

**SECURITISATION AND ITS FOOTPRINT:  
THE RISE OF THE U.S. SECURITIES INDUSTRY CENTRES 1998-2007**

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**Abstract**

This paper conceptualises securitisation from an economic geographic perspective, and documents dynamic but volatile growth of the securities industry and its distribution in the U.S.A. between 1998 and 2007. The industry has spread across states and metropolitan areas, within which it has enhanced its position in central districts, crowding out credit and insurance industry. Corporate headquarters have become more concentrated and their distribution has become more similar to the location of the securities industry centres. The results have implications for a revision of the global city theory, and corroborate research on the geography of stock markets and financialisation.

**Keywords:** securitisation, financial centres, securities industry, geographic concentration

**JEL codes:** R11, R12, G20, G24

**1. Introduction**

Securitisation is one of the keys to understanding financial markets of the last quarter century as well as financial globalisation. The share of equity and private debt securities in global financial assets has increased from 37% in 1980 to 57% in 2007, and although global equity markets almost halved in value during 2008, at the end of that year the share of private securities stood at 48%. Between 1980 and 2008, the share of private securities in the U.S.A. rose from 45% to 62% (McKinsey, 2009; 2005). In the same period the share of bank deposits fell from 45% to 34% globally, and from 41% to 23% in the U.S.A..

Economic geographers and other social scientists have studied various facets of securitisation. One strand of research has investigated the association of securitisation with disintermediation – a shift from bank-based to market-based financial relations (French and Leyshon, 2004). Another strand has focused on securitisation generating a drive towards liquidity influenced by and contributing to concentration and centralisation in the financial system (Verdier, 2002; Klagge and Martin, 2005). Others have stressed the sophisticated nature of information and skills used in securities markets resulting in high geographic concentration of securities industry (Clark, 2002; Parr and Budd, 2000). Yet others have tackled securitisation as a part of broader processes of financialisation, whereby corporate decisions are driven increasingly by the logic of financial markets (O'Neill, 2001; Froud et al., 2006). The crisis of 2007-8 has

reignited interest in securitisation, with emphasis on mortgage-backed securities (Aalbers, 2009).

The theoretical vantage point of this paper is the global city theory by Saskia Sassen, according to which globalisation makes central (co-ordinating) corporate functions grow in importance, and these functions increasingly get outsourced to specialised services firms (Sassen, 2001). As these services firms benefit from co-location in large and deep labour markets their concentrations sustain global cities, but leave more freedom to other companies to locate wherever they wish. Building a parallel of this theory, I define securitisation as a process of increasing institutional and geographic dispersion of financial asset ownership, which feeds the development of securities industry. This industry links issuers with investors, sellers with buyers, and offers services to address the information asymmetry and agency problems arising from securitisation. Securities firms benefit from co-location, but (and here my proposition diverges from that of Sassen) this does not leave companies freer to follow other location factors. Under conditions of securitisation, proximity among securities firms, issuers and investors remains important, as they form what I refer to as securities industry centres.

Predictions arising from my approach are tested through an analysis of data on the growth and geographic distribution of securities industry in the U.S.A. between 1998 and 2007, addressing three questions:

1. How has the size of the securities industry changed in absolute terms and in relation to the rest of the financial sector?
2. How has the geographic distribution of employment in the securities industry changed in absolute terms and relative to the rest of the financial sector?
3. How has the geographic distribution of corporate headquarters changed in absolute terms and in relation to employment in the securities industry?

The analysis demonstrates that in the last decade we have witnessed a rise in the number and size of securities industry centres. The industry grew in New York, where it spilled over from Manhattan to select adjacent counties, and in central districts of Boston, Chicago, and San Francisco, but higher rates of growth have been found in Philadelphia, Los Angeles and the states of Arizona, North Carolina, and Utah. Securities industry centres are also big general financial centres, but there has been a tendency for the central parts of metropolitan areas, with Manhattan in the lead, to shed employment in credit & insurance, and specialise more in securities. There has been no tendency, however, for securities industry centres to become less important locations of corporate headquarters. Quite on the contrary, the geographic distributions of securities industry and corporate headquarters have become more correlated.

The results of the paper contradict expectations built on the global city theory that specialised business services concentrate increasingly in global cities, but corporate headquarters become more widespread. The results are the opposite, supporting an explanation that securitisation, as an essential part of corporate financialisation, influences corporate location decisions, reinforcing the role of proximity between securities industry and corporate headquarters. The case of Boeing, which moved their headquarters from Seattle to Chicago is symptomatic of this trend (Muellerleile, 2009).

The paper proceeds as follows. Section 2 defines securitisation and securities industry centres, preparing the ground for hypotheses on the growth and distribution of the securities industry presented in section 3. Section 4 discusses methodology and data, with sections 5 through to 7 addressing each of the research questions. Section 8 summarises results, presents their contribution to literature, and indicates directions for further research.

## **2. Defining securitisation and securities industry centres**

According to a popular financial economics textbook securitisation “is the process of transforming otherwise illiquid financial assets (such as residential mortgages, auto loans, and credit card receivables), which have typically been the bread and butter of banking institutions, into marketable capital market securities” (Mishkin 2007, 255). Thus, the essence of securitisation from an economist’s perspective is making an asset more liquid i.e. easier and cheaper to buy and sell. This includes the development of primary markets i.e. changing the characteristics of an asset so that it could be offered by issuers to a large number of potential investors, as well as the development of secondary markets, where assets can be traded among investors. Securitisation of corporate ownership (equity), for example, involves the assumption of a joint-stock company status and the sale of shares through a public offering, with the subsequent trading of these shares on the stock market. Securitisation of corporate debt, in turn, involves the substitution/conversion of bank loans with/into bonds, which can be offered to a number of investors, who can then trade these bonds on a secondary market.

Moving on from the economist’s definition, securitisation requires that the ownership of financial assets, whether it is a company’s equity, debt or a bank’s loan portfolio, be spread more widely, among a larger number of investors. As there are limits to how many investors can be found in any one place, spreading ownership across places becomes an essential ingredient of securitisation. In sum, improvement in liquidity involves institutional and geographic dispersion of the ownership of financial assets. Securitisation is thus crucial to financial globalisation.

One direct consequence of securitisation is growing demand for intermediaries connecting an increasing number of investors from an increasing number of places with each other (to make secondary markets work), and with issuers (in primary markets). This demand is satisfied by securities industry, including investment banks, playing a key part in linking issuers and investors on primary markets, and focusing on wholesale investors. Stock exchanges and brokerage companies, in turn, link investors to each other on secondary markets, and investors to secondary markets, respectively, and focus on retail investors.

Linking investors and issuers is more than just helping them find each other, matching supply and demand. It also gives rise to an industry that addresses problems amplified by institutional and geographic dispersion. The first of these problems is information asymmetry, whereby the issuer of a financial asset (hence the ultimate borrower) knows better what they borrow for than an investor does. The second problem is agency, whereby those managing financial assets (corporate managers with regard to equity or bonds or bank managers with regard to securitised loans) can act in their own interest and against the

interest of investors as owners of these assets. Investors, particularly if small and/or remote do not have their own means to assure themselves that particular financial assets are worth owning and buying. They need assurance on the integrity of information on these assets and the actions of people managing them. This leads to a demand for activities including: investment advice and portfolio management, corporate governance rating agencies and consultancies, audit and due diligence by accountancy firms, investor relations firms, securities analysis and research, and securities law. In contrast to investment banking, exchanges and brokerages, for accountancy, law, and consultancy firms securities-related activities are mostly just a part of their business.

Thus far, I have modified the definition of securitisation, by stressing that it transforms financial assets through an institutional and geographic dispersion of ownership, conducted with the intermediation of specialised securities industry. Definition thus refined highlights the fundamentally spatial nature of the process. To build on the geographical definition of securitisation and conceptualise the spatial organisation of the securities industry, I refer to the global city theory, and specifically the first four hypotheses (out of a sequence of seven), as laid out by Saskia Sassen (2001). First, globalisation makes central/co-ordinating functions of firms grow in significance. Second, an increasing part of these central functions is outsourced to specialised services firms. Third, these specialised firms benefit from locating close to each other, forming agglomerations. Fourth, the more corporate headquarters outsource central/co-ordinating functions, the freer they are to follow other location factors.

Let us formulate an equivalent sequence of propositions, but with securitisation instead of globalisation as a starting point. The first two have already been elaborated. First, securitisation leads to an institutional and geographic dispersion of financial asset ownership. Second, the process gives rise to the development of securities industry. The third proposition, on securities firms benefiting from co-location can be supported with research on the geography of stock markets (Wójcik, 2009a). Most securities transactions require intensive co-operation between different firms. An equity issuance for example involves one or more investment banks, a law firm, an accountancy firm, a stock exchange, and brokerage firms. To put it simply, without a strong tendency of securities firms to cluster, the Wall Street or the City of London would not exist. Empirical evidence on the significance of clustering in the securities industry is convincing (Cook et al., 2007; Wójcik, 2007).

Translating the fourth proposition of the global city theory is more difficult. Can corporate headquarters, as the strategic and financial decision-making centres of companies, ignore the location of the securities industry and vice versa? I argue that proximity between securities firms and corporate headquarters, but also between them and major institutional investors, such as pension and mutual funds continues to matter. In fact, institutional investors such as mutual and pension funds may be considered a part of the securities industry as they serve retail investors as their customers, and intermediate between them, issuers, and the rest of the securities industry, e.g. investment managers and consultants (Clark, 2000). Securities transactions on primary markets require frequent interactions, and trust between issuers and securities firms (Wójcik, 2009b). On secondary markets, institutional investors have been shown to skew their investments towards the securities of local issuers, and to

time their trades in these securities better than remote investors (Wójcik, 2009c).

Apart from their direct interactions, securities firms and corporate headquarters benefit from co-location by sharing a large and deep labour market offering securities-oriented skills, including financial executives, non-executive directors, investor relations experts, as well accountants skilled in financial reporting required from publicly listed firms (Burton et al., 2006). The argument here, supported with literature on financilisation, is that corporate headquarters cannot deal with securitisation by fully outsourcing securities-related functions. Securitisation includes the priority of shareholder value maximisation in corporate activities, and sensitivity to how securities markets react to corporate decisions (Clark and Wójcik, 2007). As such, while fuelling the development of securities industry, securitisation transforms corporations themselves, and increases their internal demand for securities expertise (Froud et al., 2006). As a result, there is no reason to expect that proximity between securities industry and corporate headquarters would diminish over time, as long as securitisation forces are at work. In other words, the fourth proposition is that securities industry centres would also constitute important centres of corporate headquarters, and that with time this relationship would not weaken.

### **3. Hypotheses on the growth and spatial distribution of securities industry**

*1. How has the size of the securities industry changed in absolute terms and in relation to the rest of the financial sector?*

The period under study, 1998-2007, in the U.S.A. was a period of intensive securitisation. The issuance of asset backed (mainly mortgage backed) securities more than quadrupled, and the stock market capitalisation nearly doubled (McKinsey, 2009). There is little doubt that this trend must have led to growing employment in the securities industry. I would expect this growth to be quicker than for the rest of the financial sector, consisting primarily of credit intermediation and insurance. Securitisation can complement credit creation (securitisation of loans allows more credit creation) and insurance (securities offer investment opportunities for insurance firms). On the other hand, it offers significant substitutes: companies issuing securities may need less credit; people saving in mutual funds may need less life insurance. There is little evidence of credit and insurance products succeeding as substitutes of securities.

In addition, I would expect the growth of the securities industry to be sensitive to market conditions, for example stock market performance. The issuance of new securities and the volumes of secondary market trading, and consequently demand for the services of the securities industry, are correlated with securities prices (Sarkissian and Schill, forthcoming). This sensitivity to market conditions would be higher than for the rest of the financial sector, implying less stability of employment in the securities industry. Changes in demand for bank credit and insurance products are likely to be closely correlated with changes in disposable income, which are much less volatile than those in securities prices.

*2. How has the geographic distribution of employment in the securities industry changed in absolute terms and relative to the rest of the financial sector?*

It has already been stated why securities firms benefit from co-location. To be sure, I would expect employment in the securities industry to exhibit a much higher level of geographic concentration than for the rest of the financial sector, consisting principally of credit and insurance. Securities industry has mostly wholesale customers, large companies and very wealthy individuals, generating fewer but higher-value, less routine transactions. Its customer base is likely to be more concentrated in space than the predominantly retail customer base of credit and insurance. Securities industry requires more skilled labour, found in relatively few places.

The direction of geographic concentration in the securities industry is difficult to predict. Although the global city theory is not explicit about it, it hints that we should expect a growing geographic concentration of specialised business services. Empirical work indicates a growing specialisation of central districts of global cities, such as Manhattan and the City of London in specialised business services and securities industry in particular, thus suggesting that the geographic concentration of securities industry is growing (Warf, 2000; Wood and Wójcik, forthcoming). On the other hand if securitisation is advancing, and if, as I proposed, proximity breeds relations between securities industry and corporate headquarters, then we could expect the emergence of new securities industry centres, in places where there demand for securities expertise has just reached a critical mass to support a local securities industry.

Another factor to consider is the role of relocation of routine back-office operations. While in credit and insurance they play an important part, in securities industry they do not due to its predominantly wholesale nature (Gordon et al., 2009). Securities industry firms do not need call centres, do not need to print and send millions of credit card or account statements. It seems that if securities industry does disperse, it would be due to the creation of new centres rather than relocation of back-office functions.

### *3. How has the geographic distribution of corporate headquarters changed in absolute terms and in relation to employment in the securities industry?*

A hypothesis addressing the second part of the question has already been formulated in proposition four of the previous section. To recall, it was proposed that the securities industry centres are built not just on the proximity of securities firms to each other, but also on their proximity to corporate decision-making centres. While satisfying this proposition, we could still imagine that corporate headquarters become more dispersed with time, and securities firms simply follow them. In other words, at issue here is the direction of causality. Do corporate headquarter locations determine the location of securities industry or the other way round?

Causality between the location of corporate headquarters and securities industry is likely to work in both directions. Securities industry centres in places where corporate sector declines are likely to decline, and new securities industry centres can emerge in places where corporate growth creates sufficient demand for securities services. I would expect however, that securities industry location would both directly and indirectly affect the location choices of corporate headquarters. First, under the conditions of securitisation corporate headquarters would demand more securities-related expertise both externally and internally. Proximity to securities firms would facilitate their interactions with such firms, and access to a specialised labour market. More indirectly, as

securities industry tends to co-locate with other specialised business services, proximity to the latter would offer further advantages to corporate headquarters.

#### **4. Methodology and data**

To map the development of the U.S. securities industry I use data on employment in industry coded 523 according to the North American Industry Classification System (NAICS) from the U.S. Census Bureau's County Business Patterns (CBP) database. The industry code description is 'securities, commodity contracts and other financial investments and related activities'. Subcategories of 523 with the largest employment figures are investment banking and securities dealing, securities brokerage, portfolio management, and investment advice, together accounting for nearly 90% of employment in 2007. While, as noted before, professional services firms in law, accountancy and management also render securities related services, data on how much of their employment is devoted to these services is not available. The analysis covers the period 1998 to 2007. CBP data prior to 1998 follows the Standard Industrial Classification, whose treatment of the securities industry is not fully compatible with the NAICS. To cover this period, I also had to disregard data on self-employment, as it is not available on county or metropolitan level prior to 2004. CBP category 523 therefore gives a conservative measure of the size of the securities industry.

To compare the securities industry with the rest of the financial sector, I use the difference between total employment in finance and insurance (code 52) and employment in 523. As credit intermediation and insurance account for over 99% of employment within the difference, I refer to it simply as employment in credit & insurance.

Data on corporate headquarters was obtained from Bureau van Dijk's (BvD) Orbis database. Only corporations defined in Orbis as very large are included. Corporations are classified as very large if in the last year for which data are available they have: operating revenue of at least 140m \$ (100m €) OR total assets of at least 280m \$ (200m €) OR at least 1,000 employees OR are listed. The last available year corresponds mostly to 2008 for active companies, and for inactive companies it is typically the last full year of their activity. Focus on large corporations is justified, as small and medium sized firms are much less likely to use the services of securities industry. Location of a corporation is defined as its registered office address, which should represent the genuine headquarters. A corporation is an incorporated entity, and every corporation is counted only once, its branches and subsidiaries do not matter. The data accounts for corporations that are no longer active due to bankruptcy or a merger, but were active at some point in the period studied. New corporations enter the dataset as they become incorporated. In short, I focus on the headquarters of corporations that are most likely to be actual or potential customers of the securities industry.

Analysis is conducted at four scales: U.S.A. as a whole, states, top Metropolitan Statistical Areas (MSAs), and counties within the MSAs. To assess the growth of the securities industry at the national scale employment data is enhanced with data on payroll, covering all methods of remuneration, including bonuses. The data covers 50 states plus District Columbia, but excludes Puerto Rico. Definitions of MSAs used are those valid for 2007.

The main measure of geographic distribution used in the paper is the geographic concentration index, calculated as:

$$C = \sum_{i=1}^N (x_i - s_i)^2$$

Where  $i$  stands for a given geographical unit (state, MSA or county);  $N$  for the total number of geographical units under consideration;  $x$  - the fraction share of the unit, out of 1 for all units, in a given variable (employment in the securities industry, employment in credit & insurance, or the number of corporate headquarters); and  $s$  - the fraction share of the unit in total employment of all units across all sectors. Data on total employment has been obtained from CBP.

The Ellison-Glaeser index would be more robust, as it accounts for the distribution of establishment size, however its use is neither possible nor necessary (Ellison & Glaeser, 1994). CBP data includes the number of establishments within several establishment size classes, but does not specify employment in each class. Thus, it is impossible to estimate the Herfindahl index for the establishment size distribution, required to construct the Ellison-Glaeser index. This is not a serious problem, because i) the number of establishments in securities industry, and credit & insurance is very large, approx. 100 thousand and 400 thousand respectively, and dominated by small establishments, ii) the distribution of establishments across size classes is very similar between securities and credit & insurance, and iii) the distribution of establishments across size classes is stable over time. In short, even if the use of the Ellison-Glaeser index was possible, the results would be similar.

To compare the distribution of the securities industry and corporate headquarters, I use what I refer to as the location difference index, calculated with the same formula as that for geographic concentration, with  $x$  as the share of a given state/MSA/county in the total securities industry employment and  $s$  as its share in the total number of corporate headquarters. As CBP data on employment covers employees who are on payroll in the pay period including March 12 of a given year, while relating employment data to corporate headquarters data, the latter is lagged by one year. For example, employment in securities industry in 2007 is compared to corporate headquarters locations at the end of 2006. It should be noted that calculations without a lag produce very similar results. Throughout the analysis I also use location quotients for states, MSAs and counties, defined as the share of a geographical unit in a given activity by its share in total employment.

## **5. The rise of the securities industry**

Securities industry has experienced spectacular growth over the last decade, as documented in table 1. Between 1998 and 2007 employment in the sector rose by more than 30%, and increased its share in U.S. employment from 0.67% to 0.78%. In the same period employment in credit & insurance increased by 11.5%, a rate slightly lower than that for total U.S. employment. Securities industry left the rest of the financial sector behind also in terms of payroll per person, which grew by 25% in real terms in securities compared to 16% in credit & insurance. In the same period, average real payroll per person across the U.S. economy rose by 7%. As a result, the share of the securities industry in the total payroll of the U.S. economy increased from 2.5% in 1998 to 3.4% in 2007.



[Table 1 here]

Figure 1 illustrates the uneven development of the securities industry between 1998 and 2007 in comparison with credit & insurance industry as well as changes in the Standard & Poor's 500 stock market index, covering 500 largest corporations listed on the U.S. exchanges. Employment and remuneration in securities industry shot up in 1999 and 2000 at a rate of approx. 10% a year. When markets declined in 2001 in 2002, remuneration followed closely, but employment continued to grow and fell sharply only in 2003. In 2004 the markets started a recovery, and so did remuneration, but employment continued to fall until 2005. A rebound in employment in 2006 was sharp but short-lived. While employment levelled off remuneration and markets continued to rise in 2007.

[Figure 1 here]

We observe a very strong correlation between payroll and market conditions, and a two-year lag in the reaction of employment to market conditions. This may partly be explained by the features of the data, which gives the number of people on payroll in the period including 12 March of a given year. Thus, while I attribute the employment figures to year-end, this may underestimate the adjustment actually taking place in companies, as hires and lay-offs may happen between March and year-end. However, it is still reasonable to expect that the lag, albeit likely to be shorter than 2 years, is real. Even this quickly moving sector can be affected by inertia, whereby adverse market conditions must set in before firms accept the necessity to adjust their remuneration and finally staffing. Neither would firms race to increase remuneration, and particularly employment, until recovery seems clear and solid.

In contrast to securities industry, there is nothing dramatic in the growth pattern of credit & insurance industry. Both employment and salaries grew slowly, with slight interruptions, and quite independent from stock market conditions. Although these results have been relatively predictable, they do have implications for the questions about the geographic concentration of the securities industry. Is it possible that such a spectacular growth of the sector has been contained to pre-existing centres or does it imply the rise of new centres? Are we still likely to observe a growing dispersion of the credit & insurance industry in the face of evidence on its rather timid overall growth?

## **6. Geographic concentration in the securities industry**

This section analyses the geographic concentration at three scales: by states, by major metropolitan areas, and finally by counties within major metropolitan areas. Securities industry is considered on its own as well as in comparison with credit & insurance. The patterns of geographic concentration over time are presented in figure 2. Employment data and location quotients by state for 1998 and 2007 are presented in appendix A.

[Figure 2 here]

As expected, the distribution of securities industry is in a different category than that for credit & insurance, with incomparably higher concentration by state. Using the results from Ellison and Glaeser (1994) as a benchmark, the level of concentration in the securities industry of 0.03 in 2007 would be quite typical in manufacturing, comparable to that in the production of household cookers or

fridges. Concentration in credit and insurance of 0.0003 would be hard to find in manufacturing, being lower than that in bread production. There is nothing surprising in the difference, considering the wholesale nature of the securities industry, and the rather ubiquitous character of retail banking and insurance services.

Over time, however, not only the concentration of credit & insurance fell from 0.0006 to 0.0003, but also the concentration of the securities industry fell from 0.044 to 0.030. The dispersion of the credit & insurance industry has been contributed to mostly by falling employment shares and location quotients in New York, Illinois, Massachusetts, and Connecticut, traditionally strongholds of the sector, all with location quotients of at least 1.15 in 1998. Major gains in employment took place in Texas, Florida, North Carolina and Arizona, all with starting location quotients below 1.03. The dispersion in the securities industry was underpinned by a declining share of New York, New Jersey and Massachusetts, with the highest location quotients in the country in 1998 (4, 3, and 2 respectively), and the rise of Pennsylvania, Maryland, Arizona, North Carolina and Utah, all with location quotients below 0.9 in 1998. Differences between states in the degree of specialisation in the securities industry have diminished. The range of location quotients across states between 1998 and 2007 has decreased, their mean and median have moved closer to one, and their standard deviation has decreased. The map of the U.S. securities industry in 2007 was considerably less uneven than a decade earlier.

The trend of decreasing concentration in the securities industry was quite consistent over time. Only two years, 2004 and 2007 recorded a slight increase in the concentration index. They were periods with respectively declining and stagnating employment in the sector. The other two years, which shared the latter characteristic, 2003 and 2005, however, recorded a decrease in concentration. The results might hint at a negative relationship between market performance and geographic concentration in the financial sector, but it has to be left to future investigations.

To explore geographic concentration further, it is necessary to go beyond the analysis by states. When we think about the location of financial services, we think of cities and financial centres rather than sub-national regions. The strategy used here was to identify the leading metropolitan statistical areas in terms of employment in the securities industry, and then analyse geographic concentration between and within them (using data on counties). As presented in table 2, in 2007 the top six MSAs in securities industry employment were New York-Northern New Jersey-Long Island, Boston-Cambridge-Quincy, Chicago-Naperville-Joliet, Philadelphia-Camden-Wilmington, Los Angeles-Long Beach-Santa Ana, and San Francisco-Oakland-Fremont (for brevity, they will be referred to by the name of the main city). The seventh MSA in the ranking (Bridgeport-Stamford-Norwalk) had only 60% of the securities industry employment of the sixth one, and in total the top six accounted for half of the U.S. employment in the sector in 2007.

[Table 2 here]

Metropolitan areas in the top 6 did not change between 1998 and 2007. Neither did the positions of the top 3, with New York by far in the lead, followed by Boston and Chicago. Philadelphia climbed from the sixth place to the fourth, pushing Los Angeles and San Francisco down by one place, to the fifth and sixth

position respectively. To be sure, these are not the six most populated U.S. metropolitan areas. Dallas and Houston, in top 6 U.S. MSAs according to population, are missing. The MSAs of Miami, Atlanta, and Washington D.C., with larger populations than Boston, are missing. Detroit and Phoenix, with larger populations than San Francisco are missing as well. Not any large city is a securities industry centre. Table 2 presents employment and location quotients in the top 6. Table 3 shows the share of the top 6 in the U.S. employment as well as the concentration indices. Both the indices and quotients have been calculated using metropolitan areas' shares in the top 6, not the U.S. total, as the focus at this stage is on geographic distribution within the top 6.

[Table 3 here]

Although the share of top six in total employment in the U.S. securities industry fell from 55% to 50% (table 3), 72,000 new jobs were created in the sector, and the share of the securities industry in employment increased in each of the top 6 metropolitan areas (table 2). This is in contrast to credit & insurance, which lost its share in total employment in each of the top 6 MSAs. Thus, metropolitan areas that led the securities industry in 1998 were even more specialised in this industry nine years later. At the same time, the distribution of employment in the top 6 has become more even in both parts of the financial sector, as illustrated with falling values of the concentration index. Further insight into this trend can be gained by comparing change in the location quotients between MSA's (table 2). Location quotients for New York and Boston, most specialised in securities, fell. In Chicago, Los Angeles, and Philadelphia, all relatively less specialised in securities, the location quotient increased. In San Francisco it did not change significantly. Philadelphia was the most dynamic location. Between 1998 and 2007 it won the largest number of new jobs in the sector, which brought its location quotient above Chicago, and on par with San Francisco.

The distribution of the credit & insurance industry has also become more even across metropolitan areas, although it was already quite even in 1998. San Francisco, New York, and Chicago, with location quotients in 1998 above 1, lost employment in credit & insurance. Boston and Los Angeles, with starting location quotients below 1, gained jobs in the sector and increased their location quotients. The only metropolitan area going against the grain of dispersion was Philadelphia, which gained nearly 9,000 jobs and strengthened the leading position in terms of its location quotient.

To be sure, metropolitan areas may be too large to give an adequate picture of geographic concentration in finance. After all, financial centres are associated with specific districts such as the Wall Street or the City of London. Let us move then to the level of counties. Table 4 presents concentration indices, calculated for each metropolitan area (based on county employment shares), as well as the shares and absolute employment changes for the leading counties. Appendix B contains details for all counties.

[Table 4 here]

Concentration of the securities industry within metropolitan areas is very high. The leading county accounts for 64% of employment in San Francisco, 74% in New York, and 81% in Chicago and Boston. With the exception of Los Angeles (with only two counties), the concentration indices for the securities industry are incomparably higher than for credit & insurance. The employment share of

the leading county diminished in Chicago, New York, Los Angeles and Philadelphia, but increased in Boston and remained unchanged in San Francisco. In Chicago and New York the securities industry centres seem to have expanded to include Lake County (Illinois), North of Cook County, and Hudson County (New Jersey), West of Manhattan (see location quotients in appendix B), respectively. In Philadelphia, the primary securities industry centre seems to have moved from Montgomery to Chester County. In Los Angeles, both counties had significant gains in employment. In contrast, in Boston and San Francisco, where securities industry grew at the lowest rate, the leading counties only strengthened their dominance. Overall the evidence on concentration within metropolitan areas is mixed. The concentration index increased in Boston, San Francisco, Los Angeles and Philadelphia, and decreased in Chicago and New York. The change in the concentration index also differs with regard to credit & insurance. It increased in Boston, Chicago, Los Angeles, and Philadelphia, but fell in New York and San Francisco.

Another major trend emerging from table 4 is a shift of credit & insurance out of the sub-metropolitan centres of securities industry. The leading county lost its share in credit & insurance employment in every metropolitan area except for Boston. With the same exception, credit & insurance lost its share in total employment of every leading county. New York County (Manhattan), Cook County, and San Francisco County lost nearly 60,000 jobs in the sector. If we compare these losses with those for their whole respective MSAs we obtain the figures of 36,000 and 15,000 for Manhattan, 10,000 and 7,000 for Chicago, and 14,000 and 8,000 for San Francisco. This means that credit & insurance jobs moved partly to other locations within their metropolitan areas, and partly further away, contributing to the growing dispersion of the sector at state level.

To summarise our results thus far, the boom of 1998-2007 has led to a more widespread distribution of securities industry employment across states. The top metropolitan areas specialising in securities industry have nevertheless recorded large gains in employment (presumably at the top end in terms of skills and salaries), which remained highly concentrated within these areas. Consequently, in 2007 securities industry was even more important to the economic structure of these metropolitan areas and their central business districts than in 1998. Credit & insurance industry, on the other hand was becoming less important to them. In a nutshell, the securities industry has both strengthened in its existing centres, and spread to new centres.

## **7. The location of securities industry versus corporate headquarters**

In this section, we relate the location of securities industry to the location of its main customers – corporate headquarters. Is a growing spatial independence between securities industry and corporate headquarters, implied by the global city theory, taking place? The question is addressed at the same spatial scales as those used previously.

The total number of large corporations in the U.S. has increased from 29,012 in 1998 to 35,584 in 2007. As shown in figure 2, their headquarters are far more dispersed across states than the securities industry, but far more concentrated than credit & insurance industry. With time, however, corporate headquarters became more concentrated, with the concentration index growing from 0.0008

to 0.0010. Considering that the sample includes all large corporations in the securities industry, financial sector, and professional services (as all of them are customers of the securities industry), the rise in the concentration of corporate headquarters might in principle hide two parallel processes: an increasing concentration of financial and professional services, and dispersion of manufacturing and other than professional services. The likelihood of this happening is however negligible. All professional services (NAICS category 54) account for 5%, and securities industry for 2.5% of large corporations, leaving 92.5% to other sectors. In addition, I have already established that concentration in the securities industry is falling. Thus, it is hard to imagine that 5% of our sample would drive a significant increase in the concentration of corporate HQ.

The increasing concentration of corporate headquarters is also reflected in the growing share of the top 6 securities industry centres. In 1998 they hosted 25.3% of large corporations, in 2007 25.7% (table 3). The concentration of corporate headquarters has decreased within the top six, as shown with the falling concentration index. All top MSAs gained significant numbers of new large firms, but this increase was strongest in Los Angeles, which started with the lowest location index in 1998, and weakest in Boston, which started with the highest location quotient (table 2). The concentration of corporate headquarters has increased in New York, San Francisco, Philadelphia and Boston, remained unchanged in Chicago, and decreased slightly in Los Angeles (table 4). The counties of Suffolk, New York, and San Francisco were most specialised as headquarter locations within their metropolitan areas in 1998, and increased their specialisation by 2007 (Appendix B). Overall, at the state-level and within metropolitan areas, there is no evidence that corporations are enjoying an increasing freedom to locate their decision-making centres wherever they wish.

In the last part of our analysis, I compare the distribution of the securities industry with that of corporate headquarters, by using the location difference quotient. Starting at the state level, figure 2 demonstrates that as the concentration of the securities industry declined, its distribution has become more similar to the much more even distribution of headquarters, with the location difference index falling from 0.0369 to 0.0232. The distributions of securities industry and corporate headquarters have also converged for the top 6 metropolitan areas (table 3). MSA's that in 1998 had low location quotients for securities industry in relation to their location quotients for headquarters, i.e. Chicago, Los Angeles, and particularly Philadelphia, improved their location quotients for securities industry (table 2). San Francisco, Boston, and particularly New York, which hosted largest security industry in relation to their stock of corporate headquarters, witnessed a less dynamic growth of the securities industry.

Within metropolitan areas, counties most specialised in securities industry are the same as those most specialised in hosting corporate headquarters for Boston, New York, San Francisco, and Los Angeles. In Chicago, Du Page and Lake (Illinois) have higher quotients for headquarters than Cook (Appendix B). Du Page and Lake, however are also significant locations of securities industry. In Philadelphia New Castle County (Delaware) boasted the highest location quotient for headquarters (probably related to the fact that Delaware is the most popular state for incorporations), and the second highest quotient for securities industry in 2007. Its neighbour, Chester County (Pennsylvania), with the highest

quotient for securities industry, had the second highest quotient for headquarters. Between 1998 and 2007 the location difference index declined in every metropolitan area with the exception of Philadelphia (table 4).

In summary, there is evidence for increased co-location of securities industry and corporate headquarters. Boeing, which moved their headquarters from Seattle to Chicago in 2001, may be symptomatic of a larger trend. The company stressed that the principal focus of the new corporate headquarters would be on developing global growth opportunities and on creating shareholder value. Presence in a leading securities industry centre could be seen as serving directly the latter focus.

## **8. Conclusions and implications**

The objective of this paper was to investigate the growth and the geographic distribution of the securities industry in the U.S.A. in its own right, and in relation to the credit & insurance sector and corporate headquarters. I have proposed a geographic translation of the term securitisation, as a process implying increasing institutional and spatial dispersion of financial asset ownership, and fuelling the rise of the securities industry. With this translation as a starting point, and using the literature on the geography of stock markets and financialisation, I have revisited the first part of the global city theory by Saskia Sassen, leading to two corrections. First, we should not take for granted the expectation of a growing or even continued concentration of securities industry in leading centres. Second, we should not assume that the location of corporate headquarters becomes more independent from the location of securities industry.

Empirical analysis has confirmed these hypotheses. Between 1998 and 2007 booming but volatile employment in the securities industry has become substantially less concentrated across states, and across major metropolitan areas. Within metropolitan areas the concentration of the industry in central counties has however mostly increased. This means that the securities industry has not dissolved in space, but has formed new centres. Even the years when employment contracted did not see a significant reversal of this trend. At the same time, I have noted a trend for credit & insurance employment to decline in parts of metropolitan areas with concentration of securities industry. Retail finance was being crowded out by wholesale, high finance, moving out from Manhattan, central Chicago and San Francisco to other parts of these metropolitan areas and further afield.

The results on the decreasing concentration of the securities industry are even more important, if we consider the international dimension of the U.S. securities industry. It is sensible to assume that significant employment in the industry was created by foreign demand, and that this increase in externally induced employment was strongly concentrated in the largest centres, with New York in the lead. Thus, if we subtracted some employment from the figures for the largest centres, the results on the dispersion of domestically oriented securities industry would be stronger.

Geographic concentration of corporate headquarters was much higher than that for credit & insurance but much lower than that for the securities industry. Over time, however, it has increased both across states and within major

metropolitan areas. With concentration of the securities industry decreasing, and that of corporate headquarters increasing, their distributions have become more similar across states, and both across and within major metropolitan areas. While centres of corporate headquarters are much more numerous and widespread, there are no important securities industry centres that would not at the same time specialise in hosting corporate headquarters.

Several contributions of these results to research on securitisation should be stressed. First, securitisation leads to re-intermediation rather than disintermediation. Financial intermediaries are not losing their jobs for the sake of impersonal markets, where borrowers and lenders interact directly. Such description would be inconsistent with record profit levels in the financial sector in the run-up to the financial crisis (Crotty, 2008). Rather, we have witnessed a shift of the co-ordinating role and power from banks, focused on deposits and loans, to the securities industry. As the latter is much more concentrated in space than ordinary banking, securitisation can indeed be associated with a more centralised financial system, where capital flows are managed out of fewer financial centres (Klagge and Martin, 2005). This however does not preclude the possibility that concentration in the securities industry can fall, as has been the case in the U.S.A.. Finally the results show that securitisation, as a feature of financialisation, leaves an indelible footprint on corporate and financial geography. This takes place through the formation of securities industry centres, based not only on proximity of securities firms to each other and to other specialised business service providers, but also on their proximity to corporate headquarters.

This research could be developed in several directions. First, corporate networks of securities firms, and investment banks in particular, could be studied in addition to employment. This could verify whether the boom in the securities industry employment outside of the leading centres took the form of branches of firms headquartered in New York and other established centres, thus directly benefiting the latter. Second, one could study the distribution of different components of the securities industry. While concentration in the industry as a whole has declined, it is possible that it has grown within its parts, with New York as the centre of investment banking, Boston with fund management, Chicago with commodities trading, and San Francisco with venture capital. Finally, research is needed on individual metropolitan areas and states to refine the findings on the relationships between securities industry, the rest of the financial sector, and corporate headquarter locations.

To be sure, the 2007-8 financial crisis is asking questions of securitisation and financialisation in general. The securitisation of mortgages has ended in a disaster, and investment banks – the movers and shakers of the securities industry, are undergoing major reorganisation. On the other hand, stock markets are bouncing back, and some investment banks are recording high profits again. The jury is out. As the history of securities markets has shown, securitisation not only proceeds at variable speeds across time and space, but can also go into reverse (Mitchie, 2006).

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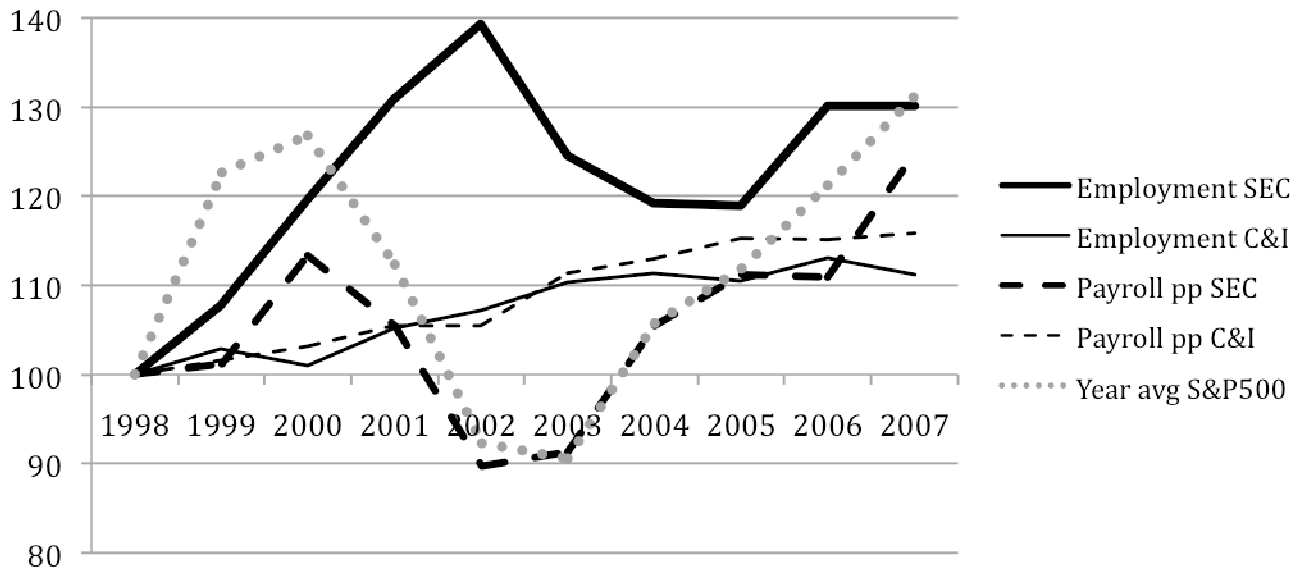
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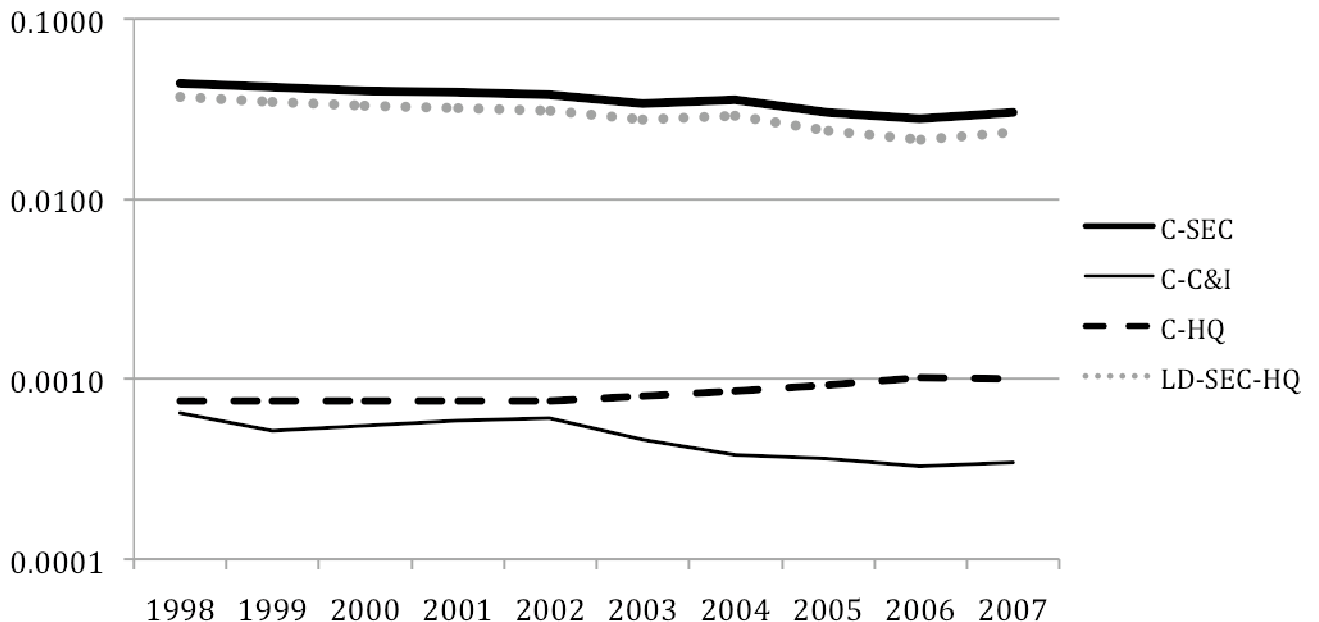
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**Fig 1.** Volatility of financial sector employment and payroll set against stock market performance



Note: SEC - securities industry, C&I - credit & insurance  
 All data for 1998 has been indexed to 100. Data on payroll was based on 2007 prices. The S&P500 index was calculated as the average of the values at the start and the end of the year.  
 Source: Author's calculations based on data from the U.S. Census County Business Patterns, the Bureau of Labour Statistics, and Standard&Poors

**Fig. 2.** Indices of geographic concentration and location difference for state-level data



Note: C-SEC - geographic concentration in the securities industry, C&I - credit & insurance, HQ - corporate headquarters; LD-SEC-HQ - location difference between securities industry and corporate headquarters. Logarithmic scale is used for indices.  
 Source: Author's calculations based on data from the U.S. Census County Business Patterns, and Orbis database from BvD

**Tab 1.** Securities and credit & insurance industries in the U.S.A. 1998-2007

	2007	1998
Employment in securities industry	942,086	724,207
% of total employment	0.78	0.67
Employment in credit & insurance	5,606,782	5,046,002
% of total employment	4.65	4.67
Total employment (all sectors)	120,604,265	108,117,731
Annual payroll pp in securities industry (USD 2007 prices)	182,920	146,564
Annual payroll pp in credit & insurance (USD 2007 prices)	60,325	52,071
Annual payroll pp in all sectors (USD 2007 prices)	41,680	38,936

Source: Author's calculations based on data from the U.S. Census County Business Patterns, and the Bureau of Labour Statistics

**Tab 2.** The distribution of finance and corporate headquarters in the top 6 metropolitan areas

		Metropolitan Statistical Area						
		Boston	Chicago	Los Angeles	New York	Phila- delphia	San Francisco	
Absolute position 2007	SEC	62,307	58,888	39,892	235,091	42,266	31,686	
	C&I	122,681	217,406	256,788	398,489	163,245	99,767	
	HQ	988	1,506	1,735	3,250	961	713	
Absolute change 2007-1998	SEC	4,086	15,645	12,152	17,844	18,473	3,452	
	C&I	2,083	-6,927	28,924	-15,108	8,641	-8,312	
	HQ	161	267	409	678	185	122	
Location quotient	SEC	2007	1.36	0.73	0.38	1.56	0.84	0.84
		1998	1.49	0.61	0.32	1.72	0.56	0.87
	C&I	2007	1.00	1.00	0.92	0.99	1.21	0.99
		1998	0.98	1.01	0.83	1.05	1.17	1.06
	HQ	2006	1.11	0.95	0.85	1.11	0.98	0.97
		1997	1.15	0.95	0.82	1.11	1.00	0.99
Share in total employment	SEC	2007	2.7	1.4	0.7	3.1	1.7	1.6
		1998	2.6	1.1	0.6	3.0	1.0	1.5
	C&I	2007	5.2	5.3	4.8	5.2	6.4	5.2
		1998	5.4	5.6	4.6	5.8	6.5	5.8

Source: Author's calculations based on data from the U.S. Census County Business Patterns, and Orbis database from BvD

**Tab 3.** Overall distribution within the top 6 metropolitan areas

	Measure	2007	1998
SEC	Share in U.S. total	49.9	55.0
	Concentration index	0.055	0.084
C&I	Share in U.S. total	22.4	24.8
	Concentration index	0.001	0.002
HQ	Share in U.S. total	25.7	25.3
	Concentration index	0.002	0.003
	Location Difference Index	0.034	0.057

Note: Concentration indices were calculated for metropolitan areas' shares in the total for the top 6 metropolitan areas, not the U.S. total. Location difference index is calculated for SEC and HQ.

Source: Author's calculations based on data from the U.S. Census County Business Patterns, and Orbis database from BvD

**Tab 4.** County-level distribution for the top 6 metropolitan areas

			Metropolitan Statistical Area (leading county)					
			Boston (Suffolk)	Chicago (Cook)	Los Angeles (Los Angeles)	New York (New York)	Philadelphia (see notes)	San Francisco (San Francisco)
% share of the leading county	SEC	2007	81	81	69	74	31	64
		1998	76	88	73	75	40	64
	C&I	2007	39	63	62	35	25	35
		1998	35	65	69	43	27	45
	HQ	2006	30	58	67	45	19	31
		1997	29	58	68	42	21	32
Absolute change in the leading county	SEC		5,654	9,735	7,318	9,273	4,676	2,103
	C&I		5,383	-10,138	2,856	-35,648	-5,726	-13,950
	HQ		63	154	255	371	21	34
Concentration Index	SEC	2007	0.415	0.068	0.002	0.245	0.066	0.217
		1998	0.390	0.084	0.000	0.253	0.055	0.203
	C&I	2007	0.042	0.005	0.022	0.010	0.025	0.034
		1998	0.039	0.003	0.006	0.028	0.017	0.053
	HQ	2006	0.006	0.005	0.007	0.039	0.008	0.006
		1997	0.005	0.005	0.008	0.027	0.006	0.003
Share in total employment of the leading county	SEC	2007	8.7	2.0	0.7	8.5	5.8	4.0
		1998	8.3	1.5	0.6	8.4	0.5	3.4
	C&I	2007	8.3	5.8	4.1	6.8	3.7	6.8
		1998	7.9	6.0	4.2	9.0	4.4	9.1
Location Difference Index SEC-HQ		2007	0.367	0.070	0.001	0.098	0.058	0.174
		1998	0.373	0.113	0.006	0.123	0.055	0.182

Note: The leading county is defined as one with the largest absolute employment in SEC, C&I or the largest number of HQ. Except for Philadelphia, in each metropolitan area the leading county is the same for SEC, C&I, and HQ, and for both 2007 and 1998. For Philadelphia the leading counties were: Chester (SEC 2007), Montgomery (SEC 1998), Philadelphia (C&I 2007), New Castle (C&I 1998), Montgomery (HQ 2007), Philadelphia (HQ 1998). The absolute change in the leading county is given for the county of Philadelphia, which had the highest total employment in finance.

Source: Author's calculations based on data from the U.S. Census County Business Patterns, and Orbis database from BvD

## Appendix A. Employment, corporate headquarters and location quotients by state

State	Employment / Number of corporate headquarters						Location Quotient					
	SEC		C&I		HQ		SEC		C&I		HQ	
	2007	1998	2007	1998	2006	1997	2007	1998	2007	1998	2006	1997
Alabama	3,379	2,910	67,965	65,023	365	322	0.25	0.27	0.85	0.87	0.72	0.75
Alaska	797	536	7,012	6,420	85	71	0.42	0.41	0.62	0.70	1.18	1.35
Arizona	17,071	7,441	128,402	84,691	484	366	0.91	0.63	1.15	1.03	0.68	0.77
Arkansas	2,731	2,601	35,658	29,733	270	234	0.34	0.41	0.74	0.67	0.89	0.92
California	96,805	74,727	601,226	525,132	4,124	3,264	0.90	0.93	0.94	0.94	1.01	1.01
Colorado	15,153	12,608	89,911	85,071	704	523	0.93	1.07	0.93	1.04	1.15	1.11
Connecticut	23,948	13,591	104,549	108,872	690	570	1.99	1.36	1.46	1.56	1.52	1.42
Delaware	5,617	2,754	44,265	38,857	270	182	1.81	1.16	2.40	2.35	2.31	1.91
District of Columbia	5,175	3,388	13,078	13,283	240	208	1.46	1.26	0.62	0.71	1.79	1.93
Florida	40,573	34,610	330,224	268,094	1,765	1,374	0.70	0.90	0.96	1.00	0.81	0.89
Georgia	13,690	11,414	162,382	143,384	1,095	882	0.48	0.53	0.96	0.96	1.02	1.03
Hawaii	1,243	1,398	19,365	18,652	105	89	0.31	0.50	0.80	0.96	0.69	0.80
Idaho	1,822	950	21,124	15,335	126	102	0.43	0.33	0.83	0.78	0.78	0.90
Illinois	61,881	45,461	288,692	292,581	1,794	1,507	1.47	1.30	1.15	1.20	1.13	1.08
Indiana	8,379	6,536	101,617	104,457	654	556	0.41	0.38	0.83	0.88	0.84	0.82
Iowa	5,744	4,204	89,034	69,542	357	330	0.56	0.52	1.47	1.23	0.93	1.01
Kansas	5,083	2,918	55,136	49,921	330	284	0.56	0.40	1.01	0.99	0.96	0.98
Kentucky	4,957	2,645	61,750	58,434	391	328	0.41	0.27	0.86	0.87	0.85	0.85
Louisiana	3,849	3,792	60,495	64,318	357	311	0.30	0.36	0.79	0.87	0.74	0.73
Maine	2,121	1,133	24,788	20,241	106	95	0.54	0.37	1.06	0.95	0.71	0.78
Maryland	18,704	8,438	102,433	95,898	600	506	1.07	0.65	0.98	1.06	0.91	0.97
Massachusetts	64,916	58,052	149,906	156,755	1,203	1,009	2.70	2.96	1.05	1.15	1.33	1.29
Michigan	12,543	9,718	157,834	155,272	945	795	0.44	0.37	0.92	0.85	0.87	0.76
Minnesota	20,854	19,352	133,700	110,481	796	692	1.06	1.27	1.14	1.04	1.07	1.14
Mississippi	1,435	1,473	33,816	32,574	206	181	0.20	0.23	0.77	0.74	0.74	0.72
Missouri	20,470	15,355	116,699	108,570	719	618	1.07	0.99	1.02	1.01	0.99	1.00
Montana	1,377	1,065	15,834	11,715	69	63	0.50	0.57	0.96	0.91	0.66	0.85
Nebraska	4,008	2,820	56,269	45,159	266	240	0.64	0.58	1.52	1.34	1.13	1.24
Nevada	3,031	2,701	38,338	24,659	639	318	0.32	0.50	0.69	0.66	1.81	1.48
New Hampshire	1,781	1,505	25,726	23,431	133	122	0.40	0.43	0.97	0.97	0.79	0.88
New Jersey	48,898	41,728	171,647	158,918	1,343	1,094	1.71	1.85	1.01	1.01	1.24	1.21
New Mexico	1,695	1,551	24,211	20,296	114	99	0.34	0.43	0.81	0.81	0.60	0.68

Appendix A (continued) State	Employment / Number of corporate headquarters						Location Quotient					
	SEC		C&I		HQ		SEC		C&I		HQ	
	2007	1998	2007	1998	2006	1997	2007	1998	2007	1998	2006	1997
New York	203,918	185,335	373,955	402,129	2,839	2,272	3.47	3.96	1.07	1.23	1.28	1.21
North Carolina	16,108	7,310	171,316	125,810	815	649	0.57	0.34	1.03	0.84	0.77	0.75
North Dakota	800	583	15,391	11,943	85	75	0.35	0.35	1.13	1.03	0.98	1.12
Ohio	26,082	17,148	242,332	229,016	1,279	1,109	0.70	0.53	1.09	1.02	0.91	0.86
Oklahoma	6,477	3,292	57,081	54,072	379	320	0.63	0.42	0.94	0.99	0.98	1.02
Oregon	6,961	4,171	59,446	55,672	361	324	0.60	0.48	0.87	0.91	0.83	0.92
Pennsylvania	48,564	28,268	239,364	244,159	1,459	1,236	1.20	0.86	0.99	1.07	0.95	0.94
Rhode Island	2,974	2,334	27,198	21,943	135	115	0.86	0.87	1.33	1.17	1.04	1.06
South Carolina	3,509	2,769	63,923	56,002	352	288	0.27	0.27	0.83	0.79	0.72	0.70
South Dakota	676	794	29,054	19,240	94	92	0.26	0.41	1.89	1.42	0.96	1.18
Tennessee	8,666	6,786	107,377	94,507	677	549	0.45	0.44	0.93	0.88	0.93	0.89
Texas	46,165	34,858	413,138	325,396	2,871	2,254	0.65	0.69	0.98	0.92	1.08	1.11
Utah	9,371	1,846	50,222	39,111	351	267	1.09	0.32	0.98	0.97	1.08	1.15
Vermont	997	761	8,904	8,609	58	52	0.48	0.48	0.71	0.77	0.73	0.81
Virginia	15,329	8,475	152,145	122,684	963	771	0.61	0.47	1.02	0.97	1.02	1.06
Washington	13,763	9,537	105,784	86,591	669	549	0.70	0.67	0.91	0.87	0.91	0.96
West Virginia	1,024	764	19,903	20,448	113	99	0.23	0.21	0.74	0.80	0.66	0.67
Wisconsin	10,479	9,155	130,817	117,417	690	611	0.54	0.59	1.13	1.08	0.94	0.98
Wyoming	493	646	6,346	5,484	49	45	0.29	0.59	0.63	0.72	0.77	1.02
USA	942,086	724,207	5,606,782	5,046,002	35,584	29,012	1.00	1.00	1.00	1.00	1.00	1.00

## Appendix B. Employment, corporate headquarters and location quotients by county

MSA/County	Employment / Number of corporate headquarters						Location Quotient					
	SEC		C&I		HQ		SEC		C&I		HQ	
	2007	1998	2007	1998	2006	1997	2007	1998	2007	1998	2006	1997
Boston-Cambridge-Quincy	62,307	58,221	122,681	120,598	988	827	1.00	1.00	1.00	1.00	1.00	1.00
Norfolk MA	5,606	9,249	21,572	27,026	123	103	0.64	1.08	1.24	1.52	0.88	0.85
Plymouth MA	430	750	6,088	4,982	43	38	0.10	0.20	0.74	0.64	0.65	0.71
Suffolk MA	50,192	44,538	47,789	42,406	299	236	3.27	3.15	1.58	1.45	1.23	1.17
Middlesex MA	3,896	2,124	27,367	26,000	382	331	0.18	0.10	0.63	0.61	1.09	1.13
Essex MA	1,487	750	9,924	10,357	103	86	0.20	0.11	0.69	0.71	0.89	0.86
Rockingham NH	675	750	4,328	6,137	31	27	0.19	0.25	0.63	0.99	0.56	0.63
Strafford NH	21	60	4,716	3,690	7	6	0.02	0.06	2.37	1.73	0.44	0.41
Chicago-Naperville-Joliet	58,888	43,243	217,406	224,333	1,506	1,239	1.00	1.00	1.00	1.00	1.00	1.00
Cook IL	47,596	37,861	136,421	146,559	869	715	1.42	1.44	1.11	1.07	1.02	0.95
DeKalb IL	56	60	986	867	5	5	0.14	0.23	0.67	0.64	0.49	0.67
DuPage IL	4,907	2,745	38,377	35,166	310	242	0.55	0.44	1.17	1.08	1.37	1.34
Grundy IL	10	10	429	412	0	0	0.05	0.09	0.57	0.68	0.00	0.00
Kane IL	447	375	9,586	8,730	35	34	0.16	0.21	0.94	0.96	0.50	0.68
Kendall IL	22	10	586	488	3	2	0.07	0.09	0.52	0.81	0.38	0.60
McHenry IL	199	175	2,559	2,075	23	21	0.15	0.19	0.52	0.45	0.67	0.82
Will IL	317	175	5,171	4,120	33	29	0.12	0.13	0.52	0.59	0.48	0.76
Jasper IN	10	10	252	205	2	2	0.07	0.11	0.47	0.42	0.54	0.75
Lake IN	271	175	5,386	5,592	43	35	0.11	0.09	0.58	0.57	0.66	0.65
Newton IN	0	0	129	94	0	0	0.00	0.00	0.82	0.54	0.00	0.00
Porter IN	85	65	1,243	1,224	9	9	0.12	0.12	0.46	0.45	0.49	0.60
Lake IL	4,918	1,530	15,242	17,665	159	133	1.04	0.49	0.87	1.09	1.31	1.48
Kenosha WI	50	52	1,039	1,136	15	12	0.07	0.10	0.41	0.43	0.85	0.83
Los Angeles-Long Beach-Santa Ana	39,892	27,740	256,788	227,864	1,735	1,326	1.00	1.00	1.00	1.00	1.00	1.00
Los Angeles CA	27,690	20,372	159,551	156,695	1,158	903	0.96	0.99	0.86	0.92	0.92	0.92
Orange CA	12,202	7,368	97,237	71,169	577	423	1.12	1.04	1.38	1.22	1.22	1.24
New York-Northern New Jersey-Long Island	235,091	217,247	398,489	413,597	3,250	2,572	1.00	1.00	1.00	1.00	1.00	1.00
Middlesex NJ	3,083	7,379	13,181	14,457	122	96	0.26	0.67	0.64	0.69	0.73	0.74
Monmouth NJ	2,178	1,690	9,114	7,165	82	64	0.30	0.28	0.74	0.62	0.82	0.89
Ocean NJ	476	375	3,614	3,142	13	10	0.12	0.12	0.54	0.52	0.24	0.26
Somerset NJ	2,529	4,378	13,116	10,938	103	89	0.44	0.87	1.34	1.14	1.29	1.50
Nassau NY	4,716	6,589	36,689	37,792	210	177	0.29	0.41	1.32	1.23	0.92	0.92
Suffolk NY	2,548	2,133	26,282	21,957	158	141	0.14	0.14	0.88	0.78	0.65	0.80



MSA/County	Employment / Number of corporate headquarters						Location Quotient					
	SEC		C&I		HQ		SEC		C&I		HQ	
	2007	1998	2007	1998	2006	1997	2007	1998	2007	1998	2006	1997
Bergen NJ	2,641	3,388	19,423	17,719	205	166	0.19	0.25	0.83	0.69	1.07	1.03
Hudson NJ	21,685	15,152	16,744	6,683	77	62	3.21	2.37	1.46	0.55	0.83	0.82
Passaic NJ	922	456	4,910	8,554	50	38	0.19	0.09	0.60	0.90	0.74	0.64
Bronx NY	16	50	3,890	2,933	31	23	0.00	0.01	0.35	0.26	0.34	0.33
Kings NY	3,945	1,383	16,245	13,557	79	61	0.27	0.11	0.65	0.57	0.39	0.41
New York NY	173,095	163,822	140,410	176,058	1,462	1,091	2.75	2.76	1.32	1.56	1.68	1.55
Putnam NY	96	60	610	916	3	3	0.14	0.11	0.51	0.92	0.31	0.48
Queens NY	871	750	18,595	11,017	66	56	0.06	0.06	0.73	0.43	0.32	0.35
Richmond NY	209	175	2,892	2,609	12	12	0.07	0.07	0.60	0.57	0.31	0.42
Rockland NY	469	375	3,190	3,720	20	19	0.15	0.13	0.60	0.69	0.46	0.57
Westchester NY	5,990	3,192	19,226	17,497	199	170	0.50	0.28	0.94	0.82	1.20	1.28
Essex NJ	1,933	2,567	21,729	30,572	129	112	0.20	0.25	1.32	1.59	0.96	0.93
Hunterdon NJ	30	60	2,997	1,322	15	12	0.02	0.05	1.20	0.57	0.74	0.83
Morris NJ	5,617	2,463	15,088	15,273	139	102	0.60	0.29	0.96	0.94	1.08	1.01
Sussex NJ	132	60	2,030	1,799	7	7	0.13	0.07	1.19	1.14	0.50	0.72
Union NJ	1,910	750	8,356	7,804	65	59	0.28	0.11	0.72	0.60	0.68	0.73
Pike PA	0	0	158	113	3	2	0.00	0.00	0.37	0.37	0.87	1.04
Philadelphia-Camden-Wilmington	42,266	23,793	163,245	154,604	961	776	1.00	1.00	1.00	1.00	1.00	1.00
Burlington NJ	1,063	750	16,504	9,912	55	44	0.35	0.48	1.40	0.97	0.79	0.86
Camden NJ	647	375	7,855	7,868	59	49	0.21	0.21	0.66	0.68	0.84	0.85
Gloucester NJ	120	67	1,995	1,822	22	18	0.08	0.09	0.34	0.39	0.64	0.76
Bucks PA	1,339	750	8,064	7,751	73	59	0.31	0.33	0.48	0.52	0.74	0.79
Chester PA	13,248	902	8,553	7,871	106	78	3.51	0.51	0.59	0.69	1.24	1.36
Delaware PA	1,321	1,539	12,977	9,452	94	72	0.38	0.73	0.96	0.69	1.18	1.05
Montgomery PA	8,310	9,576	30,538	34,341	186	151	1.06	2.02	1.00	1.12	1.04	0.98
Philadelphia PA	10,740	6,064	35,271	40,997	185	164	1.11	1.04	0.94	1.08	0.84	0.86
New Castle DE	5,462	3,750	40,410	33,511	172	133	1.16	1.42	2.23	1.96	1.61	1.55
Cecil MD	6	10	536	486	8	7	0.02	0.05	0.35	0.41	0.88	1.17
Salem NJ	10	10	542	593	1	1	0.03	0.06	0.47	0.51	0.15	0.17
San Francisco-Oakland-Fremont	31,686	28,234	99,767	108,079	713	591	1.00	1.00	1.00	1.00	1.00	1.00
Alameda CA	2,108	1,634	22,425	18,835	226	195	0.21	0.18	0.69	0.54	0.98	1.02
Contra Costa CA	2,383	2,437	26,270	21,233	82	67	0.44	0.55	1.54	1.26	0.67	0.73
Marin CA	988	1,226	6,838	5,653	37	34	0.58	0.82	1.28	0.99	0.97	1.09
San Francisco CA	20,269	18,166	34,581	48,531	221	187	2.42	2.24	1.31	1.56	1.17	1.10
San Mateo CA	5,938	4,771	9,653	13,827	147	108	1.00	0.94	0.51	0.71	1.10	1.01

