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Abstract

This paper describes the foreign banking landscape in the United States. It begins by establishing a vocabulary for discussion of the subject, and then identifies a number of important data-related issues. With that information in hand, the remainder of the paper focuses on identifying the most important underlying trends on both sides of the balance sheets of foreign-owned banks' U.S. operations. At each step, the investigation considers how foreign-owned banks compare to U.S.-owned domestic banks, and how two types of foreign banks operations in the U.S. -- branches and agencies of foreign banks (FBAs), and foreign-owned subsidiary banks (FSUBs) -- compare to each other. The banking sector in the U.S. experienced substantial swings in performance and stability over the decade surrounding the 2008-2009 financial crisis and changes in every major dimension of foreign-owned banks' assets and liabilities were even larger than for domestic banks. Changes were especially large at FBAs. For example, cash balances came to dominate the assets side of FBAs' aggregate balance sheet, with the absolute level of cash balances larger than those of domestic U.S. banks beginning in 2011, despite the fact that total assets of domestic U.S. banks are five times the assets of FBAs. Further, the recent unprecedented build-up of cash balances by FBAs was almost entirely composed of excess reserves. Changes in FBAs' liabilities-side activities have also been large, with much funding coming from large wholesale deposits and net borrowing from their foreign parents and related offices abroad.

Keywords: Foreign banks, foreign banking, branches and agencies of foreign banks, foreign-owned subsidiary banks, internal capital markets, intra-company funding flows, net due-to balances.

JEL Codes: G21, G15, F3.

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Introduction

Foreign banks play an important, if often overlooked, role in credit provision and other forms of financial intermediation in the U.S. economy. During the 2008-2009 financial crisis, the operations of foreign banks in the U.S. attracted relatively little notice. Beginning in early-2011, however, the funding practices of foreign banks operating in the U.S. began attracting attention, particularly those owned by banking companies headquartered in euro zone countries. Concurrently, analysts, market participants, and policy makers developed concerns about U.S. exposure to foreign economic and financial shocks through foreign banking operations in the U.S.

Recent research on the role of cross-border banking in the transmission of financial shocks generally focuses on a few key questions, over a relatively short time period.[1] The purpose of this paper, which we conceive of as a reference document or "primer," is to complement the literature on cross-border banking by providing a high-level examination of foreign banks' operations in the U.S. over the past two decades.[2] The paper is organized as follows: Section I addresses basic definitional and data issues. Section II examines major trends on the asset side of the balance sheet, focusing in particular on major developments before, during, and after the 2008-2009 financial crisis, while section III examines key asset-side activities identified in the previous section. Sections IV and V consider the liabilities side of the balance sheet in a parallel fashion. Section VI summarizes key observations and concludes by identifying issues for additional research.

I. Foreign Banks in the U.S.: Definitional and Data Issues

The concepts "international," "cross-border," and "foreign" banking are complex by nature because they involve the interactions of entities operating in two or more national financial markets and regulatory systems. Given this inherent complexity, clarity in the use of terms and data is of particular importance. In this regard, sections I.A and I.B highlight, respectively, key definitional and data issues. Building on this foundation, section I.C introduces the data set we use throughout the remainder of the paper.

I.A. What Constitutes "Foreign Banks in the U.S."? Definitional Issues

[1] Recent examples of this literature include Correa, Sapriza, and Zlate (2011), and Cetorelli and Goldberg (2011a) and (forthcoming).

[2] Past and recent "generations" of such landscape-type papers on international banking include Houpt (1988) and (1999), Grosse and Goldberg (1991), and Terrell (1993); and, more recently, Cetorelli and Goldberg (2006), and Goldberg (2009).

The terms "multinational bank," "international bank," "foreign bank," and "foreign banking organization (FBO)" are often used interchangeably. Each of these terms, however, has a distinct, and meaningfully different, definition provided by the relevant regulatory language and analytic literature.

The discussion in McCauley, McGuire, and von Peter (2010) on the "architecture of global banking" is a helpful starting point. At its foundation, the nature of global banking rests on two basic organizational choices defining corporate structure and strategy, each defined on a spectrum between opposing business models.[3] The end points of the structure spectrum are the international bank model and the multinational bank model. An ***international bank*** operates out of its home country or from a major financial center, and conducts cross-border business - that is, it does not rely on establishing a physical presence in foreign banking markets. Alternatively, a ***multinational bank*** establishes a physical presence in foreign markets in the form of branch offices and/or subsidiary banks.[4] The end points of the funding and liquidity strategy spectrum are centralized decentralized strategies. Under the centralized strategy, a banking company "pools funds at major offices and redistributes them around the banking group." Under a decentralized strategy, a banking company "lets affiliates raise funds autonomously to finance assets in each location."[5]

Most global banks exist between the extremes of structure and strategy. Many banks use a mixture of the multinational and international banking models, emphasizing to different degrees physical presence abroad and cross-border operations. Additionally, the intersection of the two dimensions introduces complexities. Multinational banking companies favoring a centralized funding strategy do so by establishing a branch network abroad. Those following a decentralized funding strategy do so by establishing separately capitalized subsidiary banks abroad, which tend to be more adept at attracting local deposits and other funding.[6]

Foreign banking companies operating in the U.S. employ a variety of business models. In this paper, ***foreign banks in the U.S.*** refers to operations under the multinational model, that is, foreign-owned banks with a physical presence in the U.S., whether in the form of a branch or a subsidiary bank.

[3] McCauley, McGuire, and von Peter (2010), pp. 27-28.

[4] Aliber (1993) was among the first to elaborate upon this banking model.

[5] McCauley, McGuire, and von Peter (2010), p. 28.

[6] This is not to say that foreign branches cannot or do not use local funding to some extent, nor that subsidiary banks always and everywhere operate completely autonomously. Globally, Bank for International Settlements (BIS) statistics show a roughly equal use of branches (1,764) and subsidiary banks (1,874) by banking companies (McCauley, McGuire, and von Peter]2010, p. 26]). There is a vast literature examining the factors influencing the structural and strategic choices banking companies make as part of their decision to expand abroad. See, for example, Nolle and Seth (1996), Brealey and Kaplanis (1996), Claessens, Demirguc-Kunt, and Huizinga (2001), Focarelli and Pozzolo (2005), Cerruti, Dell-Ariccia, and Martinez Peria (2007), Berger et al. (2000), and Cull and Martinez Peria (2011).

It is important to emphasize that this term has a meaning that is distinct from two other terms sometimes used interchangeably: "foreign banks," and "foreign banking organizations (FBOs)." Our use of these terms follows their definitions under U.S. banking law. Specifically, Subpart B of the Federal Reserve's Regulation K defines a ***foreign bank*** as "an organization that is organized under the laws of a foreign country and that engages directly in the business of banking *outside the U.S*.," and a ***foreign banking organization (FBO)*** as any such foreign bank, or "any company of which the foreign bank is a subsidiary" that "*controls a bank in the United States*" or "*operates a branch, or agency in the United States*."[7] Hence, while FBOs own and control the entities covered by the concept: "foreign banks in the U.S.," these FBOs are not included, per se.[8]

As discussed above, foreign banks in the U.S. includes both subsidiary banks and branches. In actuality, federal and state banking laws permit FBOs to establish and operate a wide variety of different legal entities that together constitute a banking presence in the U.S.[9] The Federal Reserve Board periodically publishes a comprehensive list of all such foreign-owned banking offices by entity type, location in the U.S., and name and home country of their parent FBO.[10] Table 1 summarizes data from the September 30, 2011 Structure and Share report, grouping foreign-owned banking offices into three basic categories.[11]

The top category in Table 1 is *U.S. branches and agencies of foreign banks* (FBAs**)**. Unlike banks, branches (both foreign and domestically owned) are not separately capitalized, and do not report their earnings on a stand-alone basis. A key difference between foreign-owned branches and U.S.-owned domestic branches is that foreign-owned branches are, with few exceptions, prohibited from accepting retail deposits from U.S. citizens or residents.[12] Foreign-owned agencies are very similar to branches,

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[7] Authors emphases. Regulation K implements the International Banking Act. Subpart A of Regulation K covers the international operations of U.S. banking organizations; Subpart B deals with foreign banks' operations in the U.S.; and Subparts C and D cover, respectively, export trading companies, and international lending supervision.

[8] For a clear examples of the correct use of the terms "FBOs" and "foreign banks in the U.S.," see the Federal Reserve quarterly statistical release *Structure and Share Data for the U.S. Offices of Foreign Banking Organizations*.

[9] We have put the term "banking presence in the U.S." in quotes in order to emphasize that it has a specific meaning under federal banking regulation. See, e.g., *Supervisory Letter SR 00-14 [SUP] on Interagency Program for U.S. Operations of Foreign Banks*, Board of Governors of the Federal Reserve System (October 23, 2000) "... banking presence in the United States ... can take the form of branches, agencies, Edge and Agreement corporations, commercial lending companies, and subsidiary banks."

[10] *Structure and Share Data for the U.S. Offices of Foreign Banking Organizations*, Board of Governors of the Federal Reserve System.

[11] Table A.1 in the appendix of the current paper provides a complete list of the underlying entity types, and Box A.1 in the appendix defines each entity type.

[12]Several foreign-owned branches which had traditionally accepted retail deposits before that activity was prohibited with the enactment of the International Banking Act of 1978 were allowed to continue accepting retail deposits, and to insure those

functionally and legally.[13] The 246 FBAs in Table 1 accounted for two-thirds of all assets held in foreign-owned banking offices in the U.S. in 2011q3, with the 196 branches accounting for almost 94 percent of total FBA assets of $2,207 billion.

Foreign-owned, U.S. chartered, subsidiary banks (FSUBs) constitute the middle group in Table 1. As defined in the documentation accompanying the Structure and Share release, "bank subsidiaries of foreign banking organizations are U.S. commercial banks of which more than 25 percent is owned by a foreign banking organization."[14] In Table 1, we have categorized as FSUBs the 65 foreign-owned entities with bank charter types that correspond to the definition of "U.S. Commercial Banks" specified in Federal Reserve System guidelines on banking system structure statistics.[15] As a group, FSUBs accounted for 31 percent of all assets in foreign-owned banking offices in the U.S. in 2011q3.

The third category in Table 1, Other Entities, comprises just under one-third of all foreign-owned banking entities operating in the U.S., but only 3 percent of all foreign-owned bank assets. Given their very small role, and consistent with customary practice, we ignore these entities in the remainder the paper. Foreign banks in the U.S. (FBUSA) therefore covers FBAs and FSUBs.[16]

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deposits under the FDIC's deposit insurance system. As of 2011q3, ten such insured branches were still extant (4 "federal" branches, licensed by the Office of the Comptroller of the Currency, and 6 state branches, licensed by state banking authorities).

[13] See Box A.1 in the appendix to the current paper for details.

[14] See the publication *About the Release* at www.federalreserve.gov/releases/iba/about.htm. As indicated in footnote 2 of Table 1, a foreign-owned entity is also counted as a bank subsidiary "where the relationship is reported as being a controlling relationship by the filer of the FR Y-10 (*Report of Changes in Organizational Structure*) report form."

[15] "U.S. Commercial Banks," as specified in the Federal Reserve Board's Micro Statistics: Reporting Panels, Identification of Entity Types, includes "banks in the 50 state with charter types 200 ("commercial bank"), 250 ("nondeposit trust company"), and 340 ("industrial bank"). For details on the composition of FSUB by charter types as of 2011q3, see Table A.1 in this paper's appendix.

[16] We want to emphasize in particular that our designation of branches and agencies as "banks" is consistent not only conceptually with the literature on the architecture of global banking, but also accords with usage in the federal bank regulatory community. For example, the Glossary (GL-6) for the FFIEC 002 quarterly call report filed by FBAs (*Report of Assets and Liabilities of U.S. Branches and Agencies of Foreign Banks*) defines "Commercial banks in the U.S." to include "the U.S.-domiciled branches and agencies of foreign banks." See also *Foreign Banks and the Federal Reserve*, which begins by stating that "Foreign banking institutions ... in the U.S. ... include foreign bank branches, agencies, and U.S.-chartered bank subsidiaries" (Federal Reserve Bank of New York, www.newyorkfed.org/aboutthefed/fedpoint/fed26.html).

There is also a precise, and consequential, legal basis for categorizing branches and agencies as "banks" in an operational sense. The Securities and Exchange Commission has traditionally held that branches and agencies meet the definition of "bank" under Section 3(a)(2) of the Securities Act of 1933. Hence, as in the case of separately capitalized commercial banks, securities issued or guaranteed by branches and agencies are exempt from registration under the Securities Act. Section 3(a)(2) list two requirements an institution must meet in order to qualify as a bank: (1) "its business must be substantially confined to banking;" and (2) "it must be a national bank or any institution supervised by a state banking commission or similar authority" (Morrison & Foerster 2012, p.35). Over the years, the SEC's deliberations on the question of whether branches and agencies are, under Section 3(a)(2), banks did not question the applicability of the first criteria listed above, but rather focused on the second, formalizing its determination in an interpretative release in 1986 that branches and agencies meet the second requirement due to the comparability of the federal or state regulatory regimes under which they operate. See Morrison &

I.B. What Constitutes "Foreign Banks in the U.S."? Data Issues

The Structure and Share release provides a comprehensive list of foreign-owned banking offices operating in the U.S., but contains very little information on their activities. Regulatory authorities do, however, routinely publish detailed reports containing aggregated financial data by industry sector. Included among these releases are three from the Federal Reserve Board that include detailed information on the operations of foreign-owned banks in the U.S. These three reports (the 4.30, the H.8, and the Flow of Funds) are compared in Table 2, along with the Structure and Share release.

Given the detailed nature of the data they contain, some analysts and market observers are inclined to regard the reports shown in Table 2 as representative of the foreign banking sector.[17] However, considerable circumspection is required in this regard. First, none of the releases is constructed or officially designated as a comprehensive representation of the foreign bank presence in the U.S., although, looking down column two, it is understandable how one could draw such an inference for the H.8 and Flow of Funds data.

A second key observation about the three public data releases is that none includes separate information on FSUBs. In light of the discussion in the preceding section, this means that referring to the data in any of those reports as "the foreign banking sector" undercounts by about one-third the (assets) size of that sector. By design, the 4.30, which deals exclusively with FBAs, does not include FSUBs, but the issue is more subtle in the case of the H.8 and the Flow of Funds releases.

The far right column of Table 2 reveals a third significant aspect of the 4.30, H.8, and Flow of Funds data sets - each reports a different size of FBA activities. In addition, only the 4.30 matches the FBA total assets in the Structure and Share data (top row of Table 2). The differences between aggregate assets levels in the H.8 and the Flow of Funds result from differences in data set construction consistent with the overall perspective that each data set is designed to illuminate. In the case of the H.8, sample construction plays an important role.[18] The point that these differences are quantitatively meaningful is

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Foerster (2012, p. 35), which references *Securities Issued Or Guaranteed By United States Branches Or Agencies of Foreign Banks*, SEC Release No. 33-6661 SEC Docket (1973-2004), 36 SEC-DOCKET 746-1 (September 23, 1986).

[17]Indeed, it is not just the Federal Reserve System "brand" that elicits this kind of interpretation and use. As noted in the appendix to the current paper (Table A.2 and Box A.2), quarterly data published by the FDIC is also commonly regarded as depicting "the" U.S. banking industry, when, in fact, that data cover FDIC-insured depository institutions, an overlapping but not identical set of entities to "commercial banks." Illustrative of the perspective typically taken of the FDIC report is the business press coverage upon the release of 2012q1 release (e.g. in the *Washington Post*, May 25, 2012, p.A12). More importantly in the context of the current discussion, the FDIC *Quarterly Banking Profile* report does not explicitly identify FSUBs, nor does it take account of FBAs (with minor exceptions, as noted above and in the appendix Box A.1, Table A.2, and Box A.2).

[18] Box A.2 and Table A.2 in this paper's appendix discuss these factors. Briefly, the purpose of the 4.30 is to provide a straightforward aggregation, across all FBAs filing the quarterly FFIEC 002 call report, of the range of balance sheet, off-balance sheet, and income statement components that are commonly seen as providing a clear picture of banking condition and

made clear in the Addendum to Table 2, which shows the differences in FBAs' market share of banking assets as calculated using the H.8 and the Flow of Funds data sets, each of which includes data on the overall banking industry in the U.S.

I.C. Addressing the Definitional and Data Issues: A New Data Set

The above two sections identify the conceptual and empirical challenges that must be addressed in order to avoid ambiguity when discussing the operations of foreign banks in the U.S. In order to highlight our approach to these definitional and data issues, Table 3 compares relevant dimensions of our dataset to the H.8 and the Flow of Funds; the underlying sources for the construction of our data set, and precise definitions of the foreign and domestic component sectors we cover, are summarized in note 1 of Table 3.

Several points about Table 3 deserve particular emphasis. First, in our data set, the level of assets for all FBAs is somewhat larger than in either the H.8 or the Flow of Funds. By design, both of those published data sets exclude particular balance sheet activities for FBAs, consistent with the underlying purpose of the release.[19] Our data set does not incorporate those exclusions, instead aggregating all relevant balance sheet activities across all FBAs filing the FFIEC 002 in a given quarter.[20] Hence, the level of aggregated assets we show for FBAs is the same as in the Structure and Share release.[21] To a large extent, exclusion of some balance sheet activities in the construction of the H.8 and the Flow of Funds also explains the smaller level of total assets for commercial banks as compared to our data set, as row two in Table 3 shows.[22]

The biggest difference among the data sets is shown in row three of the table: while our data set includes FSUBs as part of foreign banks in the U.S., neither of the two published data sets does so. In our data set FSUBs are explicitly identified as a subset of commercial banks. In contrast, both the H.8 and the Flow of Funds, include FSUB activities in commercial banks but they are not separately identified. As a

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performance; the H.8 is focused on timeliness and is published weekly with a very short lag between collection of the underlying data and the release of the report; and the *Flow of Funds* is designed to show the interconnections between sectors in their sources and uses of funds.

[19] Appendix Table A.2 and Box A.2 discuss in greater detail the relevant differences in the construction of both the H.8 and *Flow of Funds* data sets.

[20] One partial exception to this statement involves our treatment on FBA balance sheets of due-to and due-from positions with their foreign parents and other related offices abroad. This procedure, explained in detail in section III.C below, does not reduce the value of aggregate assets for FBAs.

[21] As noted in the discussion contained in Box A.3 in the appendix, the *number* of FBAs our data set may be slightly lower than the number of FBAs listed in a given quarterly *Structure and Share* release because our data set is constructed only with those FBAs filing a quarterly FFIEC 002 and hence, unlike in the case of the *Structure and Share* release, does not include FBAs which did not file a quarterly call report, either because they had zero assets for the quarter or because, under the reporting rules, were permitted to file a single combined call report with a sister institution.

[22] Definitional differences also play a role to some extent; see Table A.2 and Box A.2 in the appendix.

consequence, it is not possible, with either of these data sets, to include both FBAs and FSUBs in a calculation of the total foreign-owned bank sector in the U.S. Furthermore, because FSUBs are included in domestic-chartered banks, using data from these sources for comparative calculations can yield misleading results.[23] For example, were one to use the H.8 data to gauge the ratio of foreign to domestic assets, not only would the numerator be too small because of the absence of FSUBs from the foreign sector but the denominator would be too large, as FSUB assets are included in domestic bank assets.

The middle portion of Table 3 shows U.S. banking market assets shares in our data set as compared to the H.8 and the Flow of Funds. FBAs' market shares are broadly similar across the three data sets. However, under our methodology the FBA assets share is somewhat lower, at 14.7 percent, than in the other two data sets.[24] As Table 3 shows, FBUSA accounted for almost 22 percent of U.S. banking market assets in 2011q3, a share roughly half again as large as the closest quantifications calculable under the H.8 or Flow of Funds data.

II. The Changing Nature of Foreign Bank Activities in the U.S. Over Time: Assets-Side Activities

The previous section ended with a brief sketch of the composition and size of the foreign banking sector in the U.S.[25] The next two sections contextualize this static view by discussing key assets-side trends over time. Of particular interest is how foreign-owned banks in the U.S. fared over the past decade in the midst of historic, and volatile, changes in banking and financial markets.

II.A. Long-Run Assets Trends Compared

The acceleration in credit extension prior to the recent financial crisis has received substantial attention but it is worth pointing out that banking system assets had been growing strongly since the industry fully recovered from the S&L crisis of the late 80s, early 90s. In Figure 1, the heavy black line illustrates the long-run, nearly uninterrupted, growth in banking system assets from 1994 to 2008. Subsequently, with the full onset of the financial crisis in 2008q3, there was a sharp break in this trend, as

[23] See appendix Box A.2 for a detailed discussion. Note that the H.8 release is published weekly, but each weekly report also includes monthly figures constructed by averaging the relevant weekly reports. In Table 2 we use H.8 data for September 2011 in order to be roughly comparable with the other data sets which (with minor exceptions) report end-q3 2011 data.

[24] As explained in Box A.2 of the appendix, the size of the U.S. banking industry under our methodology is also appreciably larger than that reported in widely used measures of "the" U.S. banking industry, including in particular that presented in the FDIC *Quarterly Banking Profile*. That fact highlights what we view as a serious empirical and conceptual "blind spot" in traditional discussions and analyses of "the" U.S. banking industry: the foreign-owned banking sector is under-represented, most often because FBAs' activities are left out of the calculations, despite compelling theoretical, regulatory, legal, and economic justification for including that dimension.

[25] Table A.3 and Box A.3 in the appendix present information about the parent-country composition of FBUSA. A thorough investigation from that perspective is beyond the scope of the current paper, but as indicated in the Conclusion, such an analysis is a logical next step for future work.

shown on the far right side of the figure. Figure 1 also illustrates several fundamental points about the nature of foreign bank activities in the U.S. from the perspective of changing U.S. banking market assets shares.[26] Roughly speaking, the 1994 to 2003 period illustrated in the figure can be characterized as a relatively stable, pre housing market bubble, decade.[27] Looking at the top (dashed) line, the slide in FBUSA market share, from just over 20 percent in 1994 to just under 18 percent in 2003, shows that foreign-owned banks in the U.S. did not participate equally with Domestic Banks in the pre-bubble growth of banking system assets. The dotted line shows that the decline in overall FBUSA market share was attributable to FBAs, with FSUBs (dash-dotted line) increasing their share of banking system assets about 1 percentage point over the period.

The right side (from about 2004 on) of Figure 1 shows that as credit extension expanded beyond the subprime housing market, FBUSA more than made up for lost ground, increasing market share from 17.9 percent in 2003q4 to 22.5 percent in 2007q3. FBAs were particularly aggressive, boosting market share by 3.5 percentage points during the pre-crisis period from 2004-2007. Subsequently, and exactly one year prior to the Lehman crash in 2008q3, the FBUSA share of U.S. banking system assets dropped steadily. This decline began with a one percentage point loss of market share for FSUBs, joined in short order by FBAs, which saw their U.S. banking market share shrink by two percentage points between 2008q1 and end-2010. The FBA line shows another upward trend from early 2011, in what, at first blush, appears to be a recovery for FBAs.[28]

Figure 1 provides a useful starting point for a discussion about the changing nature of foreign banks' operations in the U.S. Figures 2a through 2c add depth by decomposing total assets of FBAs,

[26] See appendix Table A.5 for alternative perspectives on trends in foreign banks' U.S. banking market shares, using a time period categorization scheme introduced in text below. Note also that, at least since Goldberg (1992), analyses of the importance of foreign banks in the U.S. banking market have focused more on foreign banks' business lending (as measured by commercial and industrial (C&I) loans and/or C&I loans plus commercial real estate loans) rather than their assets share. That perspective is based on the observation that FBAs in particular do not engage in as wide a range of assets-side activities as do commercial banks, instead focusing on business lending. In the event, foreign banks' business lending market share has traditionally been half again that of their share of total U.S. banking market assets. Indeed, several studies suggest that, from a business-strategy viewpoint, the most accurate measure of foreign banks' importance relative to U.S. banks is one that includes both the C&I loan figures reported on the regular quarterly call report, and the lending activities (most of which targets business customers) of FBAs' and internationally-active U.S.-chartered commercial banks' so-called "Caribbean branches." Using this more comprehensive measure, focused only on business lending, has shown as much as a 40 percent U.S. banking market share for foreign banks. McCauley and Seth (1992) and Nolle (1994) were the first to emphasize and empirically investigate this issue.

[27] This characterization is meant to be illustrative rather than definitive. Unlike in the case of the NBER's definitive dating and designation of a recessionary period for example, there is no single, "official," designation of the exact phases surrounding the financial crisis. In section II.B below we take up this topic, and explain our designations of specific time periods as "pre-crisis," "crisis,' and "post-crisis," emphasizing that such characterizations are approximate and, in that spirit, should be regarded as an aid to exposition rather than as empirically precise determinations.

[28] The impression of a "recovery" is more apparent than real: as explained below, much of the recent increase in FBAs' assets share is attributable to large increases in cash holdings, rather than in credit extension.

FSUBs, and Domestic Banks into five major categories and examining long-run trends in those activities for each of the three banking groups. Examining Domestic Banks in Figure 2a, 2008 stands out as a major turning point.[29] This is especially apparent for loans, the dominant assets-side activity, which dropped off sharply during the crisis, and had not fully rebounded as of 2011q3. Securities activities also changed abruptly during the crisis, increasing substantially after a notable drop in lending activities.[30] Another noteworthy change beginning in 2008 was the build-up in cash positions.

Long-run trends in FBAs' assets components, shown in Figure 2b, differ dramatically when compared to those of Domestic Banks. Prior to 2004, the volume of FBA loan activity did not increase in the steady manner experienced by Domestic Banks. Conversely, lending declined during the early-2000s, dropping off from the positive performance of the mid-1990s. Beginning in 2004, FBA loan activity surged dramatically, rising more than 135 percent to a peak in the second half of 2008, a rate of change greater than three times that of Domestic Banks over the same period. The subsequent 25 percent plunge in FBA lending activity from 2008q4 to its nadir in 2010q3 was also extreme compared to the less than five percent drop in Domestic Banks' lending. The other major assets components also show greater volatility for FBAs as compared to Domestic Banks. The proportionately large and erratic changes in FBAs' fed funds sold/reverse repo activities stand out, as does the large increase in FBA cash assets from late-2008 through 2011q3.

The long-run assets trends of FSUBs illustrated in Figure 2c differ from those of both FBAs and Domestic Banks. However, relative to FBAs, there is clearly less dissimilarity between FSUBs and Domestic Banks, particularly with regards to trading assets, fed funds sold/reverse repos, and securities. Trends from 2008h2 are proportionately similar to those of Domestic Banks, although FSUBs' cash assets

[29] This is a good place to point out that it is not the intention of this paper to discuss and explain the 2008-2009 financial crisis *per se*. We assume a certain level of familiarity with the various stages of that event, including the emergence of the housing market bubble leading up to the crisis, the severity of the impacts on the condition and performance of the U.S. banking system, government "rescue" efforts, etc. all of which provide the underlying context for this paper's focus on the activities of FBUSA, especially FBAs. Hence, with few exceptions, we do not explain the nature of Domestic Bank activities, using those rather as a starting point, or frame of reference, for specific comparisons and explications focusing on foreign-owned banks.

Similarly, it is beyond the scope of this paper to attempt a comprehensive review of the motivations for banks to expand abroad. That topic has generated a large and multifaceted literature over the past several decades including, for example, Brealey and Kaplanis (1996), Nolle and Seth (1996), Claessens, Demirgu-Kunt, and Huizinga (2001), Focarelli and Pozzolo (2005), Cerruti, Dell-Ariccia, and Martinez Peria (2007), Berger et al. (2000), and Cull and Martinez Peria (2011).

[30] FBAs report on their call reports substantially less detail than do commercial banks, although very recent data includes greater granularity. Under the circumstances, our data set construction efforts were guided more by aiming for consistency over time and between foreign and domestic bank aggregates than toward a high level of disaggregation of this balance sheet category. We decomposed securities activities into "available-for-sale" and "held-to-maturity" elements, but did not disaggregate by type of instrument. In the event, because trends over time for securities activities for FBAs were relatively less volatile than other major assets categories, we concluded that pursuing greater granularity in this case was not of the first order of importance for purposes of this paper.

have been more erratic since the crisis. Loan trends have some characteristics of both groups. Broadly, FSUB lending increased from 1994 to the early-to-mid-2000s but the positive pattern is less uniform than that of Domestic Banks. The upward surge in 2004 is similar to that of FBAs, at least through 2007h1. Unlike either of the other groups, however, FSUBs' loan trends became erratic about a year before the crash in 2008q3; from that point onward, FSUBs' loan growth was less negative than that of FBAs, but more volatile when compared to Domestic Banks.

II.B. FBAs, FSUBs, and Domestic Banks: Assets Portfolio Composition

The assets side activities illustrated in Figures 2a through 2c for each group of banks follow parallel trends, though the three groups operate on greatly different scales. Direct comparisons can, however, be made across groups by considering the relative emphasis each group places on a given activity. Table 4 illustrates the own-portfolio share of assets accounted for by each of the five major assets-side components for the three banking groups.[31] Two points in particular stand out in Table 4. First, as of 2011q3, FBAs had allocated almost 44 percent of their assets to cash and balances due, representing an emphasis four to five times greater than those of the other two banking groups. Second, FBAs' emphases on securities and loans were half, or less, than those of FSUBs or Domestic Banks.

Table 4 shows stark differences in portfolio emphases for FBAs compared to the other two groups of banks but does not offer any information about the evolution of these differences. Figures 3a and 3b address this issue by comparing changes in assets portfolio emphases for FBAs, FSUBs, and Domestic Banks over the 2001-2011 period. We divide this period into four stylized eras as follows.[32] We designate the 2001q2-2003q4 time period as the baseline era, the period 2004-2007 as the pre-crisis era, 2008-2009 as the crisis era, and 2010-2011q3 as the post-crisis era.[33] For each of these eras, we calculate the average share of a group's total assets accounted for by each of the five major assets-side activities.[34]

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[31] For these and other balance sheet composition analyses in the paper, "total assets" used in share calculations exclude due-from positions a given group of banks has vis-à-vis related offices abroad, including those that FBAs and FSUBs have with foreign parents. A more detailed discussion of this procedure is included in the section of the current paper dealing with intra-company funding flows, below.

[32] We note here that our time period characterizations are not meant to be definitive, but are rather impressionistic. Indeed, there is no single, unique, "official" dating of the financial crisis, nor do we mean to suggest that 2011q3 marked the end of the post-crisis period. In addition, data limitations have affected our categorizations to some extent; in particular, our baseline era starts in 2001 because data for several of the key subcomponents on which we focus were not collected on quarterly bank call reports prior to that year. We also recognize that changing the end points for our time periods will change the group averages. We emphasize, however, that the validity of our main observations is qualitatively unaffected by a few-quarters change in the end-points or spans of our four "eras."

[33] Although data availability affected the exact specification of our baseline period (as noted above), our judgmental process is consistent with the reasoning in Hickok and Nolle (2009). Also, see that study for a detailed discussion of the designation of a pre-crisis period of financial stability. Our Post-Crisis time period ends at the limit of our current data set, 2011q3; we do not mean to suggest that the U.S. banking system nor, especially, the global financial system, had by then fully recovered from the 2008-2009 financial crisis.

The bars in Figure 3a show the ratio of FBA to Domestic Bank portfolio shares for a given assets-side activity, over the four eras. The main reference point in Figure 3a (and 3b) is the horizontal line at the value of 1. Values above 1 mean that FBAs placed more emphasis on a given activity than did Domestic Banks, relative to other assets-side components; values below 1 indicate relatively greater emphasis by Domestic Banks. A ratio of exactly 1 means that for the relevant time period, FBAs and Domestic Banks place equal emphasis on an activity, as a share of total assets. For example, the four bars clustered together on the far left side of Figure 3a show the ratio of the share of cash & balances due for FBAs compared to Domestic Banks, for each of the four eras. The leftmost (solid) bar indicates that on average, over the baseline period, FBAs' cash balances were about one and a half times those of Domestic Banks. FBAs' relative emphasis on cash rose over the pre-crisis and crisis periods as compared to Domestic Banks, averaging slightly more than twice that of Domestic Banks during the 2008-2009 crisis. Subsequently, as the tallest bar in the cash-cluster shows, FBAs' emphasis on cash over the post-crisis period shot up to almost four times that of Domestic Banks.

Moving rightward in Figure 3a, FBA to Domestic Bank ratios are less than 1 for both securities and loans across all four eras, indicating that FBAs consistently placed less emphasis on those activities relative to other assets-side operations than did Domestic Banks. However, the maximum (negative) height of the bars never reached the value of 0.5, signifying that Domestic Banks placed less than a 50 percent greater emphasis on those activities relative to FBAs. Furthermore, within the context of the large differences and changes in assets shares illustrated in Figure 3a, the modestly greater emphasis Domestic Banks placed on loans relative to FBAs did not vary widely across the four eras. In a related vein, as the far right bars show, although FBAs placed three times the relative emphasis of Domestic Banks on trading assets activities, this difference remained very stable over the four eras. No such consistency characterizes the FBA to Domestic Bank emphasis over time on fed funds and repos activities, however, as the emphasis FBAs placed on fed funds and repos activities relative to Domestic Banks changed dramatically from the pre-crisis to crisis and post-crisis periods.

Figure 3b compares FSUBs' portfolio emphases to those of Domestic Banks. The vertical scale in Figure 3b is the same as in Figure 3a, an artifice that helps to emphasize the main result of the FSUBs to Domestic Bank comparisons: FSUBs and Domestic Banks are without exception more similar in assets-side emphases than are FBAs and Domestic Banks. Looking across Figure 3b, many ratios are close to 1,

[34] See appendix Table A.6 for the assets-share ratios illustrated in Figures 3a and 3b, and appendix Table A.7 for the portfolio composition over time for each of the three banking groups.

indicating very similar portfolio emphases for the two sets of banks. Furthermore, for three activities (cash, securities, and loans), portfolio emphases ratios remained relatively stable across most eras.

In light of both the long-run assets trends in activities and the main observations emerging from portfolio composition comparisons it is clear that FBAs' assets-side activities were considerably more volatile than those of both Domestic Banks and FSUBs, given the roughly similar assets-side trends and portfolio composition of FSUBs and Domestic Banks.[35]

III. Assets-Side Activities: Major Underlying Drivers

The previous section identified trends in FBAs' cash activities and fed funds/repos activities as particularly volatile compared to the other groups. Though our data set does not contain information on fed funds/repo activities over a sufficiently long period of time, we are able to use subcomponents of cash and balances due activities reported by FBAs to examine these activities in greater depth. In addition, because FBAs report information on the composition of their lending activities, we are able to undertake a granular examination of this category for FBAs.

The stacked bars in Figure 4 show the composition of the assets-side of FBAs' balance sheets for the baseline, pre-crisis, crisis, and post-crisis eras defined above. Each segment of a bar represents the assets-side share accounted for by a given category of activities, as a percent of total assets. The top two segments of each bar are, respectively, the assets-share of cash and balances due, and fed funds/repos. Looking across the four eras, the large changes in these two categories stand out. By comparison, the bottom two segments of each bar, securities activities and trading assets, are relatively stable across time. Lastly, the middle segment of each bar shows the assets-side portfolio share of loans. Looking across the four time periods, two characteristics about FBAs' lending activities stand out: first, until surpassed in importance in the post-crisis era by cash and balance due, loans were the dominant assets-side activity; and, second, loans' share of total assets declined substantially in the post-crisis period, from more than 40 percent the assets during the crisis period to a one-third share in the post-crisis era. Such a steep drop in what has traditionally been the most important set of assets-side activities warrants further investigation.

III.A. Underlying Assets-Side Drivers: Loans

Table 5 presents information on the composition of FBAs' lending activities over all periods. The top row repeats information from the loans segment of the stacked bars in Figure 4, illustrating the shifting share of FBA's total assets accounted for by loans. The second and third rows reveal that the

[35] See appendix Tables A.6 for detailed FBAs-to-FSUBs assets portfolio emphases over the four eras.

overall division of FBAs' portfolio between loans to the non-financial sector and loans to the financial sector remained relatively steady over time.

The remaining rows in Table 5 examine the underlying composition of FBAs' loans to the financial and non-financial sectors. The middle section of the table (between the two dashed lines) shows the breakdown of the roughly 25 to30 percent of FBAs' total lending that goes to the financial sector. FBAs extend credit to three major sets of financial institutions: banking institutions (via the interbank loans), nonbank financial firms, and foreign governments and official financial institutions (including foreign central banks). Over the four time periods listed in Table 5, the loan shares of each of these three sets of financial institutions shifted somewhat, but those modest changes were never large enough to change their relative positions in FBAs' portfolio emphases. One interesting exception to the basic compositional stability of FBAs' financial sector lending is shown in the bottom two rows of the middle segment of Table 5: over the whole 2001-2011 time period, and most markedly during the post-crisis period, FBAs' interbank lending moved away from banks in the U.S. and to unaffiliated banks in foreign countries.

The bottom section of Table 5 looks at the underlying composition of the roughly 70 to75 percent of FBAs' lending that goes to the non-financial sector. The table makes clear that C&I lending, traditionally the dominant component of FBAs' loans to the non-financial sector, has undergone radical changes, with the bottom three rows in revealing important dimensions of this story. First, C&I lending's dominance in FBAs' non-financial sector loan portfolio eroded substantially over the pre-crisis and crisis periods, from its baseline of 83 percent to about 75 percent. Subsequently, during the post-crisis period C&I loans continued to drop as a share of non-financial sector lending by FBAs, to just over two-thirds of such lending. The addendum information in the bottom row of Table 5 provides another perspective: whereas C&I lending accounted for over 60 percent of all FBA loans during the baseline period, by the post-crisis era, their overall loan portfolio contribution was just over 50 percent. Further, although our data lack sufficient granularity to comment definitively on the nature of the non-financial sector lending that replaced the declining share of C&I lending, the second to last row in Table 5 shows that it was certainly not real estate lending, which remained a relatively minor focus for FBAs.

Figure 5 provides another perspective on the magnitude of FBAs' diminished emphasis on C&I loans, revealing two trends that highlight the gravity of recent C&I lending patterns by FBAs. The solid line in Figure 5 shows the pattern of C&I lending by the entire banking system, including the precipitous drop from 2008q3 through the first half of 2010; thereafter, C&I lending has grown steadily, if modestly.

However, the bars, which show FBAs' share of all C&I lending, reveal that FBA participation in the recovery of C&I lending has been especially tepid.

Figure 6 quantifies the relative weakness of FBA's post-crisis C&I lending, as compared to the other two banking groups by showing the progression of C&I lending by FBAs (dotted line), Domestic Banks (solid line), and FSUBs (dashed line) indexed to their respective dollar volume in 2009q4. Domestic Banks' C&I lending continued to drop off through the first half of 2010 but then turned upward, exceeding its 2009q4 level as from the beginning of 2011. The post-crisis decline in C&I lending by FSUBs was deeper and more sustained than that of Domestic Banks, but turned around decidedly in mid-2011 and had exceeded its 2009q4 level by 2011q3. By contrast, the plunge in FBA's C&I lending was substantially steeper than either of the other two groups and the recovery through 2011q3 has been particularly anemic, remaining more than 8 percent below the 2009q4 level.

III.B. Underlying Assets-Side Drivers: Cash & Balances Due

Figure 7 decomposes cash and balances due into constituent activities reported by FBAs on their quarterly call reports. The far left bar shows the composition of cash & balances due in during the baseline period, when FBAs placed the majority of their cash balances with banking offices in the U.S., including other FBAs (almost 57 percent of all cash balances), as well as unaffiliated banks and other depositories (9.5 percent of all cash balances). Almost all other cash balances were placed with unaffiliated banking institutions abroad, including banks in their home country and their home country central bank (almost 8 percent of their total cash balances), and unaffiliated banks and central banks in other foreign countries (over 21 percent). Very small balances (less than 1.5 percent) were booked at Federal Reserve Banks.

The two middle bars in Figure 7 show that the baseline patterns persisted through the pre-crisis period, but changed abruptly with the onset of the crisis in 2008. On average, over the crisis period, FBAs' reserves at Federal Reserve Banks ballooned to more than half (54.5 percent) of total cash balances which, as illustrated previously in Figure 2b, had begun an unprecedented ascent. As this happened, FBAs reduced their reliance on other banks, especially banks abroad; FBAs' use of home country and other foreign banks dwindled from a baseline of almost 30 percent of cash & balances due, down to less than 10 percent.[36]

Although stability returned to the U.S. banking system as the crisis abated, FBAs did not return to, or even toward, their baseline cash assets practices. As the far right bar in Figure 7 shows, 90 percent of

[36] See Miu, Sarkar, and Tepper (2012) for a perspective on this focusing on funding pressures faced by banks headquartered in eurozone countries.

their cash was held as reserves at the Federal Reserve.[37] The majority of the remaining 10 percent of cash balances were booked at unaffiliated banking offices in the U.S. (mostly unaffiliated FBAs), while a small proportion (2.7 percent) were placed abroad with unaffiliated banks and central banks. Notably, almost nothing was placed with home country banks or the home country central bank (0.25 percent).

Table 6 compares the changes in both the level and composition of cash and balances due activities at FBAs, Domestic Banks, and FSUBs over the past decade. In the top section of Table 6, dollar value increases in cash & balances due for both Domestic Banks and FSUBs are quite large. In particular, the $672 billion increase over the 2007q4-2011q3 period at Domestic Banks was almost half again as large as total cash balances before the onset of the crisis in 2008q1. The level of cash balances for FSUBs also increased substantially from end-2007 through 2011q3, more than tripling to $116 billion from $33 billion. As the bottom section of Table 6 reveals, these dramatic dollar-volume increases appreciably raised the portfolio shares of cash & balances due for both groups of banks.

Although Domestic Banks and FSUBs shifted in their cash & balances due activities over the crisis and post-crisis periods substantially, by all relevant measures changes at FBAs far outstripped them. Indeed, on a proportional basis, FBAs cash activities increased to 3 and-a-half times their pre-crisis share of total assets, more than twice the assets-share increase of FSUBs, and almost four times that of Domestic Banks.

The large compositional shift toward reserves at Federal Reserve Banks by FBAs also surpassed those by Domestic Banks and FSUBs. Table 7 and Figure 8 provide two complementary perspectives on these historic changes. The top row of Table 7 shows that as the crisis unfolded Domestic Banks increased their reserves balances to more than one-third of total cash balances, up almost seven-fold from the approximately 5 percent share before the crisis. Reserves as a share of all cash balances continued to rise for Domestic Banks, to over 50 percent on average, during the post-crisis period. The shift into reserves at Federal Reserve Banks was even sharper for FSUBs. The second row of Table 7 shows an almost ten-fold increase in the share of cash & balances due accounted for by reserves at the Fed for FSUBs over the pre to post-crisis periods. As is made clear in the bottom row, this shift was dwarfed by FBAs' compositional changes: the 1 percent share of cash and balances due accounted for by reserves at the Fed in the pre-crisis period had become a 90 percent share on average over 2010q1-2011q3.

Figure 8 explores the extreme increases in the share of cash balances booked as reserves at the Fed. The far left set of bars in this figure show quarterly averages over the 2001q2-2008q2 period as a

[37] Note that in 2011q3, the last quarter covered in our data set, FBAs' reserves at Federal Reserve Banks accounted for 95 percent of their total cash & balances due.

reference point. The bold (dashed) line in the Figure 8 plots the share of total Federal Reserve System liabilities accounted for by reserves at all banks and other depository institutions. Traditionally, reserves accounted for 5 percent or less of Federal Reserve liabilities, this situation changed abruptly in the fall of 2008, when reserves surged to more than 50 percent of total Federal Reserve System liabilities. The bars in Figure 8 show the percent of all reserves at Federal Reserve Banks accounted for by each of the three groups of banks. Of particular note are the large declines in the share of total reserves at Federal Reserve Banks accounted for by Domestic Banks, and the correspondingly large increases in FBAs' share. In particular, by 2011q3 FBAs accounted for almost 50 percent of all reserves, about 10 percentage points higher than Domestic Banks. Adding the nearly 5 percent share held by FSUBs to the FBA share means that by 2011q3, well over half of all reserves were held by foreign-owned banks in the U.S.

IV. The Changing Nature of Foreign Bank Activities in the U.S. Over Time: Liabilities-Side Activities

The next sections investigate foreign banks' activities on the liabilities side of the balance sheet, following the same basic methodology employed in section II. We begin by exploring long-run liabilities-side trends of FBAs, FSUBs, and Domestic Banks before examining several key underlying components that merit closer scrutiny in section V.

IV.A. Long-Run Liabilities Trends Compared

The liabilities side of a bank's balance sheet is, broadly speaking, a record of how credit extension and other assets-side activities are funded. The long-run trends for the major components of Domestic Banks' liabilities, illustrated in Figure 9a, are relatively smooth, even over the tumultuous decade from 2001-2011. In particular, the trend for deposits shows an almost unbroken upward trend.

In comparison, Figures 9b and 9c show the, often volatile, trends in major liabilities-side activities for foreign-owned banks. For FSUBs (Figure 9b), the contrast with Domestic Banks is not extreme. For FBAs (Figure 9c), however, the comparison is stark: as from the early-2000s, FBAs' deposits, borrowed funds, and net due to related foreign offices activities experienced large, and on occasion sharp, changes in trend.[38] As a first step toward identifying key factors underlying these long-run trends, we compare the compositions of liabilities portfolios for each type of bank, following the methodology introduced in previous sections.

IV.B. FBAs, FSUBs, and Domestic Banks: Liabilities Portfolio Composition

[38] For most of the time period, FBAs show net due-to related foreign offices as a "negative liability." As explained in detail in section V, those values are an artifact of the way that activity is measured for analytical purposes, and is not a reflection of how such intra-company funding flows are recorded under standard bank accounting practices.

Table 8 provides a snapshot of the differences in liabilities-side emphasis between FBAs, Domestic Banks, and FSUBs by showing, for each of the three banking groups, the share of total assets accounted for by each component of liabilities in 2011q3.[39] As would be expected, given a prohibition on taking retail deposits, FBAs rely proportionately less on deposits than do Domestic Banks.[40] This observation extends to FSUBs, which, as the top row of Table 8 shows, placed a nearly identical emphasis on deposits as did Domestic Banks. Large differences between FBAs and the other two banking groups are apparent in other major liabilities-side activities as well; broadly, these differences may be seen as substitutions for deposit-taking activities in which they are unable to participate.

In order to examine liabilities-side composition over time, Figures 10a and 10b use the same ratio-construction technique developed in section II.B for assets-side comparisons.[41] Figure 10a shows, for each of four major liabilities-side activities, the ratio of that activity's relative emphasis on the liabilities side of the balance sheet for FBAs compared to its relative emphasis for Domestic Banks.[42] The five-bar cluster for each activity shows changes in this ratio over the four eras defined in section II, as well as for 2011q3. The horizontal axis at 1 indicates the ratio at which both banking groups place equal emphasis on a given activity.

Starting on the left side of Figure 10a, the bars showing the ratio of FBAs' to Domestic-Banks' deposits' share of liabilities all hover around 1. The interpretation of this result is that FBAs and Domestic Banks placed very similar relative emphases on deposits over all five time periods covered by the data. Given previous observations about regulatory restrictions facing FBAs, the similar emphasis by FBAs and Domestic Banks on this component of liabilities makes deposit-taking activities a candidate for further scrutiny, a task undertaken in the next section.

Moving rightward in Figure 10a, the borrowed funds cluster of bars shows that the emphases in FBAs' liabilities portfolios were between two and three times those of Domestic Banks. Nevertheless, that ratio remained roughly steady over all four eras, inching up just a bit in 2011q3 compared to the post-crisis average. This greater-but-steady pattern also applies to FBAs' trading liabilities emphasis relative to

[39] Reflecting the concepts of assets being "uses" of funds, and liabilities being "sources" of funding, it is common practice to view liabilities portfolio composition in terms of assets shares (or, frequently, relative to loans); we use assets as the denominator in calculating own-portfolio emphases for liabilities throughout the remainder of this paper. Consistent with discussions of portfolio composition in Section II.B above, "total assets" excludes due to positions with related foreign banks unless otherwise stated.

[40] Appendix Box A.1 discusses the minor exceptions to retail deposit-taking for FBAs.

[41] See appendix Table A.8 for the detailed data on the ratios illustrated in Figures 10a and 10b; appendix Table A.9 shows liabilities-side portfolio composition over time for each of the three banking groups.

[42] As explained in the footnote underlying the discussion of Table 8 above, liabilities portfolio shares are calculated as proportional to assets.

Domestic Banks' emphasis over time. Finally, on the far right side of Figure 10a, the size and changing orientation of the Net Due to Related Foreign Offices ratio bars stands out as compared to the other three liabilities-side activities. It is important to observe that the within-liabilities portfolio emphases FBAs and Domestic Banks place upon this activity are very large, and have been subject to sharp swings.

Figure 10b compares the relative liabilities portfolio emphases for FSUBs and Domestic Banks, retaining the scale used in Figure 10a, to highlight the traditionally very similar liabilities activities emphases for FSUBs and Domestic Banks. Indeed, for both the deposits cluster of ratio bars and the borrowed funds cluster of ratio bars, many of the bar values are near 1.[43]

Figure 10b clearly shows that FSUB to Domestic Bank net due-to emphasis is an obvious exception to the general similarity between the relative compositions of liabilities-side activities for these two groups. Although the differences among the two sets of banks for this activity are not as large as in the case of FBAs and Domestic Banks, the size and shifts in FSUBs' and Domestic Banks' relative emphases are substantial.

V. Liabilities-Side Activities: Major Underlying Drivers

The previous section motivated a more detailed look at the net due-to activities of both FBAs and FSUBs. The following section identifies other liabilities-side activities meriting deeper examination before continuing on to examine net due-to activities in further detail.

V.A. Identifying Other Liabilities-Side Activities for Further Consideration

The five stacked bars in the Figure 11 provide a starting point for our examination by showing the composition of the liabilities-side of FBAs' balance sheets for the baseline, pre-crisis, crisis, and post-crisis eras, as well as for 2011q3. Each segment represents the liabilities-side share accounted for by a given category of activities, as a percent of total assets. The top segment of each bar shows the share of deposits in FBAs' liabilities portfolios - looking across time periods, a couple of observations emerge that suggest deposit-taking activities warrant more detailed investigation. Deposits make up the largest component of liabilities; although it is not shown in Figure 11, FBAs' deposits shares of roughly 70 percent of liabilities over the baseline through post-crisis eras were similar to those of Domestic Banks and FSUBs.[44] However, after remaining relatively stable over the four eras, FBAs' deposits share dropped precipitously in 2011q3.

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[43] Again, the precise data for the ratios is included in appendix Table A.8.

[44] See appendix Table A.9 for details about each banking group's liabilities portfolio composition over time.

Borrowed funds follow a pattern roughly similar to deposits. From their baseline share of somewhat over one-third of FBAs' liabilities, FBAs' reliance on borrowed money increased by more than 25 percent, to 45 percent on average over the pre-crisis period. This reliance stayed proportionately steady through the crisis period but dropped back to the baseline share during the post-crisis era. As with deposits, the far right bar shows that by 2011q3 the role of borrowed funds had declined even further, to less than 30 percent. Given their relatively large role in FBAs' liabilities portfolios, as well as their changing liabilities-side shares over time, borrowed funds also merit a closer look.

V.B. Underlying Liabilities-Side Drivers: Deposits

Retail deposits (less than $100,000), despite their short-term nature, are considered a stable source of funding because they are relatively interest rate inelastic and tend to serve as transactions accounts, and hence are less likely to drain away in such large and rapid manner that a bank’s liquidity position would be imperiled. As noted previously, with few exceptions, FBAs do not have access to retail deposits, and as a consequence their deposit base has traditionally been largely wholesale, broadly defined as large ($100,000 and greater) deposits from financial and nonfinancial companies. Wholesale deposits are widely regarded as more volatile than retail deposits in that they are interest rate elastic and do not underpin transactions accounts, and hence are more likely to move quickly, in financially meaningfully volumes, in response to actual or anticipated market shocks.

Figure 12 shows the wholesale versus retail mix of deposits for FBAs, Domestic Banks, and FSUBs. The bars in Figure 12 provide a frame of reference by showing, for each group of banks, total deposits (retail + wholesale) as a share of assets, over the four eras. Although trends over the four time periods in total deposits-to-assets were not strictly uni-directional, it is clear that, by the post-crisis period, deposits accounted for a significantly higher share of the balance sheet than in the baseline period for all three banking groups. Also noteworthy is that the changes in total deposits-to-assets shares were greater for FBAs than for either Domestic Banks or FSUBs.

The lines in Figure 12 highlight the large differences in FBAs' reliance on wholesale deposits as compared to the other two banking groups. Wholesale deposits is not an official call report accounting term; banks instead report data on large time deposits balances ($100,000 or greater). The lines in Figure 12 represent the share of total deposits accounted for by large time deposits for each banking group. The top, dashed line shows the large time deposits share of total deposits for FBAs - clearly FBAs have relied far more on wholesale deposits than have Domestic Banks and FSUBs. Starting at the left side of Figure 12, in 1994 wholesale deposits accounted for about one-third of FBAs' total deposits, a share approximately four times that of both Domestic Banks and FSUBs.[45] Throughout the 1990s and into the early 2000s, large time deposits' share of total deposits rose for all three groups of banks, but the steep upward trajectory for FBAs was magnitudes greater than the modest increases for the other two groups of banks. By the beginning of the baseline period, wholesale deposits accounted for more than 80 percent of FBA deposits, compared with ratios in the 10 to13 percent range for Domestic Banks and FSUBs. Reliance on wholesale deposits continued to increase for FBAs through the pre-crisis and crisis periods, while over the same eras Domestic Banks and FSUBs gradually reduced their large time deposits-to-total deposits shares. By the end of the post-crisis period, Domestic Banks and FSUBs had reduced their wholesale deposits shares down to, or slightly below, the low levels of the mid-1990s. However, FBAs' deposit base continued to be overwhelmingly wholesale in nature.

Further examination of Figure 12 reveals that Domestic Banks' and FSUBs' deposit bases became more stable over the post-crisis period, due to a combination of overall deposits growth and a declining reliance on wholesale deposits. FBAs also experienced a rising deposit base. However, the increase in deposits was made up overwhelmingly of wholesale rather than retail deposits, and as a consequence, FBAs' deposit base has become substantially less stable.

V.C. Underlying Liabilities-Side Drivers: Borrowed Funds[46]

In addition to deposits, banks fund their activities by borrowing, largely short-term, from other banks and financial institutions. Such wholesale funding has traditionally been more important to FBAs compared to commercial banks.[47] In something of a contrast to call report reporting requirements for other activities, FBAs report considerable details on the composition of their borrowed funds activities. Table 9 takes advantage of that fact to examine, more closely, a seemingly benign development illustrated in Figure 11 above. Specifically, that after increased reliance on borrowed funds during the pre-crisis and crisis periods, FBAs returned, during the post-crisis period, to a lower reliance on borrowed funds to a degree almost exactly equal to that in the baseline period.

The top row in Table 9 shows that borrowed funds accounted for 35.46 percent of FBAs' assets in the baseline period, and 35.57 percent in the post-crisis period. Below, FBAs' wholesale funding is divided into two basic categories: funds obtained in the fed funds and the repurchase agreements (repo) markets, and other (largely) short-term funding transactions with banks and other financial institutions.

[45] Specifically, in 1994q1, the large time deposits-to-total deposits shares were: 33.5 percent for FBAs, 7.1 percent for Domestic Banks, and 8.3 percent for FSUBs.

[46] The term "borrowed money" is commonly used to cover the same activities.

[47] See Figure 10a.

Of these two basic markets for borrowed funds, liquidity and market risk are widely considered to be lower for the fed funds and repo markets. With this in mind, one significant observation about the underlying details in Table 9 is that FBAs nearly reversed their relative reliance on these two basic sources between the baseline and post-crisis period. Specifically, in the baseline period, fed funds and repos accounted for 70 percent of FBAs' borrowed funds compared to the 30 percent share provided by other borrowed money. By the post-crisis period, less than half of FBAs' wholesale funding came from the fed funds and repos markets.

Also of note is that, as the use of the fed funds market declined the share of fed funds supplied by commercial banks operating in the U.S. dropped even more steeply. The mix of counterparties with whom FBAs dealt in other borrowed funds markets also changed in noteworthy ways. Specifically, wholesale funding supplied by all three groups of U.S.-located financial institutions listed under Other Borrowed Funds dropped decisively, from moderate levels during the baseline period, to miniscule proportions in the post-crisis period. In response, FBAs became increasingly reliant on foreign-based financial institutions, most particularly nonbanks. Overall, the underlying data on FBAs' borrowed funds activities strengthens the case that FBAs' funding base has become less stable over time.

V.D. Underlying Liabilities-Side Drivers: Net Due To Related Foreign Offices

A hallmark of the early stages of the financial crisis was the sudden emergence of severe liquidity strains in interbank markets around the world. In response, many multinational banks increased funding flows between parent banks and their foreign offices.[48] More recently, as financial and economic strains have deepened in eurozone countries from late-2010 through 2011, FBAs' funding flows vis-à-vis their parents and related offices abroad have received increased attention.[49] The volume and directional changes in these funding flows is captured in the net due-to component of FBAs' liabilities, to which we now turn.

An individual FBA will engage in a variety of financial transactions with its parent bank and related offices in its home country and other foreign countries. Corporate business strategy determines the exact composition of such intra-company transactions, which include deposits, loans and borrowings, fed funds and repos, claims resulting from clearing activities and foreign exchange transactions, etc.[50]

[48] See, for example, de Haas and van Lelyveld (2010), McGuire and von Peter (2009), and Cetorelli and Goldberg (2011b).

[49] Cetorelli and Goldberg (2012) look at parent bank-U.S. FBAs funding flows as from the crisis; see also Miu, Sarkar, and Tepper (2012), and Cetorelli and Goldberg (2011c).

[50] A comprehensive list of such intra-company transactions can be found in the instructions for Schedule M of the FFIEC 002 call report that FBAs file quarterly.

Over a given time period, transactions flows can, and do, go both directions. Conceptually, an FBA's due-from position is an extension of credit to related offices and, like a loan, is an asset; a due-to position represents an amount owed by the FBA to related offices, and hence is a liability. In their periodic reports, FBAs calculate the net value of these two-way flows over the relevant interval - an FBA with, on net, balances due from related foreign offices will book that value on the assets side of its balance sheet, while an FBA with, on net, a due-to balance records that position on the liabilities side.[51] Because in any given quarter, some FBAs will run net due-from balances and others will run net due-to balances, aggregated industry statistics for FBAs show amounts on both the assets and liabilities sides.[52]

As an aid to economic analysis, it is useful to take a step outside of standard accounting practices and calculate the value of the difference between the two net-due positions for FBAs in aggregate. That procedure, established by the Federal Reserve System in structuring the report underlying its weekly H.8 statistical release, allows for a quantification and directional characterization of the overall transactions flows between FBAs and their related offices abroad.[53] By convention, the resultant value is calculated as FBAs' aggregate net due-to positions minus their aggregate net due-from positions. Because the order of this netting is liabilities minus assets, the H.8 element Net Due To Related Foreign Offices is recorded on the liabilities side of the aggregate balance sheet (even if the value is negative).[54] We follow this convention for FBAs and, as in the H.8, for Domestic Banks as well; by logical extension, the construct is also applicable to FSUBs.

A major point highlighted in section IV above is that FBAs' net due-to positions have been very large, and as from the crisis period onward erratic, both in terms of dollar value and relative portfolio emphasis. To understand the nature of this large and erratic set of activities, Figure 13a looks at the net due-to variable as well as its underlying components. The solid line in Figure 13a replicates the long-run trend in FBAs' net due to related foreign offices balances in Figure 9c. A positive value along the solid line means that, for the given time period, FBAs' aggregate (net) due-to positions were greater than their

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[51] Note that FBAs do not separately break out and report transactions solely with their parent company on their quarterly call reports.

[52] See, for example, any issue of the Federal Reserve System's quarterly statistical release (4.30) *Assets and Liabilities of U.S. Branches and Agencies of Foreign Banks*.

[53] As noted above in section I of the text, and explained in detail in Box A.2 in the appendix, the underlying data for the H.8 is collected by the Federal Reserve System on its FR 2644 report (*Weekly Report of Selected Assets and Liabilities of Domestically Chartered Commercial Banks and U.S. Branches and Agencies of Foreign Banks)*, submitted by a representative set of banks in the U.S.

[54] With few exceptions, standard accounting practice does not allow booking a negative value. A common exception to this principle in bank accounting is that required changes in the "stock" of reserves for expected loan losses, always booked on the assets side, may for a given quarter be negative, in which case the entry is a "contra asset."

aggregate (net) due-from positions; that is, they owed more to related offices abroad than those offices owed them. As the box in the upper left quadrant of Figure 13a indicates, a positive net due-to value represents a funding inflow to FBAs from their related offices abroad. Conversely, a negative value along the solid line means that, for the given time period, FBAs' aggregate due-to balances were smaller than their due-from balances; that is, FBAs' had extended a greater amount of credit to related foreign offices than those offices had extended to the FBAs. The box in the lower left quadrant of Figure 13a indicates that such a result represents a funding outflow from FBAs to their related offices abroad.

Figure 13a also separately plots the two underlying components used to calculate the net due-to balances: the dotted line shows the trend in FBAs' (net) due-from position which, as an extension of credit, is an asset for FBAs; and the dashed line shows the trend in FBAs' (net) due-to position which, as explained above, is a liability.[55] Starting from the left-hand side of Figure 13a, the solid (net due-to) line was close to the horizontal axis during those years. For most of this period, the net due-to balance was also positive, indicating that FBAs as a group saw small but steady funding inflows from parent and other related foreign offices.[56]

The direction of net funding flows changed decisively in the early 2000s. The negative portions of the solid line indicate that for a sustained period of time, FBAs and their parents engineered funding outflows. These net outflows grew at an increasing rate through the 2004-2007 pre-crisis period, almost entirely based on steeply rising due-from transactions.

As the crisis progressed, intra-company funding flows changed in several significant ways. Between 2008q2 and 2008q4, net due-to balances more than halved from their historic peak of negative $628 billion to negative $278 billion. This large decrease in funding outflow from FBAs to parents and other related foreign offices was due to large changes in both the assets-side and liabilities-side components of intra-company flows. On the assets side, FBAs sharply reduced funding outflows to parents and other offices abroad, with due-from balances declining more than 30 percent over the 2008q2 - 2008q4 period (from $780 billion to $538 billion). On the liabilities side, FBAs' due-to balances increased 70 percent, from $152 billion to $260 billion, over the same three quarter period. Hence, as the financial crisis escalated, amid a global scramble for liquidity, FBAs as a group not only reduced funding

[55] Both the due-to (a liability) and due-from (an asset) components are never negative, consistent with standard accounting practices.

[56] As a general matter, parent companies have dominated transactions covered by "related foreign offices," although our data does not allow us to give a precise breakdown.

outflows, but also received funding inflows from their parents and other offices abroad. Subsequently, both components of intra-company funding flows reversed direction.[57]

The dotted line in the top portion of Figure 13a shows the increase, over the first part of 2009, in FBAs' funding outflows to parents and related offices, and the dashed line shows that at the same time, FBAs somewhat reduced their funding inflows from parents and other offices abroad. The combined effect of these changes was that FBAs' net due-to balances moved back toward pre-crisis levels, as the sharp drop in the solid line in Figure 13a illustrates. Thereafter, two dynamics took hold over the 2010-2011q3 period. First, over the entire period, FBAs reduced their funding outflows to parents and related foreign offices, as the steep drop in the dotted line to the far right of Figure 13a shows. Second, beginning in 2011q1, FBAs began to receive historically large intra-company funding inflows, as shown by the upward surge in the dashed line. The net result of these two trends was that, for the first time in more than a decade, FBAs as a group received net funding inflows from parents and related foreign offices, as the positive values for the solid line indicate. Indeed, as of 2011q3, net funding inflows to FBAs had reached a level double the average of the 1990s.

In light of the extraordinary vacillations characterizing FBAs' intra-company funding flows, it is logical to ask about FSUBs. Here it is crucial to understand that the extent to which that issue can be addressed is determined by the nature of the available data. Specifically, as a U.S.-chartered commercial bank, an FSUB, like a Domestic Bank, reports activities on a consolidated basis, i.e. for itself plus any branches or subsidiaries it owns.[58] Consolidated reporting in this sense therefore covers down-stream operations only and does not include up-stream information on an FSUB as part of a larger corporate network. This bears directly on the issue of funding flows with related foreign offices in that FSUBs file call report information on intra-company transactions only with foreign offices they own; there is no separate identification of transactions with parent banking (or other related) companies abroad. Nevertheless, as illustrated in Figure 13b, it is possible to glean from the reported information additional insight into the nature of global banking funding flows.

As a preliminary matter, recall from the discussions above about liabilities trends and portfolio composition that net due-to activities have been of only modest importance to FSUBs, averaging about 5 percent of liabilities over time.[59] Nevertheless, Figure 13b reveals several interesting underlying facets of

[57] See Goldberg and Skeie (2011) for a description.

[58] Specifically, instructions for the FFIEC 031 quarterly call report state that it "is to be filed by banks with branches and consolidated subsidiaries in U.S. territories and possessions, Edge or Agreement subsidiaries, foreign branches, consolidated foreign subsidiaries, or International Banking Facilities."

[59] See appendix Table A.9 for details.

these funding flows. In the figure, the solid line shows FSUBs' net due-to balances with their related offices abroad. As stated in the box in the upper left, positive values for the net due-to line indicate a funding inflow to FSUBs from their overseas offices. A consideration of both the dashed and dotted lines in Figure 13b reveal the underlying, almost entirely one-way, nature of these flows. With few exceptions, overseas offices have received at most small funding inflows from their parent FSUBs in the U.S. In fact, as the dotted, due-from, line shows, since end-2008, there have been no intra-company outflows from FSUBs to their foreign offices. Instead, net intra-company inflows to FSUBs have resulted almost entirely from due-to balances owed to their foreign offices, as the nearly in-tandem pattern of the dashed and solid lines illustrate.

Two other features of figure 13b merit comment. One is the steep increase in funding inflows to FSUBs over the pre-crisis period, and the second is the erratic, but still historically high, volume of funding inflows as from the onset of the crisis.[60] These trends seem to be somewhat at odds with the direction of intra-company funding flows in which FBAs participated, an impression underscored by Figure 13c. That figure directly compares the net funding outflows from the U.S. by FBAs to the (albeit much smaller) net funding inflows to the U.S.by FSUBs. Beyond the scope of the current paper, but warranting further research, are questions about the nature of the cross-border funding flows, in which foreign-owned banks in the U.S. engage, particularly during periods of severe liquidity constraint.

Domestic Banks' cross-cross border intra-group funding flows also warrant attention. Figure 14a plots net due positions in a manner parallel to Figures 13a and 13b. For most of the time period covered in Figure 14b, trends of Domestic Banks follow patterns similar to those of FSUBs. Foreign offices have traditionally been a source of funding for Domestic Banks, and (net) funding inflows have accounted for a modest (+/- 2.5 percent) share of total liabilities.[61] In addition, as with FSUBs, the net position has, until very recently, been essentially a function of due-to balances (inflow of funding to Domestic Banks from their foreign offices). Similarities in intra-company funding patterns held throughout the pre-crisis and crisis periods, including the fall in both due-to and net due-to balances in early-2009.[62]

The long-run similarity between Domestic Banks' and FSUBs' cross-border intra-company funding flows ceased abruptly during the post-crisis period, as the continuing plunge in the solid net due-to line in Figure 14a shows. The two component lines in the figure provide insight into the nature of this

[60] But bear in mind the earlier observation about the overall small significance of these funding activities for FSUBs.

[61] For details, see appendix Table A.9 for details.

[62] Perhaps the plunge in Domestic Banks' funding inflows from their overseas offices occurred as a consequence of Domestic Banks' increased use of Federal Reserve liquidity facilities, although our data do not allow us to investigate that issue.

trend. Indeed, over the post-crisis period, Domestic Banks' outflows of funding to their offices abroad increased more than six-fold (from $33.4 billion to $207.7 billion).

The preceding discussion of the intra-company funding flows focused on the net impacts for each of the three banking groups. Figure 14b looks at the data from different perspective in order to gauge the net effect of intra-company funding flows on U.S. banking system liquidity. The solid black line in Figure 14b shows FBAs' net due-to funding flows as in Figure 13a. In the context of this figure it is helpful to think of positive values on the solid line as net funding inflows into the U.S. banking system, and negative values mean net funding outflows from the U.S. banking system.

The dashed line in Figure 14b also repeats information discussed above, in a slightly unconventional way. Specifically, the dashed line considers funding flows of Domestic Banks from the perspective of Domestic Banks' foreign offices by inverting the series plotted earlier. Negative values show foreign offices of Domestic Banks outflowing, on net, funds to their Domestic Bank parents in the U.S. In effect, both lines view intra-company funding flows as they appear from the perspective of a foreign office.

The foreign office to parent perspective offered in Figure 14b provides a way to quantify the total impact of cross-border intra-company funding flows on banking system liquidity in the U.S. The bars in Figure 14b show the combined effect of FBA and Domestic Bank funding flows into and out of the U.S. market. To see this, consider the positive values for the bars over the 1994-2000q2 period, which indicate that the liquidity of the U.S. banking system increased. Looking at the two lines over that same period, one can see that increased U.S. banking system liquidity resulted from a combination of FBAs receiving funding, on net, from their parents (and related offices), and foreign offices of U.S. banks sending funding, on net, to their Domestic Bank parents. Even when FBAs started to outflow funding to their parents in late 1999-early 2000, this outflow from the U.S. banking system was more than offset by U.S. banks' foreign offices increased net funding flows to their Domestic Bank parents.

Subsequently, over approximately the baseline-through-pre-crisis periods (roughly, 2001-2007), U.S. banking system liquidity based on intra-company funding flows declined. During that period, the provision, on net, of intra-company funding flows to Domestic Bank parents by their foreign offices was not enough to offset FBAs' funding outflows from the U.S. market to their parents and related offices abroad. The lines in the rightmost quarter of Figure 14b show the large and erratic changes in cross-border intra-company funding flows during and after the crisis. Nevertheless, the corresponding bars reveal that the net impact on overall U.S. banking system liquidity remained small, averaging less than 1 percent of U.S. banking system assets over almost every time period.

VI. Summary, Conclusions, and Issues for Future Research

As stated at the outset, this paper is constructed to serve as a primer on foreign banking in the U.S. The first section emphasized the importance of establishing the basic vocabulary necessary for clear discussions of the subject, and identified a number of data-related issues that bear importantly on that target. The remainder of the paper focused on identifying the most important activities and underlying trends on both sides of foreign-owned banks' balance sheets, with special emphasis on the recent period of turbulence in U.S. and global financial markets. At each step, the investigation considered how foreign-owned banks compare to U.S.-owned Domestic Banks, as well as how the two basic groups of foreign banks in the U.S. - branches and agencies of foreign banks (FBAs), and foreign-owned subsidiary banks (FSUBs) - compare to each other.

One clear impression emerging from this paper is that, in many dimensions, foreign banking in the U.S. has been particularly volatile. This is especially true of FBAs as compared to FSUBs, which, broadly speaking trended much closer to Domestic Banks. Nevertheless, in key respects, FSUBs were far from merely "U.S.-owned banks with an accent." In particular, FSUBs manifested relatively large declines in C&I lending through the 2008-2009 crisis period, and into the post-crisis period. By contrast to FBAs, however, FSUBs did eventually see their C&I lending recover. Whether the fact of their foreign ownership had a meaningful role in their sub-par performance relative to Domestic Banks in this area is an open question.

On the assets side, in addition to their anemic C&I lending performance, FBAs' cash assets activities are of particular note. Our investigation showed that FBAs' extreme emphasis on cash balances during the post-crisis period not only dominated the assets side of their aggregate balance sheet, but now exceeds Domestic Banks' balances. In addition, FBA cash balances are almost entirely composed of excess reserves held at Federal Reserve Banks, such that FBAs now account for approximately one-third of total liabilities on the Federal Reserve System's balance sheet.

Changes in FBAs' liabilities-side activities are perhaps even more significant. The nature of these changes can be summarized as follows: FBAs, traditionally more dependent on wholesale funding than Domestic Banks, are currently reliant on an unprecedented level of funding from wholesale and super-wholesale sources of borrowed funds. At the same time FBAs, as a group, have become net borrowers from their foreign parents and related offices abroad. The overall profile is one of much less stable funding than at any time in the past two decades.

There is an emerging literature on the effects of banking and financial tensions in eurozone countries on U.S.-based FBAs. That literature focuses particular attention to the changing size and variability of intra-company funding flows, as captured in net due-to positions. This paper suggests that it may be worthwhile to expand parent-country-specific analyses to include a broad range of activities on both sides of the balance sheet. Of particular importance are FBAs' ever-greater reliance on wholesale-oriented deposits and borrowed money and large reversals in the nature of intra-company funding flows.

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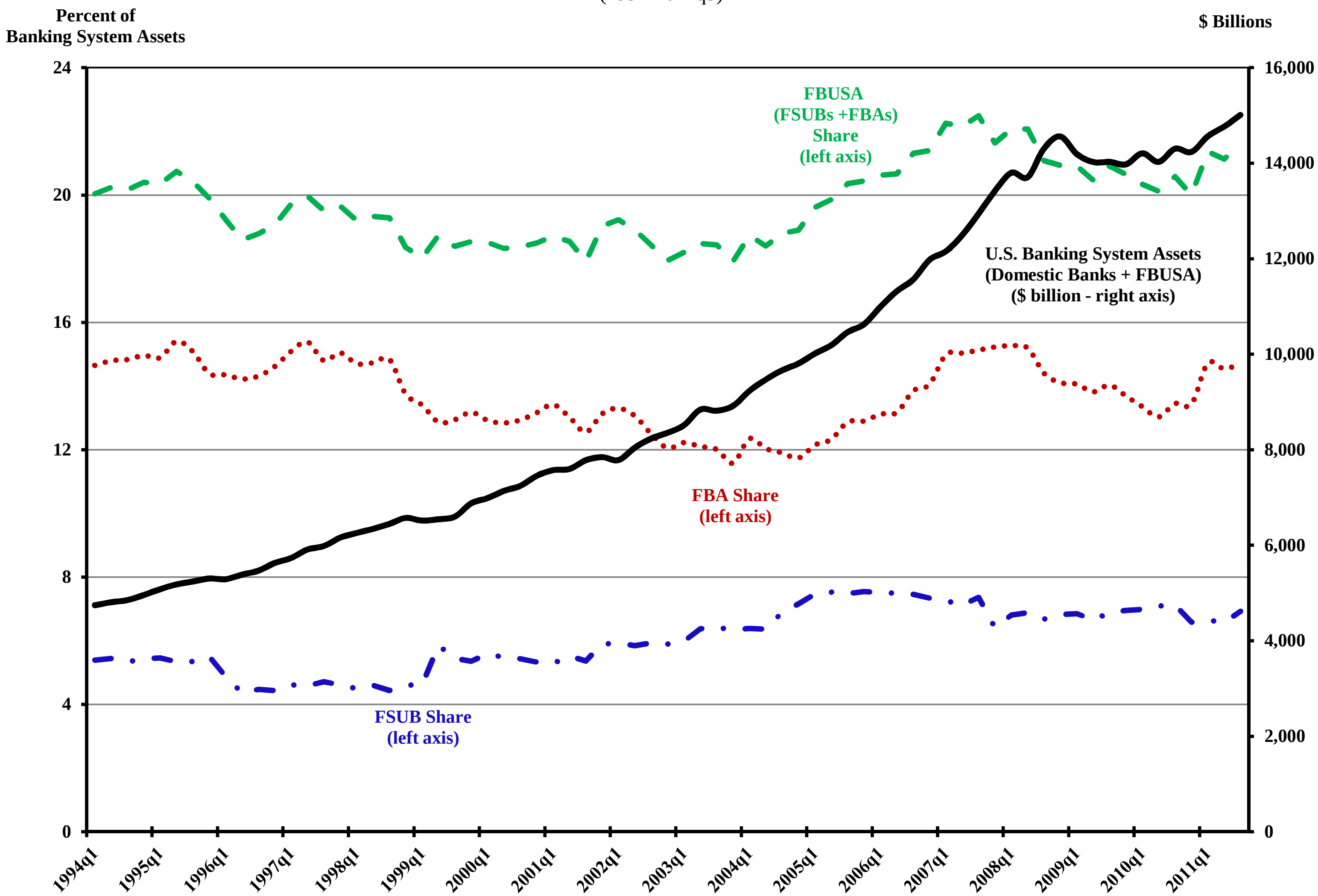
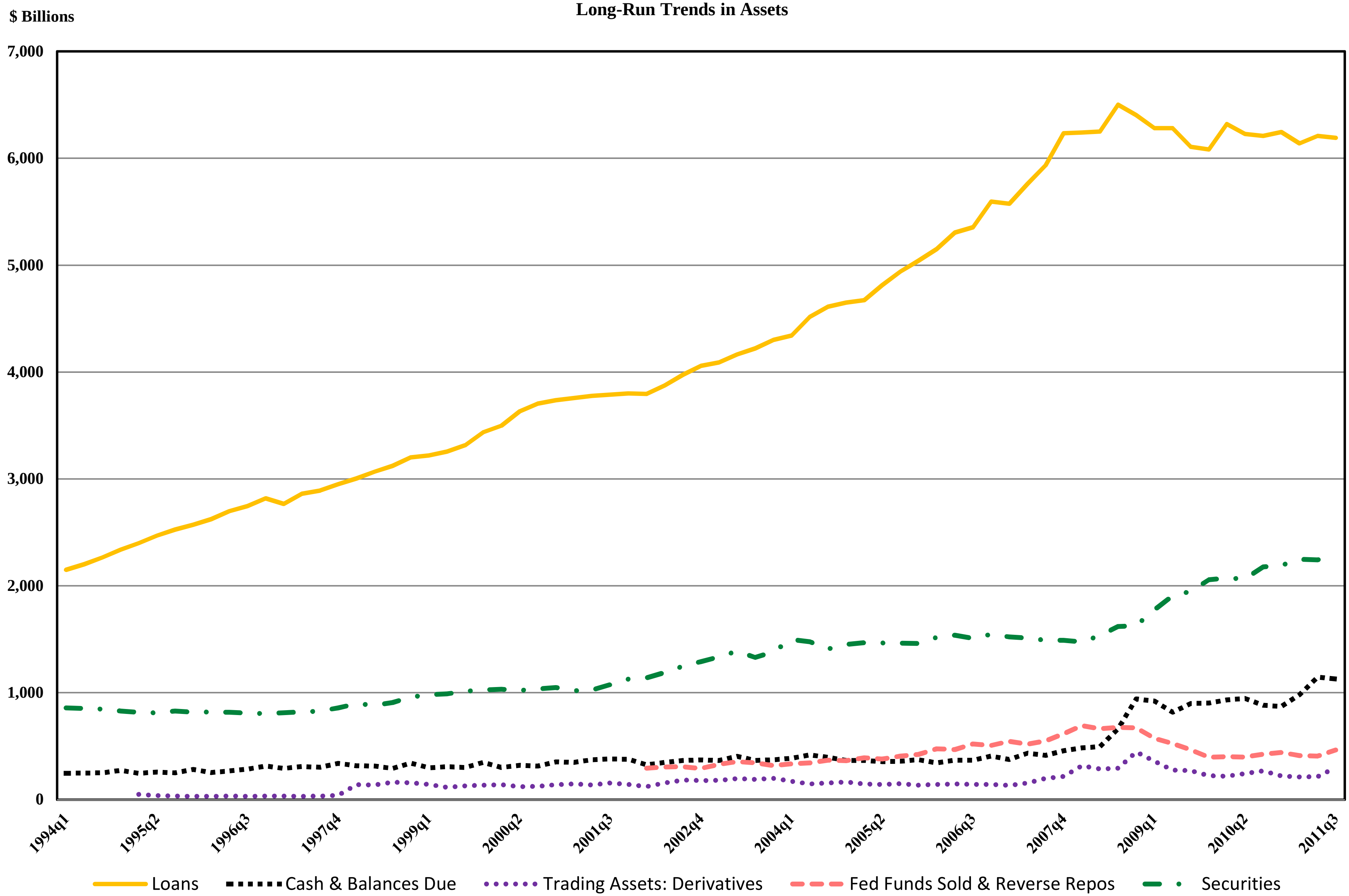
Figure 1. Foreign Banks in the U.S.: Share of U.S. Banking Market
(1994-2011q3)



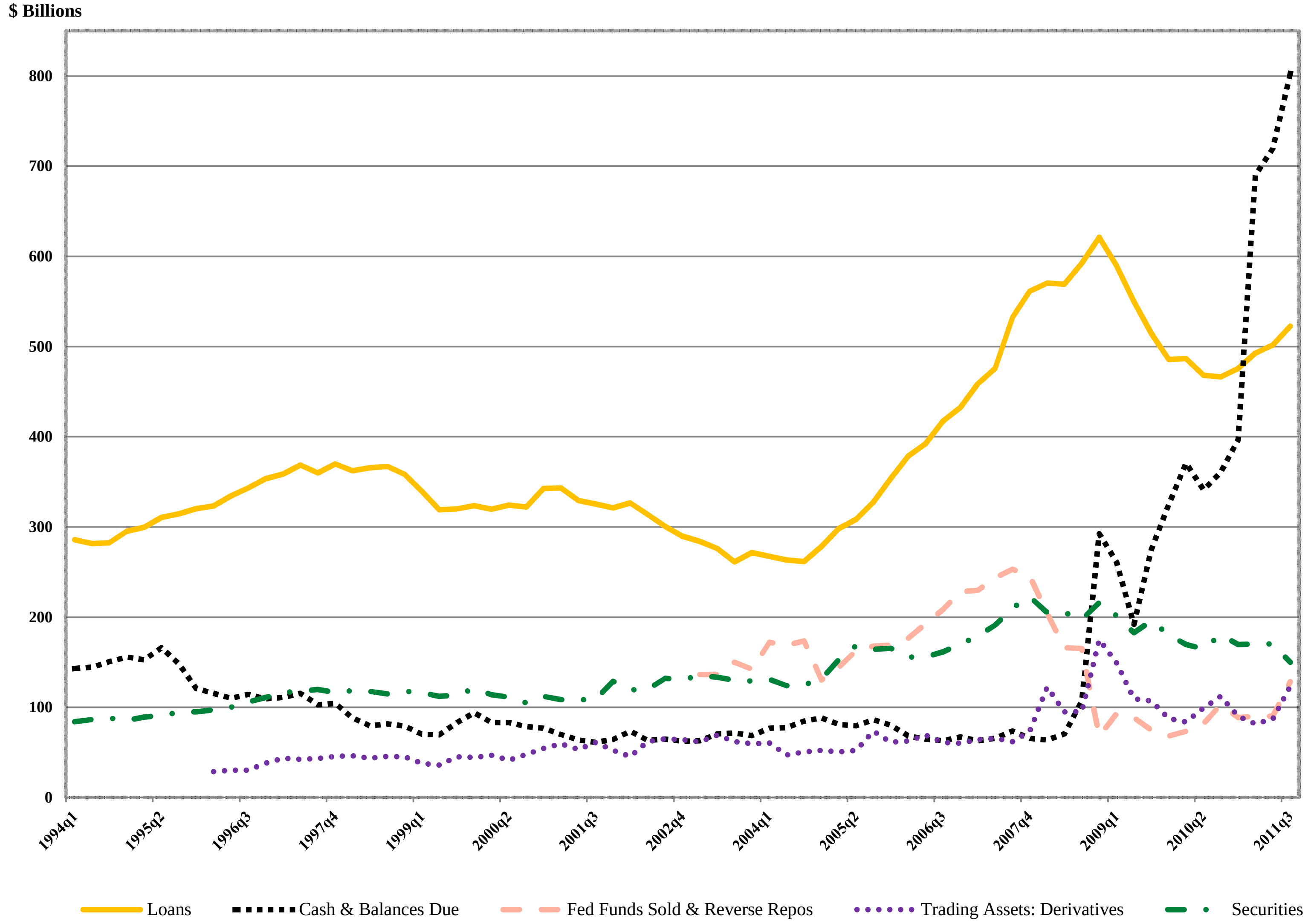
Source: FFIEC 031, FFIEC 041, FFIEC 002.

Figure 2a.
Domestic Banks:
Long-Run Trends in Assets



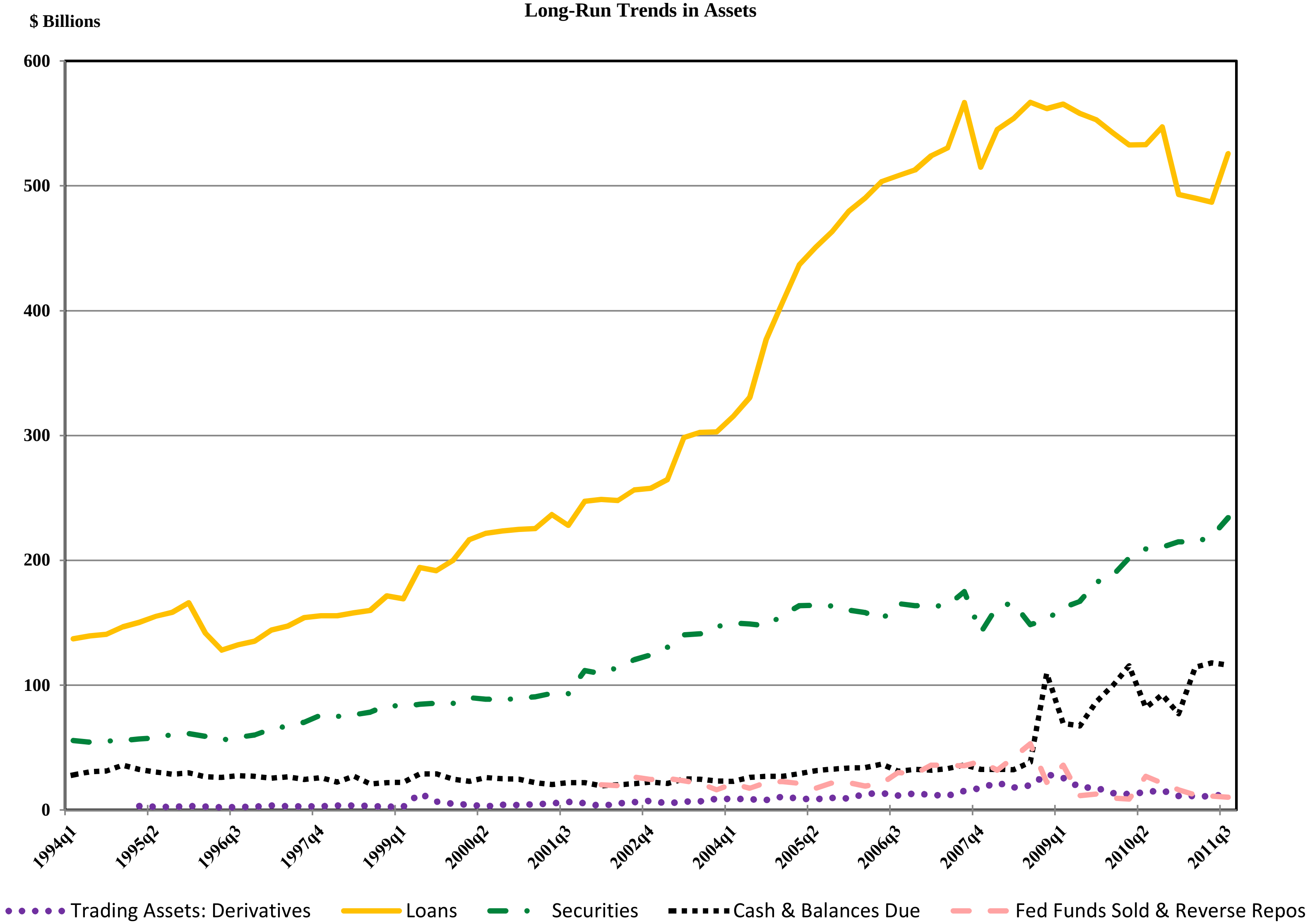
Source: FFIEC 031 and FFIEC 041.

Figure 2b.
U.S. Branches & Agencies of Foreign Banks:
Long-Run Trends in Assets



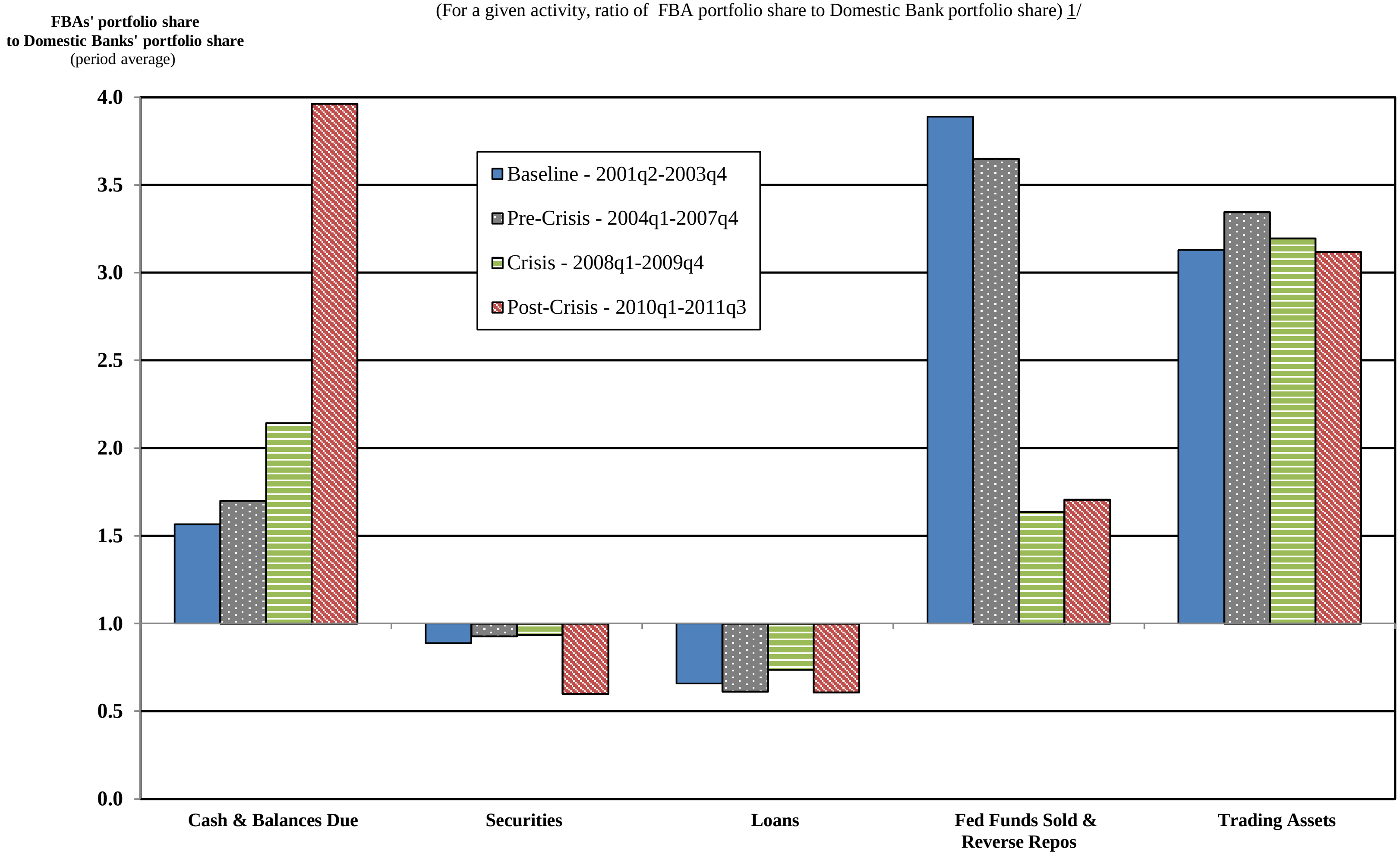
Source: FFIEC 002.

Figure 2c.
Foreign-Owned Subsidiary Banks:
Long-Run Trends in Assets



Source: FFIEC 031 and FFIEC 041.

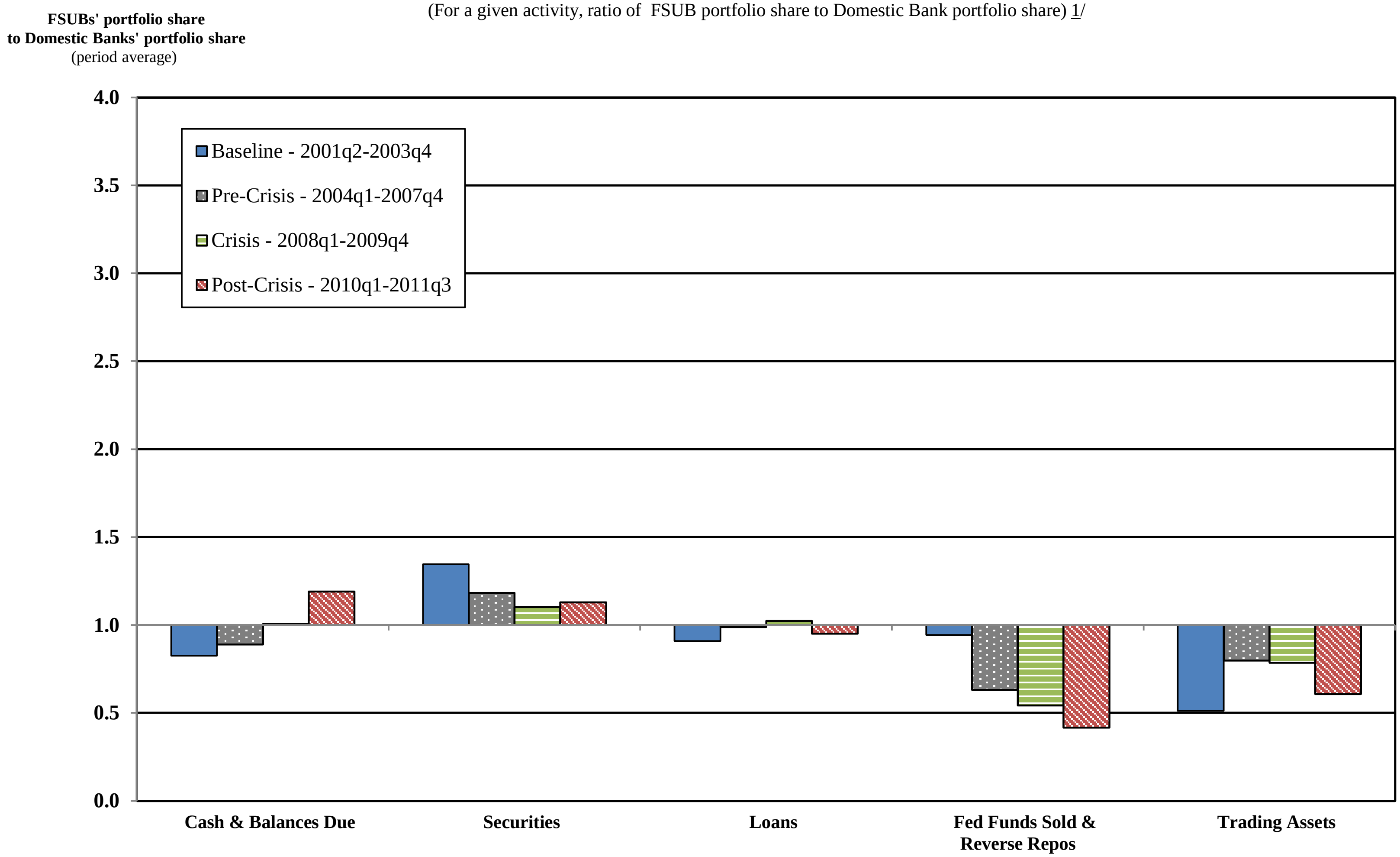
Figure 3a.
FBAs and Domestic Banks Compared:
Assets Portfolio Emphases Over Time
(For a given activity, ratio of FBA portfolio share to Domestic Bank portfolio share) 1/



1/ Values less than 1.0 indicate, for a given activity, less emphasis in FBAs' portfolios relative to Domestic Banks' portfolios. Assets exclude due-from position with related foreign offices.

Source: FFIEC 031, FFIEC 041, FFIEC 002.

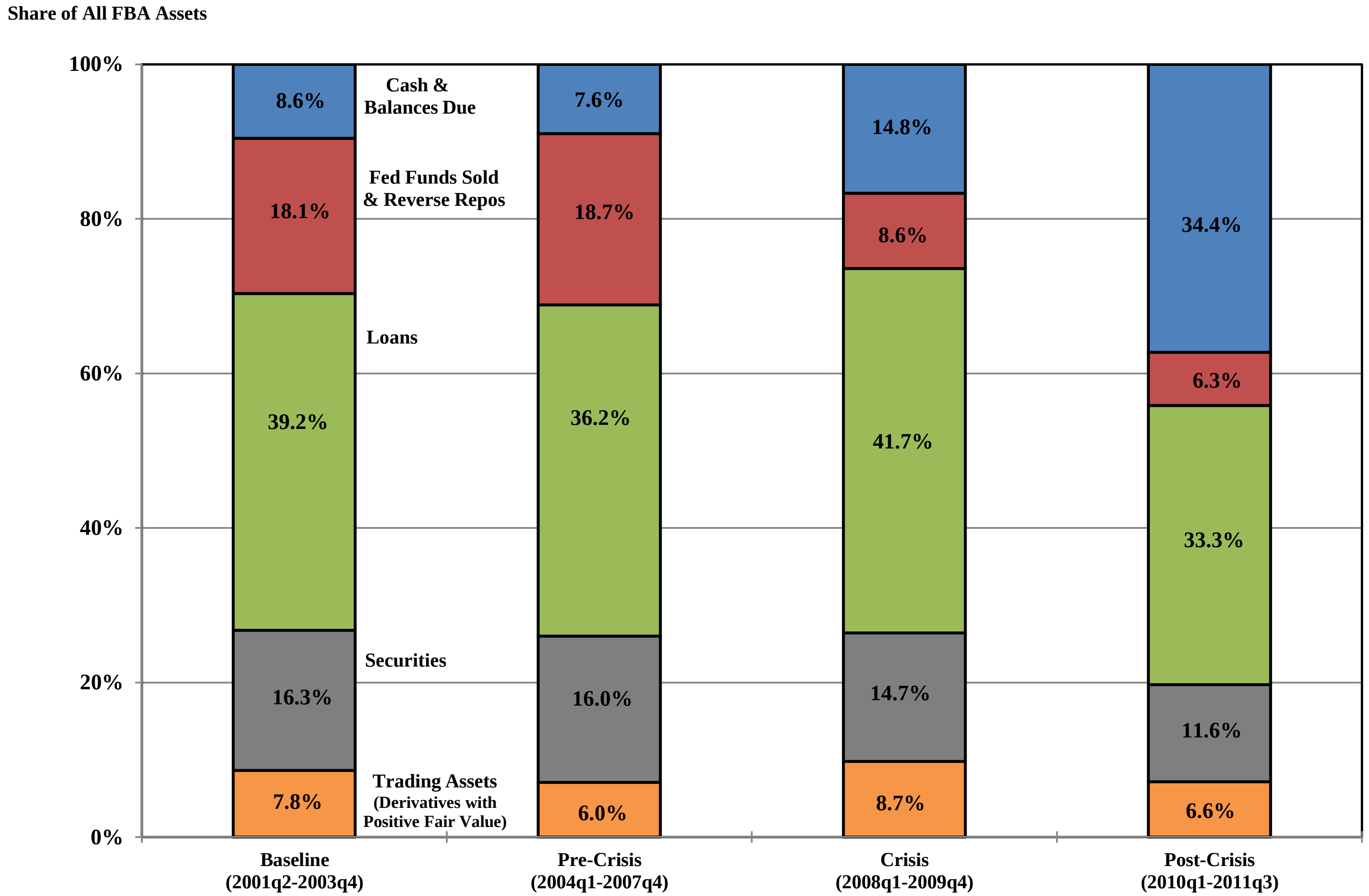
Figure 3b.
FSUBs and Domestic Banks Compared:
Assets Portfolio Emphases Over Time
(For a given activity, ratio of FSUB portfolio share to Domestic Bank portfolio share) 1/



1/ Values less than 1.0 indicate, for a given activity, less emphasis in FSUBs' portfolios relative to Domestic Banks' portfolios. Assets exclude due-from position with related foreign offices.

Source: FFIEC 031, FFIEC 041.

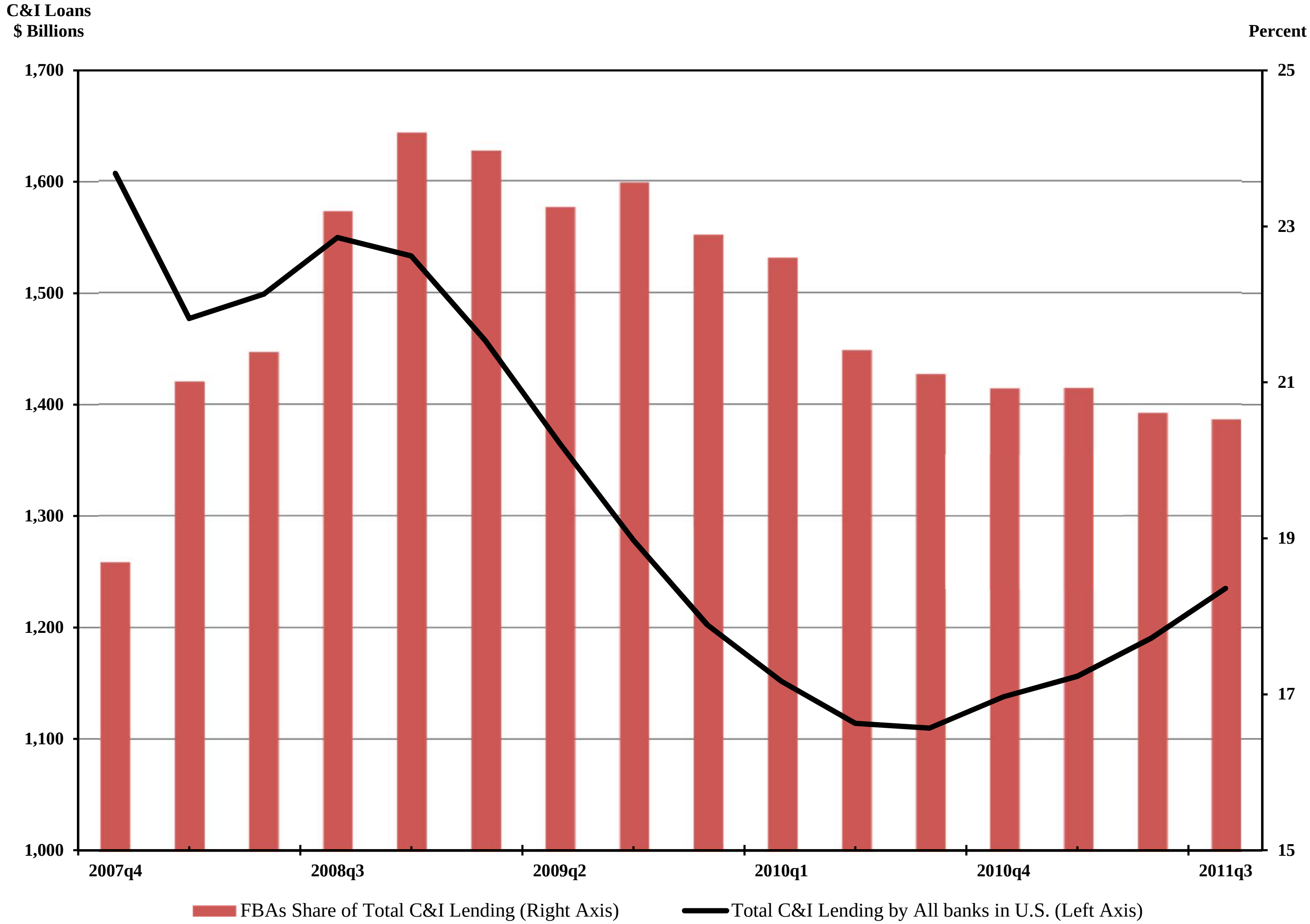
Figure 4. U.S. Branches & Agencies of Foreign Banks (FBAs): Dramatic Shifts in Assets Portfolio Over Time 1/



Source: FFIEC 002.

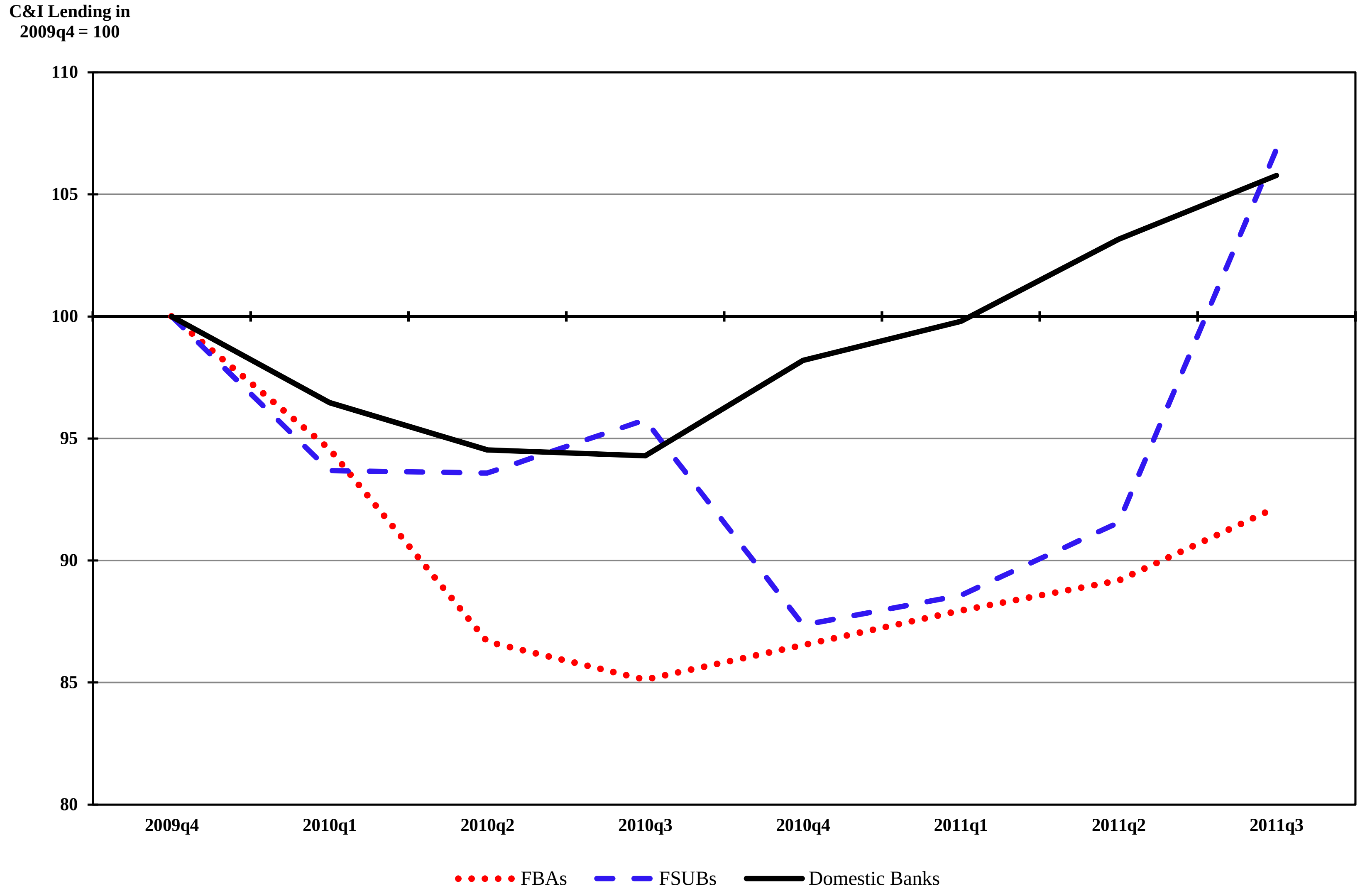
1/ Period average shares of all FBA assets, excluding due-from positions with related foreign offices, in percent; figures shown in the bars do not sum to 100 due to the exclusion of miscellaneous other assets.

Figure 5. Total C&I Lending and FBA Market Share



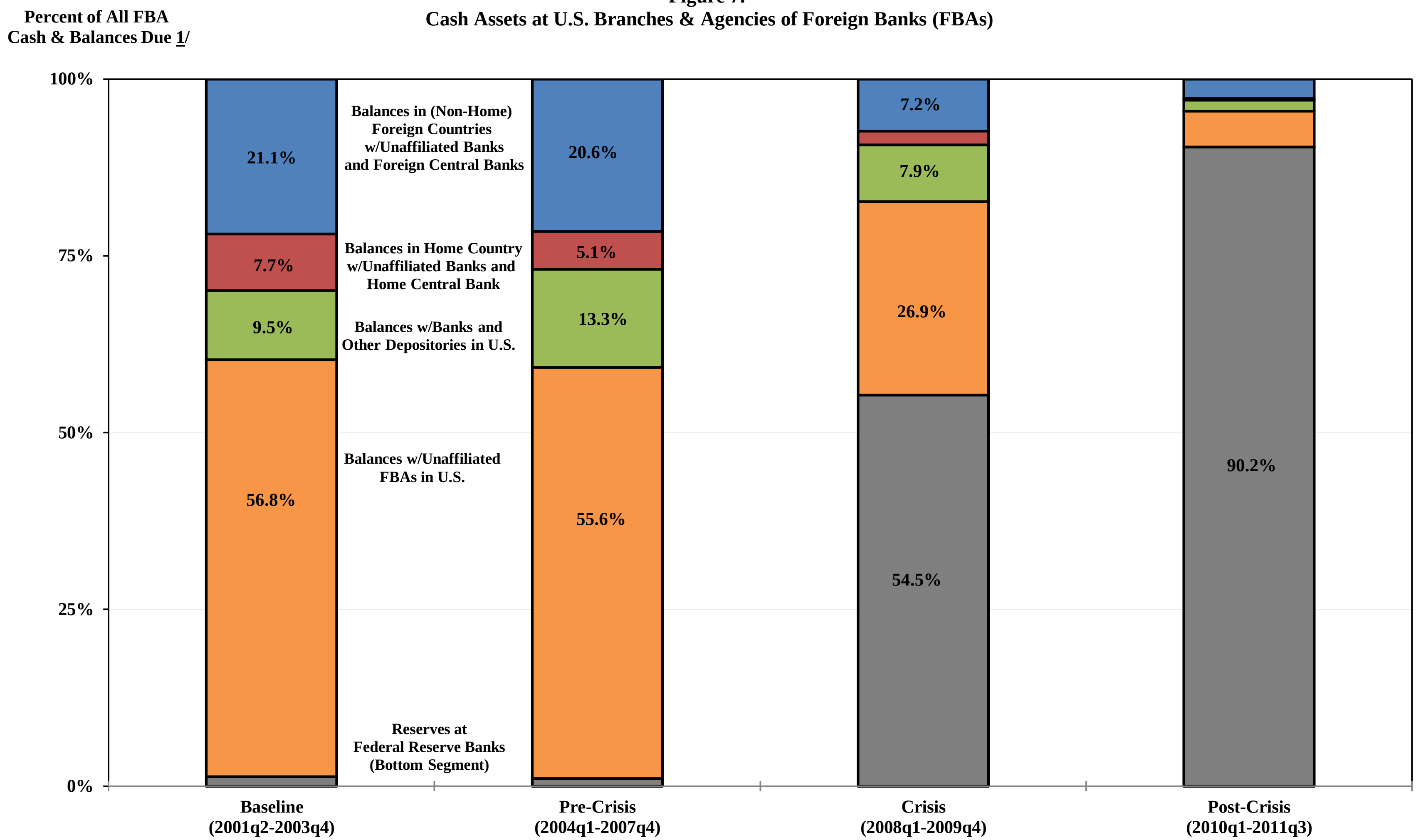
Source: FFIEC 031, FFIEC 041, FFIEC 002.

Figure 6. C&I Lending Since the Crisis



Source: FFIEC 031, FFIEC 041, FFIEC 002.

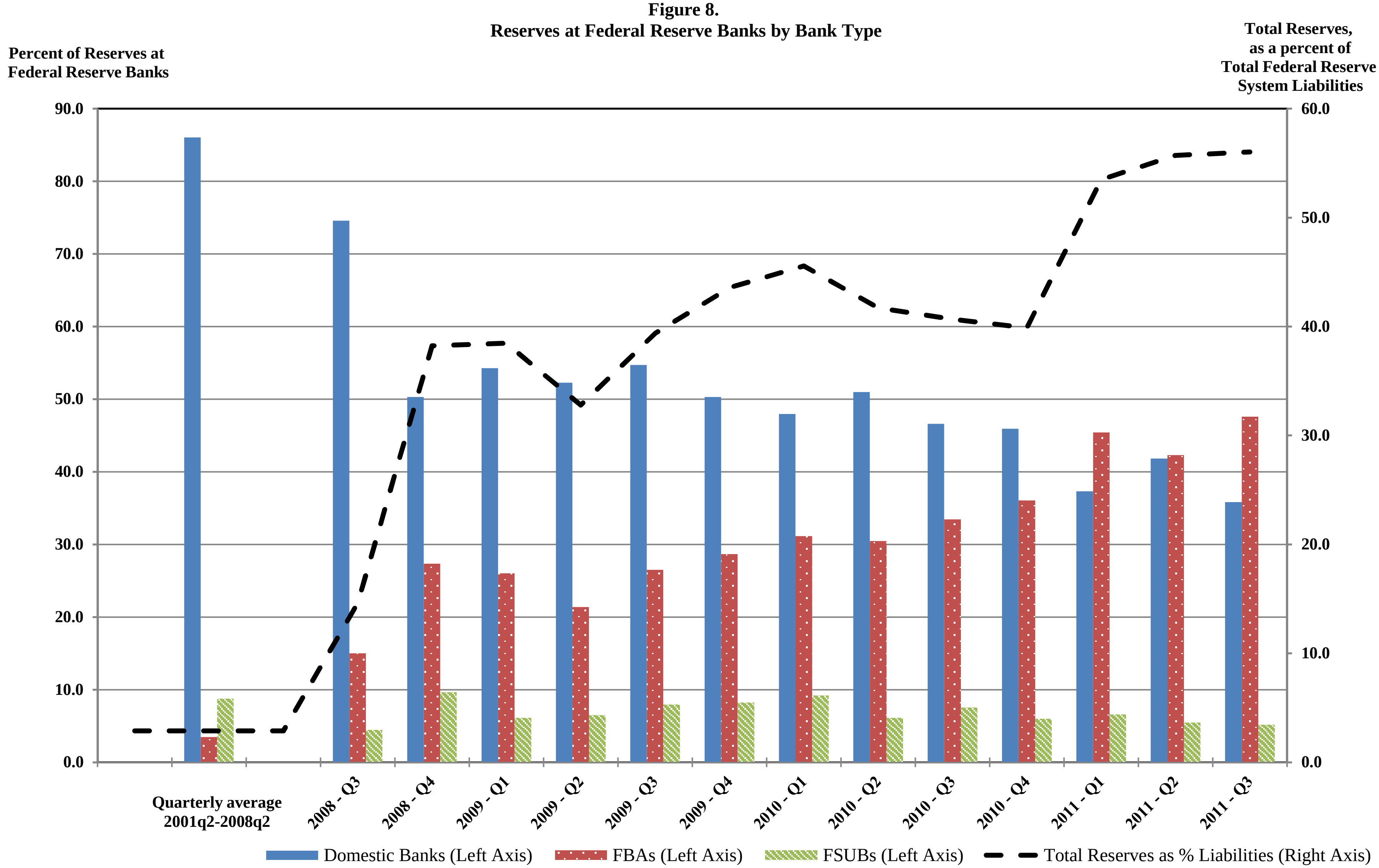
Figure 7.
Cash Assets at U.S. Branches & Agencies of Foreign Banks (FBAs)



1/ Figures in bars do not total to 100% due to the exclusion of a small amount of other cash balance items; "Balances with Banks and Other Depositories in U.S." includes balances with foreign branches of U.S. banks.

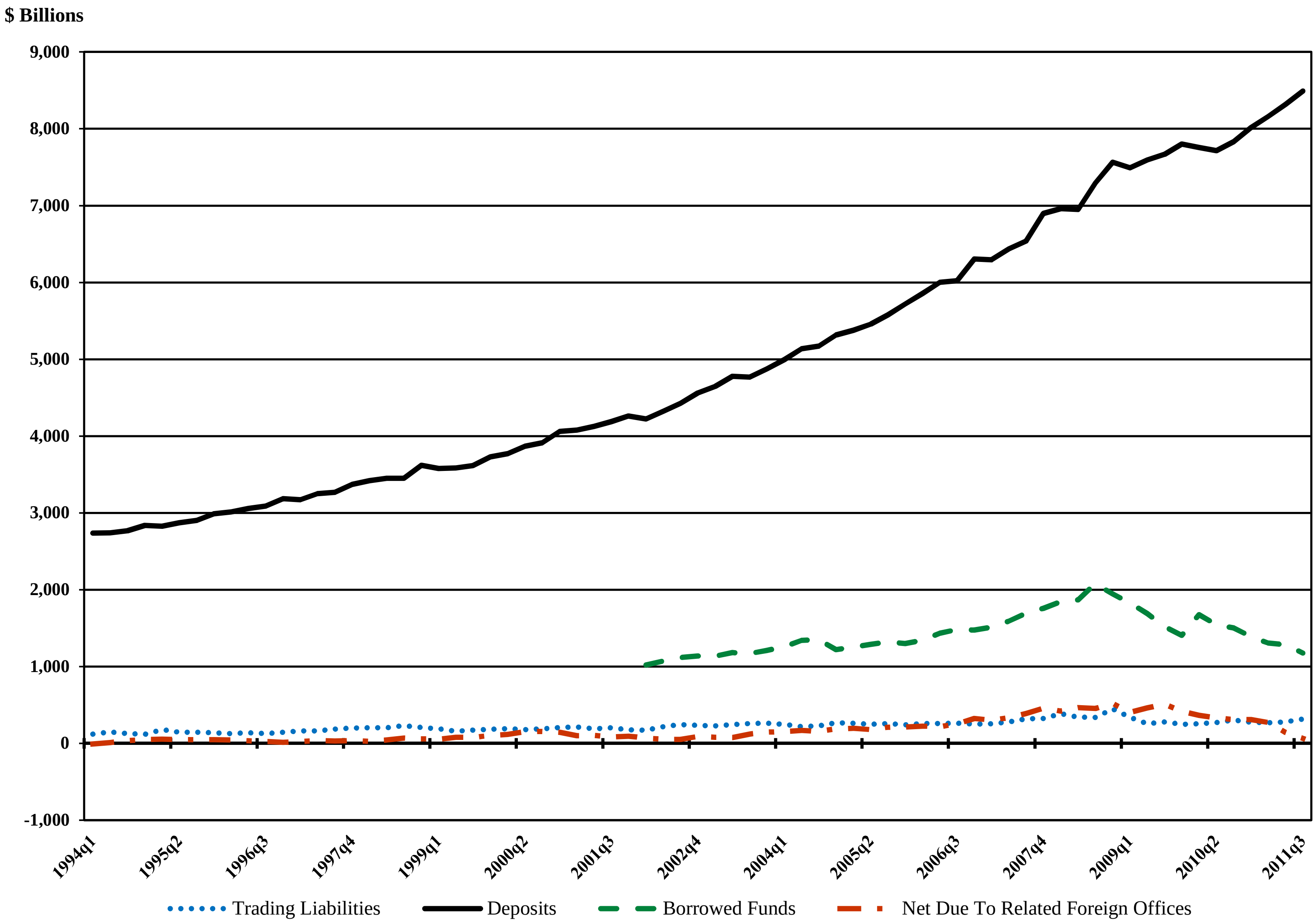
Source: FFIEC 002

Figure 8.
Reserves at Federal Reserve Banks by Bank Type



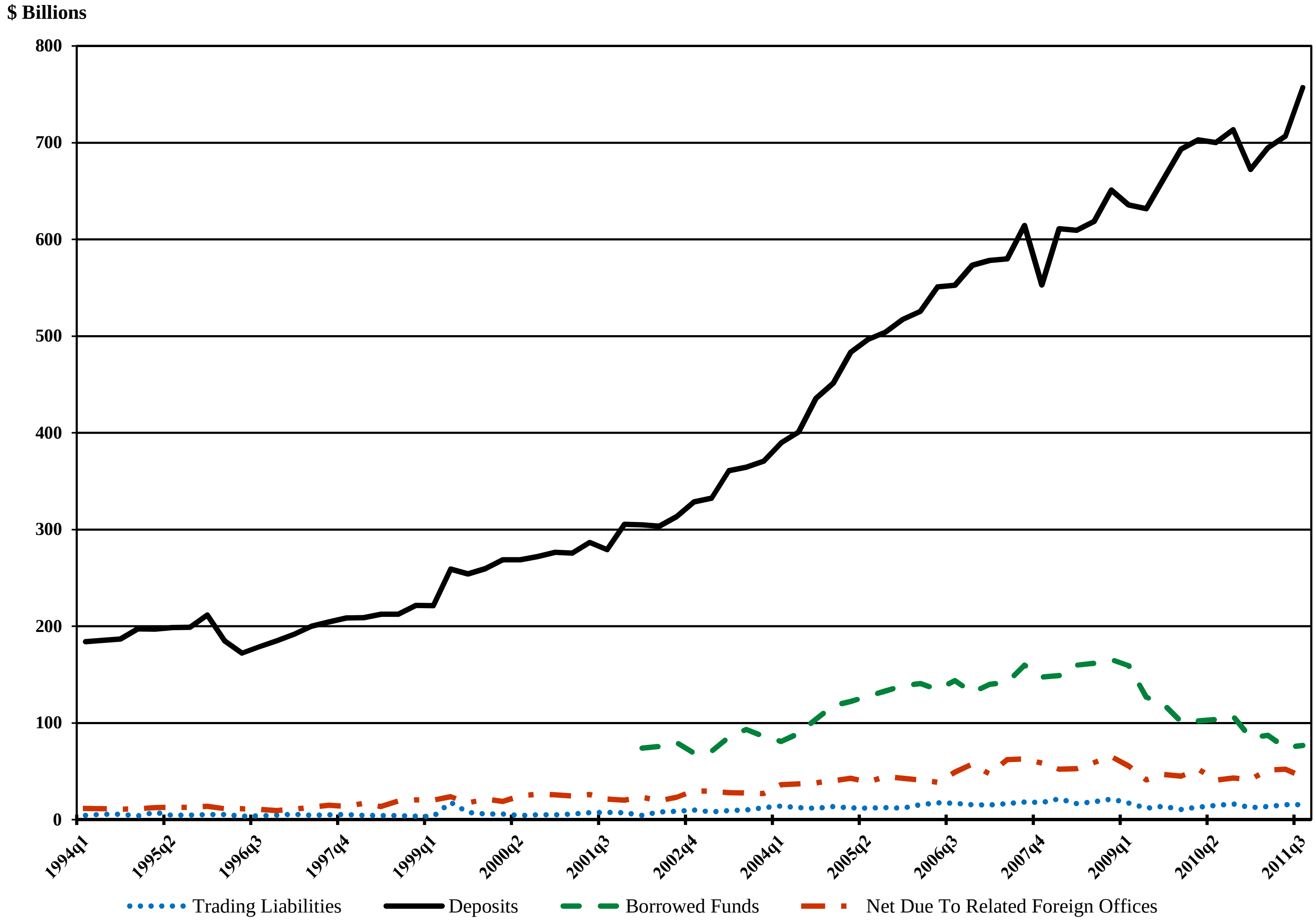
Source: Flow of Funds, and FFIEC 031, FFIEC 041, and FFIEC 002.

Figure 9a.
Domestics Banks:
Long-Run Trends in Liabilities



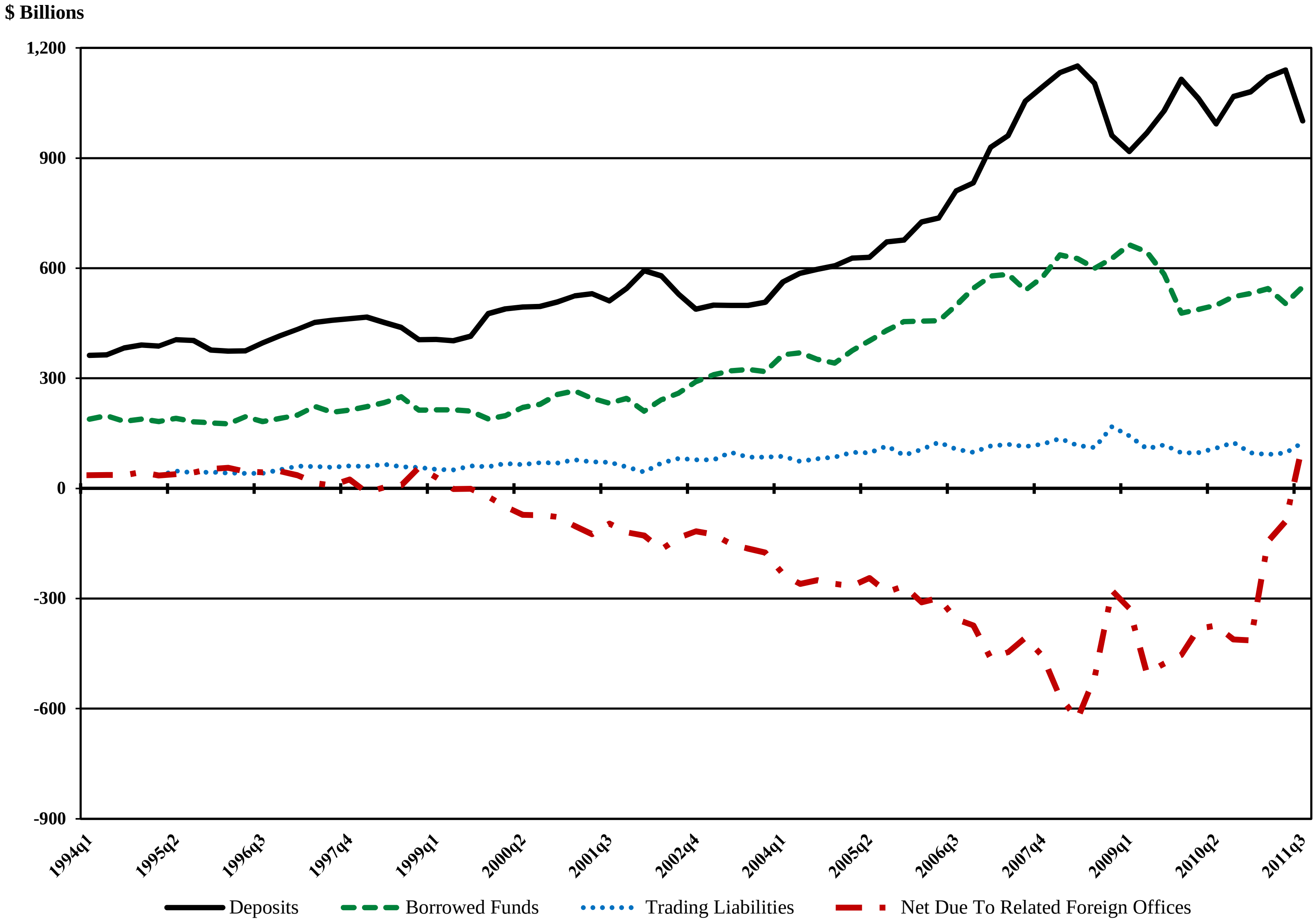
Source: FFIEC 031, FFIEC 041.

Figure 9b.
Foreign-Owned Subsidiary Banks in the U.S. (FSUBs):
Long-Run Trends in Liabilities



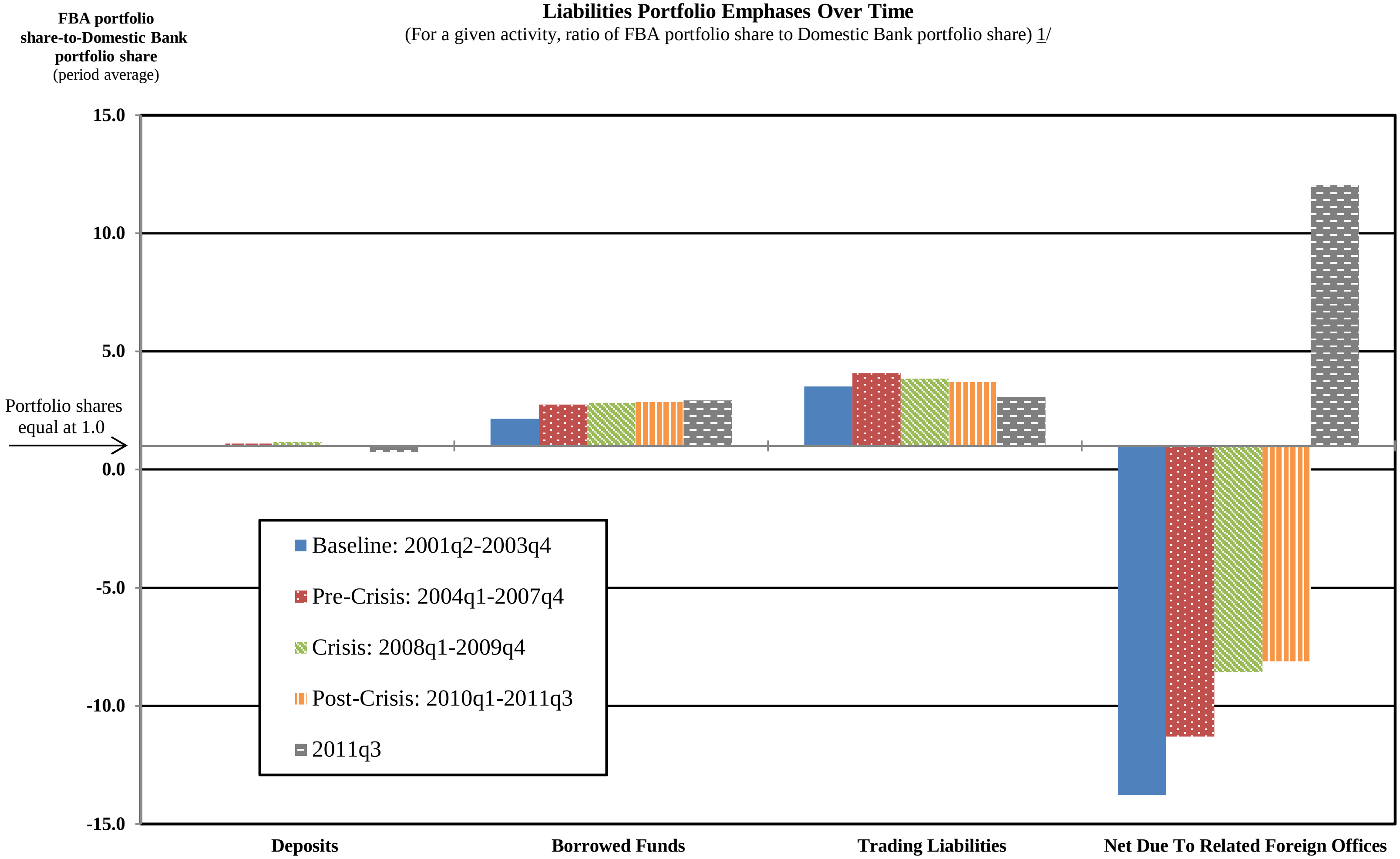
Source: FFIEC 031, FFIEC 041.

Figure 9c.
U.S. Branches & Agencies of Foreign Banks:
Long-Run Trends in Liabilities



Source: FFIEC 002.

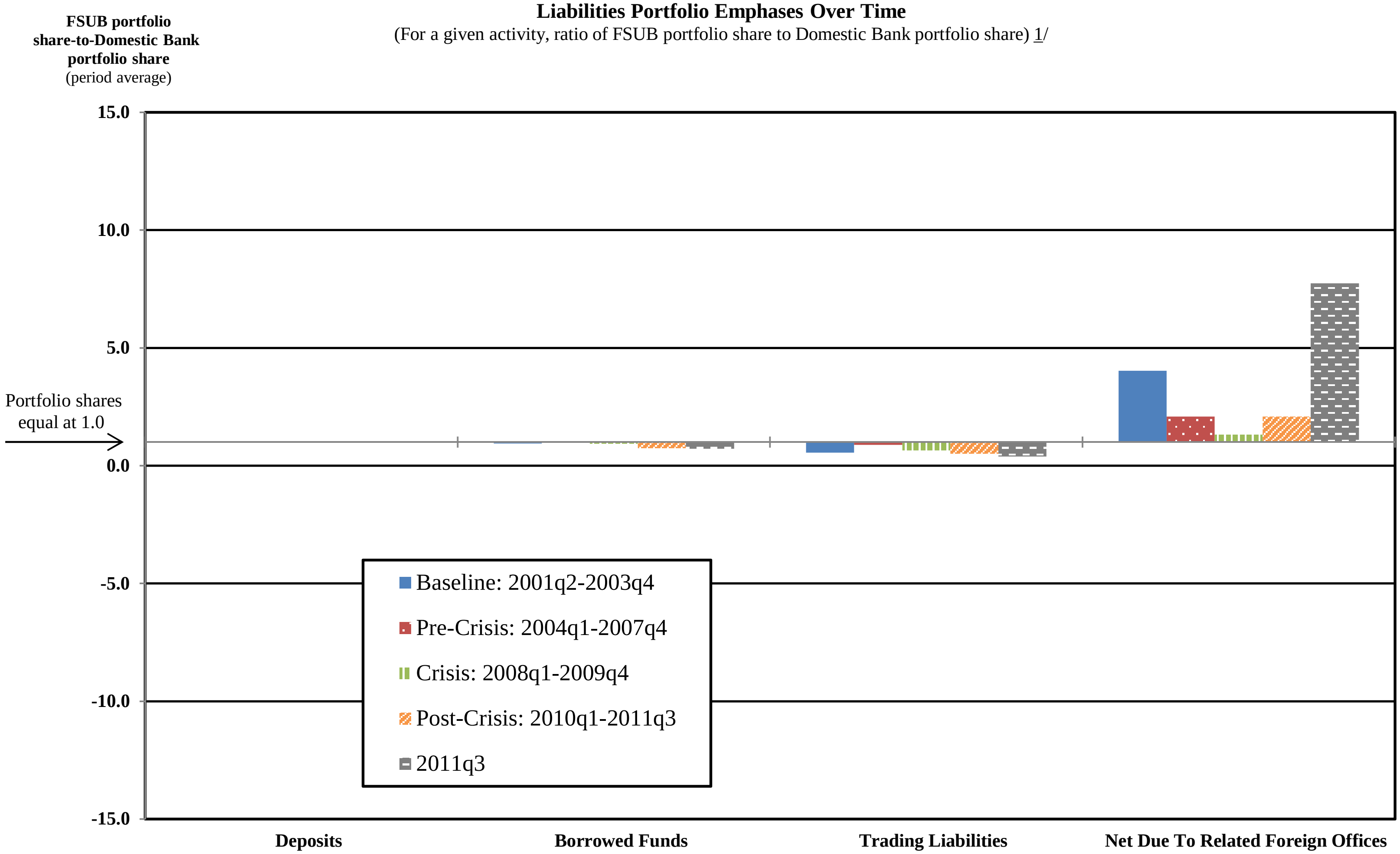
Figure 10a.
FBAs and Domestic Banks Compared:
Liabilities Portfolio Emphases Over Time
(For a given activity, ratio of FBA portfolio share to Domestic Bank portfolio share) 1/



1/ Values greater than 1.0 indicate an activity is weighted more heavily in FBAs' portfolios than in Domestic Banks' portfolios; positve values less than 1.0 indicate the activity is emphasized more heavily in Domestic Banks' portfolios EXCEPT that NEGATIVE VALUES for "Net Due To Related Foreign Offices" should be interpreted as absolute values, showing a greater emphasis on this activity for FBAs compared to Domestic Banks. See the text for a comprehensive explanation.

Source: FFIEC 031, FFIEC 041, FFIEC 002.

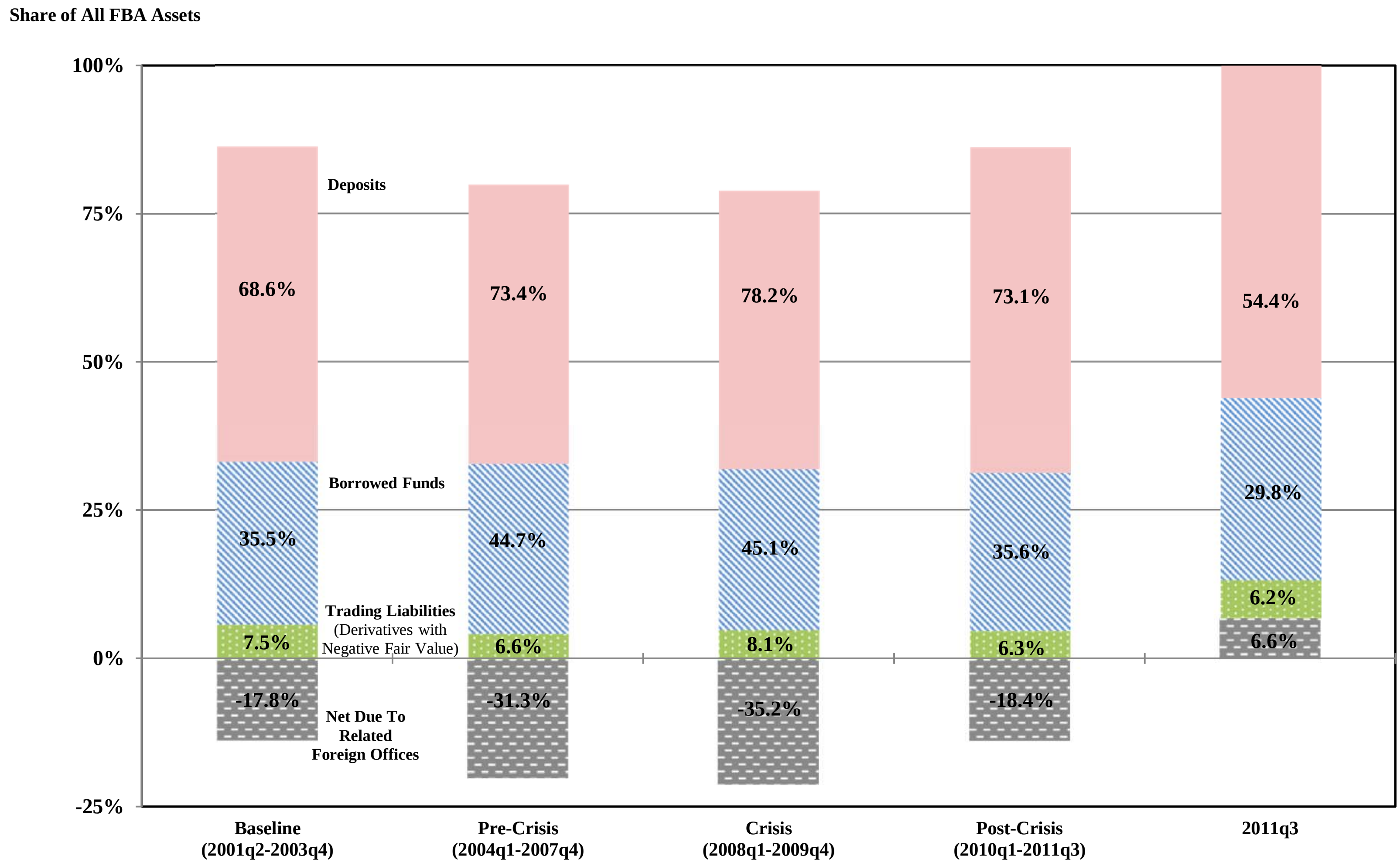
Figure 10b.
FSUBs and Domestic Banks Compared:
Liabilities Portfolio Emphases Over Time
(For a given activity, ratio of FSUB portfolio share to Domestic Bank portfolio share) 1/



1/ Values greater than 1.0 indicate an activity is weighted more heavily in FSUBs' portfolios than in Domestic Banks' portfolios; positve values less than 1.0 indicate the activity is emphasized more heavily in Domestic Banks' portfolios EXCEPT that NEGATIVE VALUES for "Net Due To Related Foreign Offices" should be interpreted as absolute values, showing a greateremphasis on this activity for FSUBs compared to Domestic Banks. See the text for a comprehensive explanation.

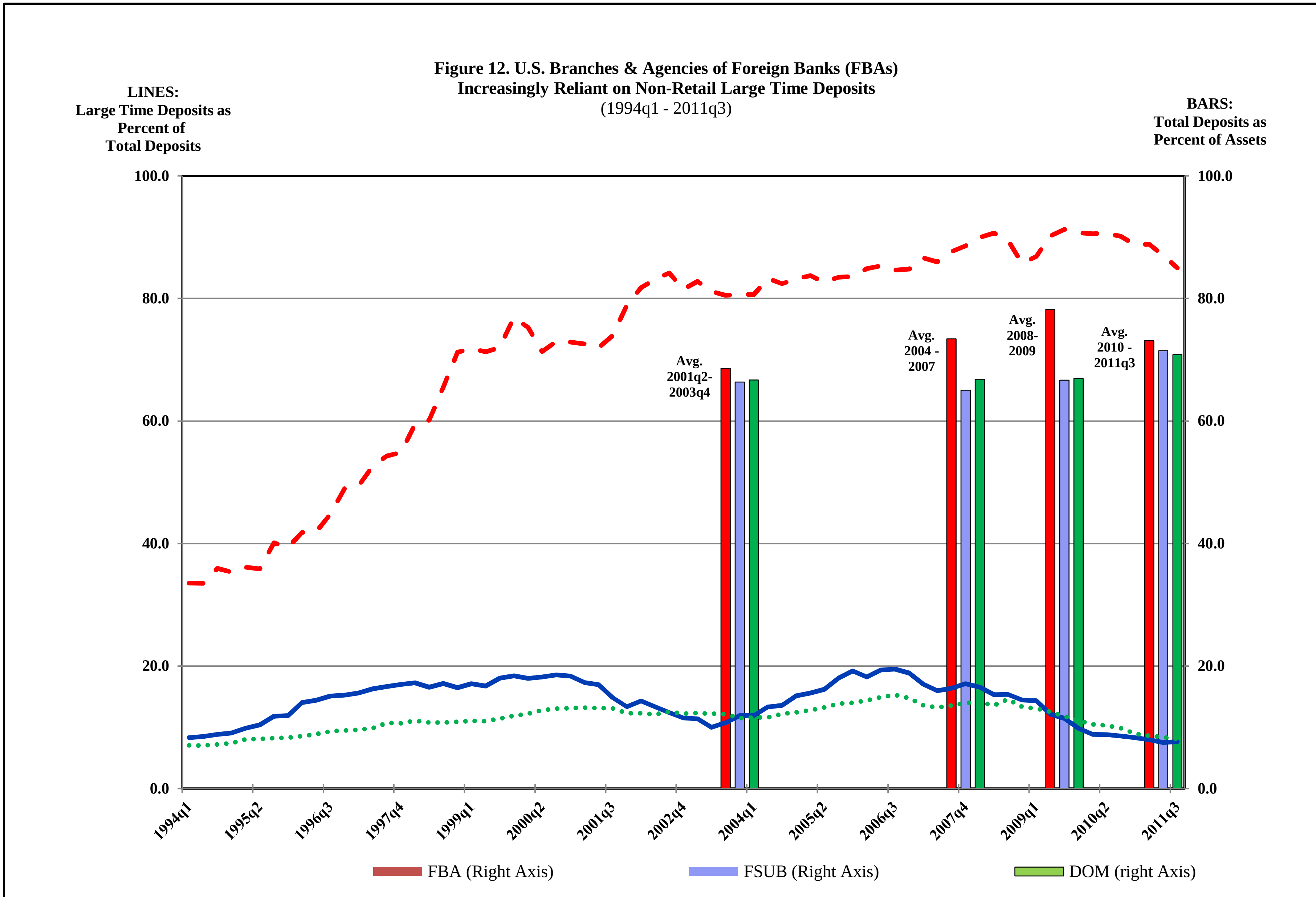
Source: FFIEC 031, FFIEC 041.

Figure 11. U.S. Branches & Agencies of Foreign Banks (FBAs): Liabilities Portfolio Over Time 1/



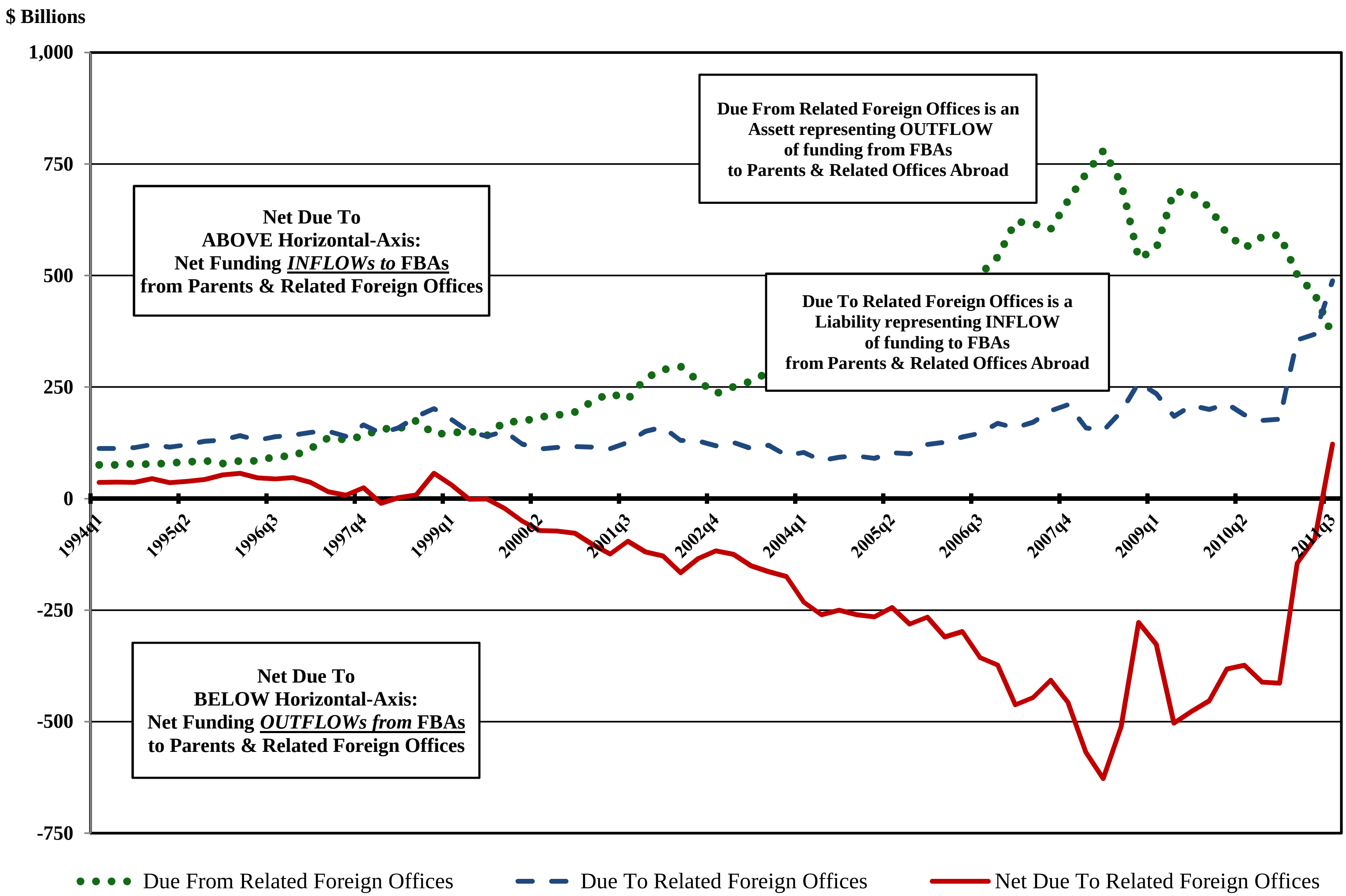
1/ Period average shares of all FBA assets, excluding due-from positions with related foreign offices, in percent; figures shown in the bars do not sum to 100 due to the exclusion a small amount of other liabilities.

Source: FFIEC 002

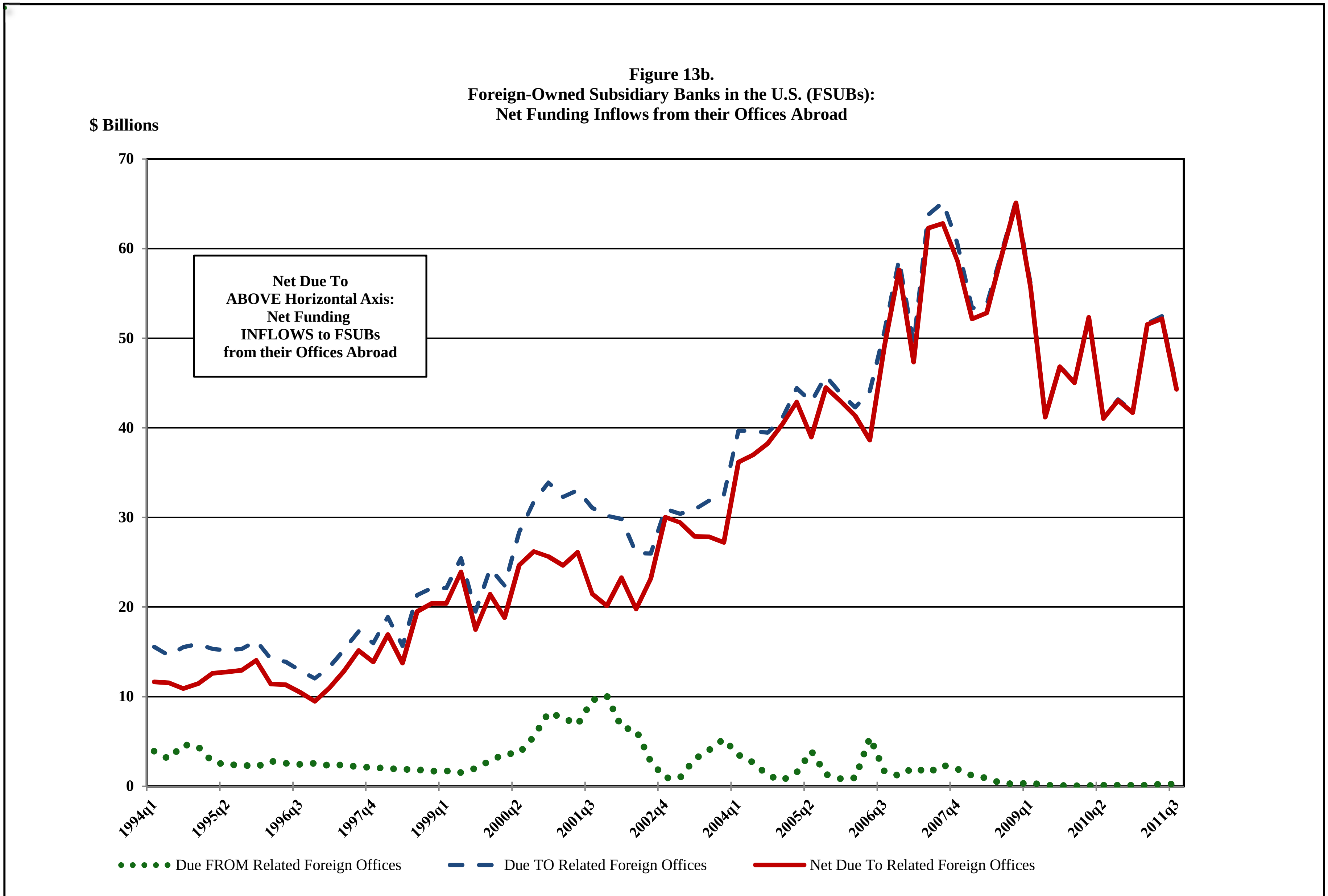


Source: FFIEC 031, FFIEC 041, FFIEC 002

Figure 13a.
FBA Intra-Company Funding Flows
with Parents & Related-Offices

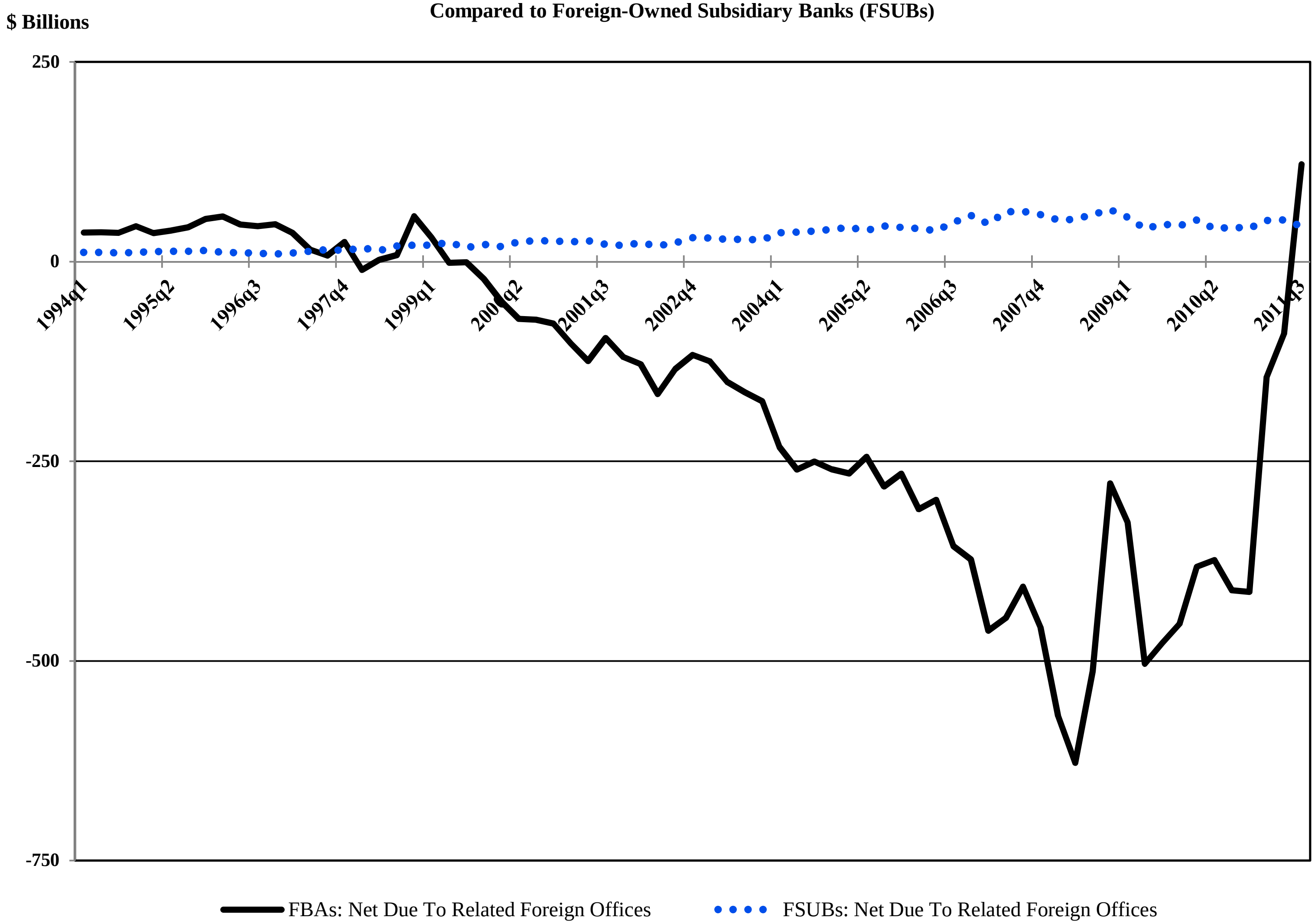


Source: FFIEC 002



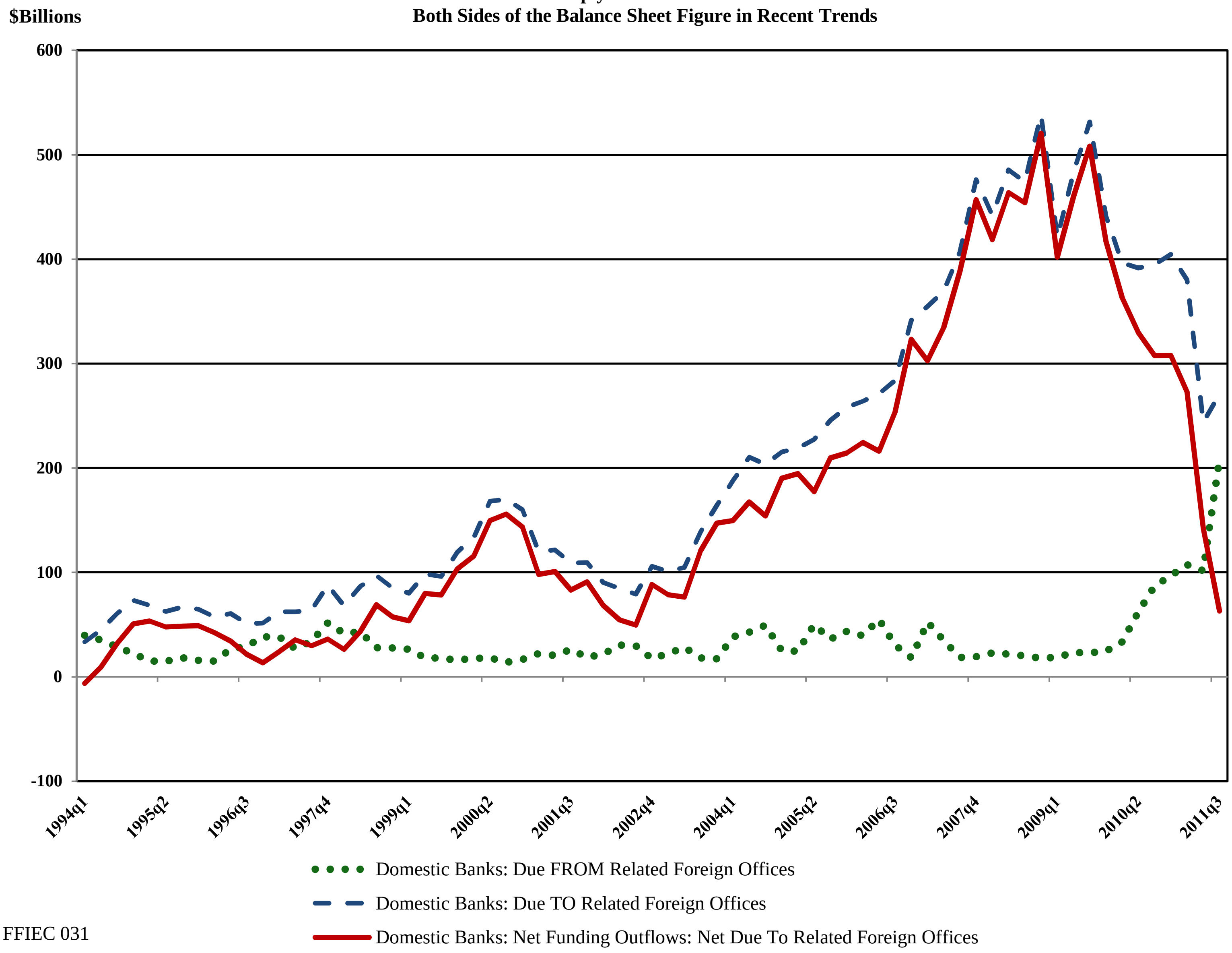
Source: FFIEC 031

Figure 13c.
Net Funding Flows with Related Foreign Offices:
U.S. Branches & Agencies of Foreign Banks (FBAs)
Compared to Foreign-Owned Subsidiary Banks (FSUBs)



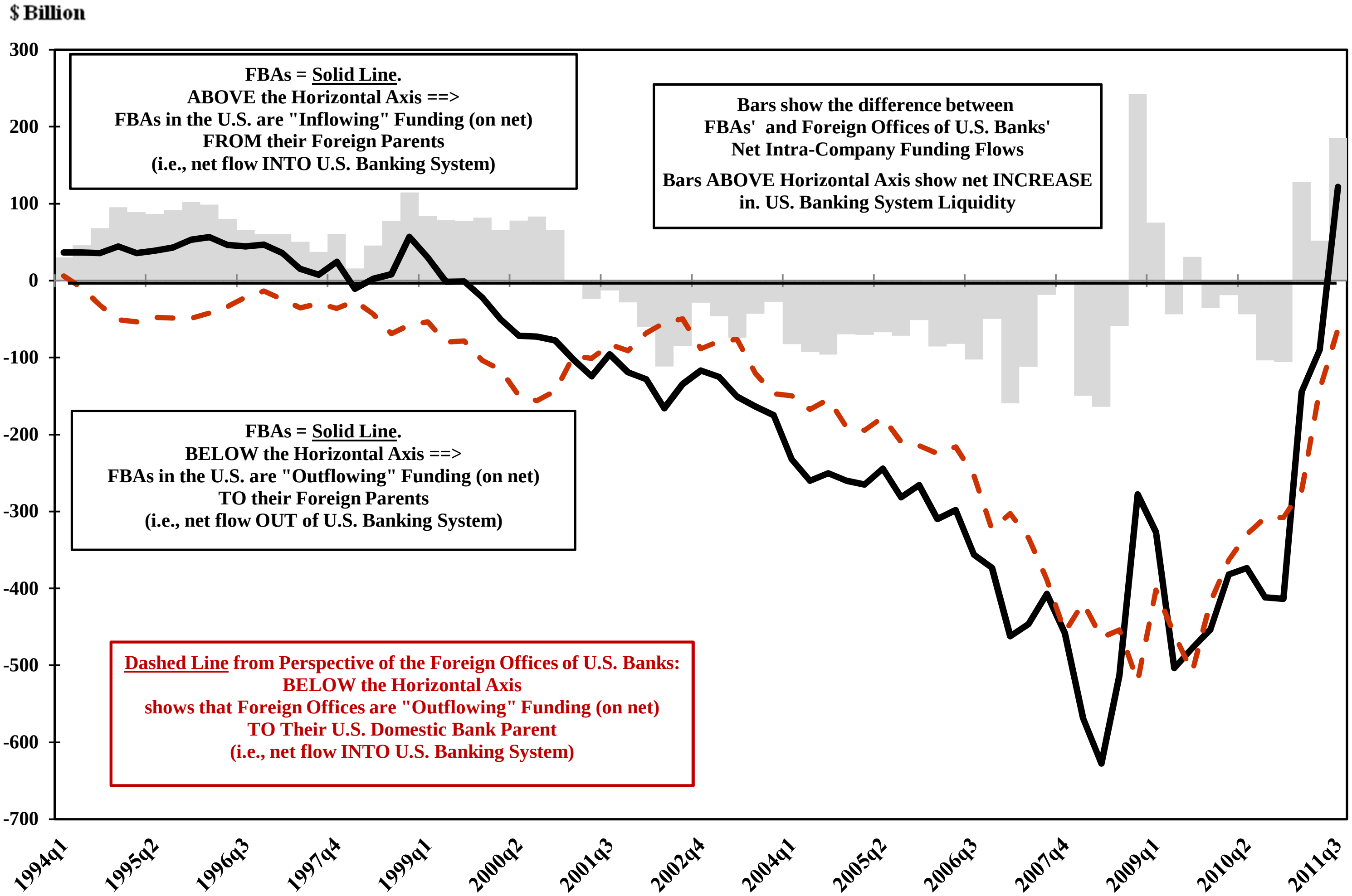
Source: FFIEC 031 and FFIEC 002

Figure 14a.
Domestic Banks' Net Funding Inflows from Offices Abroad
Down Sharply Since Financial Crisis -
Both Sides of the Balance Sheet Figure in Recent Trends



Source: FFIEC 031

Figure 14b.
Foreign Branches' Intra-Company Funding Flows with Parents & Related Offices:
Net Impact on U.S. Banking System Liquidity
("Foreign Branches" include both FBAs and Foreign Offices of U.S. Domestic Banks)



Source: FFIEC 031, FFIEC 002

Table 1.
Foreign Banking Presence in the U.S.:
U.S. Offices of Foreign Banking Organizations (FBOs) - Entity Types and Assets
(September 30, 2011)

Entity Type Categories 1/	**Number of Offices**	**Assets** (billion)	**Share of Assets in All U.S. Offices of FBOs**
U.S. Branches & Agencies of Foreign Banks (FBAs)	**246**	**$2,207.4**	**66%**
Branches	196	$2,071.8	62%
Agencies	50	$135.6	4%
U.S.-Chartered Foreign-Owned Subsidiary Banks (FSUBs) 2/	**65**	**$1,031.7**	**31%**
Other Entities 3/	**150**	**$116.5**	**3%**
Total U.S. Offices of FBOs	**461**	**$3,355.6**	**100%**
of which Foreign-Owned Banks in the U.S. (FBUSA = FBAs + FSUBs)	**311**	**$3,239.1**	**97%**

Source: Structure and Share Data for the U.S. Offices of Foreign Banking Organizations, statistical release, Board of Governors of the Federal Reserve System.
1/ Authors' categorizations of entity types included in the Structure and Share release. See Table A.1 and Box A.1 in the appendix of the current paper for underlying details and definitions.
2/ The Structure and Share release does not use the term "subsidiary banks," but the term is defined in its underlying documentation: "(b)ank subsidiaries of foreign banking organizations are U.S. commercial banks of which more than 25 percent is owned by a foreign banking organization, or where the relationship is reported as being a controlling relationship by the filer of the FR Y-10 (Report of Changes in Organizational Structure) report form." See About the Release (www.federalreserve.gov/releases/iba/about.htm). The term "U.S. commercial banks," not explicitly defined in that documentation, is defined in the Federal Reserve Board's Micro Statistics: Reporting Panels, Identification of Entity Types as including banks in the 50 states with charter types 200 ("commercial bank"), 250 ("nondeposit trust company"), and 340 ("industrial bank").
3/ Includes 2 Savings Banks, 7 Edge Act Corporations, 2 Agreement Corporations, 1 New York Investment Company, and 138 Representative Offices.

Table 2. "The" Foreign Bank Sector in the U.S.: Different Perspectives in the Data
(2011q3)

Statistical Release or Report	**"The" Foreign Bank Sector** as characterized by the report	**Type of Foreign-Owned Entities Covered**	**Assets Size of Foreign Bank Sector** (billion)
Structure & Share Data for U.S. Offices of Foreign Banking Organizations 1/	"U.S. Offices of Foreign Banking Organizations"	Branches & Agencies (FBAs), Subsidiary Banks (FSUBs), Other Entities 2/	$3,355.6 (All Entities) FBAs: $2,207.4 FSUBs: $1,031.7
Assets and Liabilities of U.S. Branches and Agencies of Foreign Banks **(4.30)**	"U.S. Branches and Agencies of Foreign Banks"	Branches & Agencies	$2,207.4
Assets and Liabilities of Commercial Banks in the United States **(H.8)** 3/	"Foreign-Related Institutions"	Branches & Agencies, Edge Act and Agreement Corps.	1890.3 4/
Flow of Funds Accounts of the United States **(Z.1)**	"Foreign Banking Offices in U.S." 5/	Branches & Agencies, Edge Act and Agreement Corps.	2086.9 5/
Addendum: "The" foreign bank sector in "the" U.S. banking industry			
		H.8 3/	***Flow of Funds*** 6/
"The" U.S. Banking Industry: Total Assets (billion)		$12,522.4	$12,436.5 7/
Market Share of Foreign Banks in the U.S. **(**percent of total banking assets) 8/		15.1	16.8

1/ September 30, 2011.
2/ See appendix Table A.1 for underlying details.
3/ Monthly data for September 2011, constructed as the average of the relevant weekly data, not seasonally adjusted. Extrapolates industry totals from a representative sample of banks; sample includes approximately 815 "Domestic commercial banks" and 60 "Foreign-related institutions;" foreign-owned subsidiary banks are included as part of "Domestic commercial banks," and are not separately identified in the release.
4/ Assets exclude those booked in International Banking Facilities (IBFs), and due-from positions with related foreign offices.
5/ "Foreign Banking Offices in U.S." (Table L.111). Included are U.S. branches and agencies of foreign banks, and Edge Act and Agreement Corporations. Note that the Edge Act and Agreement Corporations in the category "Foreign Banking Offices in the U.S." include both those which are U.S. subsidiaries of foreign-owned banks and those which are subsidiaries of U.S. "domestic" banks. Intra-sector deposit and loan balances are netted out.
6/ Intrasector deposit and loan balances are netted out.
7/ Aggregates two categories, as reported in separate tables: (1) "U.S.-Chartered Commercial Banks" (Table L.110); and (2) "Foreign Banking Offices in U.S." (Table L.111). As noted in the Flow of Funds Guide (see the "Description of table L. 110 - U.S.-Chartered Commercial Banks"), "foreign subsidiaries of U.S.-chartered commercial banks are not included" among the components of U.S.-Chartered Commercial Banks, but rather "their assets and liabilities are included in the rest of the world sector" (Tables L.107 and F.107).
8/ "Foreign Banks" as defined above for each release, respectively.

Table 3. Our Data Set:
Wider Coverage of "the" Foreign Bank Sector and "the" U.S. Banking Industry

U.S. Banking Industry Sectors: Aggregate Assets Comparisons
($ billion, 2011q3)

U.S. Banking Industry Sectors	**Our Data Set** 1/	**H.8** 2/	***Flow of Funds*** 3/
U.S. Branches and Agencies of Foreign Banks (FBAs)	$2,207.4	$1,890.3 4/	$2,086.9 5/
Commercial Banks Total Assets (billion)	$12,804.1	$10,632.0 6/	$10,349.6 7/
of which in U.S.-Chartered Foreign-Owned Subsidiary Banks (FSUBs)	$1,039.4	***not separately identified*** 8/	***not separately identified*** 9/
Total U.S. Banking Industry Assets (billions) **10/**	$15,011.5	$12,522.4 6/	$12,436.5
of which in All Foreign-Owned Banks in the U.S. (FBUSA) 11/	$3,246.8	***unascertainable***	***unascertainable***

Foreign Banking Market Share Comparisons
(percent of total U.S. banking industry assets)

Foreign Banking Groups	**Our Data Set**	**H.8**	***Flow of Funds***
FBA Market Share	14.7%	15.1%	16.7%
FBUSA Market Share	21.6%	***unascertainable***	***unascertainable***

1/ "Our Data Set": Data sources are bank call reports (Consolidated Reports of Condition and Income for A Bank With Domestic and Foreign Offices -- FFIEC 031; Consolidated Reports of Condition and Income for A Bank With Domestic Offices Only -- FFIEC 041; and Report of Assets and Liabilities of U.S. Branches and Agencies of Foreign Banks-- FFIEC 002), and National Information Center (NIC) structure data. "Total U.S. Banking Industry Assets" equals the sum of Commercial Bank and FBA assets. "Commercial Banks" are defined according to the formula for "U.S. Commercial Banks" in the Federal Reserve Board's Micro Statistics: Reporting Panels, Identification of Entity Types instructions, as follows: "U.S. Commercial Banks" includes banks in the 50 states with charter types 200 ("Commercial Bank"), 250 ("Nondeposit Trust Company"), or 340 ("Industrial Bank"). FSUBs are a subset of Commercial Banks, where foreign ownership is determined on the basis of the Board-derived bank structure attribute which assigns a "foreign call family ID" (FGN_CALL_FAM_ID) to commercial banks (as defined above) with a non-U.S. country code value. FBAs are as defined according to the formula in the Federal Reserve Board's Micro Statistics: Reporting Panels, Identification of Entity Types as follows: "U.S. Branches and Agencies of Foreign Banks" include establishment type codes (EST_TYPE_CD) 2 ("Full service branch or regional office of regulatory agency"), 3 ("Limited service branch"), 5 ("Agency"), 8 ("Super agency"), and 9 ("Limited super agency").
2/ Assets and Liabilities of Commercial Banks in the United States, statistical release, Board of Governors of the Federal Reserve System. Monthly data for September 2011, not seasonally adjusted. The H.8 release extrapolates industry totals from a representative sample comprised of approximately 815 "Domestic commercial banks" and 60 "Foreign-related institutions." Assets exclude those booked in IBFs, and due-from positions with related foreign offices. See Box A.2 in the appendix for additional discussion.
3/ Flow of Funds Accounts of the United States, statistical release Z.1, Board of Governors of the Federal Reserve System. Intra-sector deposit and loan balances are netted out. See Box A.2 in the appendix to the current paper for additional discussion.
4/ Includes Edge Act and Agreement Corporations.
5/ "Foreign Banking Offices in U.S." (Flow of Funds, Table L.111). Included are U.S. branches and agencies of foreign banks, and Edge Act and Agreement Corporations. Note that the Edge Act and Agreement Corporations in the Flow of Funds category "Foreign Banking Offices in the U.S." include both those which are U.S. subsidiaries of foreign-owned banks and those which are subsidiaries of U.S. "domestic" banks.
6/ In the H.8, the term "Commercial Banks in the United States" is the designation for the total U.S. banking industry, including U.S. branches and agencies of foreign banks. In the H.8 column in this table, we use H.8 data for "Dometically Chartered Commercial Banks" in our Commercial Banks Total Assets row, and H.8 data for "Commercial Banks in the United States" in our Total U.S. Banking Industry Assets row.
7/ "U.S.-Chartered Commercial Banks" (Flow of Funds, Table L.110). As noted in the Flow of Funds Guide (see the "Description of table L. 110 - U.S.-Chartered Commercial Banks"), "foreign subsidiaries of U.S.-chartered commercial banks are not included" among the components of U.S.-Chartered Commercial Banks, but rather "their assets and liabilities are included in the rest of the world sector" (Tables L.107 and F.107).
8/ Foreign-owned subsidiary banks are among the sample of institutions filing the weekly survey underlying the H.8 release, but they are not separately identified as FSUBs and hence their activities are subsumed in the H.8 under the "Domestically Chartered Commercial Banks" category.
9/ FSUBs are included in the "U.S.-Chartered Commercial Banks" sector.
10/ "Total U.S. Banking Industry" = FBAs + Commercial Banks, as defined in each data set. Components may not sum exactly to total due to rounding.
11/ FBUSA = FBAs + FSUBs.

Table 4.
Foreign-Owned and Domestic Banks:
Assets Portfolios Compared
2011q3

Balance Sheet Component	Share of Total Assets of Respective Banking Group (in percent) 1/		
	U.S. Branches & Agencies of Foreign Banks (FBAs)	**Foreign-Owned Subsidiary Banks in the U.S. (FSUBs)**	**Domestic Banks**
Cash & Balances Due	43.60	11.17	9.77
Securities	8.15	22.53	19.89
Loans	28.38	50.58	53.56
Fed Funds Sold & Reverse Repos	6.98	1.00	4.01
Trading Assets 2/	6.69	1.29	2.61
Other Assets	6.20	13.43	10.16

Source: FFIEC 031, 041, and 002 call reports.
1/ Share of assets in respective groups of banks, as designated by column headings. "Total Assets" excludes due-from position with related foreign offices.
2/ Derivatives with positive fair value.

Table 5.
The Loan Book of U.S. Branches & Agencies of Foreign Banks (FBAs):
Underlying Volatility in C&I Lending

Loan Book Activity	Characterization of Recent "Eras" in the U.S. Banking Market 1/			
	Baseline	**Pre-Crisis**	**Crisis**	**Post-Crisis**
	2001q2-2003q4	**2004q1 - 2007q4**	**2008q1-2009q4**	**2010q1-2011q3**
Total FBA Loans as *percent* of FBAs' Total Assets 2/	39.17	36.19	41.70	33.33
Financial Sector Loans as *percent* of FBAs' Total Loans	26.19	29.91	24.77	26.75
Non-Financial Sector Loans as *percent* of FBAs' Total Loans 3/	73.81	70.09	75.23	73.25
Underlying Composition of FBAs' **Financial Sector Loans** (***percent*** of FBAs' total Financial Sector Loans)				
Loans to Nonbank Financial Institutions	72.93	81.04	79.42	73.33
Loans to Foreign Governments and Official Institutions	4.67	2.50	2.12	3.07
Interbank Loans	20.95	16.29	18.45	23.60
Composition of FBAs' Interbank Loans (***percent*** of total FBA Interbank Loans)				
Loans to Commercial Banks in the U.S.	**25.92**	23.91	18.97	**8.87**
Loans to Non-U.S.-Owned, Unaffiliated Banks in Foreign Countries	**74.08**	76.09	81.03	**91.13**
Underlying Composition of FBAs' **Non-Financial Sector Loans** (***percent*** of FBAs' total Non-Financial Sector Loans)				
C&I Loans	**83.18**	74.92	76.98	**68.51**
Real Estate Loans	n.a	n.a.	10.03	9.81
Addendum : **C&I Loans as percent of FBAs' Total Loans**	**61.44**	52.43	57.92	**50.19**

Source: FFIEC 002 call reports.
1/ Authors' characterizations.
2/ "Total Assets" excludes due-from position with related foreign offices.
3/ Total FBA Loans minus FBA loans to financial institutions.
n.a. = Consistent data set over time not available.

Table 6. Changes in Cash & Balances Due:
Large Increases for Domestic Banks and FSUBs,
Gigantic Increases for FBAs

	Baseline 2001q2-2003q4	Pre-Crisis 2004q1-2007q4	Crisis 2008q1-2009q4	Post-Crisis 2010q1-2011q3	Total Increase from Crisis Onset thru Post-Crisis (2011q3 minus 2007q4)
Cash & Balances Due, value in billions, *end-period*					
Domestic Banks	$371.9	$457.1	$904.4	$1,128.7	$671.6
Foreign-Owned Subsidiary Banks in the U.S. (FSUBs)	$23.2	$32.5	$99.7	$116.1	$83.6
U.S. Branches & Agencies of Foreign Banks (FBAs)	$68.5	$65.7	$324.4	$802.7	$737.0
Cash & Balances Due as share of assets, *period average (in percent)* 1/					
Domestic Banks	5.50%	4.46%	6.89%	8.67%	
Foreign-Owned Subsidiary Banks in the U.S. (FSUBs)	4.54%	3.97%	6.94%	10.33%	
U.S. Branches & Agencies of Foreign Banks (FBAs)	8.61%	7.58%	14.76%	34.37%	

Source: FFIEC 031, 041, and 002 call reports.
1/ Assets exclude due-from positions with related foreign offices.

Table 7.
Foreign-Owned and Domestic Banks:
Reserves at Federal Reserve Banks

Banking Group	Reserves at Federal Reserve Banks as a Share of Cash & Balances Due (period averages in percent)			
	Baseline 2001q2-2003q4	Pre-Crisis 2004q1-2007q4	Crisis 2008q1-2009q4	Post-Crisis 2010q1-2011q3
Domestic Banks	5.65	4.84	34.46	52.76
Foreign-Owned Subsidiary Banks in the U.S. (FSUBs)	8.14	7.01	50.74	76.36
U.S. Branches & Agencies of Foreign Banks (FBAs)	1.30	1.02	54.46	90.21

Source: FFIEC 031, 041, and 002 call reports.

Table 8.
Foreign-Owned and Domestic Banks:
Liabilities Portfolios Compared
2011q3

Balance Sheet Activity	Share of Total Assets (in percent) 1/		
	U.S. Branches & Agencies of Foreign Banks (FBAs)	**Foreign-Owned Subsidiary Banks in the U.S. (FSUBs)**	**Domestic Banks**
Deposits	54.36	72.85	73.48
Borrowed Funds	29.82	7.38	10.17
Trading Liabilities 2/	6.24	0.80	2.03
Net Due To Related Foreign Offices	6.62	4.26	0.55
Other Liabilities	2.96	14.71	13.77

Source: FFIEC 031, 041, and 002 call reports.
1/ Share of assets in respective groups of banks, as designated by column headings. "Total Assets" excludes due-from position with related foreign offices.
2/ Derivatives with negative fair value.

Table 9.
Funding Sources for U.S. Branches & Agencies of Foreign Banks (FBAs): from Wholesale to Super-Wholesale

Selected Components of Borrowed Funds	**Characterization of Recent "Eras" in the U.S. Banking Market 1/**		
	Baseline	**Post-Crisis**	**Percent Change in Specified Share**
	2001q2-2003q4	**2010q1-2011q3**	**Baseline to Post-Crisis**
Borrowed Funds as % of Assets 2/	35.46	35.57	0.3
Fed Funds Purchased & Repos Sold: % of All Borrowed Funds	70.35	48.53	-31.0
Fed Funds Purchased: % of All Fed Funds Purchased & Repos Sold	*30.57*	*15.06*	-50.7
Fed Funds Purchased with Commercial Banks in U.S.: % of All Fed Funds Purchased	*37.82*	*13.77*	*-63.6*
Securities Sold under Agreements to Repurchase: % of All Fed Fed Purchased & Repos Sold	69.43	84.94	22.3
Other Borrowed Funds: % of All Borrowed Funds	29.65	51.47	73.6
Other Borrowed Funds: Owed to Non-Related U.S. Offices: % of Total Other Borrowed Funds	7.77	1.78	-77.1
Other Borrowed Funds: Owed to Non-Related U.S. Branches & Agencies: % of Total Other Borrowed Funds	6.76	1.22	-82.0
Other Borrowed Funds: Owed to Foreign Branches of Non-Related U.S. Banks: % of Total Other Borrowed Funds	1.45	0.18	-87.6
Other Borrowed Funds: Owed to Foreign Offices of Non-Related Foreign Banks: % of Total Other Borrowed Funds	14.26	4.60	-67.7
Other Borrowed Funds: Owed to Others: % of Total Other Borrowed Funds	69.75	92.22	32.2

Source: FFIEC 002 call reports.
1/ Authors' characterizations.
2/ Assets exclude due-from position with related foreign offices.

Table A.1.
U.S. Offices of Foreign Banking Organizations (FBOs) - Entity Types and Assets
(September 30, 2011)

Entity Type 1/	Number	Assets (bilion)
U.S. Branches & Agencies of Foreign Banks 2/	**246**	**$2,207.4**
Uninsured Federal Branch	43	$183.2
Uninsured State Branch	143	$1,853.1
Insured Federal Branch	4	$14.2
Insured State Branch	6	$21.3
Uninsured Federal Agency	1	$0.4
Uninsured State Agency	49	$135.2
U.S.-Chartered Foreign-Owned Subsidiary Banks 3/ 4/	**65**	**$1,031.7**
National Bank	21	$725.7
State Member Bank	6	$142.1
State Nonmember Bank	23	$163.2
Nondepository Trust Co - Member	6	$0.6
Nondepository Trust Co - Nonmember	9	$0.1
Other Entities	**150**	**$116.5**
Federal Saving Bank	1	$76.1
State Saving Bank	1	$32.9
Edge Corp - Banking	4	$7.0
Edge Corp - Investment	3	$0.0
Agreement Corp - Banking	1	$0.1
Agreement Corp - Investment	1	$0.5
New York Investment Co	1	$0.0
Representative Office	138	$0.0
Total U.S. Offices of FBOs	**461**	**$3,355.7**

Source: Structure and Share Data for the U.S. Offices of Foreign Banking Organizations, statistical release, Board of Governors of the Federal Reserve System.

1/ See Box A.1 for definitions of entity types and other relevant terms.
2/ "Federal" signifies the entity is licensed by the Office of the Comptroller of the Currency (OCC); "state" signifies the entity is licensed by a state bank regulatory authority; "insured" means that the entity carries FDIC deposit insurance.
3/ The Structure and Share release does not use the term "subsidiary banks," but the term is defined in its underlying documentation: "(b)ank subsidiaries of foreign banking organizations are U.S. commercial banks of which more than 25 percent is owned by a foreign banking organization, or where the relationship is reported as being a controlling relationship by the filer of the FR Y-10 (Report of Changes in Organizational Structure) report form." See About the Release (www.federalreserve.gov/releases/iba/about.htm). The term "U.S. commercial banks," not explicitly defined in that documentation, is defined in the Federal Reserve Board's Micro Statistics: Reporting Panels, Identification of Entity Types as including banks in the 50 states with charter types 200 ("commercial bank"), 250 ("nondeposit trust company"), and 340 ("industrial bank").
4/ "National" signifies the bank is chartered by the OCC; "state" signifies that the bank is chartered by the relevant state bank regulatory authority. "Member" means a Federal Reserve System member bank, and "nonmember" means not a Federal Reserve System member.

Table A.2.
"The" Foreign Banking Presence in "the" U.S. Banking Industry

U.S. Banking Industry Sectors: Aggregate Assets Comparisons
($ billion, 2011q3)

U.S. Banking Industry Sectors	**H.8** 3/	***Flow of Funds*** 7/	**FDIC** ***Quarterly Banking Profile*** 11/	**Our Data Set** 15/
U.S. Branches and Agencies of Foreign Banks (FBAs)	$1,890.3 4/	$2,086.9 8/	***not included*** 12/	$2,207.4
Commercial Banks Total Assets (billion)	$10,632.0 5/	$10,349.6 9/	$12,559.9	$12,804.1
of which in U.S.-Chartered Foreign-Owned Subsidiary Banks **(FSUBs)**	***not separately identified*** 6/	***not separately identified*** 10/	***not separately identified*** 13/	$1,039.4
Total U.S. Banking Industry Assets (billions) 1/	$12,522.4 5/	$12,436.5	$13,807.7 14/	$15,011.5
of which in All Foreign-Owned Banks in the U.S. **(FBUSA)** 2/	***unascertainable***	***unascertainable***	***unascertainable***	$3,246.8

Foreign Banking Market Share Comparisons
(percent of total U.S. banking industry assets)

Foreign Banking Groups	**H.8** 3/	***Flow of Funds*** 7/	**FDIC** ***Quarterly Banking Profile*** 11/	**Our Data Set** 15/
FBA Market Share	15.1%	16.7%	***not included*** 12/	14.7%
FBUSA Market Share 2/	***unascertainable***	***unascertainable***	***unascertainable***	21.6%

1/ "Total U.S. Banking Industry" = FBAs + Commercial Banks, as defined in each data set, except FDIC QBP (as noted). Components may not sum exactly to total due to rounding.
2/ FBUSA = FBAs + FSUBs.
3/ Assets and Liabilities of Commercial Banks in the United States, statistical release, Board of Governors of the Federal Reserve System. Monthly data for September 2011, not seasonally adjusted. The H.8 release extrapolates industry totals from a representative sample comprised of approximately 815 "Domestic commercial banks" and 60 "Foreign-related institutions." Assets exclude those booked in IBFs, and due-from positions with related foreign offices. See Box A.2 for additional discussion.
4/ Includes Edge Act and Agreement Corporations.
5/ In the H.8, the term "Commercial Banks in the United States" is the designation for the total U.S. banking industry, including U.S. branches and agencies of foreign banks. In the H.8 column in this table, we use H.8 data for "Dometically Chartered Commercial Banks" in our Commercial Banks Total Assets row, and H.8 data for "Commercial Banks in the United States" in our Total U.S. Banking Industry Assets row.
6/ Foreign-owned subsidiary banks are among the sample of institutions filing the weekly survey underlying the H.8 release, but they are not separately identified as FSUBs and hence their activities are subsumed in the H.8 under the "Domestically Chartered Commercial Banks" category.
7/ Flow of Funds Accounts of the United States, statistical release Z.1, Board of Governors of the Federal Reserve System. Intra-sector deposit and loan balances are netted out. See Box A.2 for additional discussion.
8/ "Foreign Banking Offices in U.S." (Flow of Funds, Table L.111). Included are U.S. branches and agencies of foreign banks, and Edge Act and Agreement Corporations. Note that the Edge Act and Agreement Corporations in the Flow of Funds category "Foreign Banking Offices in the U.S." include both those which are U.S. subsidiaries of foreign-owned banks and those which are subsidiaries of U.S. "domestic" banks.
9/ "U.S.-Chartered Commercial Banks" (Flow of Funds, Table L.110). As noted in the Flow of Funds Guide (see the "Description of table L. 110 - U.S.-Chartered Commercial Banks"), "foreign subsidiaries of U.S.-chartered commercial banks are not included" among the components of U.S.-Chartered Commercial Banks, but rather "their assets and liabilities are included in the rest of the world sector" (Tables L.107 and F.107).
10/ FSUBs are included in the U.S.-Chartered Commercial Banks sector.
11/ Quarterly Banking Profile: Third Quarter 2011, vol. 5, no. 4, Federal Deposit Insurance Corporation.
12/ Includes 9 U.S. branches of foreign-owned banks with approximately $30 billion in assets and $15 billion in insured domestic deposits.
13/ The Quarterly Banking Profile includes tables segregating groups of banks into "asset concentration groups;" one such group is labeled "International Banks," but this group should not be confused with FSUBs, as defined in the current paper. Specifically, International Banks are "banks with assets greater than $10 billion and more than 25 percent of total assets in foreign offices." This group, which could otherwise be characterized as "large, internationally-active banks," includes both Domestic Banks (as defined in the current paper) and FSUBs meeting the minimum thresholds (but not separately identified as FSUBs). See, e.g., Table V-A (p.10) in the third quarter 2011 issue of the Quarterly Banking Profile.
14/ All FDIC-insured commercial banks and savings banks.
15/ Our Data Set: Data sources are bank call reports (Consolidated Reports of Condition and Income for A Bank With Domestic and Foreign Offices -- FFIEC 031; Consolidated Reports of Condition and Income for A Bank With Domestic Offices Only -- FFIEC 041; and Report of Assets and Liabilities of U.S. Branches and Agencies of Foreign Banks-- FFIEC 002), and National Information Center (NIC) structure data. "Total U.S. Banking Industry Assets" equals the sum of Commercial Bank and FBA assets. "Commercial Banks" are defined according to the formula for "U.S. Commercial Banks" in the Federal Reserve Board's Micro Statistics: Reporting Panels, Identification of Entity Types instructions, as follows: "U.S. Commercial Banks" includes banks in the 50 states with charter types 200 ("Commercial Bank"), 250 ("Nondeposit Trust Company"), or 340 ("Industrial Bank"). FSUBs are a subset of Commercial Banks, where foreign ownership is determined on the basis of the Board-derived bank structure attribute which assigns a "foreign call family ID" (FGN_CALL_FAM_ID) to commercial banks (as defined above) with a non-U.S. country code value. FBAs are as defined according to the formula in the Federal Reserve Board's Micro Statistics: Reporting Panels, Identification of Entity Types as follows: "U.S. Branches and Agencies of Foreign Banks" include establishment type codes (EST_TYPE_CD) 2 ("Full service branch or regional office of regulatory agency"), 3 ("Limited service branch"), 5 ("Agency"), 8 ("Super agency"), and 9 ("Limited super agency").

Table A.3. Top Countries with Major Foreign Banking Presence in the U.S.
(Q3 2011)

Parent Countries with FBAs ranked by share of total FBA assets in the U.S. 1/	**U.S. Branches & Agencies of Foreign Banks (FBAs)**				**Foreign-Owned, U.S.-Chartered Commercial Banks (FSUBs)**		**All Foreign-Owned Banking Offices in the U.S. (FBUSA = FBAs + FSUBs)**		
	Number of FBAs	**Assets in FBAs** ($ bil.)	**Median Size** ($ bil.)	**Share of Total FBA Assets in U.S.** (percent)	**Number of FSUBs**	**Median Size** ($ bil.)	**Assets** ($ bil.)	**Share of total FBUSA assets** (percent)	**Country Rank: Share of total FBUSA assets** 2/
1. Japan	21	379.0	3.3	17.17	8	1.30	472.2	14.54	3
2. Canada	20	335.8	1.5	15.21	10	6.80	659.6	20.31	**1**
3. Germany	11	281.0	9.6	12.73	4	0.30	327.6	10.09	5
4. France	14	264.4	1.9	11.98	2	38.60	341.6	10.52	4
5. UK	12	235.3	5.1	10.66	7	14.40	597.4	18.40	**2**
6. Switzerland	9	185.0	0.3	8.38	2	0.40	185.7	5.72	6
7. Sweden	5	98.4	13.3	4.46	0	n.a.	98.4	3.03	8 3/
8. Netherlands	2	80.9	40.4	3.66	1	11.60	92.5	2.85	9
9. Australia	4	71.6	16.9	3.25	1	8.20	79.8	2.46	10
10. Belgium	2	49.3	24.6	2.23	0	n.a.	49.3	1.52	11
Top 10 Total	**100**	**1,980.6**	**8.4**	**89.72**	**35**	**1.50**	**2,904.0**	**89.44**	
Eurozone Countries 4/									
Core Eurozone 5/	32	680.9	6.7	30.85	8	6.1	816.9	25.16	
GIIPS 6/	21	72.6	1.2	3.29	5	3.7	156.5	4.82	
Total: 11 Eurozone Countries with U.S. presence	**53**	**753.5**	**3.3**	**34.13**	**13**	**3.8**	**973.4**	**29.98**	
Selected Emerging Market Economies (EMEs)									
12. Brazil	5	28.0	6.8	1.27	0	n.a.	28.0	0.86	12
15. China	8	20.0	1.0	0.91	0	n.a.	20.0	0.62	15
16. India	8	16.0	1.1	0.72	1	0.8	16.8	0.52	17
Total for above 3 EMEs	**21**	**64.0**	**1.3**	**2.90**	**1**	**0.8**	**16.8**	**0.52**	
Total Foreign Country Presence									
51 Countries with FBAs **25** Countries with FSUBs **19** Countries with Both **58** Countires with Either	**236**	**2,207.4**	**0.6**	**100.00**	**60**	**1.4**	**3,246.8**	**100.00**	

Source: FFIEC 031, 041, 002 quarterly call reports.

1/ "Parent Country" is the country in which the foreign bank or banking company owning a given branch, agency, or U.S.-chartered bank is headquartered.
2/ Bold (red) number signifies a higher FBUSA-assets-share rank compared with the FBA-assets-share rank governing a country's rank in column 1.
3/ Spain ranks 7th, with 3.76 percent of total FB assets.
4 / The Eurozone includes the 17 countries using the euro as their currency; 11 of those had a U.S. FBUSA presence as of Q3 2011, including France, Germany, the Netherlands, Belgium, Austria, Luxembourg, Spain, Italy, Ireland, Portugal, and Greece. (The 6 other Eurozone countries are Cyprus, Estonia, Finland, Malta, Slovakia, and Slovenia).
5/ "Core" Eurozone countries with U.S. FBUSA include France, Germany, the Netherlands, Belgium, Austria, and Luxembourg.
6/ GIIPS = Greece, Ireland, Italy, Portugal, Spain.

Table A.4.
Foreign Banks and Banking-Related Entities in the U.S.:
Data Sources, Releases, and Reports Published by the Federal Reserve System

In this table, the term "FBUSA" refers to any of the U.S.-located, foreign-owned bank or banking-related entities listed directly below. The term FBUSA is distinct from the terms "foreign banking organization (FBO)" and "foreign bank," both of which are defined as follows in 12 CFR, Part 211 - International Banking Operations (Regulation K), Subpart B - Foreign Banking Organizations:

- A"foreign bank" is "an organization that is organized under the laws of a foreign country and that engages directly in the business of banking outside the United States."
- An FBO is any "foreign bank" (as defined above) or "any company of which the foreign bank is a subsidiary" that operates or controls any of the following in the U.S.:
  1. U.S.-chartered banking subsidiary (where "subsidiary" means 25% or more of the voting shares are directly or indirectly owned or controlled by the "foreign bank");
  2. Branch or agency (where an "agency" is a branch-like office subject to additional activities restrictions);
  3. Commercial lending company (state-licensed nonbank company that maintains credit balances permissible for an agency, and makes commercial loans; includes New York Investment (Article XII) Companies);
  4. Representative office (solely representational and administrative functions, cannot contract for or accept deposits);
  5. Edge or Agreement Corporations (a FRS-chartered subsidiary of a bank or BHC permitted to engage in banking activities in support of international trade or other international business; Agreement Corporations are state-chartered with the same powers and restrictions as Edge Corporations);

Data Collected with EXCLUSIVE or PRIMARY Focus on FBUSA

#	Title	Description/Content	Frequency	Accessibility
FFIEC 002	***Report of Assets and Liabilities of U.S. Branches and Agencies of Foreign Banks***	Balance sheet and off-balance sheet information for all U.S. branches and agencies of foreign banks (where Puerto Rican banks are included as foreign banks). Branches' and agencies' International Banking Facility (IBF) activities detailed separately across most balance sheet activities, and some derivatives and off-balance sheet activities. "Capital equivalency deposits" data included.	Quarterly	Aggregated data published quarterly in FRB statistical release 4.30 *Assets and Liabilities of U.S. Branches and Agencies of Foreign Banks.*
FFIEC 002S	***Report of Assets and Liabilities of Non-U.S. Branches That Are Managed or Controlled by a U.S. Branch or Agency of a Foreign (Non-U.S.) Bank***	Limited set of assets and liabilities data focusing on banking business with U.S. residents by offshore branches of foreign banks. So-called **"Caribbean branches" are any non-U.S. branch "managed or controlled by" a U.S. branch or agency of a foreign bank**. Assets include major loan categories.	Quarterly	No published report; aggregated data published quarterly in FRB statistical release 4.30 does **NOT INCLUDE** information from the FFIEC 002S.
FFIEC 019	***Country Exposure Report for U.S. Branches and Agencies of Foreign Banks***	**U.S. branches and agencies of foreign banks** report with total direct claims on foreign residents in excess of $30 million. Puerto Rican banks and U.S. territories banks are **NOT** included as foreign banks for this report. Direct and indirect claims, by country, on foreign residents. Also includes information on a branch's/agency's direct claims on related non-U.S. offices domiciled in countries other than the home country.	Quarterly	No published report.
FR Y-7	***Annual Report of Foreign Banking Organizations***	Annual report required of most FBOs engaged in the business of banking in the U.S. through branches, agencies, U.S.-chartered foreign-owned subsidiary commercial banks (25% or more foreign-owned), foreign-owned Edge Act and agreement corporations, or subidiary commercial lending companies. Collects financial statements and information on organizational structure and shares and shareholders.	Annual	No published report; nonconfidential data are available upon request.
FR Y-7Q	***Capital and Asset Report of Foreign Banking Organizations***	Report required of most FBOs engaged in the business of banking in the U.S. through branches, agencies, U.S.-chartered foreign-owned subsidiary commercial banks (25% or more foreign-owned), foreign-owned Edge Act and agreement corporations, or subidiary commercial lending companies. Information collected on regulatory capital (Tier 1 capital, total risk-weighted capital, risk-weighted assets, total assets).	Quarterly for FBOs that are Financial Holding Companies (FHCs); Annual for all other FBOs	No published report; nonconfidential data are available upon request.
FR Y-7N & FR Y-7NS	***Financial Statements of U.S. Nonbank Subsidiaries Held by Foreign Banking Organizations***	**All FBOs with nonbank subs** operating **in the U.S.** must file either FR Y-7N quarterly (FBOs with a nonbank sub with $1 billion or greater in assets or a nonbank sub with off-balance sheet activities $5 billion or greater), or FR Y-7NS annually (all other FBOs with nonbank subs). Data for nonbank subs include income statement information and where relevant balance sheet and changes in equity capital information.	Quarterly or Annual	No published report; nonconfidential data are available upon request.
FR 2900	***Report of Transaction Accounts, Other Deposits and Vault Cash***	**U.S. branches and agencies of foreign banks** report a limited set of transactions account, deposit, and vault cash information weekly.	Weekly or Quarterly	No published report; aggregated data are incorporated into commercial banking data (but not reported separately for branches and agencies) in several statistical releases, including the weekly H.6 *Money Stock Measures* .
FR 2225	***Annual Daylight Overdraft Capital Report for U.S. Branches and Agencies of Foreign Banks***	Report is filed by **FBOs that wish to have daylight overdraft privileges for their U.S. branches and agencies** (i.e., that wish to establish "a non-zero net debit cap" for their "U.S. branch and agency family"). An applicant foreign banking organization must have a SOSA 1 or SOSA 2 rank, or have been designated a financial holding company. The report requests information needed to identify the foreign bank respondent, and its capital and assets for purposes of daylight overdraft monitoring. Capital and assets items reported include: the foreign respondent bank's worldwide capital base; the foreign respondent bank's worldwide assets; and the exchange rate used in the calculations.	Annually	No published report; nonconfidential data are available upon request.

Table A.4. (continued)

Data Collected on OTHER Reporting Forms Relevant to FBUSA

#	Title	Description/Content	Frequency	Accessibility
FFIEC 031	***Consolidated Reports of Condition and Income for a Bank with Domestic and Foreign Offices***	Call Report for banks with branches and consolidated subsidiaries in U.S. territories and possessions, Edge Act or Agreement subsidiaries, foreign branches, consolidated foreign subsidiaries, or International Banking Facilities. Primary source for data on U.S.-chartered foreign-owned subsidiary commercial banks (although note that these entities are not separately identified as such).	Quarterly	Data publicly available via multiple sources.
FR 2644	***Weekly Report of Selected Assets and Liabilities of Domestically Chartered Commercial Banks and U.S. Branches and Agencies of Foreign Banks***	Voluntary weekly survey which serves as a basis for estimating commercial banking system-wide activity. Limited set of balance sheet data for a sample of approximately 815 domestically chartered commercial banks in the U.S. and approximately **60 "foreign-related institutions"** in the U.S., where **"foreign-related institutions" include U.S. branches and agencies of foreign banks, and Edge Act and agreement corporations ONLY**.	Weekly	Aggregated data published weekly in FRB statistical release H.8 *Assets and Liabilities of Commercial Banks in the U.S.*
FR 2028a & FR 2028s	***Survey of Terms of Business Lending/Prime Rate Supplement***	Stratified sample of insured commercial banks and **U.S. branches and agencies of foreign banks**; participation is voluntary. Measures of the cost of business credit and lending terms to domestic customers during a representative week of the quarter. Information on stated rate of interest, frequency of interest compounding, loan size, maturity, collateralization, and loan risk rating. The FR 2028s collects institutions' prime interest rates for the period reported.	Quarterly, as of the first full business week of Feb., May, Aug., Nov.	Aggregate data are published quarterly in FRB statistical release E.2 *Survey of Terms of Business Lending.* **Separate aggregates for U.S. branches and agencies** of foreign banks are included.
FR 2502q	***Quarterly Report of Assets and Liabilities of Large Foreign Offices of U.S. Banks***	Geographic distribution of the assets and liabilities of major foreign branches and large foreign banking subsidiaries of U.S. commercial banks, and Edge Act and agreement corporations. U.S. commercial banks include U.S.-chartered foreign-owned commercial banks (25% or more foreign-owned). "Major foreign branches" are those with assets of $500 million or more; "large foreign banking subsidiaries" are that file an FR 2314, have a banking charter, and have assets of $2 billion or more, or deposits of $10 million or more.	Quarterly	Aggregate data published quarterly in FRB statistical release E.11 *Geographical Distribution of Assets and Liabilities of Major Foreign Branches of U.S. Banks*
FR 2314 & FR 2314S	***Financial Statements of Foreign Subsidiaries of U.S. Banking Organizations***	Selected balance sheet and income statement information for foreign subsidiaries of U.S. state member banks, Edge Act and agreement corporations, and bank holding companies, including those that are foreign-owned (25% or more foreign-owned). A BHC whose foreign subsidiaries each have assets less than $250 million (but more than $50 million) use the FR 2314S and file annually.	Quarterly; but annually if each foreign subsidiary for a filer has less than $1 billion (but more than $250 million) in assets.	No published report; nonconfidential data are available upon request.
FFIEC 030 & FFIEC 030S	***Foreign Branch Report of Condition/ Abbreviated Foreign Branch Report of Condition***	Collects information from U.S.-chartered insured commercial banks on the structure and geographic distribution of foreign branch assets, liabilities, derivatives, and off-balance sheet activities. U.S.-chartered commercial banks **include U.S.-chartered foreign-owned subsidiary commerical banks**. Branches in Puerto Rico and U.S. territories and possessions are considered "foreign branches."	Quarterly	No published report; microdata are confidential, but aggregate data are available upon request.
FR 2886b	***Consolidated Report of Condition and Income for Edge and Agreement Corporations***	"Call Report" condition and income data for banking and nonbanking Edge Act and Agreement corporations, including those that are foreign-owned (25% or more).	Quarterly	No published report; aggregated data are incorporated into commercial banking data (but not reported separately) in several statistical releases, including the H.8, the H.6, and the Z.1 *Flow of Funds* .

FRB Statistical Releases and Surveys

Documents included in this part of the table contain clearly identifiable financial and/or structure data on FBUSA, generally at an aggregated (i.e., not firm-specific) level. Several documents (as indicated) focus exclusively, or predominantly, on FBUSA; the other documents include FBUSA as a subset of institutions with which the release deals. Most statistical releases present data aggregated at the "industry" level across one or more types of FBUSA entities (e.g., U.S. branches and agencies of foreign banks), or aggregated for a representative subset of FBUSA (e.g., large, foreign-owned FHCs). In several cases individual FBUSA are identified, along with a few quantitative measures of financial activity (e.g., total assets) and, in some cases, hyperlinks to additional detailed data. Note that the statistical releases/documents listed in this may differ somewhat from each other in the exact definitions of entity types.

#	Title	Description/Content	Frequency	Accessibility	Root Data Source
4.30	***Assets and Liabilities of U.S. Branches and Agencies of Foreign Banks***	Balance sheet activities (approx. 150 items) for **all U.S. branches and agencies of foreign banks** aggregated across the U.S.; state break outs for NY, CA, IL; separate data for branches and agencies' International Banking Facilities (IBFs)	Quarterly	Publicly released	FFIEC 002

Table A.4. (continued)					
#	**Title**	**Description/Content**	**Frequency**	**Accessibility**	**Root Data Source**
(none)	***Structure and Share Data for U.S. Offices of Foreign Banking Organizations***	Three reports, listed below, covering all foreign-owned entity types operating in the U.S.: branches, agencies, subsidiary commercial banks, foreign-owned Edge and Agreement banking Corporations, representative offices (these have no financial data), foreign-owned New York State Investment Companies; also includes foreign-owned Edge and Agreement investment Corporations, and foreign-owned non-depository trust companies. Note that the report does not separately designate entities as foreign-owned subsidiary commercial banks, but underlying documentation defines them as follows: "Bank subsidiaries of foreign banking organizations are U.S. commercial banks of which more than 25 percent is owned by a foreign banking organization, or where the relationship is reported as being a controlling relationship by the filer of the FR Y-10 report." (About the Release @ www.federalreserve.gov/releases/iba/about.htm). 1. U.S. Offices of FBOs by (home) Country: Individual entities grouped by home country; entiity name, location (city and state), entity type, assets included. 2. U.S. Offices of FBOs by entity type: Individual entities grouped by entity type; same detail as in report 1 above. 3. Share Data for U.S. Offices of FBOs: Assets, loans, C&I loans, deposits aggregated for (i) all foreign-owned commercial banks; (ii) all branches and agencies; (iii) all domestically-owned commercial banks. For each group of banks, share of U.S. totals across each activity above, in percent.	Quarterly	Publicly released	FFIEC 002 FFIEC 031 FFIEC 041
H.8	***Assets and Liabilities of Commercial Banks in the U.S.***	Estimated balance sheet activities (approx. 50 items) for all commercial banks in the U.S. Estimates are derived from actual data submitted by a **sample** of approximately 815 domestically chartered commercial banks, and approximately **60 foreign-related institutions, where "foreign-related institutions" include U.S. branches and agencies of foreign banks, and foreign-owned Edge and Agreement Corporations**. Tables for all commercial banks, domestically chartered commercial banks, large domestically chartered commercial banks (top 25 by total assets), small domestically chartered commercial banks, and **foreign-related institutions**.	Weekly	Publicly released	FR 2644
Z.1	***Flow of Funds Accounts of the United States***	"F" tables show flows, "L" tables show outstanding balances/stocks. F.111 & L.111: "Foreign Banking Offices in U.S.": includes U.S. branches and agencies, and Edge and Agreement Corporations. Note that the Edge Act and Agreement Corporations included in these tables are those which are U.S. subsidiaries of foreign-owned banks and those which are subsidiaries of U.S. "domestic" banks. In addition, as noted in the Flow of Funds Guide, "foreign subsidiaries of U.S.-chartered commercial banks ('FSUBs' in the terms of the current paper) are not included" among the components of "U.S.-Chartered Commercial Banks" as covered in Tables F.109 and L.109, but rather "their assets and liabilities are included in the rest of the world sector."	Quarterly	Publicly released	FFIEC 002 for U.S. Branches & Agencies of Foreign Banks; FR 2886b for Edge Act and Agreement Corporations.
E.2	***Survey of Terms of Business Lending***	Estimates for all commercial banks of price and nonprice terms of C&I loans made during the first full business week in the middle month of a given quarter. Estimates derived from a **sample** of insured commercial banks and **U.S. branches and agencies of foreign banks** which voluntarily report. Tables for all commercial banks, domestically chartered commercial banks, large domestically chartered commercial banks (top 25 by total assets), small domestically chartered commercial banks, and **branches and agencies of foreign banks**.	Quarterly	Publicly released	FR 2028a (Survey of Terms of Business Lending); and FR 2028s (Prime Rate Supplement)
(none)	***Senior Loan Officer Opinion Survey on Bank Lending Practices***	Detailed summary of a voluntary survey of senior loan officers at approximately 60 large domestically chartered commercial banks and approximately 24 large U.S. branches and agencies of foreign banks (which answer a somewhat different version of the survey omitting, in particular, consumer lending questions because branches and agencies make few consumer loans). All Federal Reserve Districts are represented. Senior loan officers respond to qualitative and quantitative standard/periodic questions, as well as special topics questions, about the nature of, and changes in, their banks' lending practices and credit extension standards, as well as their perceptions about the demand for credit at their banks. Lending categories include both business loans (C&I, commercial real estate (CRE)), and major household loan categories (residential real estate, home equity lines of credit, credit cards, auto, other). Summary responses aggregated for all respondent banks, the approximately 20 largest banks, and the remaining banks. The report is intended to provide a reflection of bank lending and credit demand conditions and practices across the U.S. economy; the survey concentrates on large commercial banks, accounting for approximately two-thirds of total commercial bank assets, and large branches and agencies, accounting for approximately 60 percent of total C&I lending by all branches and agencies; hence, even though the sample size is small, respondend banks account for the clear majority of lending activity in relevant categories. Responses across relevant questions for branches and agencies are reported in a separate set of tables.	Typically 4 times per year: usually Jan., April, July, Oct.; FRS has authority to conduct survey up to 6 times per year.	Publicly released	Response to the survey by banks is voluntary; it is administered via telephone by senior staff at the Reserve Banks who are knowledgable about banking (typically, banking supervisory staff).

Table A.4. (continued)

#	Title	Description/Content	Frequency	Accessibility	Root Data Source
(none)	***Commercial Paper***	Includes levels and changes (in $ bil.) in CP outstanding issued by "**foreign**" financial corporations, including those located in the U.S. and owned by a "foreign bank parent," those located in the U.S. and owned by a "foreign nonbank parent," and foreign banks located abroad (i.e., that are "Foreign").	CP outstanding published Weekly (CP rates available daily)	Publicly released	Derived from data supplied by The Depository Trust & Clearing Corporation (DTCC).
(none)	***Shared National Credits Review***	Includes SNC commitments by "**Foreign Banking Organiztions**" as a group. In particular, Appendix C: Exposure by Entity Type includes the following annual data for FBOs: their share of total commitments; the level (in $ billion) of their total classifications; their classifieds as a percent of commitments; and the level (in $ billion) of their nonaccrual commitments.	Annual	Publicly released	Data collected by the FRS, FDIC, and OCC

Source: Authors' characterizations using publicly-available information from the Board of Governors of the Federal Reserve System.

Table A.5.
Foreign-Owned Banks' U.S. Banking Market Shares:
Selected Major Balance Sheet Components 1/
(period average in percent)

Foreign-Owned Banking Groups	Baseline 2001q2-2003q4	Pre-Crisis 2004q1-2007q4	Crisis 2008q1-2009q4	Post-Crisis 2010q1-2011q3
	Total Assets: U.S. Banking Market Shares 2/			
FBAs	8.8	10.8	9.5	12.8
FSUBs	6.5	6.7	7.3	7.2
FBUSA (FBAs+FSUBs)	15.3	17.5	16.8	20.0
	Loans: U.S. Banking Market Shares			
FBAs	5.6	7.7	6.8	7.2
FSUBs	6.2	7.0	7.6	7.3
FBUSA (FBAs+FSUBs)	11.8	14.7	14.4	14.5
	C&I Loans: U.S. Banking Market Shares			
FBAs	15.6	18.7	22.9	20.5
FSUBs	8.1	7.1	8.1	8.4
FBUSA (FBAs+FSUBs)	23.7	25.8	31.0	28.9
	Total Liabilities: U.S. Banking Market Shares			
FBAs	12.6	16.7	15.2	16.3
FSUBs	6.1	6.1	6.6	6.5
FBUSA (FBAs+FSUBs)	18.7	22.8	21.8	22.8
	Deposits: U.S. Banking Market Shares			
FBAs	8.8	12.8	11.6	9.8
FSUBs	6.4	6.5	7.2	7.4
FBUSA (FBAs+FSUBs)	15.2	19.3	18.8	17.2

Source: FFIEC 031, 041, and 002 call reports.
1/ U.S. banking market = U.S. Domestic Banks + U.S. branches & agencies of foreign banks (FBAs) + U.S.-chartered foreign-owned subsidiary banks (FSUBs).
2/ Total assets exclude due-from positions with related foreign offices; see the text for a full discussion.

Table A.6.
Foreign and Domestic Banks: Assets Portfolio Allocations Compared 1/

FBAs-to-Domestic Banks Assets Share Ratios Activity's share of assets on FBAs' balance sheets over activity's share of assets on Domestic Banks' balance sheets.	**Baseline 2001q2-2003q4** (period averages)	**Pre-Crisis 2004q1-2007q4** (period averages)	**Crisis 2008q1-2009q4** (period averages)	**Post-Crisis 2010q1-2011q3** (period averages)
Cash & Balances Due	**1.57**	**1.70**	**2.14**	**3.96**
Securities	**0.89**	**0.93**	**0.94**	**0.60**
Loans	**0.66**	**0.61**	**0.74**	**0.61**
Fed Funds Sold & Reverse Repos 2/	**3.89**	**3.65**	**1.64**	**1.71**
Trading Assets 3/	**3.13**	**3.35**	**3.20**	**3.12**
FSUBs-to-Domestic Banks Assets Share Ratios Activity's share of assets on FSUBs' balance sheets over activity's share of assets on Domestic Banks' balance sheets.	**Baseline 2001q2-2003q4** (period averages)	**Pre-Crisis 2004q1-2007q4** (period averages)	**Crisis 2008q1-2009q4** (period averages)	**Post-Crisis 2010q1-2011q3** (period averages)
Cash & Balances Due	**0.83**	**0.89**	**1.01**	**1.19**
Securities	**1.34**	**1.18**	**1.10**	**1.13**
Loans	**0.91**	**0.99**	**1.02**	**0.95**
Fed Funds Sold & Reverse Repos 4/	**0.94**	**0.63**	**0.54**	**0.42**
Trading Assets 3/	**0.51**	**0.80**	**0.79**	**0.61**
FBAs-to-FSUBs Assets Share Ratios Activity's share of assets on FBAs' balance sheets over activity's share of assets on FSUBs' balance sheets.	**Baseline 2001q2-2003q4** (period averages)	**Pre-Crisis 2004q1-2007q4** (period averages)	**Crisis 2008q1-2009q4** (period averages)	**Post-Crisis 2010q1-2011q3** (period averages)
Cash & Balances Due	**1.90**	**1.91**	**2.13**	**3.33**
Securities	**0.66**	**0.78**	**0.85**	**0.53**
Loans	**0.72**	**0.62**	**0.72**	**0.64**
Fed Funds Sold & Reverse Repos 5/	**4.12**	**5.78**	**3.02**	**4.08**
Trading Assets 3/	**6.11**	**4.19**	**4.07**	**5.12**

Source: FFIEC 031, 041, and 002 call reports.
1/ Ratio values interpreted as follows: a value of "1.0" indicates an activity is equally-weighted on both groups' balance sheets; values above 1.0 indicate the activity is weighted more heavily on balance sheets of group in numerator; values below 1.0 indicate the activity is weighted more heavily on balance sheets of group in denominator. Assets exclude due-from position with related foreign offices.
2/ Data as configured available for Domestic Banks as from 2002q1, and for FBAs as from 2003q1.
3/ Derivatives with positive fair value. Data for total trading assets is not available in a comparable form across all three banking groups and all time periods covered in the table. However, for the (recent) time periods when comparable data exists for total trading assets, derivatives with a positive fair value account for approximately 70 percent of total trading assets for Domestic Banks and FSUBs, and approximately 75 percent of total trading assets for FBAs.
4/ Data as configured available as from 2002q1.
5/ Data as configured available for FSUBs as from 2002q1, and for FBAs as from 2003q1.

Table A.7.
Foreign and Domestic Banks: Assets Portfolio Shares Over Time
(for a given activity, period average share of the group's total assets, in percent) 1/

Domestic Banks' Assets Portfolio	Baseline 2001q2-2003q4	Pre-Crisis 2004q1-2007q4	Crisis 2008q1-2009q4	Post-Crisis 2010q1-2011q3
Cash & Balances Due	5.50	4.46	6.89	8.67
Securities	18.32	17.23	15.73	19.25
Loans	59.50	59.16	56.60	54.83
Fed Funds Sold & Reverse Repos	4.64 2/	5.13	5.27	3.71
Trading Assets 3/	2.48	1.79	2.71	2.12
Other Assets	9.56	12.23	12.80	11.43
FBAs' Assets Portfolio	**Baseline 2001q2-2003q4**	**Pre-Crisis 2004q1-2007q4**	**Crisis 2008q1-2009q4**	**Post-Crisis 2010q1-2011q3**
Cash & Balances Due	8.61	7.58	14.76	34.37
Securities	16.28	15.98	14.72	11.56
Loans	39.17	36.19	41.70	33.33
Fed Funds Sold & Reverse Repos	18.05 4/	18.72	8.63	6.33
Trading Assets 3/	7.76	5.99	8.66	6.61
Other Assets	10.13	15.54	11.53	7.80
FSUBs' Assets Portfolio	**Baseline 2001q2-2003q4**	**Pre-Crisis 2004q1-2007q4**	**Crisis 2008q1-2009q4**	**Post-Crisis 2010q1-2011q3**
Cash & Balances Due	4.54	3.97	6.94	10.33
Securities	24.64	20.39	17.34	21.75
Loans	54.03	58.50	57.98	52.14
Fed Funds Sold & Reverse Repos	4.38 2/	3.24	2.86	1.55
Trading Assets 3/	1.27	1.43	2.13	1.29
Other Assets	11.14	12.47	12.75	12.94

Source: FFIEC 031, 041, and 002 call reports.
1/ Total assets exclude due-from positions with related foreign offices.
2/ Data as configured available as from 2002q1.
3/ Derivatives with positive fair value. Data for total trading assets is not available in a comparable form across all three banking groups and all time periods covered in the table. However, for the (recent) time periods when comparable data exists for total trading assets, derivatives with a positive fair value account for approximately 70 percent of total trading assets for Domestic Banks and FSUBs, and approximately 75 percent of total trading assets for FBAs.
4/ 2003q1-2003q4.

Table A.8.
Foreign and Domestic Banks: Liabilities Portfolio Allocations Compared 1/

FBAs'-to-Domestic Banks' Liabilities Share Ratios Activity's share of assets on FBAs' balance sheets over activity's share of assets on Domestic Banks' balance sheets.	**Baseline 2001q2-2003q4** (period averages)	**Pre-Crisis 2004q1-2007q4** (period averages)	**Crisis 2008q1-2009q4** (period averages)	**Post-Crisis 2010q1-2011q3** (period averages)	***2011q3***
Deposits	1.03	1.10	1.17	1.03	0.74
Borrowed Funds	2.15	2.76	2.82	2.86	2.93
Trading Liabilities 2/	3.52	4.08	3.84	3.71	3.07
Net Due To Related Foreign Offices 3/, 4/	-13.78	-11.30	-8.57	-8.12	12.04
FSUBs'-to-Domestic Banks' Liabilities Share Ratios Activity's share of assets on FSUBs' balance sheets over activity's share of assets on Domestic Banks' balance sheets.	**Baseline 2001q2-2003q4** (period averages)	**Pre-Crisis 2004q1-2007q4** (period averages)	**Crisis 2008q1-2009q4** (period averages)	**Post-Crisis 2010q1-2011q3** (period averages)	***2011q3***
Deposits	1.00	0.97	1.00	1.01	0.99
Borrowed Funds	0.94	1.00	0.93	0.74	0.73
Trading Liabilities 2/	0.55	0.88	0.65	0.51	0.39
Net Due To Related Foreign Offices 3/	4.03	2.09	1.32	2.09	7.75
FBAs'-to-FSUBs' Liabilities Share Ratios Activity's share of assets on FBAs' balance sheets over activity's share of assets on FSUBs' balance sheets.	**Baseline 2001q2-2003q4** (period averages)	**Pre-Crisis 2004q1-2007q4** (period averages)	**Crisis 2008q1-2009q4** (period averages)	**Post-Crisis 2010q1-2011q3** (period averages)	***2011q3***
Deposits	1.03	1.13	1.17	1.02	0.75
Borrowed Funds	2.28	2.77	3.03	3.87	4.04
Trading Liabilities 2/	6.38	4.62	5.92	7.29	7.80
Net Due To Related Foreign Offices 3/, 4/	-3.42	-5.41	-6.48	-3.89	1.55

Source: FFIEC 002, 031, and 041 call reports.
1/ Ratio values interpreted as follows: a value of "1.0" indicates an activity is equally-weighted on both groups' balance sheets; values above 1.0 indicate the activity is weighted more heavily on balance sheets of group in numerator; positive values below 1.0 indicate the activity is weighted more heavily on balance sheets of group in denominator. Assets exclude due-from positions with related foreign offices; see the text for a full discussion. See note 4 below for interpretation of negative ratios in the "Net Due To Related Foreign Offices" row for FBAs-to-other-groups ratios.
2/ Derivatives with negative fair value. Data for total trading liabilities is not available in a comparable form across all three banking groups and all time periods covered in the table. However, for the (recent) time periods when comparable data exists for total trading liabilities, derivatives with a negative fair value account for approximately 65 percent, 80 percent, and 70 percent of total trading liabilities for Domestic Banks, FBAs, and FSUBs, respectively.
3/ Net Due To Related Foreign Offices is calculated as the difference between balances due to related foreign offices (booked as a liability) minus balances due from related foreign offices (booked as an asset). See the text for a full discussion.
4/ Negative values in the "Net Due To Related Foreign Offices" row should be interpreted as absolute values; e.g., in the FBAs'-to-Domestic-Banks' ratios, over 2008q1-2009q4 the share accounted for on FBAs' balance sheets by net balances due to related foreign offices was more than 8 times greater than that item on Domestic Bank balance sheets. See the text for a full discussion.

Table A.9.
Foreign and Domestic Banks: Liabilities Portfolio Shares Over Time
(for a given activity, period average share of the group's total assets, in percent) 1/

Domestic Banks' Liabilities Portfolio	Baseline 2001q2-2003q4	Pre-Crisis 2004q1-2007q4	Crisis 2008q1-2009q4	Post-Crisis 2010q1-2011q3	2011q3
Deposits	66.69	66.83	66.92	70.85	73.48
Borrowed Funds	16.47	16.22	15.99	12.44	10.17
Trading Liabilities 2/	2.14	1.62	2.11	1.69	2.03
Net Due To Related Foreign Offices 3/	1.29	2.77	4.11	2.26	0.55
Other Liabilities	13.41	12.56	10.87	12.76	13.77
FBAs' Liabilities Portfolio	**Baseline 2001q2-2003q4**	**Pre-Crisis 2004q1-2007q4**	**Crisis 2008q1-2009q4**	**Post-Crisis 2010q1-2011q3**	**2011q3**
Deposits	68.61	73.41	78.22	73.11	54.36
Borrowed Funds	35.46	44.69	45.13	35.57	29.82
Trading Liabilities 2/	7.53	6.61	8.11	6.27	6.24
Net Due To Related Foreign Offices 3/	-17.77	-31.29	-35.24	-18.35	6.62
Other Liabilities	6.17	6.58	3.78	3.40	2.96
FSUBs' Liabilities Portfolio	**Baseline 2001q2-2003q4**	**Pre-Crisis 2004q1-2007q4**	**Crisis 2008q1-2009q4**	**Post-Crisis 2010q1-2011q3**	**2011q3**
Deposits	66.40	65.10	66.65	71.50	72.85
Borrowed Funds	15.54	16.16	14.91	9.19	7.38
Trading Liabilities 2/	1.18	1.43	1.37	0.86	0.80
Net Due To Related Foreign Offices 3/	5.20	5.78	5.44	4.72	4.26
Other Liabilities	11.68	11.53	11.63	13.73	14.71

Source: FFIEC 031, 041, and 002 call reports.
1/ Total assets exclude due-from positions with related foreign offices.
2/ Derivatives with negative fair value. Data for total trading liabilities is not available in a comparable form across all three banking groups and all time periods covered in the table. However, for the (recent) time periods when comparable data exists for total trading liabilities, derivatives with a negative fair value account for approximately 65 percent, 80 percent, and 70 percent of total trading liabilities for Domestic Banks, FBAs, and FSUBs, respectively.
3/ Net Due To Related Foreign Offices is calculated as the difference between balances due to related foreign offices (booked as a liability) minus balances due from related foreign offices (booked as an asset). A positive values shows an intra-company funding inflow to the banking group from related offices abroad; a negative value shows an intra-company funding outflow from the banking group to related offices abroad. See the text for a full discussion.