

Investment Banking and Securities Dealing (NAICS 523110)

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Agenda

- Description and characteristics of the industry
- Turnover/output measurement
- Measurement of SPPI
- Comparability of Price Data with Output Data
- Evaluation of measurement

Description and characteristics of industry

- Market conditions and constraints
- Specific characteristics of the industry



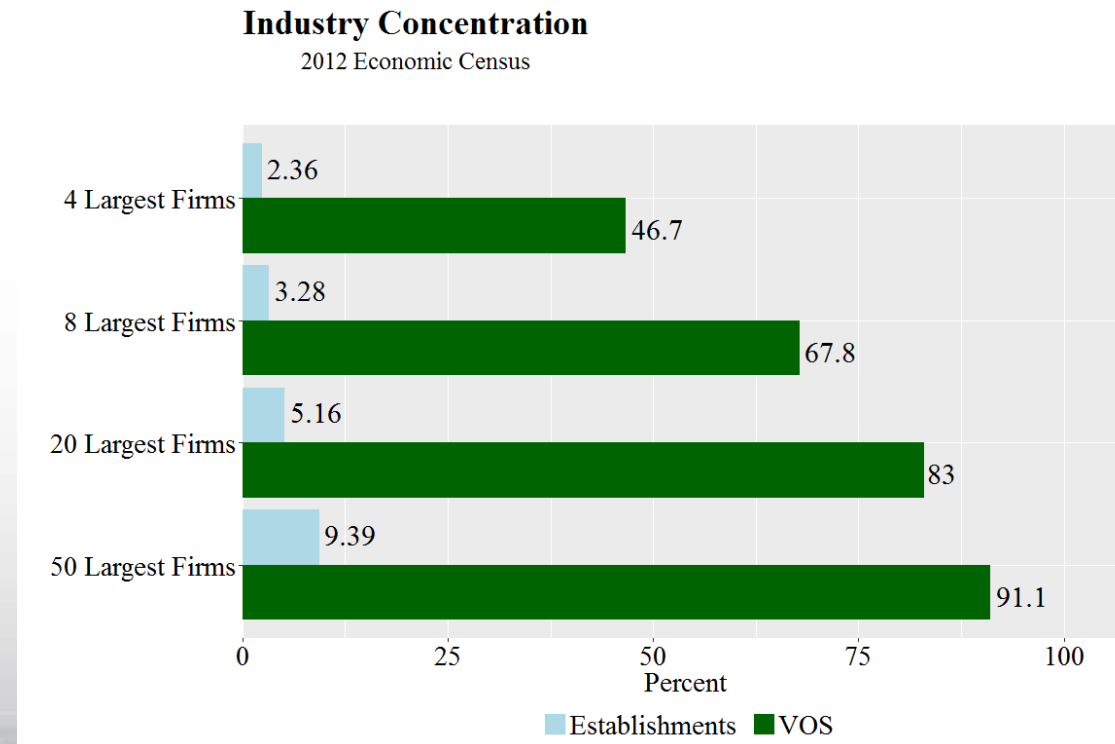
Market conditions and constraints

- 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

Market conditions and constraints

- Industry concentration based on the 2012 U.S. Economic Census



Market conditions and constraints

- Major product lines generating turnover in NAICS 523110 according to the 2012 U.S. Economic Census

Product Line	Turnover	Percent VOS
Industry total	104,079,040	100.00
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
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
Trust services - fiduciary fees	5,957,717	5.72
Financial planning and investment management services	25,940,278	24.92
Other products supporting financial services – fees	4,019,668	3.86

Market conditions and constraints

- Types of consumers of investment banking services
 - Entities that need access to capital markets for financing
 - Public and private companies, state and local governments, other institutions
- Types of consumers of securities dealing services
 - Individuals, institutions, corporations

Market conditions and constraints

- Industry regulation
 - Dodd-Frank (2010)
 - Response to the financial crisis of 2008
 - Intended to decrease risks in U.S. financial system
 - Overhauled underwriting standards, restrained proprietary trading, increased transparency in over-the-counter markets
 - Granted new regulatory power to various agencies

Specific characteristics of the industry

- Investment banking
 - Underwriting services for debt, equity and other securities
 - Advise issuer on terms of offering including initial market price, buy securities from the issuer, distribute securities to the investors
 - Merger and acquisition and other advisory services
 - Find M&A candidates, advise acquiring and target companies, assist acquiring companies with financing

Specific characteristics of the industry

- Securities dealing
 - Execute trades by buying for and selling from their own inventory of securities
 - Three general types of securities:
 - **Debt securities:** debt instruments through which investors lend money to corporate or government entities for a defined period of time at a designated interest rate
 - **Equity securities:** securities that represent ownership interest in a company
 - **Derivatives:** securities with prices derived from one or more underlying assets including equities, bonds, commodities, etc. Types of derivatives include options, forwards, futures, and swaps

Specific characteristics of the industry

- Other securities dealing services
 - Repurchase agreements (repos) and reverse repurchase agreements (reverse repos)
 - Repo: the sale of a security in exchange for cash to finance a trading position with the commitment to buy back the security in the future at a specified price
 - Reverse repo: the same transaction from the perspective of the cash lender
 - Securities lending
 - Securities loaned from one dealer to another in exchange for collateral

Turnover/Output Measurement

- General framework
- Measurement issues
- Methods for measurement

General framework

	Quarterly Services Survey (QSS)	Services Annual Survey (SAS)	Economic Census
Uses	Short-term indicator of industry developments	Labor productivity measures	SPPI industry and product weights
	Quarterly GDP by industry	Annual GDP by industry	Benchmark input-output accounts
		Benchmark for QSS	Benchmark for SAS
Product detail	None	10 selected NAPCS product lines	22 NAPCS broad product lines, 38 NAPCS detailed product lines

Measurement Issue – Industry Classification

- NAICS classifies securities brokers and securities dealers separately
 - NAICS 523120 - Brokers acting as agents between buyers and sellers in buying or selling securities on a commission or transaction fee basis.
 - NAICS 523110 – Dealers acting as principals in buying or selling securities generally on a spread basis.
- But NAPCS includes brokerage and dealing in the same products

Measurement Issue – Industry Classification

- This is problematic because establishments are classified based on primary business activity
 - If a majority of revenue is reported as securities origination, the establishment is classified in NAICS 523110 regardless of whether firm self identifies as an investment bank
 - If a majority of revenue is reported as brokering and dealing, we are stuck with firm self-identification because we do not know if they should be in NAICS 523110 or NAICS 523120
 - There is not a clear boundary between brokers and dealers. Establishments frequently provide both services and cannot reliably self-identify as one or the other.

Measurement Challenge – Own-Account Trading

- Dealers act as principals in buying or selling securities on behalf of clients and generating a bid-ask spread
- Large financial institutions also may buy or sell securities on their own behalf seeking investment gains
 - These transactions are included in US output measures
 - Consistent with US accounting standards and financial record-keeping practices of industry firms

Measurement Issue – Non-Survey Data

- Administrative tax data used for revenue, payroll, and employment reports of non-surveyed and non-responding firms
- Potential to partner with financial regulators to increase the amount of non-survey data used
 - Legal and practical constraints would need to be addressed

Measurement Issue – Sample Design

- Services Annual Survey - stratified simple random sample
Quarterly Services Survey – stratified systematic probability proportional to size sample (due to smaller sample size)
- New samples drawn every five years
- Quarterly updates for business births and deaths

Measurement of SPPI

- General framework
- Measurement issues
- Description of pricing methods and criteria for choosing the method



General framework

- Objectives of key user – U.S. Bureau of Economic Analysis (BEA)
 - ▶ PPIs for “Dealer transactions, equities securities” and “Dealer transactions, debt securities and all other trading” are used as deflators for securities commissions
 - ▶ BEA publishes GDP-by-industry and input-output data for NAICS 523 – Securities, Commodity Contracts and Other Financial Investments and Related Activities
 - ▶ BEA publishes input-output data for NAICS 5231 – Securities and Commodity Contracts Intermediation and Brokerage and NAICS 5239 – Other Financial Investment Activities

Measurement issues

- U.S. PPI product 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



Measurement issues

- Challenge of calculating more detailed services lines
 - ▶ Many different types of securities and large volumes of transactions in industry
 - ▶ Due to resource and respondent burden, limited numbers of transactions collected from each firm
 - ▶ Various types of securities with similar price movements aggregated into broader index lines for calculation



Measurement issues

- Challenge of selecting a single representative transaction
 - ▶ Often a single dealing transaction is not very representative of all transactions for that type of security
 - ▶ PPI has begun to incorporate third party data into its indexes
 - ▶ Third party sources provide large quantities of equity and debt security transactions
 - ▶ In the future, third party data could allow for publication of more detailed service lines without increasing respondent burden

Measurement issues

■ Sampling design

- ▶ Probability of selection is based on a firm's employment size
- ▶ Sample units refer to either all investment banking and securities dealing activities or a firm or a specified subset
- ▶ After a firm is selected, a sampling technique called disaggregation determines which specific transactions will be included in the PPI



Measurement issues

■ Data sources for various weights

- ▶ Individual transactions within a service line index are weighted by the producing firm's turnover for the product line
- ▶ Service line indexes are primarily weighted by turnover data from the U.S. Economic Census
- ▶ Weighting third party data sources creates a challenge for the PPI



Pricing methods and criteria

- Price determining characteristics
 - ▶ **M&A and advisory services:** value of deal, party represented, complexity of deal, additional services performed
 - ▶ **Underwriting and placement services:** type of offering, market in which securities are placed, value of offering
 - ▶ **Securities dealing:** type of security, price of security, volatility of security, volume traded

Pricing methods and criteria

- Investment banking – mergers and acquisitions pricing
 - ▶ Estimated fee based on percentage of deal or transaction value

Deal Value

\$1,000,000



PPI escalates

Fee

2%



Respondent updates

Dollar Value of Fee

\$20,000

Pricing methods and criteria

- Investment banking – underwriting and placement pricing
 - ▶ Estimated dollar value of the gross spread

Gross spread = The difference between the price at which securities are purchased from the issuer and the price at which the securities are sold to the public

Pricing methods and criteria

■ Securities dealing

▶ Dollar value of markup

- Percentage of market price dealer receives as its fee

▶ Dollar value of quoted spread

- Difference between the current market bid and ask prices of a security

Ask price \$20.00 Price at which the dealer would sell the security

Bid price \$15.00 Price at which the dealer would buy the security

Spread \$5.00

Pricing methods and criteria

■ Other securities dealing services

▶ Dollar value of interest

- Securities lending: value of securities loaned multiplied by the lending fee
- Reverse repos: value of principal multiplied by the repo rate

Pricing methods and criteria

■ Quality adjustment

- ▶ **Investment banking:** quality of service is held constant by using escalators to maintain the current dollar value of the original size of the deal
- ▶ **Securities dealing:** quality of service is held constant by maintaining the risk and volume characteristics of a traded security
- ▶ **Other securities dealing services:** quality of service is held constant by using escalators to maintain the current dollar value of the securities lending collateral or value of securities traded in a reverse repo



Pricing methods and criteria

■ Frequency of collection

- ▶ Investment banking and securities dealing firms report prices for selected transactions primarily on a monthly basis
- ▶ Firms are asked to report their prices as of the Tuesday of the week containing the 13th of the month
- ▶ Firms continue reporting by web-based application, mail or fax for 7-8 years on average

Comparability of price data with output data

- Differences in addressing investment banks' proprietary trading activities
 - ▶ Net gains and losses included in output data; excluded from PPI data
 - ▶ No deflator for generated output



Comparability of price data with output data

- Difference in formation of survey units
 - ▶ US Economic Census: establishments classified based on primary business activity
 - ▶ US PPI: distinct reporting units by product line created within the largest financial firms
- This has significant implications
 - ▶ For the Economic Census a large financial firm may self-identify establishments that do both brokerage and dealing in 523110 or 523120 and it will only appear in one place in the industry statistics
 - ▶ PPI's procedures ensure that brokerage activities of large financial firms are included in 523120 and dealing activities in 523110

Evaluation of measurement

- Surveying may not be the best method for collecting price data
 - ▶ Difficult to select 6-8 transactions from a firm that represent the thousands of transactions they conduct
 - ▶ Not enough resources to collect a sample large enough to represent the millions of transactions that are conducted nationally
 - ▶ Using large amounts of third party aggregated data may lead to more accurate price indexes

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