The 32nd Voorburg Group Meeting on Service Statistics
New Delhi, India, 23 – 27 October 2017

Mini-Presentation by Andrew Baer and Bonnie Murphy

Investment Banking and Securities Dealing
NAICS 523110
(ISIC 6499 Other financial service activities, except insurance and pension funding activities, n.e.c.)

Kevin McLain
U.S. Census Bureau

Kathleen Frawley
US Bureau of Labor Statistics

BLS

1. Description and characteristics of the industry

1.1 Definition of the industry

Investment banking and securities dealers (NAICS 523110), as defined by the 2012 North American Industry Classification System, are those establishments which are primarily engaged in underwriting, originating, and/or maintaining markets for issues of securities. Investment bankers act as principals (i.e. investors who buy or sell on their own account) in firm commitment transactions or act as agents in best effort and standby commitments. This industry also includes establishments acting as principals in buying or selling securities generally on a spread basis, such as securities dealers or stock option dealers.

Firms within this industry derive a large portion of their income from interest, dividends, and capital gains from the securities held in their own accounts. Interest, dividends and capital gains earned from investments are not considered output generating activity and are not in scope for the U.S. Producer Price Index (PPI). These receipts may be referred to as proprietary trading turnover. While some firms may define proprietary trading to include all trading activities, the U.S. PPI defines proprietary trading as only trading that is done on behalf of a firm's long-term investment account. If, through trading activity, a firm takes ownership of a security with the intent of reselling it on the behalf of a client, under the U.S. PPI definition this activity is not regarded as proprietary trading and is in scope.
Any turnover that is earned from accounts used for market making purposes is considered part of the securities dealer's normal operations and is included as in-scope turnover for the PPI.

For U.S. turnover measures all gains and losses from trading, including proprietary trading, are included in output.

Specifically excluded from this industry are:

- Establishments primarily engaged in acting as agents (i.e., brokers) in buying or selling securities on a commission or transaction fee basis are classified in Industry 523120, Securities Brokerage.

- Investment clubs or individual investors primarily engaged in buying or selling financial contracts (e.g., securities) on their own account are classified in Industry 523910, Miscellaneous Intermediation.

Securities dealers, which are classified in this industry, may at times be confused with securities brokers, which are classified in NAICS 523120. Brokers facilitate trades between clients and charge commissions. Operating as go-betweens, securities brokers do not take legal ownership of securities and do not assume any trading risk. Conversely, dealers purchase securities for and sell securities from their own inventories, assuming risk in these transactions. Securities dealers earn turnover based on the spread at which they sell and purchase securities. A broker-dealer is allowed to operate in either role, but never as both at the same time.

The following chart provides examples of service industries related to Investment Banking and Securities Dealing.

NAICS	Industry Title	Definition/Examples
522110	Commercial Banking	Establishments accepting demand and other deposits and making commercial, industrial, and consumer loans.
523130	Commodity Contracts Dealing	Establishments acting as principals in buying or selling spot or futures commodity contracts or options, such as precious metals, foreign currency, oil, or agricultural products, generally on a spread basis.
523910	Miscellaneous Intermediation	Establishments acting as principals in buying or selling of financial contracts generally on a spread basis. Principals are investors that buy or sell for their own account.
523920	Portfolio Management	Establishments managing the portfolio assets of others on a fee or commission basis. Establishments in this industry have the authority to make investment decisions, and they derive fees based on the size and/or overall performance of the portfolio.
523930	Investment Advice	Establishments providing customized investment advice to clients on a fee basis, but not having the authority to execute trades.
524210	Insurance Agencies and Brokerages	Establishments acting as agents (i.e., brokers) in selling annuities and insurance policies.

This NAICS industry is included in ISIC class 6499 - Other financial service activities, except insurance and pension funding activities, n.e.c.

This class includes:

- other financial service activities primarily concerned with distributing funds other than by making loans:
- factoring activities
- writing of swaps, options and other hedging arrangements
- activities of viatical settlement companies
- own-account investment activities, such as by venture capital companies, investment clubs etc.

This class excludes:

- *financial leasing, classified in ISIC 6491*
- *security dealing on behalf of others, classified in ISIC 6612*

While the ISIC manual specifically references security dealing on behalf of others as activity classified in ISIC 6612, Security and Commodity Contracts Brokerage, the economic activity of

market making by buying securities with intent to trade them is included in ISIC 6499. This classification is difficult to interpret in the current manual.

1.2 Market Conditions and Constraints

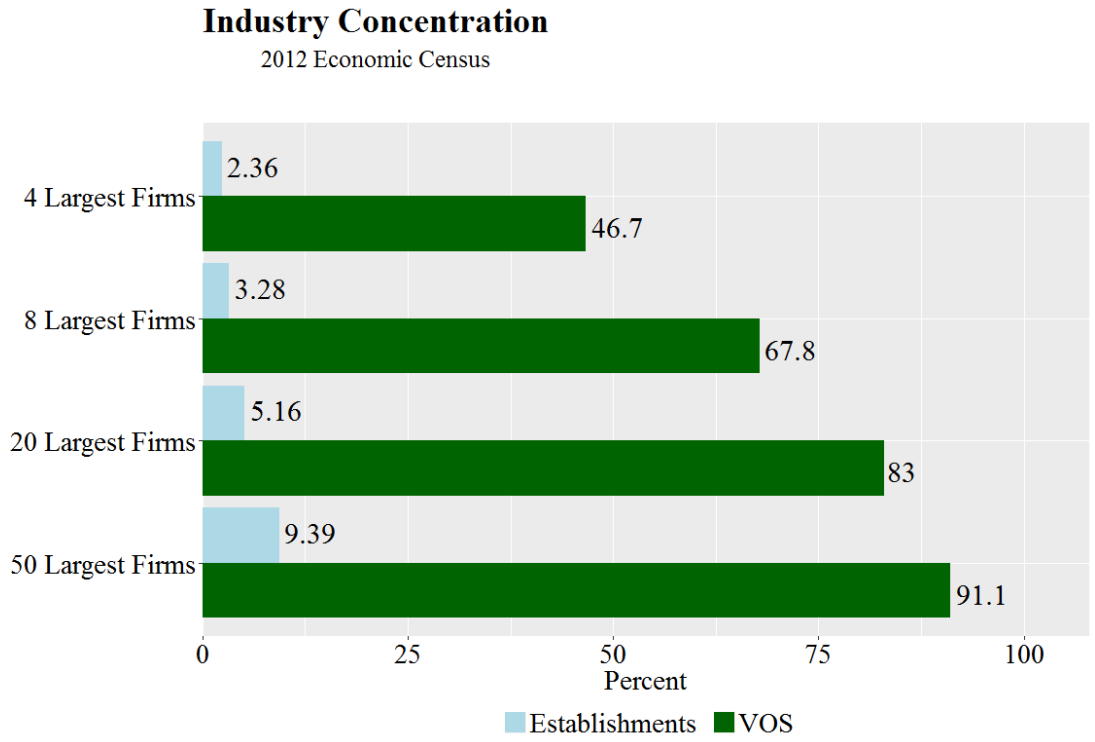
Size and Concentration of Industry

The following table provides size statistics for the U.S. investment banking and securities dealing industry based on the 2012 U.S. Economic Census.

	523110	5231	Percent 4-Digit	523	Percent 3-Digit
Employment	97,860	425,910	22.98	903,558	10.83
Establishments	3,142	45,428	6.92	95,906	3.28
Turnover ($1,000s)	104,079,040	236,512,139	44.01	515,453,286	20.19

Based on 2012 turnover figures, NAICS 523110, Investment banking and securities dealing comprises approximately 20 percent of NAICS 523, Securities, Commodity Contracts, and Other Financial Investments and Related Activities. NAICS 523 also includes securities brokerage, investment advice, commodity contracts dealing, commodity contracts brokerage, and portfolio management.

As shown in the following table, within the U.S. investment banking and securities dealing industry, the top four firms earn almost 47 percent of industry turnover based on the 2012 U.S. Economic Census. The top 50 firms earn over 91 percent of industry turnover.



The Investment Banking and Securities Dealing industry is highly concentrated. Very large New York-based investment banking firms and broker/dealer institutions dominate the industry. As a result of their size, these companies are able to handle very large transactions. These firms also generally have large research staffs that support their investment banking and securities dealing activities.

The top companies tend to be national in scope. Smaller companies tend either to specialize in a local clientele and servicing local businesses or offer specialized services. For example, smaller investment banks may specialize in underwriting new shares of companies for only certain types of industries, e.g. the health care industry.

Investment banking firms can be classified as either bulge bracket firms or boutique firms. Bulge bracket firms are the largest firms in the industry. They generally advise and underwrite the largest deals, and provide service to most industries. Boutique firms are smaller firms that specialize based on region, service, industry, or deal size. While boutique firms underwrite smaller deals than bulge bracket banks, it is not uncommon for elite boutiques to compete with bulge bracket firms for advisory business.

Integration Trends

The investment banking and securities dealing industry is greatly influenced by the state of the macro-economy, the availability of credit, interest rates, corporate valuations, and securities trading volume. Since 2007, there has been greater industry consolidation, a severe contraction of the securitization market, and the introduction of new regulations to address risks in the industry.

After the financial crisis of 2007-2009, some of the largest financial institutions either liquidated or merged with better capitalized competitors. Even financial institutions that did survive had to raise additional capital from the public markets, private investors, and the Federal Reserve. As a result, the largest investment banks are now bank holding companies regulated by the Federal Reserve because they either were purchased by large money-center banking conglomerates or needed to gain access to Federal Reserve financing during the financial crisis.

Product Structure

The following product lines generate turnover in NAICS 523110, Investment banking and securities dealing.

Product Line	Turnover	Percent
Industry total	104,079,040	100.00
Loan services – income	1,622,649	1.56
Securities origination services	10,764,120	10.34
Brokering and dealing services for debt instruments	9,888,414	9.50
Brokering and dealing services for equities	11,167,118	10.73
Brokering and dealing services for derivative contracts	8,250,773	7.93
Brokering and dealing services for foreign currency, wholesale	1,788	0.00
Brokering and dealing services for investment company securities, including mutual funds,	1,885,220	1.81
Brokering and dealing services for other financial instruments	836,764	0.80

Brokerage correspondent services	133,647	0.13
Financing related to securities	9,016,642	8.66
Trading debt instruments on own account - net gains (losses)	2,379,791	2.29
Trading equities on own account - net gains (losses)	7,220,560	6.94
Trading derivative contracts on own account - net gains (losses)	2,938,697	2.82
Trading other securities and commodity contracts on own account - net gains (losses)	46,845	0.05
Trust services - fiduciary fees	5,957,717	5.72
Support services for financial and commodity markets	1,619,046	1.56
Financial planning and investment management services	25,940,278	24.92
Other products supporting financial services – fees	4,019,668	3.86
Insurance brokerage and agency services – commissions	376,868	0.36

Other industries also generating turnover from some of these product categories include NAICS 523120, Securities brokerage, NAICS 523920, Portfolio management, and NAICS 523930, Investment advice.

Type of Consumers of the Services

Investment banking services are generally purchased by entities that need access to capital markets for financing. Such entities include public and private companies, state and local governments, and other institutions.

Securities dealing services may be purchased by individual, institutional, or corporate clients.

Industry Regulation

The Investment Banking and Securities Dealing industry is frequently the subject of new regulations. The passage of the Dodd-Frank legislation in 2010 has led to an overhaul in underwriting standards, restrained proprietary trading, and increased transparency in the over-the-counter derivatives market.

In the securitization market, firms must now keep a minimum of five percent of their underwriting of asset-backed securities to incentivize quality underwritings. Proprietary trading activities have also been severely restricted by Dodd-Frank, and as a result, several banks have already sold or liquidated their proprietary trading desks. Banks can still make investments with their own capital for hedging purposes for the bank as a whole.

Finally, agencies have gained new regulatory powers over the previously unregulated over-the-counter derivatives market. The Commodities Futures and Trading Commission (CFTC) now regulates the US derivatives and futures markets. In conjunction with the Securities and Exchange Commission (SEC), the CFTC is still determining how to bring more transparency to the US over-the-counter (OTC) derivatives market which includes credit-default swaps and interest rate swaps.

1.3 Specific Characteristics of the Industry

Investment banking

Investment banking includes underwriting services for debt, equity, and other securities and mergers and acquisitions (M&A) and other advisory services.

Underwriting and placement services for debt and equity securities

When a company or a government entity issues new securities in order to raise capital, these securities are marketed by investment bankers. Offerings of both stocks and bonds are marketed to the public by means of the underwriting process. In underwriting a new security, investment banks perform one or all of the following functions: (1) advise the issuer on the terms of the offering which includes setting the initial market price of the stock or bond based on an analysis of the company's worth or financing needs, (2) buy the securities from the issuer, and (3) distribute the securities to the public or to private investors.

There are two forms of underwriting: (1) firm commitment and (2) best-efforts. In a firm commitment arrangement, the investment bank purchases the securities from the issuing company and then resells them to the public at a higher public offering price. The difference in price, or the gross spread, serves as compensation to the underwriter.

In a best-efforts arrangement, the underwriter merely agrees to assist the issuing firm in selling the securities, but does not necessarily take possession of the entire issue. In this case, the underwriter acts only as an intermediary. In such an arrangement, the underwriter earns a percentage fee of the money raised for the client.

A syndicate is a group of firms that work together to complete a financial transaction. Due to the high risk of capital loss, the lead investment banking firms or managers typically form an underwriting syndicate of other investment banks to share responsibility and help promote and sell the new issue. The gross spread is then divided among the underwriters with the manager or co-managers typically receiving 20 percent of the gross spread and the remaining underwriters sharing another 20 percent.

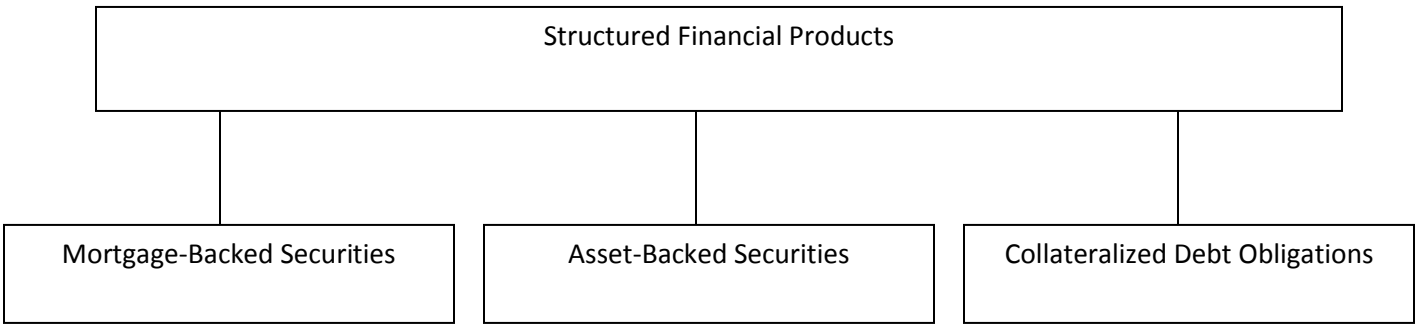
In addition to the underwriting syndicate, the lead underwriters may form a selling syndicate or group in order to expand the base of potential investors. In this case, the syndicate can purchase the security at a concession price which is less than the public offering price. In typical cases, the selling group receives the remaining 60 percent of the gross spread.

Investment banking transactions may ultimately result in the securities being placed into the public markets (public placement), or being distributed only to a selected group of private investors such as insurance companies, investment companies, and pension funds (private placement).

Underwriting of equities is almost always customized because of the need to value each public offering separately. Underwriting of debt issues can also have custom attributes. The decision to make a bond callable (allowing the issuer to repay the bond before the scheduled maturity), putable (allowing the bondholder to demand re-payment before the scheduled maturity), convertible (allowing debt securities to be exchanged for equities in specified circumstances), and the time frame of these added options are generally included at the advisement of the investment banker.

Underwriting and placement services for structured financial products

The creation of mortgage-backed securities (MBS), asset-backed securities (ABS), and collateralized debt obligations (CDOs) is similar to the creation of equity and debt securities except that individual asset-backed securities are grouped into tranches or distinct groups. These tranches are sold individually to investors. The tranches resemble either a form of debt or equity depending on their risk profile.



When banks underwrite asset-backed securities, they purchase specified types of assets that get pooled into tranches. For example, when underwriting an MBS, banks will purchase mortgages. Other types of assets that may comprise an ABS include: credit card receivables, home equity loans, student loans, and automobile loans. The cash flows from the loan payments go to pay the holders of the securities. CDOs are also similar to ABS except that CDOs are backed by other debt securities like investment grade bonds or high yield bonds.

Banks earn revenue from ABS, MBS, and CDOs in various ways including underwriting fees, servicing fees, and management fees. Investment banks earn trading revenue through trading the tranches of each security. Only fees derived from underwriting derivative securities are included in the U.S. PPI investment banking service line.

Merger and acquisition and other advisory services

Included under mergers and acquisitions (M&A) activities are leveraged buyouts (LBOs), tender offers, restructuring and recapitalization of companies, and reorganization of bankrupt

companies. Investment banks may provide M&A services in any of three ways: (1) finding M&A candidates, (2) advising acquiring or target companies, and (3) assisting acquiring companies in obtaining funds. In providing these services, investment banks usually receive fees based on the size of the deal or transaction.

A leveraged buyout requires that a firm be acquired by use of debt funds. The purchaser then maintains control of the company by converting the business from public to private ownership. Again, investment banks receive fees for (1) advising, (2) proposing the acquisition, (3) arranging the financing, and/or (4) providing bridge financing. Bridge financing is the temporary loan of funds until permanent debt financing is established. A tender offer occurs when the investment bank acts as an advisor as the client offers to purchase some or all of the stockholders shares in a corporation.

Advisory services also include the provision of fairness opinions. This is an opinion of the price valuation of the firm in question in a merger or takeover. A fairness opinion may be given in conjunction with other M&A services or performed independently as a stand-alone service.

Securities dealing

Securities dealing services are offered to individuals and institutional clients such as mutual funds or pension funds. There are three general types of securities for which dealing services are offered: debt securities, equities, and derivatives, which include options, futures, forwards, and swaps.

In the case of each security, dealers execute trades by buying for and selling from their own inventory of securities. The quoted spread is the difference between the price at which a securities dealer would sell a security (the ask price) at a fixed point in time and the price the dealer would bid for the same security (the bid price) at that same moment.

If a securities dealer fears exposure to a certain security, he/she will likely raise his/her ask price and lower his/her bid price so that the spread compensation is greater to account for the increased risk.

Most stock and bond trades are standard. However, some OTC derivatives such as interest rate swaps, credit default swaps, and options are usually tailored to meet the very specific needs of a client.

Debt securities (bonds/fixed income)

The sale and purchase of bonds and other debt securities is not typically transacted through exchanges but rather through over-the-counter (OTC) trading. Bonds are issued generally at a face or par value of $1,000 but may be quoted at prices based on $100. Specific bonds are identified by the following information: issuer, coupon rate, and maturity date. The issuer is the name of the entity who issued the original bond. The coupon rate is the interest rate percentage paid by the bond at par. The maturity date is the time at which the bond repays its principal and makes its last coupon or interest payment. Additionally, all bonds are given unique Committee

on Uniform Security Identification Procedures (CUSIP) numbers and symbols to identify the specific bond.

Equity securities

Most equity securities trade on exchanges. The largest exchanges in the US include the New York Stock Exchange (NYSE), the NASDAQ, BATS, and Direct Edge.

The New York Stock Exchange (NYSE), the largest brick and mortar exchange in the US, has only one market maker – known as a specialist – assigned to each stock. A single specialist can handle multiple stocks and is responsible for reporting all bids and asks in a timely manner and ensuring all marketable trades are executed. If there is an imbalance between supply and demand for a particular security, a specialist will purchase and sell out of his or her own inventory to equalize the market.

Over-the-counter (OTC) securities are traded in some way other than on a formal exchange – often directly between broker-dealers using computer networks or by phone. In the OTC equity market, market makers can trade in one or more OTC stock and a particular OTC stock can have more than one market maker.

The NASDAQ exchange operates like an OTC market with multiple market makers but is considered by the industry to be an exchange. Market makers on the NASDAQ are at large investment companies that buy and sell securities through an electronic network. They maintain inventories from which they buy and sell stocks to costumers and other dealers. BATS and Direct Edge, the third and fourth largest equity exchanges in the US, also have multiple market makers for each equity listing.

Equity securities are generally identified by a ticker symbol or a group of letters (generally four or fewer) that identifies the company that issued the stock.

Derivative securities

Derivative securities consist of options, forwards, futures, and swaps.

Derivatives are sold or written on all types of assets including bonds, equities, indexes, commodities, currencies, interest rates, and any other assets.

Derivatives written on currencies and commodities are not primary to this industry and are instead primary to NAICS 523130, Commodities Contracts Dealing.

Options

Options are contracts that give the option holder a right, but not an obligation, to buy or sell an underlying asset at a specific price, called the strike price, on or before a certain date. There are two types of options - call options and put options. Calls give the holder the right to purchase an asset at a certain price within a specified period of time. Investors buy call options when they

believe the price of the underlying asset will increase. Puts give the holder the right to sell an asset at a certain price within a certain period of time. Investors purchase puts when they believe that the price of the underlying asset will fall before the option expires. If options reach their expiration dates before they are exercised, they are considered null and void. A warrant is similar to a call option except that instead of the seller of the option being a dealer, the option is written by the company who issued the underlying stock. Also warrants generally have a longer time to expiry than most options.

Investors buy and sell options for a premium. Premiums change constantly based on what buyers are willing to pay and what sellers are willing to accept for an option. Premiums have two parts – an intrinsic value and a time value. The intrinsic value is the amount by which the option is in-the-money. Call options are in-the-money if the current market price of the underlying asset is above the strike price. If the strike price is higher than the market price, call options are considered to be out-of-the-money. Alternatively, put options are in-the-money if the current market price is below the strike price. If the current market price is above the strike price, put options are considered to be out-of-the-money. The time value of an option is greater when there is more time for an option to increase its moneyness, the amount by which it is in-the-money, before the option expires.

Most equity options are traded on the Chicago Board of Options Exchange (CBOE). Options are quoted similarly to bonds and equities except that the market price of an option is referred to as a premium.

Options contracts are standardized and are generally identified by the underlying asset, the date of expiry, and the strike price of the option.

Forwards and futures

A forward or a forward contract is a transaction in which the seller agrees to deliver a specific asset to the buyer at an agreed upon price at some point in the future. Forwards are privately negotiated, customizable, and not traded on exchanges.

The price of a forward contract is the price agreed to by both the dealer and the counterparty. Generally, the price of the contract is based on market consensus with the dealer creating a small spread between the price at which he/she would sell a forward contract (the ask price) and the price at which he/she would buy a forward contract (the bid price).

A forward contract can be of any size. The nominal value of the contract is the price of the contract multiplied by the number of shares or units per contract, the notional amount of bonds or deposits, or some other standard amount. The notional value is the total value of the position on which a derivative contract (forward, future, swap, and in some cases options) is written. If a forward contract is based on 100 bonds and each are trading at $1,000 (at par), then the notional value of the transaction is $100,000.

A future or a futures contract is a standard, exchange traded forward contract. Futures prices are determined similarly to forward contracts. The dealer charges a small spread between the price at

which he/she would sell a futures contract (the ask price) and the price at which he/she would buy a futures contract (the bid price).

Please note that forwards and futures are used by investors as leverage for a position. Unlike options where a premium is paid before entering into a contract, no money changes hands at initialization of a forward or a future contract. With future contracts, both counterparties have margin accounts with a clearinghouse and the counterparties must post collateral so that the futures contract has a value of zero for both counterparties at the end of the day. With a forward contract, no money changes hands until the settlement date.

Another distinct type of forward contract is a forward rate agreement (FRA). FRAs are some of the most common types of forward contracts. They are quoted in terms of interest rates, and payments are determined by an underlying notional value.

In FRAs parties exchange fixed interest rate obligations for floating rate obligations. FRAs are quoted based on the term of the interest rate exchanged and the specified number of months in the future in which the exchange takes place. If, for example, an exchange of a 3-month interest rate were to occur 1 month in the future, the agreement would be quoted as "1 x 4."

While FRAs are technically complex, calculating the bid-ask spread earned by dealers is straightforward. Banks quote their spread in terms of the difference between the fixed rate they would accept (the ask) and the fixed rate they would pay (the bid) for the specified floating rate.

Swaps

A swap is an exchange of payments between two parties where the payments are derived from the performance of some referenced financial asset or interest rate. The most common type of swap is the interest rate swap.

An interest rate swap involves two counterparties exchanging fixed rate obligations for floating rate obligations and vice versa. The fixed rate is agreed upon by both parties before they enter into the swap and is referred to as the "price" of the swap.

Similarly to FRAs, investment banks quote swap spreads in terms of the difference between the fixed rate they would accept (the ask) and the fixed rate they would pay (the bid) for the specified floating rate.

Other securities dealing services

Other securities dealing services include reverse repurchase agreements and securities loans. A repurchase agreement or repo is the sale of a security with a commitment by the seller to buy the security back in the future at a specified price. The purpose of the transaction is as follows. The seller of the securities is looking for cash to finance trading positions, while the purchaser has idle cash. The purchaser provides a service to the seller by exchanging this idle cash for the securities and then reselling them back to the original seller at a future date. Repo is the term used to refer to this transaction from the perspective of the borrower of funds.

A reverse repurchase agreement, or reverse repo, is the name used to refer to this same transaction from the perspective of the lender of the funds.

Securities lending is an arrangement in which securities are loaned from one securities dealer to another in exchange for collateral. Securities dealers may lend securities to enable a borrowing securities broker or dealer to make deliveries of securities that it does not have available on a trade settlement date. When a securities loan is terminated, the securities are returned to the lender and the collateral or cash is returned to the borrower.

Securities loans may be made in exchange for collateral of cash, debt securities, or other securities.

2. Turnover/Output Measurement

2.1 General Framework

Objectives of Key Users

The U.S. Census Bureau provides output data for the Investment Banking industry as part of the Quarterly Services Survey, Services Annual Survey, and the Economic Census conducted every five years.

The U.S. Bureau of Labor Statistics (BLS) Produce Price Index program uses Economic Census data to update industry and product index weights.

BLS also uses SAS industry revenue and expense data as a main data source for service industry labor productivity and cost measures.

The U.S. Bureau of Economic Analysis uses the output data in the creation of national and regional accounts.

National Accounts Concepts, Measurement Issues

The Bureau of Economic Analysis (BEA) uses SAS revenue for this industry as source data for annual industry accounts, including both GDP by industry and annual input-output accounts. The Economic Census data is used as the measure of output in the benchmark input-output tables.

BEA uses a significant amount of data from financial sector regulators to adjust national accounts data such as corporate profits. Since investment banking services are essentially never provided to individuals they are not reflected in the personal consumption expenses accounts.

Definition of Output/Turnover

Investment banking turnover is primarily generated from securities underwriting and advisory services, such as mergers and acquisitions consulting services. Revenue comes from these

services in the form of fees, commissions, and net gains/losses on trading securities on their own account.

Unrealized gains are a profit that exists on paper- because of an investment but has yet to be realized, as the security has not been sold for a profit. An investor may choose not to sell off an investment because they believe it has room for future gains. However, until the investor sells, the profit is not liquid and should not be reported as revenue to the Census Bureau. If a company is reporting unrealized gains, it can be inflate their reported revenue. Conversely, reporting unrealized losses, can inaccurately show a decrease in revenue.

Some companies report gross gains instead of net gains to the Census Bureau. A gross gain is the pure difference between the selling and purchase price. However, many transactions have associated costs, such as commissions. A net gain is the difference of the gross gain with the associated costs. The Census Bureau surveys desire net gains, the reporting of gross gains can inflate product lines and industry revenue.

2.2 Measurement Issues

Product Structure and Product Level Details

Below is a table of products that will be collected on the 2017 Economic Census.

Product Structure for 2017 Economic Census

NAPCS	Product Name
7005532000	Securities origination services
7005534000	Brokering and dealing services for equities
7005535000	Brokering and dealing services for derivatives contracts
7005535003	Brokering and dealing services for futures contracts, exchange-traded
7005535006	Brokering and dealing services for option contracts, exchange-traded
7005535009	Brokering and dealing services for forward contracts, traded over-the-counter
7005535012	Brokering and dealing services for swaps, traded over-the-counter
7005535015	Brokering and dealing services for option contracts, traded over-the-counter
7005535018	Brokering and dealing services for other derivatives contracts, traded over-the-counter
7005533000	Brokering and dealing services for debt instruments
7005533003	Brokering and dealing services for negotiable certificates of deposit
7005533006	Brokering and dealing services for commercial paper issued by financial institutions
7005533009	Brokering and dealing services for commercial paper issued by non-financial institutions
7005533012	Brokering and dealing services for bankers acceptances
7005533015	Brokering and dealing services for treasury bills

7005533018	Brokering and dealing services for other money market instruments
7005533021	Brokering and dealing services for corporate and trust notes and bonds
7005533024	Brokering and dealing services for national government notes and bonds
7005533027	Brokering and dealing services for state, provincial and local government notes and bonds
7005533031	Brokering and dealing services for foreign government notes and bonds
7005536000	Brokering and dealing services for foreign currency, wholesale
7005537000	Brokering and dealing services for investment company securities, including mutual funds, closed-end funds, and unit investment trusts
7005538000	Brokering and dealing services for other financial instruments, including commodity pools and face-amount certificates.
7005540000	Brokerage correspondent services
7005541000	Financing related to securities
7005541003	Securities lending fees, including securities borrowed from a broker's inventory and margin accounts
7005541006	Repurchase agreements - net gains (losses)
7005541009	Other financing related to securities
8000150000	Trading securities and commodity contracts on own account - net gains (losses)
8000150003	Trading debt instruments on own account
8000150006	Trading equities on own account, including private equity
8000150009	Trading derivatives contracts on own account
8000150012	Trading foreign currency (wholesale) on own account
8000150015	Trading other securities and commodity contracts on own account
7005544000	Trust services - fiduciary fees
7005544003	Trust services for businesses and governments
7005544006	Personal trust services
7005544009	Other trust services
7005450000	Personal financial planning and investment management services
7005450003	Tax planning and consulting services for individuals and unincorporated businesses
7005450006	Personal financial planning and advice services, except tax planning and consulting services
7005450009	Personal investment management services
7014575000	Financial management consulting and implementation services for businesses and government
7014575003	Merger and acquisition financial consulting services
7014575006	Management accounting and controllership consulting and implementation services
7014575009	Financial management consulting and implementation services, not elsewhere classified
8000075000	Loans to financial businesses

8000100000	Loans to non-financial businesses
7005545000	Support services for financial and commodity markets
7005545003	Payment clearing and settlement services for financial transactions, except trades of securities and commodity contracts
7005545006	Trade execution, clearing, and settlement services for security and commodity contracts
7005545009	Trading and clearing system services for security and commodity contracts
7005545012	Listing services for security and commodity contracts
7005545015	Support services for financial market and clearing products, not elsewhere classified
7003725000	Foreign currency exchange services, retail
7010200000	Leasing of rights to explore for and exploit natural resources
7016550000	Tax preparation and representation services
7005560000	Insurance brokerage and agency services - commissions and related fees
7005547000	Other products supporting financial services

The more frequent Service Annual Survey collects fewer products. The products listed in the 2016 Service Annual Survey are in the table below.

2016 Service Annual Survey

Product Name
Securities origination products
Brokering and dealing products- debt instruments
Brokering and dealing products- equities
Brokering and dealing products- derivative contacts
Brokering and dealing investment company securities
Repurchase agreements- net gains (losses)
Trading debt instruments on own account- net gains (losses)
Trading equities on own account- net gains (losses)
Trading derivative contracts on own account (losses)
Financial planning and investment management products
Financial planning and investment management services for individuals
Financial planning and investment management services for business and governments

Data Sources Replacing Surveys

The Census Bureau currently uses survey data supplemented with administrative tax data for non-responding and non-surveyed firms. The highly regulated nature of this industry provides opportunity to increase the amount of data obtained outside of direct surveys. Multiple federal agencies sharing oversight for monitoring the activities of large banks receive and maintain

detailed data on bank activities. The U.S. will be investigating the feasibility of acquiring and utilizing these data for output statistics in the future.

Big Data

The Internal Revenue Service provides administrative data that can be used to supplement non-response and non-mail cases for the Economic Census, Service Annual Survey (SAS), and the Quarterly Services Survey (QSS). The Economic Census, SAS, and QSS do not utilize other sources of big data to measure this industry at this time.

Sampling Design

The Service Annual Survey (SAS) uses a stratified simple random sample design. The sample design for the Quarterly Services Survey (QSS) is a stratified, systematic probability proportional to size design. Sampling units expected to have a large effect on the precision of the estimates are selected with certainty. All sampling units not selected with certainty are assigned a weight representative of non-selected units.

New samples are drawn for the SAS and QSS every five years. During the period for which the samples are used, updates are made on a quarterly basis to reflect changes in the business universe. These updates are designed to account for new businesses (births) and businesses that discontinue operations (deaths). The samples are also updated to reflect mergers, acquisitions, divestitures, splits, and other changes to the business universe.

2.3 Description of Methods for Measurement

Frequency of Collection

The Economic Census occurs once every five years, in years ending in 2 and 7; the SAS and QSS occur annually and quarterly, respectively. Copies of investment banking and securities dealing forms from the Economic Census, SAS, and QSS are available in the appendix. Data for the Economic Census and SAS are collected exclusively through the Internet, with respondents logging onto a secure website to provide their data.

Description of Estimation Procedure

Estimates are computed for totals, ratios, percent contribution estimates, and trends. Estimates for both SAS and QSS are computed by specific tabulation levels. Estimates for SAS are computed by industry and employer status. Non-employer data is collected by a separate survey, but are published with SAS data releases. Estimates for QSS are computed for each industry, but not for employer status. The unadjusted estimates for each tabulation level are calculated as the sum of the weighted data of all units contained in the tabulation level. Adjusted estimates are those which have been adjusted to the most recent Economic Census. Because QSS is a sample of SAS, and SAS is a sample of the Economic Census, they all have the same sampling frame. The Census Bureau revises previously published quarterly estimates to reflect historical corrections to data for the current SAS and QSS.

The Census Bureau employs several imputation methods which can be divided between two categories: values derived by logical edits and values derived from statistical modeling. In a logical edit, the replacement value is derived from other reported values. For example, some respondents provide only basic data items such as turnover, but do not report product details. Missing product data may be imputed based on other reported items. Replacement values derived from statistical models apply historic trends or industry averages.

2.4 Evaluation of comparability of Output data with Price data

See section 3.4 for an evaluation of comparability of Output data with Price data.

3. Measurement of SPPI

3.1 General Framework

The Bureau of Economic Analysis (BEA) publishes GDP-by-industry and input-output data at the NAICS three-digit level, 523, encompassing Securities and Commodity Contracts Intermediation and Brokerage, Securities and Commodity Exchanges, and Other Financial Investment Activities. BEA publishes input-output data at the NAICS four-digit level – 5231, Securities and Commodity Contracts Intermediation and Brokerage and 5239, Other Financial Investment Activities.

The dealer transactions, equities securities and dealer transactions, debt securities and all other trading PPIs are used by BEA as deflators for securities commissions to determine real output in the industry account.

3.2 Measurement Issues

Product Structure

The following table shows the U.S. PPI structure for NAICS 523110, Investment banking and securities dealing.

Index Codes	Index Title
523110	Investment banking and securities dealing
523110P	Primary services
5231102	Dealer transactions
523110201	Dealer transactions, equities
523110202	Dealer transactions, debt securities and all other trading
5231103	Investment banking services
5231104	Other securities dealing services
523110SM	Other receipts

The U.S. PPI for investment banking and securities dealing closely follows the NAPCS structure, although the NAPCS structure includes more detail in several areas.

The service line "Dealer transactions, equities" includes:

- All dealer spreads earned on equities trades, including those that occur on an exchange and those that occur in the over-the-counter (OTC) market.

The service line "Dealer transactions, debt securities and all other trading" includes:

- All dealer spreads earned on trades of corporate, treasury, and municipal debt securities, options and other derivative securities, and all other non-equity securities.

The service line "Investment banking services" includes:

- Underwriting of new issue securities to be placed in public markets
- Underwriting of new issue securities to be placed in private markets
- Securitization of assets. This is the issuance of mortgage-backed securities (MBS), asset-backed securities (ABS), and collateralized debt obligations (CDOs).
- Mergers and acquisitions (M&A) and other advisory services. M&A advisory services include leveraged buyouts, restructuring and recapitalization of companies, and the reorganization of bankrupt and troubled companies.

The service line "Other investment banking and securities dealing services" includes:

- Stock loans (securities lending) - lending transactions in which securities are used as collateral. Securities loans in exchange for cash collateral are not eligible for collection since these transactions are not considered to be output generating.
- Reverse repurchase agreements (reverse repos) - when a sampled firm acts as the lender of funds (reverse repos), these transactions are collected with prices based on the interest income earned. Conversely, repos are not collected since they do not constitute turnover generating activity.

Calculating more detailed service lines for securities dealing is challenging because there are many different types of securities and large volumes of trades. Due to resource and respondent burden constraints, prices for limited numbers of transactions are collected from each firm. In order to have enough data to calculate a quality price index, various types of securities with similar price movements must be aggregated into broader index lines. For example, it would be highly burdensome to ask a securities dealing firm to provide pricing data for three different types of bonds, several types of options and each type of derivative security they transact. Instead, each firm is asked to provide pricing data on a few transactions within the broader category of debt securities and all other trading.

Selecting a single transaction that represents all transactions of a certain type can also be challenging. Often, a single municipal bond dealing transaction is not very representative of all municipal bond transactions completed by the securities dealing firm. In order to address this challenge, the U.S. PPI has begun to incorporate third party data into its indexes. Sources of third party data provide large quantities of equity and debt security transactions. Incorporating large quantities of transactions into price calculations creates more representative price movements. In the future, further use of third party data could also allow the U.S. PPI to have enough detailed transaction data to publish more detailed index lines without placing additional burden on respondents.

Sampling Design

A firm's probability of selection is based on its employment size. All investment banking and securities dealing sample units refer to either all investment banking and securities dealing activities of the firm or a specified subset of those activities. Fifteen of the largest industry firms are split into three separate units: an investment banking unit, a securities dealing unit, and a unit for other securities dealing services (i.e. reverse repos, securities lending). Additional units within the larger firms are also eligible for selection in other finance industries such as securities brokerage, portfolio management and investment advice.

After a firm is selected and agrees to participate in the survey, a probability sampling technique called disaggregation is used to determine which specific services will be included in the PPI. For investment banking, the unit of measure for each transaction is per offering for underwriting and placement services and per engagement for mergers and acquisitions and other advisory services. For securities dealing, the unit of measure is per traded security. Other securities dealing services are sampled per loan for securities lending services and per agreement for reverse repurchase agreements.

Data Sources for Various Weights

Sampled transactions are weighted by a measure of their size and importance. In the first stage of PPI computation, price indexes are constructed for narrowly-defined groupings of goods or services. The individual transactions included in these indexes are weighted by the producing establishment's turnover for the product line. In the second stage of PPI computation, indexes for individual goods and services are combined into aggregate indexes. Data for weighting together the product line indexes comes primarily from the Economic Censuses of the U.S. Census Bureau. These weights are updated every 5 years.

While weighting transactions based on establishment turnover from respondents and weighting indexes based on product line turnover from the U.S. Census is rather straight forward, weighting third party data sources creates a challenge. The U.S. PPI continues to research possible sources that can be used to weight third party data against the directly collected data it is blended with in various index lines.

3.3 Description of Pricing Methods and Criteria for Choosing the Method

Price Determining Characteristics

Price determining characteristics for investment banking and security dealing differ based on the type of service being provided.

Investment banking

The following price determining characteristics are specific to mergers and acquisitions (M&A) and other advisory services:

- Value of the deal: The prices charged for M&A and other advisory services are generally set as a percentage of the value of the deal. In practice, firms typically charge lower percentage fees for larger value deals.

- Party represented: Acquiring companies may need assistance in obtaining funds to finance a purchase. Targeted companies may need advice in averting a takeover attempt.

- Complexity of the deal: Complicated deals require more time and the assistance of senior bankers. As a result, firms charge higher prices for more complex deals.

- Additional services performed (fairness opinions, firm valuations, etc.): Almost all investment banking services are customized with each advisory service requiring a different scope of services. Generally the prices of these additional services are imbedded in the fee but can sometimes be assessed separately.

The following price determining characteristics are specific to underwriting and placement services:

- Type of offering (best efforts, firm commitment): Fees for firm commitment underwriting services are typically higher than those for best efforts underwriting due to the higher degree of risk borne by the underwriting firm.

- The market in which securities are placed (public placement, private placement)

- Value of the offering: As the value of the offering increases, the spread or price charged generally decreases.

Securities dealing

The following are price determining characteristics for securities dealing services:

- The type of security traded (e.g. Class A Common Stock, 10 yr. Treasury bond, 30 year corporate bond, etc.): Spreads and markups vary by type of security. Securities that trade frequently typically have lower spreads and markups.

- The price of the security: As the price of the securities increases, the spread generally increases as well. This relationship is particularly true for equity securities.

- Volatility of the security: As the price of a security becomes more volatile, the bid-ask spread on the security generally increases.

- Volume traded: As the trading volume of a security increases, the corresponding bid-ask spread narrows. Securities with higher trading volumes typically carry lower spreads because a securities dealer is more likely to have these securities in its inventory or be able to obtain them easily. In contrast, a security that trades less frequently is likely to have a larger spread because it is more difficult for the security dealer to obtain and there is a higher risk that the dealer may not be able to find a buyer for them.

Additional price determining characteristics specific to debt dealing transactions include:

- Bond rating: (AAA, BB, high yield, etc.) AAA-rated bonds carry the lowest risk of borrower default. Because payment on these bonds is virtually guaranteed, the dealer takes less risk in holding these bonds and thus charges less to buy or sell them. The highest risk bonds are called high yield bonds, or junk bonds. Spreads on these bonds are larger than those charged for highly rated debt securities.

- Type of issue (e.g. on-the-run, off-the-run): The spreads for Treasuries in particular will be smaller or larger depending on how new the issues are. On-the-run Treasury issues are the most recently auctioned issues for a given maturity. Previously auctioned issues are referred to as off-the-run issues. Off-the-run issues are not as liquid and therefore command a higher spread.

- Time to maturity: As a bond approaches maturity, the liquidity of the issue generally increases and the spread decreases.

- Type of bond security (e.g. mortgage, collateral, debenture, etc.) Some bonds are securitized by defined assets or collateral. Bonds with high quality underwriting or with additional credit enhancements will typically have lower spreads than bonds without any credit enhancements. Credit enhancements mitigate credit risk for the lender.

- Bond provisions: Callable bonds, putable bonds, and convertible bonds are all types of bonds that include an embedded option. See Section 3D for definitions of each of these provisions. A callable provision generally decreases the demand for the bond and might increase the spread. A putable provision generally increases the value of the bond to the buyer and decreases the spread. However, if the price of the bond is significantly different from the call or put price of the bond, the bond will likely trade similarly to an option-free bond. A

convertible bond is typically more valuable and less risky than a non-convertible bond. If the price of the firm's stock is significantly lower than the convertible price, the convertible option in the bond will likely become less important and the bond will trade similarly to a non-convertible bond.

Pricing Methods

The following are the most common types of prices for the investment banking and securities dealing industry.

Investment banking

Mergers and acquisitions and other advisory services

The preferred price for mergers and acquisitions and other advisory services is an estimated fee. The estimated fee is generally based on a percentage of the deal or transaction value for which the advisory services are provided. The preferred price is referred to as an estimated fee because on an ongoing basis, the respondent estimates the percentage of the deal value that would be charged for a transaction with similar characteristics if it were to occur in the current reporting period. While this percentage generally does not change frequently, it can be challenging for a respondent to constantly estimate the current dollar value of the original sum of assets involved in the deal. In order to remove this burden from the respondent, the U.S. PPI applies periodic escalations to the deal values of all sampled transactions.

For example, an investment bank may advise a seller on the valuation and process by which to sell his/her business. The investment bank charges the seller a 2 percent fee for its services. The seller sells his/her business for $1,000,000. The $1,000,000 is the deal or transaction value, and based on the investment bank's 2 percent fee, the dollar value of the fee is $20,000. In subsequent months, the investment bank updates the percentage fee and the U.S. PPI updates the deal value based on aggregated estimates of how constant-quality equity values change over time.

Many firms have schedules or formulas that they use to calculate the percentage fee that they earn on advisory services. One of the most common formulas is the Lehman Formula, which establishes fees as follows:

5% of the first million dollars involved in the transaction
4% of the second million
3% of the third million
2% of the fourth million
1% of everything thereafter (above 4 million)

Some firms have schedules that list the exact effective percentage charged based on the size of the transaction. The following is an example of what such a fee schedule might look like:

Deal value	Effective fee percentage
$20 billion	0.160%
$15 billion	0.190%
$12.5 billion	0.200%
$10 billion	0.240%
$9 billion	0.250%
$8 billion	0.260%

In this case, instead of different fees used for different value tiers, the effective transaction fee percentage applies to the entire deal value.

Some investment banks charge retainer fees to compensate for the expenses involved with the transaction. Generally, firms do not receive a fee based on the percentage of the deal until the deal is completed. Retainer fees are used to hedge against the possibility that the deal may not be consummated and to offset business expenses until the deal is complete.

Underwriting and placement services

The type of price for underwriting and placement services is the gross spread. The gross spread is the dollar value of the difference between the price at which underwriters purchase the securities from the issuer and the price at which they sell the securities to the public. This gross spread is typically split between the syndicate which includes managers, underwriters, and sellers in the following manner:

1. Managers' fee: typically set as 20 percent of the gross spread.

2. Underwriters' fee: typically set as 20 percent of the gross spread.

3. Selling concession: typically set as 60 percent of the gross spread.

Depending on the role that the investment bank plays in the specific transaction selected, the fee for the underwriting and/or placement may be any or all of the three fees described above.

The preferred price for all underwriting and placement services is an estimated dollar value of the gross spread.

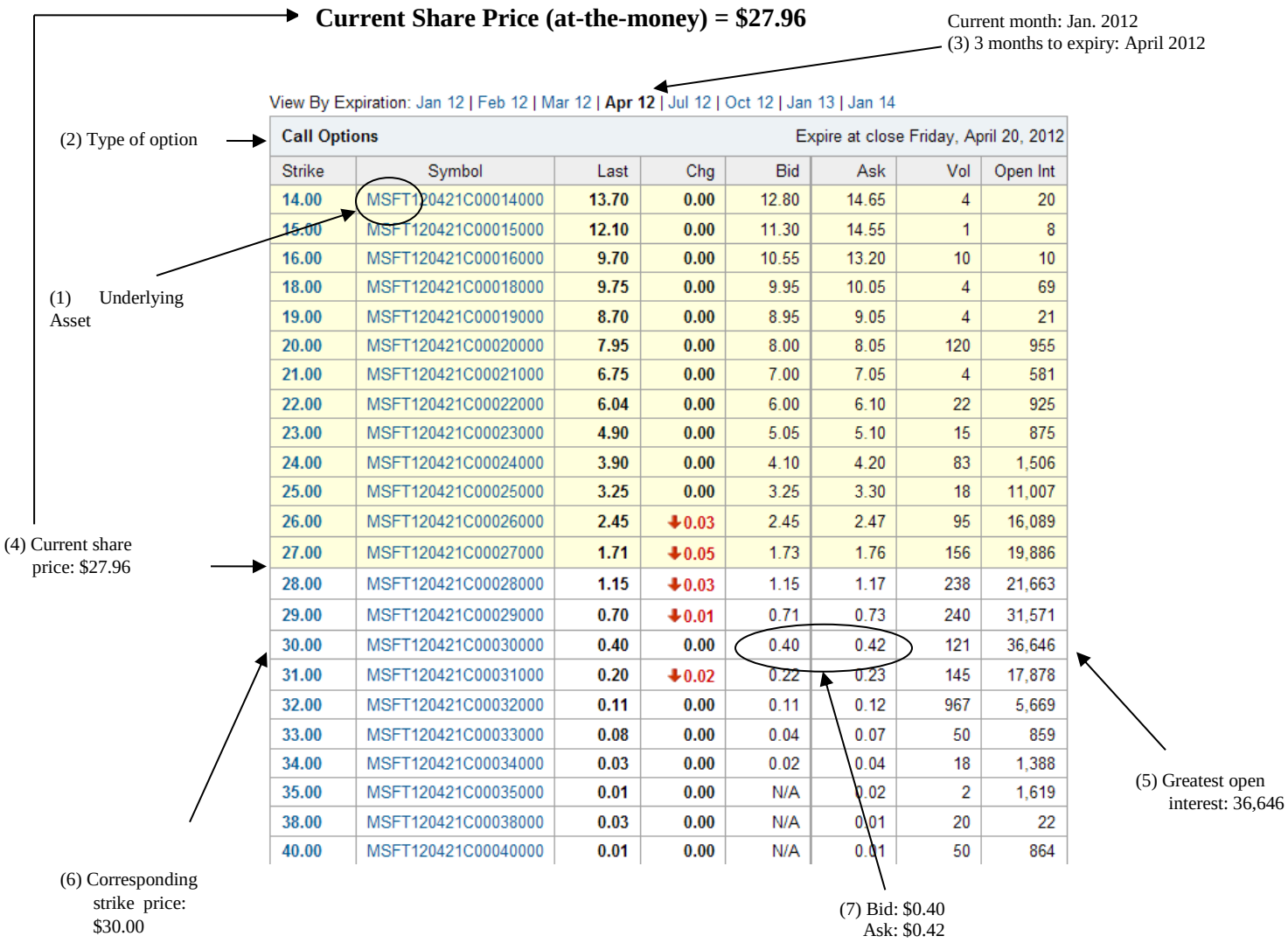
Securities dealing

The price for securities dealing services is either the dollar value of markup or the dollar value of the quoted spread, depending on the manner in which the firm charges its customers**.** The quoted spread is the difference between the current market bid and ask prices of a security. The quoted bid price is the price at which the dealer would purchase the security at a given point in time and the quoted ask price is the price at which the dealer would sell the security at a given point in time.

The markup is the percentage of the market price that the security dealer retains as its fee. In cases where a dealer receives a markup for a transaction, in subsequent reporting periods, the

reporter provides the current market price of the security and the markup percent or ratio. The dollar value of the markup is then calculated by multiplying the current market price by the markup percent/ratio.

A special case exists when collecting prices for options securities. The following steps are taken when collecting an initial price for options dealing transactions:



Call Options — Expire at close Friday, April 20, 2012

Strike	Symbol	Last	Chg	Bid	Ask	Vol	Open Int
14.00	MSFT120421C00014000	13.70	0.00	12.80	14.65	4	20
15.00	MSFT120421C00015000	12.10	0.00	11.30	14.55	1	8
16.00	MSFT120421C00016000	9.70	0.00	10.55	13.20	10	10
18.00	MSFT120421C00018000	9.75	0.00	9.95	10.05	4	69
19.00	MSFT120421C00019000	8.70	0.00	8.95	9.05	4	21
20.00	MSFT120421C00020000	7.95	0.00	8.00	8.05	120	955
21.00	MSFT120421C00021000	6.75	0.00	7.00	7.05	4	581
22.00	MSFT120421C00022000	6.04	0.00	6.00	6.10	22	925
23.00	MSFT120421C00023000	4.90	0.00	5.05	5.10	15	875
24.00	MSFT120421C00024000	3.90	0.00	4.10	4.20	83	1,506
25.00	MSFT120421C00025000	3.25	0.00	3.25	3.30	18	11,007
26.00	MSFT120421C00026000	2.45	↓0.03	2.45	2.47	95	16,089
27.00	MSFT120421C00027000	1.71	↓0.05	1.73	1.76	156	19,886
28.00	MSFT120421C00028000	1.15	↓0.03	1.15	1.17	238	21,663
29.00	MSFT120421C00029000	0.70	↓0.01	0.71	0.73	240	31,571
30.00	MSFT120421C00030000	0.40	0.00	0.40	0.42	121	36,646
31.00	MSFT120421C00031000	0.20	↓0.02	0.22	0.23	145	17,878
32.00	MSFT120421C00032000	0.11	0.00	0.11	0.12	967	5,669
33.00	MSFT120421C00033000	0.08	0.00	0.04	0.07	50	859
34.00	MSFT120421C00034000	0.03	0.00	0.02	0.04	18	1,388
35.00	MSFT120421C00035000	0.01	0.00	N/A	0.02	2	1,619
38.00	MSFT120421C00038000	0.03	0.00	N/A	0.01	20	22
40.00	MSFT120421C00040000	0.01	0.00	N/A	0.01	50	864

Step 1: The respondent selects a call or put option for the underlying security. In this example, the underlying security is a share of Microsoft Corporation with a current market price of $27.96, and the respondent selects a call option that expires in 3 months.

(1) Underlying Asset: Microsoft Corporation
(2) Type of Option: Call
(3) Time to Expiry: 3 months
(4) Current Share Price (at-the-money)

Step 2: The option and its corresponding strike price with the greatest open interest are determined. In this example, the option with the greatest open interest has a strike price of $30. The fact that the strike price ($30) is greater than the current share price ($27.96) indicates that the option will be out of the money and that its degree of moneyness will be the third closest to in-the-money.

(5) Greatest Open Interest: 36,646
(6) Corresponding Strike Price: $30.00
- Position: Out of the money
- Degree of Moneyness: Third closest out of the money
  - In subsequent periods, the position and degree of moneyness is held constant. The strike price will not be held constant.

Step 3: The dollar value of the bid-ask spread for the specific option selected in Step 2 is determined.

(7)	Ask price:	$0.42
	Bid price:	$0.40
	Quoted spread:	**$0.02**

Other securities dealing services

For securities lending the preferred price is the dollar value of interest.

The securities dealer who lends the selected securities provides the value of securities loaned and the lending fee charged to the borrower. The reporter multiplies the amount loaned and the loan fee together to calculate the dollar value of interest.

For reverse repurchase agreements, the preferred price is also the dollar value of interest. The responding firm provides the principal and the repo rate. The two values are multiplied together to get the dollar value of interest.

Reverse repurchase agreements generally come in three types of maturities. Overnight repos refer to transactions with a maturity of one day. Term repos refer to transactions that have a specific end date. Finally, open repos refer to transactions with no end date.

Index Estimation Procedure, Including Estimation of Missing Prices

PPIs are calculated using the formula for a modified Laspeyres index. The Laspeyres index compares the base period turnover for a set of products or services to the current period turnover for the same set of products or services.

If no price report from a participating firm has been received in a particular month, the change in the price of the associated transaction is estimated by averaging the price changes for other transactions within the same detailed index line (i.e., for the same kind of services) for which price reports have been received.

Quality Adjustment

One way in which quality of service is held constant for investment banking is by maintaining the current dollar value of the original size of the deal. This is done by escalating the original

deal value by current bond indexes, equities indexes or US GDP depending on what the transaction consists of. Escalations are performed on a periodic basis so that prices reflect changes in the valuation of constant-quality assets. The following is a list of transactions that are escalated and the data sources that are used for the escalations:

1) Investment banking – Mergers and acquisitions and other advisory services – value of deal escalated by the Wilshire 5000

2) Investment banking – Placement and underwriting of debt – value of offering escalated by Barclay's Bond Indexes

3) Investment banking – Placement and underwriting of equities – value of offering escalated by Wilshire 5000

For securities dealing, quality of service is held constant by maintaining the risk and volume characteristics of a traded security. If the selected traded security changes in these quality characteristics, the reporter may substitute to a different security with similar risk and volume characteristics as the original. For other securities dealing services, including securities lending and reverse repurchase agreements, escalators are used similar to investment banking. The following securities dealing services have an escalator applied to them:

1) Other securities dealing – Securities lending – amount of collateral escalated by chain weighted GDP

2) Other securities dealing – Reverse repurchase agreements – value of securities traded escalated by chain weighted GDP

Frequency of Collection

Investment banking and securities dealing firms report prices for the selected transactions, usually on a monthly basis, using a form provided by the U.S. PPI. Firms are asked to report their prices as of the Tuesday of the week containing the 13th of the month. If the firm fails to report or reports incomplete information, it is called by an economist who requests the needed information. Firms report prices through a web-based application, mail, or by fax. Firms continue to report until a new sample is selected for the industry— after 7 to 8 years, on average.

3.4 Evaluation of Comparability of Price Data with Output Data

There are two significant differences between output and price measures for Investment Banking in the U.S. First, as noted in section 1.1, nets gains and losses on banks' proprietary or own accounts are included in the output data but excluded from the PPI. As a result there is no straightforward deflator for the output generated from this activity in the U.S.

The second difference is tied to the different methods used by the price and output programs in forming survey units. For the U.S. Economic Census, establishments are classified based on their primary business activity. Only establishments identified as primarily offering investment banking are included in the resulting Economic Census data for this industry. The NAICS classification includes securities dealing activities with investment banking, while securities brokerage, investment management, and investment advice are classified elsewhere. Since many establishments in the financial sector offer all of these services, including sometimes as part of product bundles, it is extremely difficult to determine where each individual establishment should be classified. This also leads to significant production of secondary products in each of these financial industries.

To avoid these challenges, the U.S. PPI creates distinct reporting units by product line for the largest financial institutions. This is described in further detail in the Sampling Design portion of section 3.2. With this difference in methods, some of the investment banking activity measured by the PPI for this industry is tabulated as part of other industries in the Economic Census. The SAS uses a method more similar to the PPI, where enterprises with significant activity in multiple NAICS industries are selected in different industry-specific samples, with each piece intended to include only the services that are primary to the relevant industry. So large banks are asked to report on their investment banking activity only for this industry.

4.0 Evaluation of Measurement

Once the survey units are defined, additional sampling challenges face the PPI. As described in section 3.2, it is difficult to sample six to eight transactions from an investment banking firm or securities dealer and have them be representative of the thousands of transactions that the firm conducts. Beyond the firm level, the resources are not available to collect a large enough sample to represent the millions of transactions that are conducted nationally. This may indicate that surveying is not the best method for collecting price data for the investment banking and securities dealing industry and that utilizing large amounts of aggregated data from third party data sources may lead to the calculation of more accurate price indexes in this industry.