocate. Volume of financial transactions is created by demand potentials, be it corporate or private demand. However, demand is not a given thing. E. g. the Hong Kong Stock Exchange emphasizes its goal to maintain a diversified client base of domestic retail investors, domestic institutional investors and international investors. by promoting regional products and introducing new instruments that may also be related to the special conditions of the Chinese market. This on the other hand is a matter of access, both as regards the regulatory aspects of the market as well as the acceptance of foreign banks by customers e. g. The last aspect may be an important problem especially in the Japanese market. Corporate customers may be distinguished in several groups:

- Western multinationals that may partly have to take banking orders from their headquarters. Therefore, in order to make this segment attractive, banks have to deal not only with lending, but also with risk management, cash management and trade finance products. Western multinationals are often funded by bank branches of their home countries, which may give foreign banks good opportunities to enter the market.
- Emerging Asian global companies have in the past been mostly Japanese. Their needs have been covered by Japanese banks. This may nowadays be changing. In Japan multinational banks have gained market shares, but not without “investing” in order to get an insider position in the market. This has often been based on buying or partnering with a local bank. The alternative strategy seems to be a niche strategy based on expertise.

Table 5: Corporate Banking Customers in Asian Countries

1996	Japan	Singapore	Hong Kong
Multinationals	380	898	296
Emerging Globals	1,000	90	50
Large Locals	5,000	642	403
Middle Market Companies	15,000	1,712	10,000
Small Businesses (000)	2,428	34	250

Source: Casserley, D. et. al (1999): Banking in Asia, Singapore, p. 50

The different shares these sector contribute to bank's revenues may be due to their power, their different access to capital markets as well as their different knowledge in cash management.

Table 6: Corporate Banking Revenues by Segment and Country, percent of all revenues in a country

1996	Japan	Singapore	Hong Kong
Multinationals	1 %	3 %	2 %
Emerging Globals	27 %	29 %	6 %
Large Locals	22 %	39 %	20 %
Middle market companies	24 %	21 %	60 %
Small businesses	26 %	8 %	12 %
Summ in bill. US \$	18.1	1.9	2.9

Source: Casserley, D. et. al (1999): Banking in Asia, Singapore, p. 54

Meanwhile all Asian markets have in the past and also in the present limited market entry with different categories of banks allowed to operate.

Finally, the decision where to operate will be a matter of the "value-added" a location offers. This is related to the costs to enter a market and to maintain operations there. These have in the past and still today been extremely high in Tokyo. While US banks in 1995 had a cost to income ratio of 62, the respective numbers for Hong Kong and Singapore on the other hand were 41 and 40. However, it may be doubted whether Singapore and Hong Kong are really competitive to each other. For Hong Kong, its future seems to be dominated by the special effect of China.

Moreover, financial places need time to grow, build up infrastructure and an international character. This is why for competing places like Shanghai and Shenzhen, it may still be a long way to go.

8. Modelling the rise and decline of financial centers

Models to deal with this topic will have to be centered around the phenomena of agglomeration, path dependence and evolution. They will have to recognize the importance of different groups of agents and their interaction to describe the rise and decline of financial centers. Up to now tailored models to analyze this question have not been found. However, there are several approaches dealing with related phenomena that may be promising.

Nonetheless, all of them suffer from major deficits so that further progress is needed. Moreover, some of them have to be considered as complementary rather than exclusive explanations.

The approaches to be considered in the following part are New Economic Geography models on the one hand, stochastic approaches being dealt with under the headline of sociodynamics and network approaches on the other hand.

8.1 New Economic Geography⁹

Matters of agglomeration, centers and peripheries have in the last decade experienced a wave of new interest. From the point of view of the theory of international economics, a new strand of research has become known under the headline of New Economic Geography. These market models have started from the assumption that markets are characterized by monopolistic competition. Space enters the model mostly in the form of distance causing transport costs. In a very general model, it is assumed that besides the sector of manufactured goods produced and sold under monopolistic competition there is another (agricultural) sector characterized by perfect competition. While firms producing manufactures are perfectly mobile, agricultural production is tied to the availability of land. Manufactures and agricultural goods enter the demand functions of consumers defined as landlords and workers in a given proportion. While landlords are tied to their land and immobile, workers are mobile and free to go wherever real wages are highest. Assuming that there are transport costs the immobility of parts of the productive sector and the consumers creates forces of dispersion. Meanwhile, the advantages of a better availability of manufactures in cities, lower prices, higher real wages and a huge market creates tendencies of agglomeration.

⁹ For a survey of the original model see Fujita, M./ Krugman, P. R./ Venables, A. J. (1999): Spatial economics, Cambridge; for a first evaluation of the applicability of these models see Reszat, B. (2000): Evolution, spatial self-organization and path-dependence: Tokyo's role as an international financial center, paper presented at the conference "Japan and Germany in a globalizing economic environment: saving institutional strengths or radically converging on international standards? Gerhard Mercator University, April 13-14, 2000.

Thus, this type of models is able to explain on the one hand the existence of agglomerations of economic activities based on certain assumptions about the mobility of agents. On the other hand, it makes the derivation of emergent city structures based on a scenario of growing populations possible. Cities are assigned a certain spatial reach by the hinterland where their goods are sold. There are features of evolution, path-dependence and lock-in to be discerned in these models. Spatial economic structures that are based on advantages of second nature are derived. These refer to agglomeration advantages that are based on the decisions of economic agents rather than comparative advantages of first nature. Furthermore, models dealing with the clustering of vertically linked sectors in one location can be derived.

In the preceding paragraphs we have underlined the importance of openness and access to and from financial centers. This is why these centers might be understood as hubs on financial markets. The hub phenomenon has been dealt with in a model by Fujita and Mori. They deal with hubs as given nonuniformities in geographical space and come to the conclusion that hub locations are more likely to grow dominantly than non-port cities. Hubs or transport nodes in these models are the only locations that make transportation between different regions possible.

Another subcategory of models of New Economic Geography deals with the explanation of hierarchical city structures. Hierarchies of industries are assumed differing according to the transport costs involved and the elasticity of substitution of the consumers. This implies that some industries will be more sensitive to distance than others and willing to change their locations from a central city to new cities earlier. Higher order cities develop from lower order ones. This strongly reminds us of the idea of regional, international and global financial centers. Can we make out patterns where global centers emerge from regional ones or are the two types independent? Which are the aspects that determine the hierarchical order of centers?

What can be said about the adequacy of these models to deal with the phenomenon of financial centers? Clearly there are a number of aspects that can be derived in these models and that are empirical features of financial centers as well: agglomeration, evolution, lock-in and path-dependence. The models allow the existence of multiple equilibria. They are less determinate than traditional models in international economics in that they refer to historical chance as regards the questions where cities initially emerge. Applying them to the phenomenon of financial centers they would lead us to conclude that financial centers emerge in a growing system step by step.

On the other hand, the evolution of city structures very much depends on the assumptions about geographical distance incorporated in transport costs. Geographical distance does matter for the transport of goods, but the relationship between distance and financial activities seems to be different. Certainly, there seem to be activities that are more sensitive to distance than others. But this is more or less independent from geographical distance. There may be extremes of activities where personal contact (local interaction) is necessary and other activities that are mostly independent of geographical distance. Distance may however matter as regards historical ties and relationships between different locations. It may be a matter of openness and the distribution of information. Moreover, these models assume that the rise of location follows given assumptions about market structures or at least structures of interaction and flows. However, the development in Asia seems to point to the fact that flows might to some extent follow locational decisions rather than the other way round.

As regards the idea of hubs, the models lack an explanation of the emergent properties of hubs themselves. Access is not a given thing, it is an advantage that emerges together with economic structures. This is why important dynamic aspects of the models that shape the empirical picture of financial services are missing.

Thus, we may conclude that in many senses these arguments show that we have to be cautious not to conclude from a superficial observation of common features of a system that modeling procedures are transferable in modeling the evolution of the industrial sector's location and that of the financial sector.

8.2 Network models

Major agents in financial centers are multinational firms either in the banking or in the production sector. Most of the time, international financial centers seem to go along with a strong presence of headquarters of big multinational firms at the same location. This leads us to the question about the funding and investing strategies of multinational firms. Do they invest and borrow their capital at the location of their headquarters? This might be probable, if the relevant transactions are contact intensive and require the proximity that is given in a financial center and if the management of corporate finance is centrally controlled at least in a region.

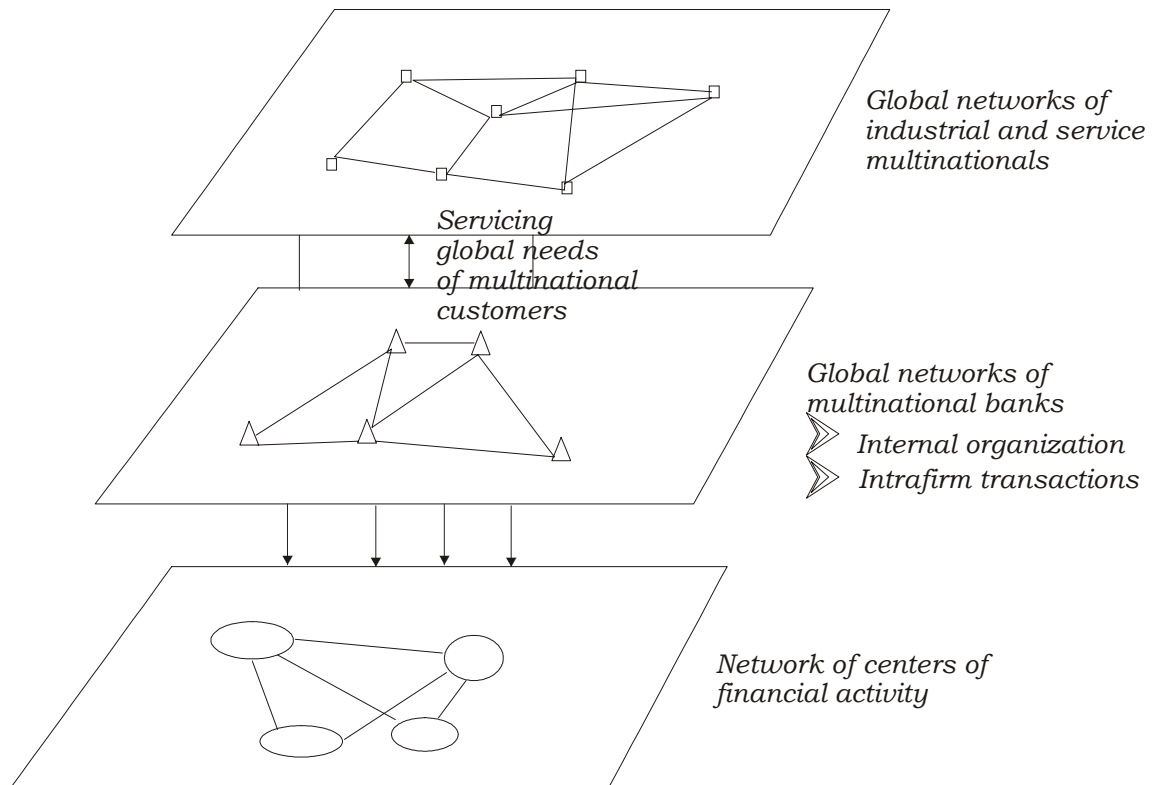
On the other hand, financial centers are connected by networks of multinational banks. Empirically, it has become obvious that these banks seem to choose their location in follow-the-leader patterns and that cross-investments and rivalrous investment is relevant. Moreover,

there have been arguments that multinational banks seek the information advantages arising from a global network. Finally, the strategy of global relationship marketing seems to become more important. This means that there is a certain overlap among the networks of multinational firms in the banking sector and their customer in the production sector. Advantages of a network are exploited by offering the same service in any part of the world while at the same time having the advantage of proximity within transaction. Finally, we should pay attention to the intrafirm transfer of financial resources within multinational banks.

Indeed, in the past decades banks in Asia seem to have relied on regional service centers which created a hierarchical distribution of centers. E. g. in the 90's many of these centers were located in Singapore and main decisions for Japan and Hong Kong came from there. Nowadays however, competences for Japan have been separated or headquarters have shifted to Tokyo. Hierarchies in the urban system seem to be created by the firm's organization.

Nowadays moreover, networking among different financial places in the world as well as different financial institutions at one location seems to become more and more relevant. There has been much talk on strategic affiliations, interlinking and new technological possibilities. Thus, there seem to be elements of competition, co-operation as well as concentration in the financial geography of the world.

Fig. 4: A networked financial geography



8.3 Sociodynamic models¹⁰

Sociodynamic models are stochastic models that deal with the probability with which certain macro outcomes can be expected. Macro states of the system are derived from micro-behaviour. Agents in these models are aggregated into more or less homogenous subpopulations. They have to make a number of choices often modeled as based on the utility that can be expected from these choices. From these utilities it is possible to derive individual transition rates as the probability in time that an agent changes his attitude from one alternative to another. These transition rates are aggregated within subpopulations. By means of the Master Equation a probability distribution over all possible states can be derived. This approach might be able to show that the location of financial centers is by no means a deterministic matter. There may be some locations that are more probable to be chosen, but there may be multiple outcomes possible. Moreover, it is relatively flexible as regards the form of the utility function and the aggregation of agents into subpopulations.

What about the main assumptions of our model?

Assume that there are P different subpopulations P^α $\alpha=1,2,\dots,P$ with total members of N^α in each subpopulation. Empirically subpopulations may be banks of different types (that can also be divided into local and foreign firms), money brokers, stockbroking companies, insurance companies, investment advisors etc. It may be assumed that banks also differ as regards their centers of activity. As will be explained this might lead to different forms of utility functions determining their decisions.

The possible attitudes the members of these subpopulations can assume refer to the choice of different locations for their activities. In our model there are 3 locations $i=1,2,3$ (Hong Kong, Singapore, Tokyo). This may be justified by the fact that the location of regional headquarters seems to have been more volatile than the growth of the markets measured in market capitalization e. g. itself.

n_i^α is the number of members of a subpopulation that is active at a location.

In order to describe the elementary dynamics, we assume that firms may change their location from i to j or enter a new additional location. We choose the stochastic approach of the Master Equation to solve the system. Moreover, the probabilities included in the transition rates are derived from the utilities that can be gained by operating at a location.

¹⁰ For the general modelling procedure see Weidlich, W. (2000): Sociodynamics – a systematic approach to mathematical modelling in Social Sciences, forthcoming.

In order to derive the form of the utility function we assume that the markets at each location can be distinguished into 2 segments. In the following, we want to deal with the elements that should enter the utility function. In order to specify its concrete form, much more empirical work will be needed. At this preliminary stage misspecifications are however probable when trying to get a more exact formulation.

- a) traditional fields of finance: In these fields there are self-reinforcing effects in time and as regards the number of agents at a location (positive externalities within and among subpopulations. This assumption is justified by the fact that empirically we can expect a growing expertise at a location, both as regards learning in time and knowledge spillovers among agents. Moreover, the market potential moved at a location seems to matter. Nonetheless, expertise can only matter, if regulations are adequate. Thus, we will have to enter variables like the number and structure of companies, number of households, investable assets, consumer deposits and loan balances. Moreover, given restrictions at a location will have to be taken into account.
- b) innovative segments: The development of the international financial system has been characterized by a number of new instruments and markets in the course of time. In order to enter this observation into our model we will either have to assume “erratic” innovative behaviour or an inclination of decision-makers at a location towards innovative behaviour. Moreover, these segments that have to be updated towards new developments: In these segments old knowledge underlies a process of devaluation; learning by doing is less important as regards past rules of the system. Rather do we have to deal with different degrees of flexibility at different locations. Thus, in some fields experiences may be subject to devaluation. However, one problem will be to find adequate measurements for innovativeness.

In order to justify that each firm has only a limited number of locations we will have to assume that there are permanent costs of operating at a location as well as fixed costs of entering a market. These may also be relevant for the value-added at a location. Moreover, these costs may also include investments to get an insider position as a foreign firm. They may differ across locations and of course, they will be lower or non-existent for local firms.

Finally, empirical observation shows that each of the three locations, Singapore, Hong Kong, Tokyo has certain special unique features that should enter the utility function. These - in combination with better ideas about intrafirm organization in the financial

sector – will be important to get a better understanding about whether locations are complementary or substitutional.

We may expect that different agents put importance on different activities. This is why the three aspects may have different weights in their utility functions.

Two scenarios moreover seem to be possible: On the one hand, there might be a certain division of labour among locations. Firms might operate certain functions at one location and do others at another. In that case, there should be separate utility functions as regards the decision to operate in one of the market segments. On the other hand, activities in the different sectors might be related so that advantages in one field might compensate for disadvantages in others in the utility function. Thus, we will have to weigh the different aspects in the utility function. The probability of the different scenarios might also be related to the regulations present in the market. The Japanese system of compartmentalization might be a very good reason why the activities in different sectors may not have been related in the past. Thus, the rules of the system may change with the regulation valid at certain locations at a point in time. This may be one of the effects of the big bang. Furthermore, we will have to distinguish the decision to operate a regional headquarter, representation or to be active in other forms.

Having specified the utility function we will be able to model locational changes of decision-makers in the financial sector as well as the entry and exit into a market: n_{ji}, n_{i+}, n_{i-} . These changes are modelled on the basis of a stochastic model. This is why we derive transition rates, e. g. $w_{ji}(n, t)$, which depend on the current constellation n the system is in. These transition rates are based on individual transition rates $w_{ji}(n, t) = p_{ji}(n, t) \times \#_i$. This is due to the fact that each of the individuals can independently produce the transition from n to n_{ji} . $P(n, t)$ is defined as the probability of finding configuration n at time t . We now derive the configurational Master Equation. Neglecting entry and exit of players at a location this has the form:

$$\frac{dP(n, t)}{dt} = \sum_{i, j(i \neq j)}^L w_{ij}(n_{ji}, t) \times P(n_{ji}, t) - \sum w_{ji}(n, t) \times P(n, t)$$

The number of parameters and the huge empirical research agenda already show that a complete specification of such a model will be very difficult. External interdependencies among agents as well as internal features of multinational decision-makers will have to be

taken into account. However, already from the point of view of modelling procedures this approach has the advantage that it forces us to get clear ideas about

- the relevant agents (no homogeneous mass of market agents),
- their decision-parameters (no anonymous price-mechanism)
- and their interdependencies.