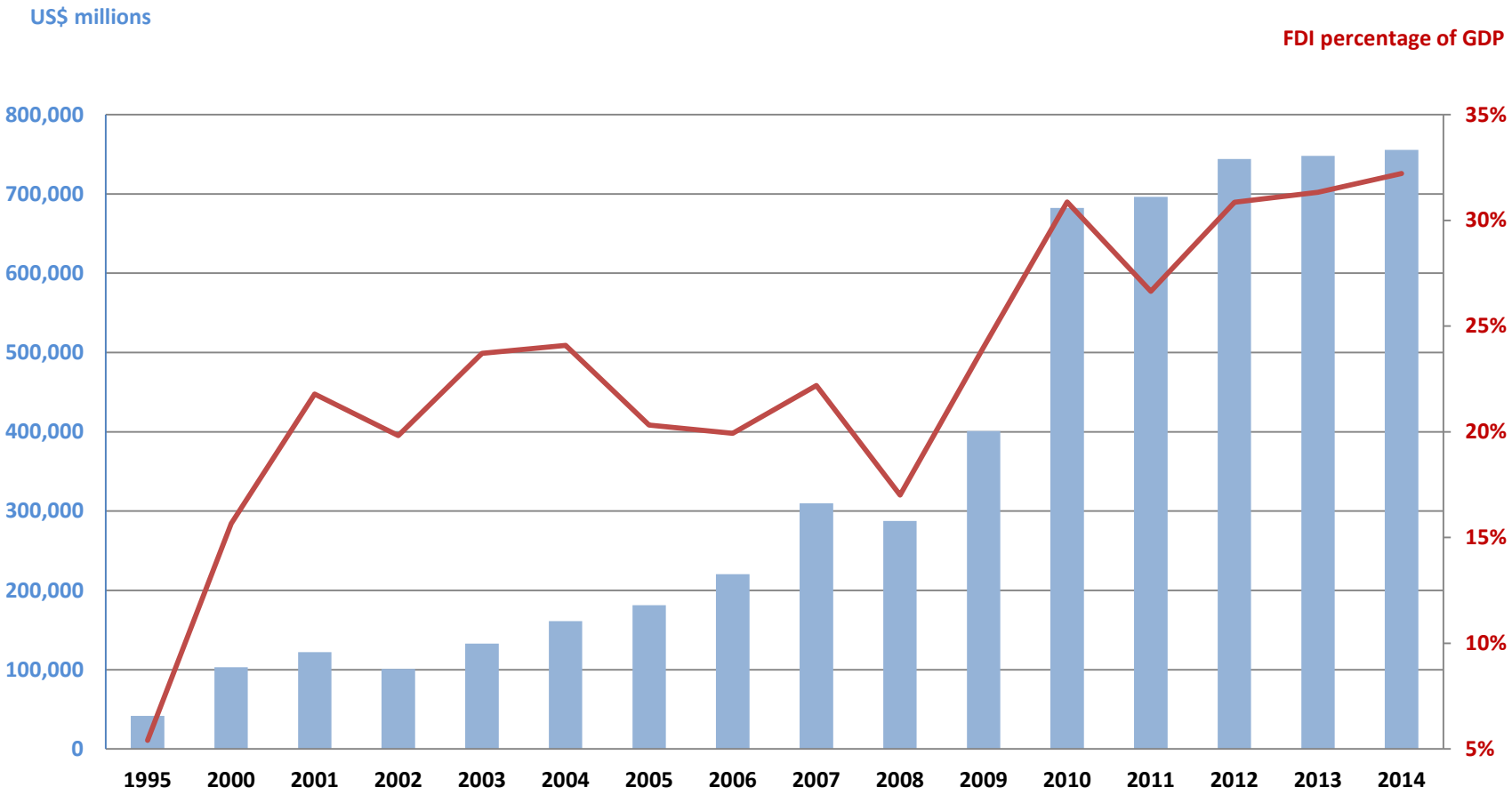


The use of surveys to improve statistics in Central Bank of Brazil: The measurement of foreign investment in Brazil and Brazilian investment abroad

Camila Maia and Katherine Hennings

Foreign Direct Investment in Brazil (FDI)

Stock of Foreign Direct Investment (FDI)



Surveys - Description

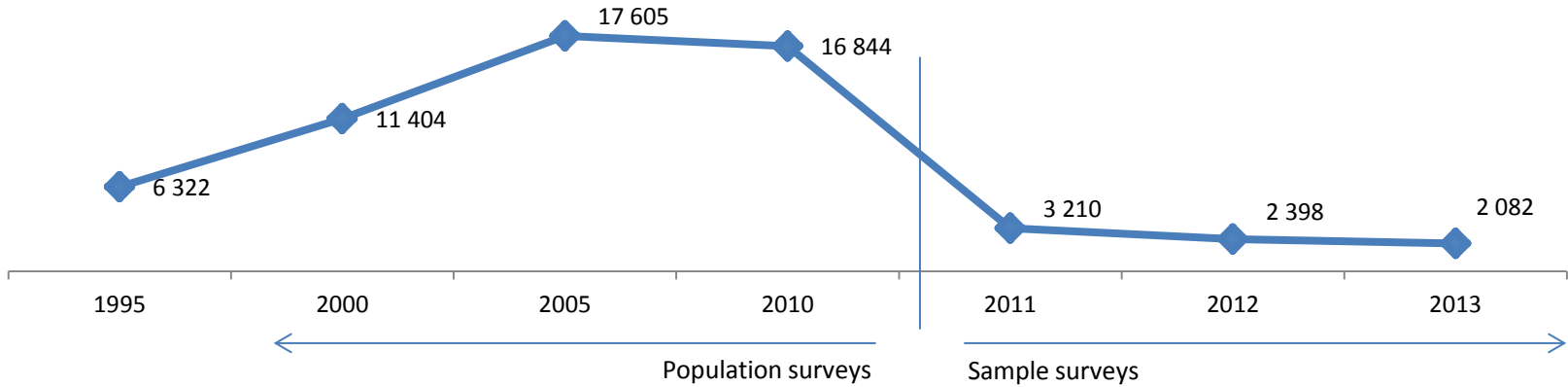
- Central Bank of Brazil has two mandatory surveys to compile the stock of direct investment, inward and outward
 - Foreign Direct Investment Survey:
 - Each five-year since 1995
 - Surveyed population: enterprises with direct non-resident participation on equity of any amount, or recipient of short-term credit, granted by non-residents, above US\$ 1 million
 - Annual since 2011
 - Sample survey: enterprises – including investment funds – with direct non-resident participation in the equity capital, in any amount, where the net worth equals or exceeds US\$100 million or recipient of short-term credit, granted by non-residents, above US\$ 10 million
 - Brazilian Capital Survey:
 - Annual since 2001
 - Surveyed population: enterprises and households whose assets abroad totaled US\$100 thousand or more
 - Quarterly since 2011
 - Sample survey: enterprises and household whose assets abroad totaled US\$100 million or more

Surveys - Description

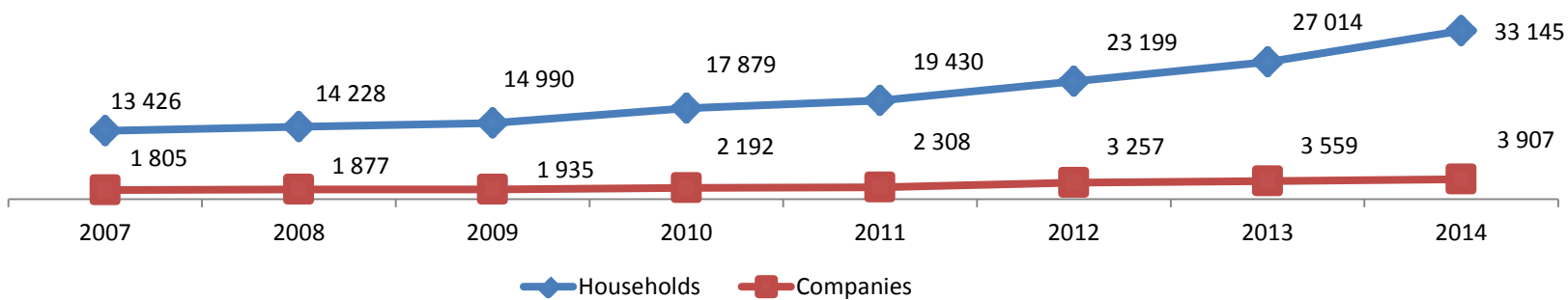
- Surveys data are used to compile:
 - International Investment Position
 - Coordinated Direct Investment Survey (CDIS)
 - Coordinated Portfolio Investment Survey (CPIS)
 - External data publications on Central Bank of Brazil web site

Survey - Respondents

Number of respondents - Foreign Direct Investment Survey

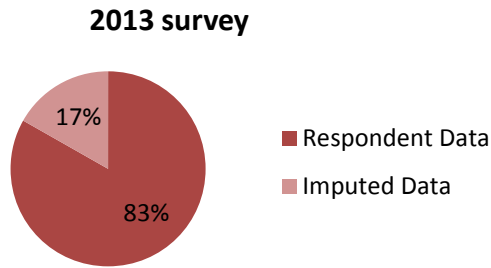


Number of respondents - Brazilian Capital Survey



Surveys – Data Collection

- Foreign Direct Investment Survey
 - Expansion for non-respondents based on cumulative transactions for the period. Data for new companies compiled through FDI registers on an alternative BCB system



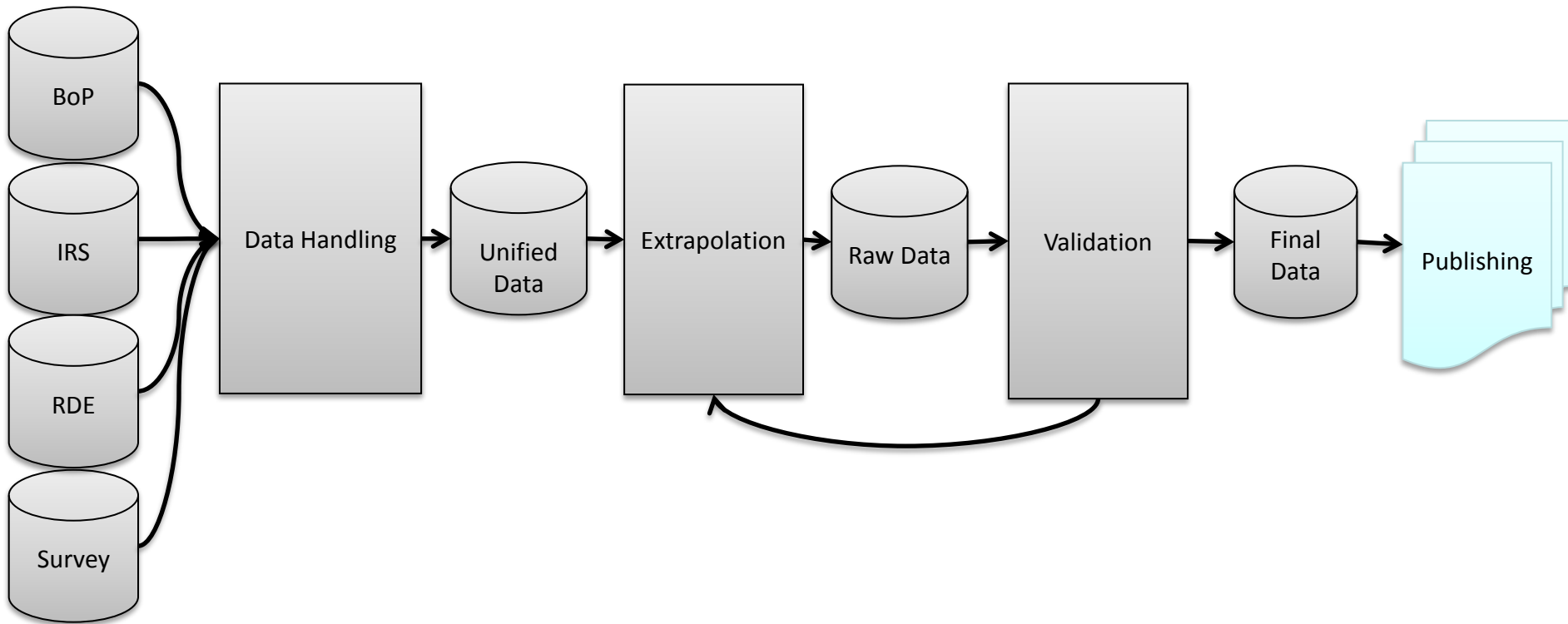
- Brazilian Capital Survey
 - Expansion for non-respondents on quarterly surveys

Direct Investment abroad stock (million US\$)	2012Q3	% 2012Q3 Total
Total	216,723	100.0%
Respondent Data	190,363	87.8%
Imputed Data	26,360	12.2%

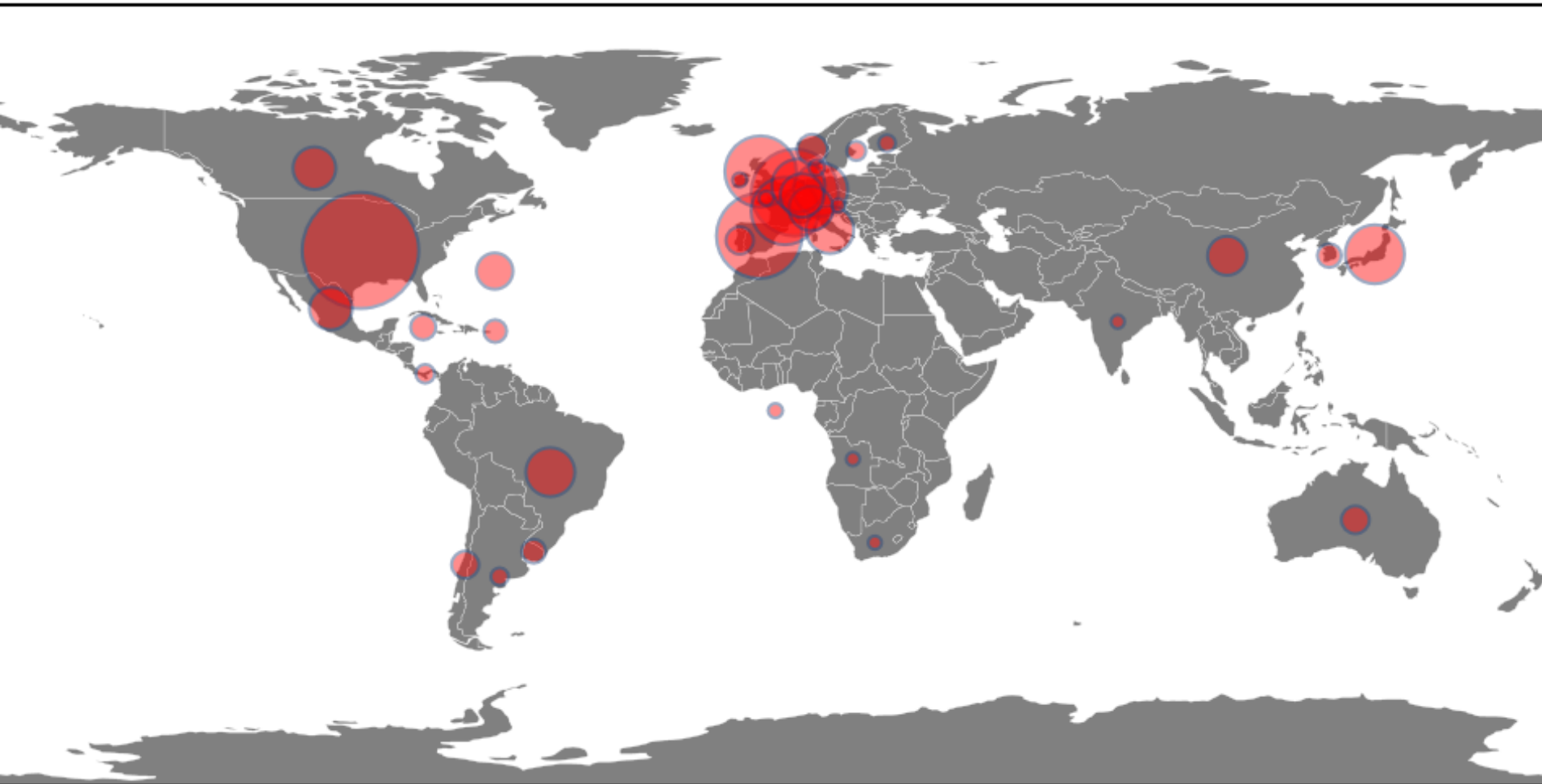
Surveys – Data Validation

- Highly concentrated values due to large respondent companies
 - For instance, on 2010 population survey, 80% of FDI value was concentrated on 3% larger companies
- These larger companies are submitted to a careful validation process
 - Data verification sources include stock market, balance of payment transactions, company's public information
- For the remaining respondents, only consistency automatic rules are applied
 - Outliers check, questions and time consistency are used for the majority of respondents
- When problems are detected, the respondent is reached by a phone call or e-mail in order to confirm or correct the response

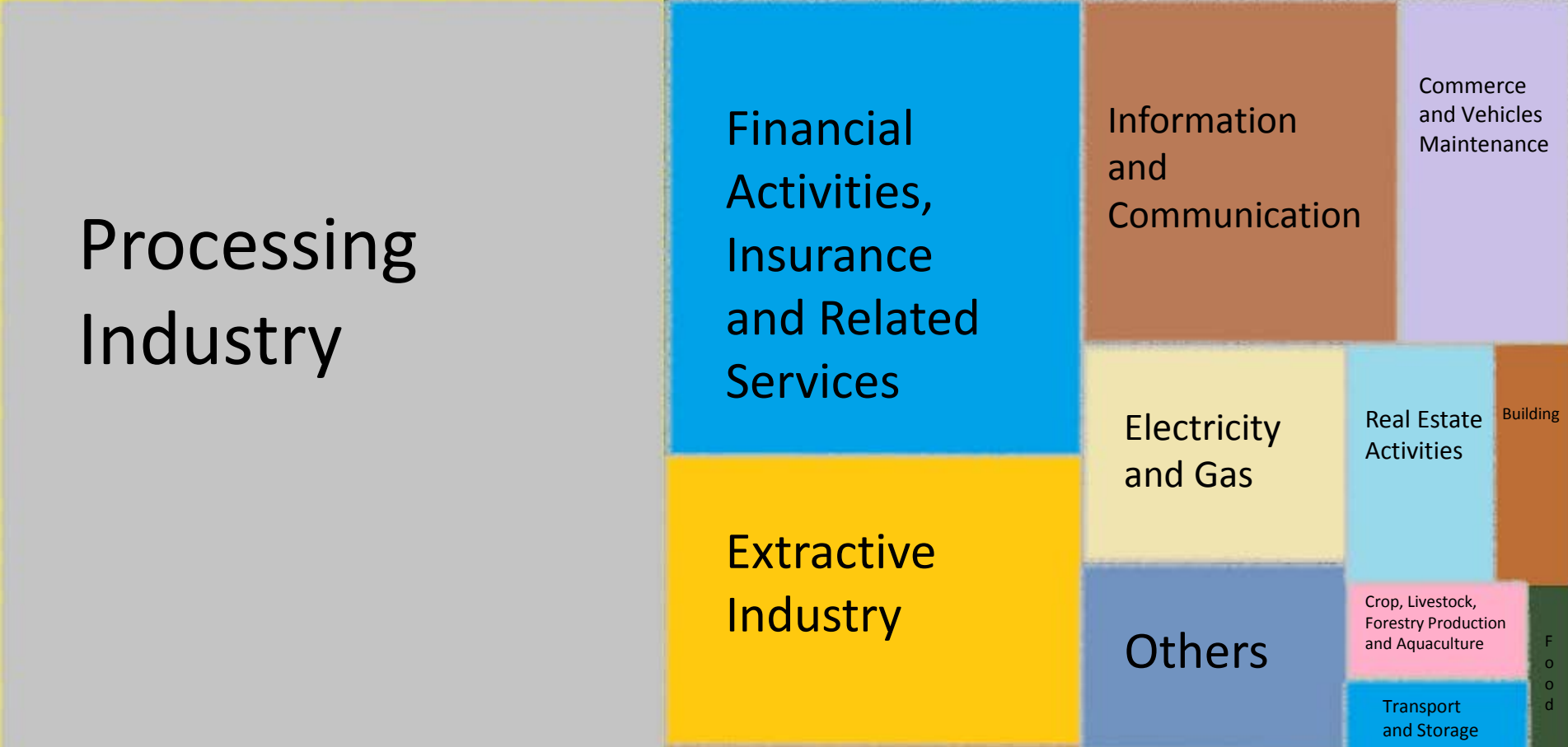
Surveys – Global Process



FDI in Brazil – Final Investor Countries

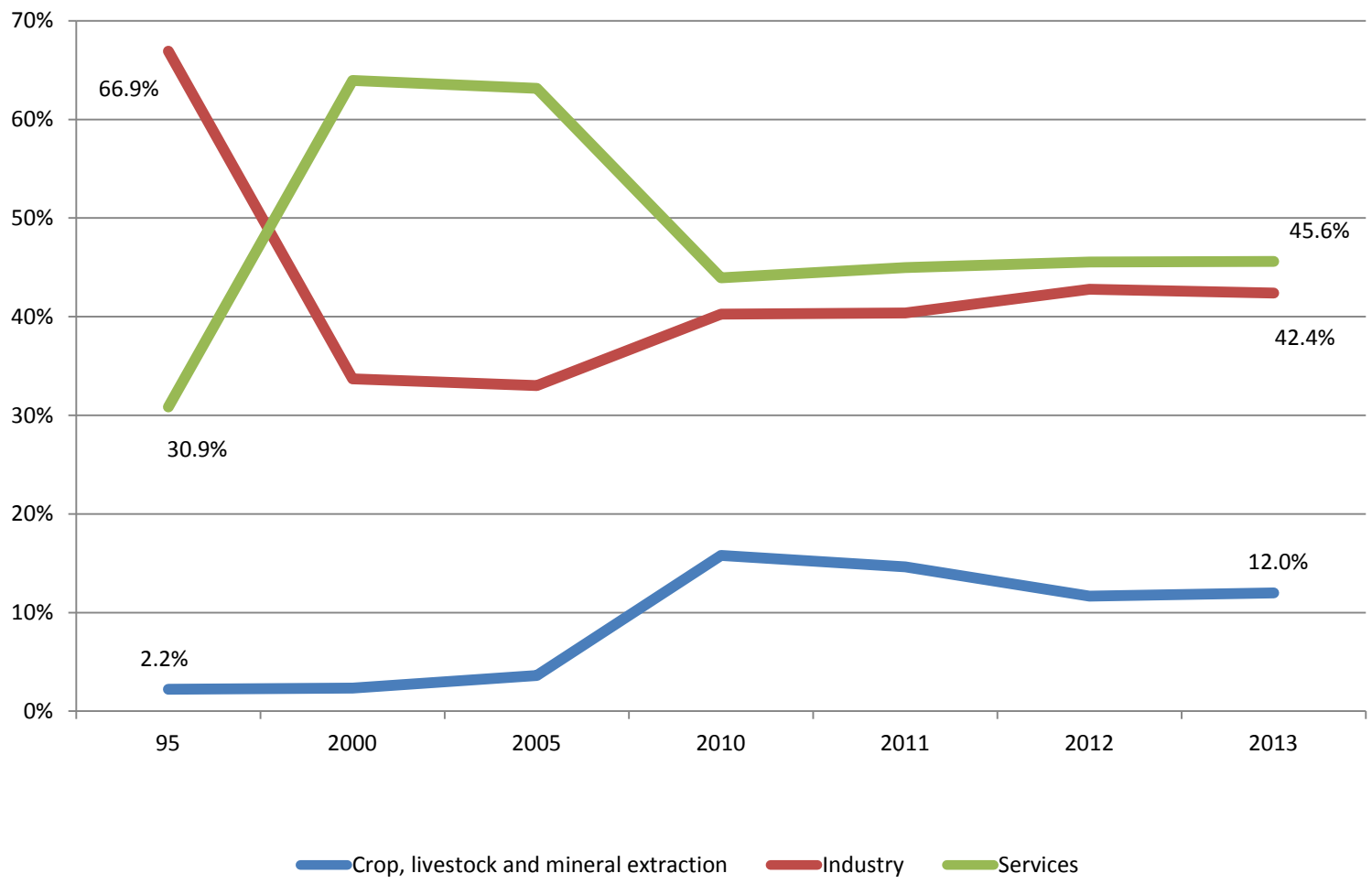


FDI in Brazil – Investment Sectors

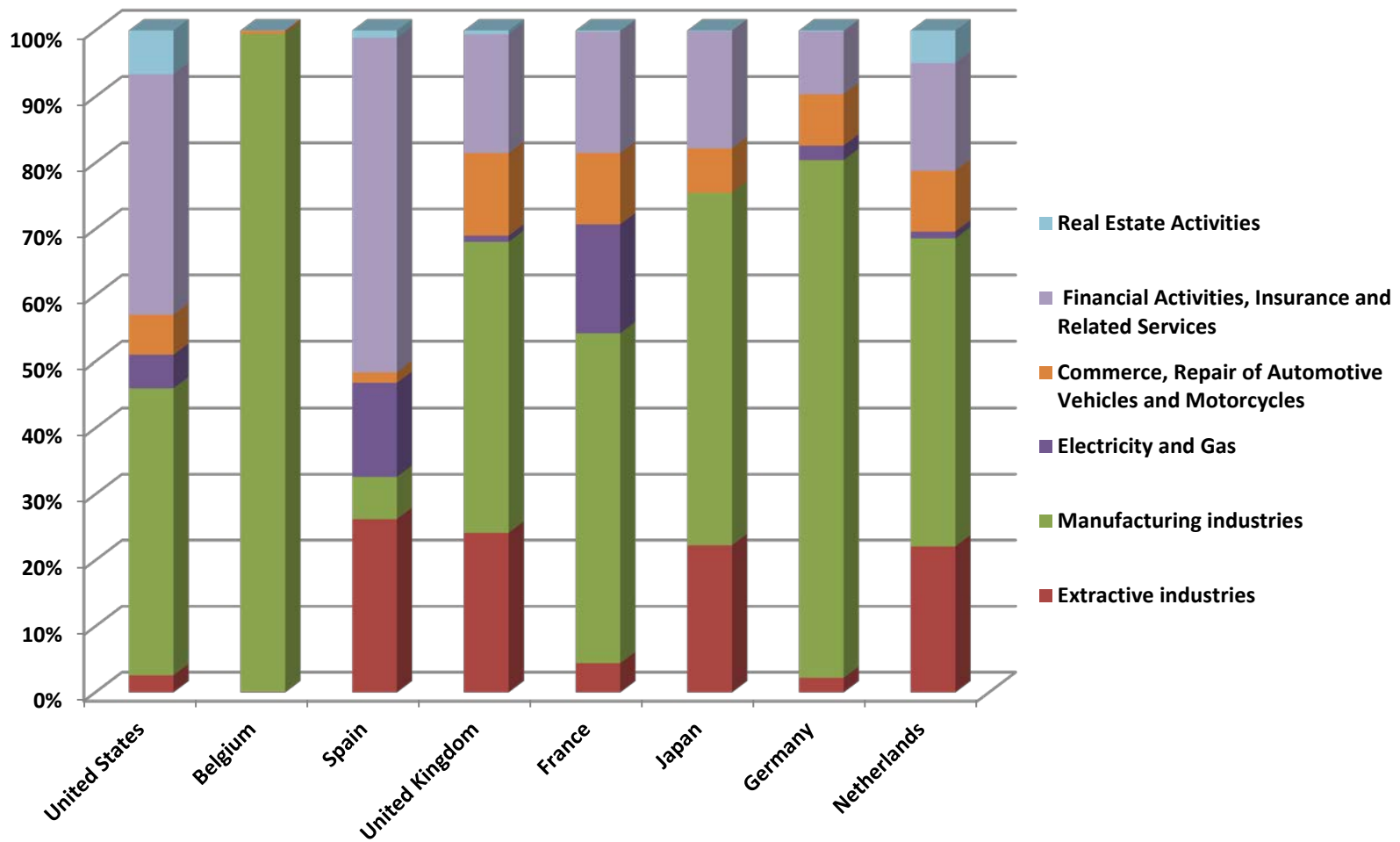


FDI in Brazil – Investment Sectors

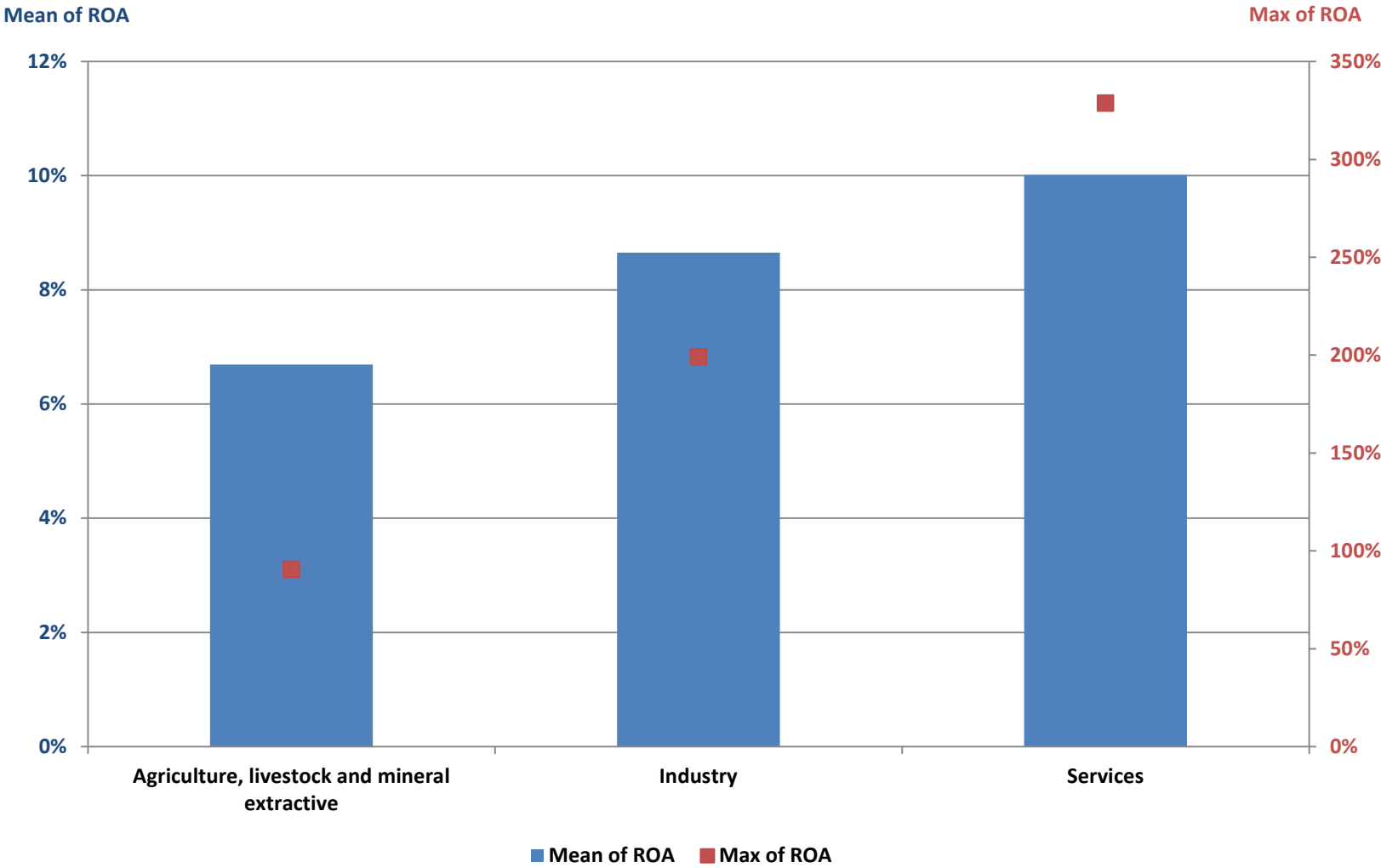
Sectors Participation Evolution



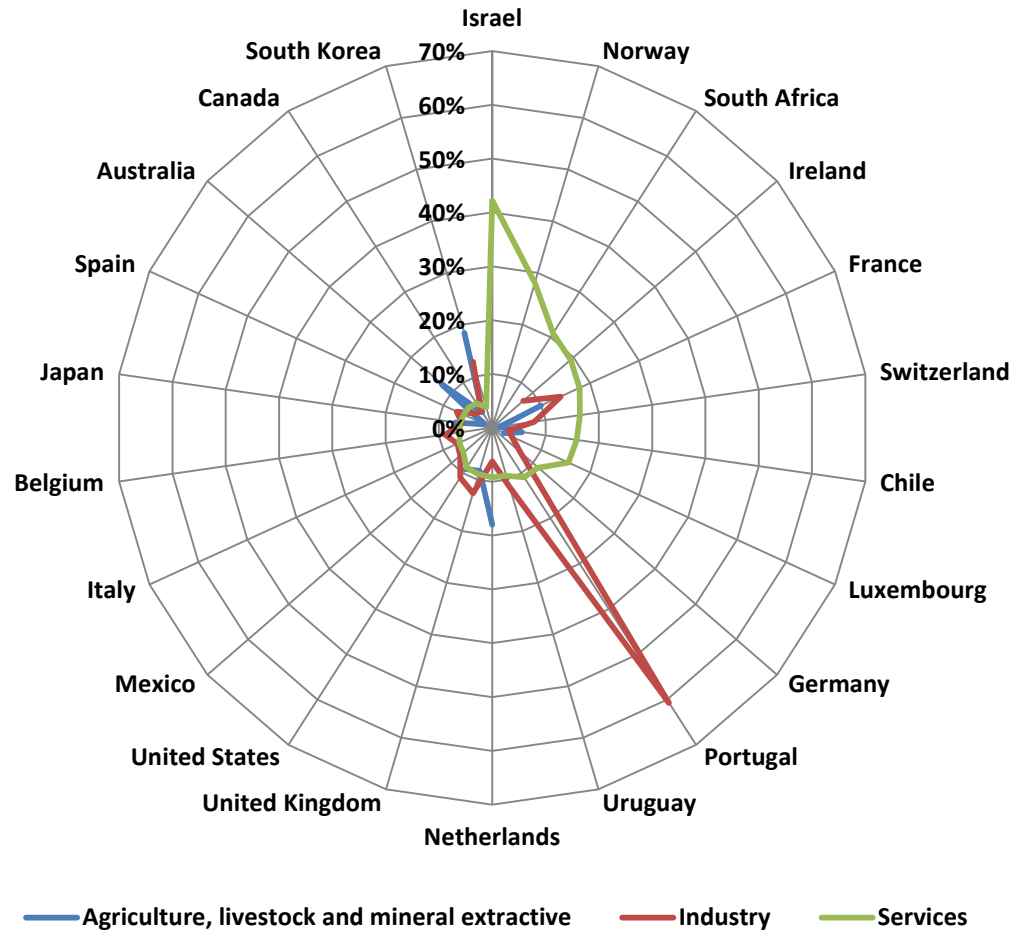
FDI in Brazil – Investor Country and Sectors



FDI in Brazil – Return on Assets (ROA) for Investment Sectors

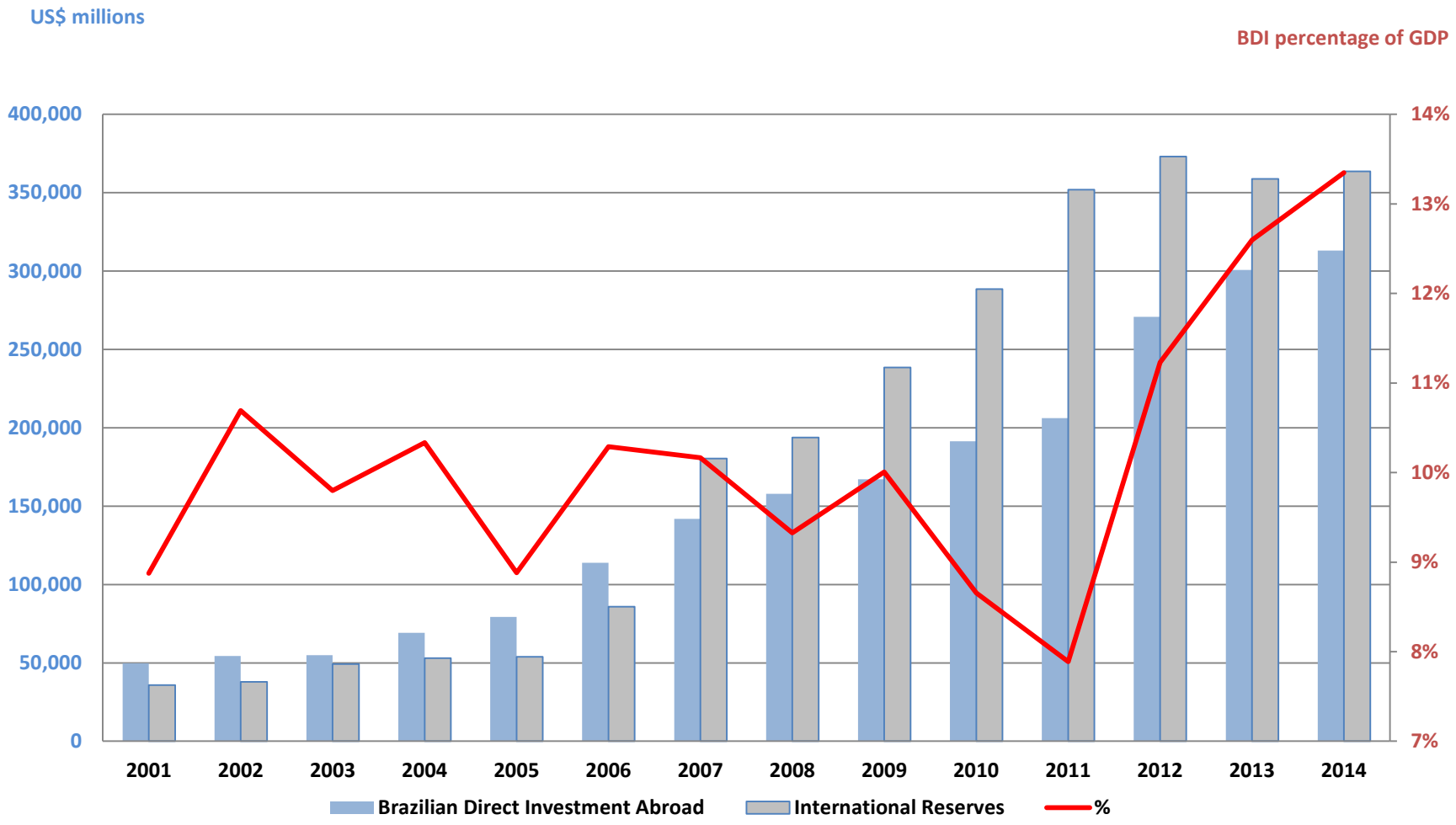


FDI in Brazil – Return on Assets (ROA) for Investment Sectors and Countries

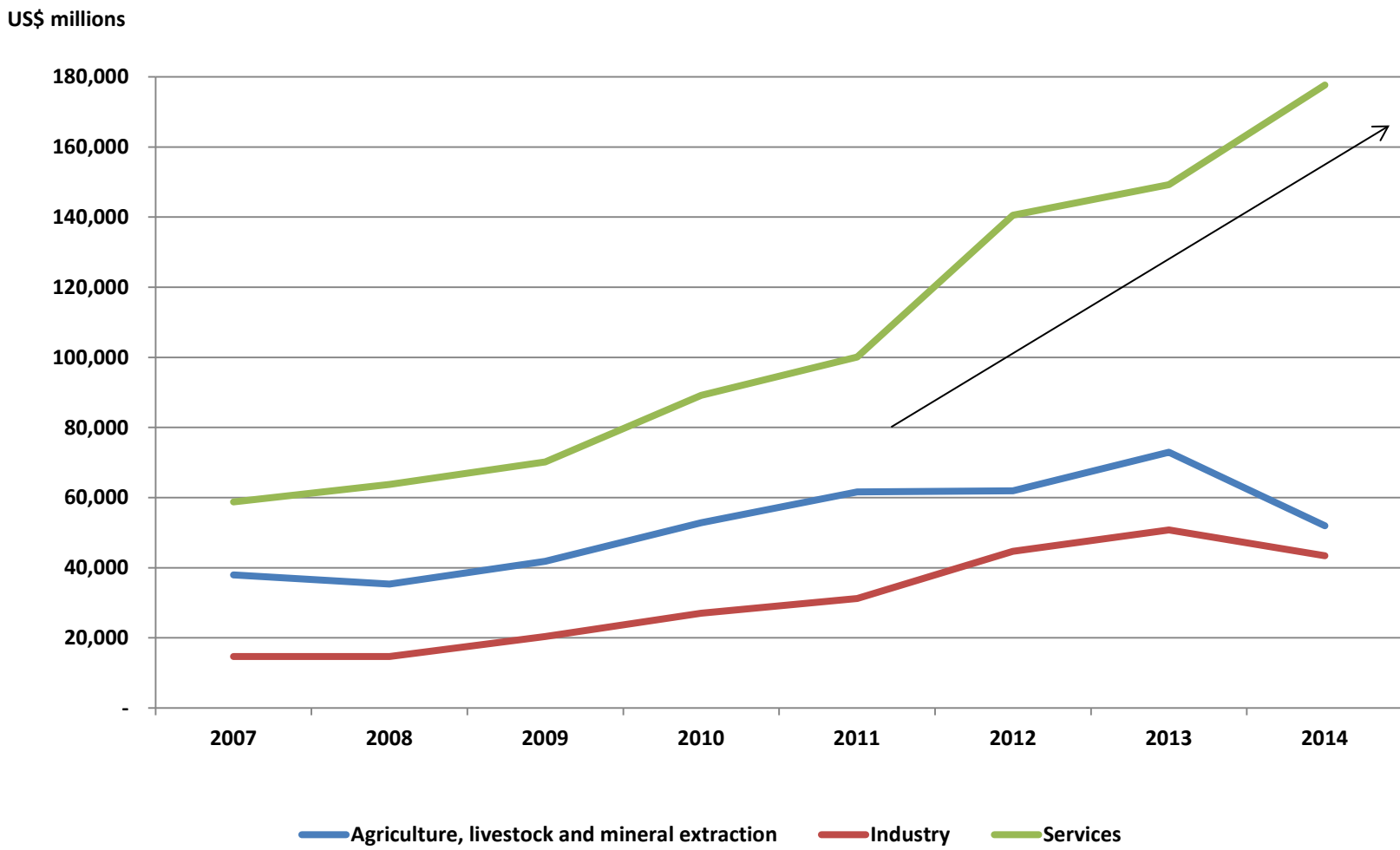


Brazilian Direct Investment Abroad

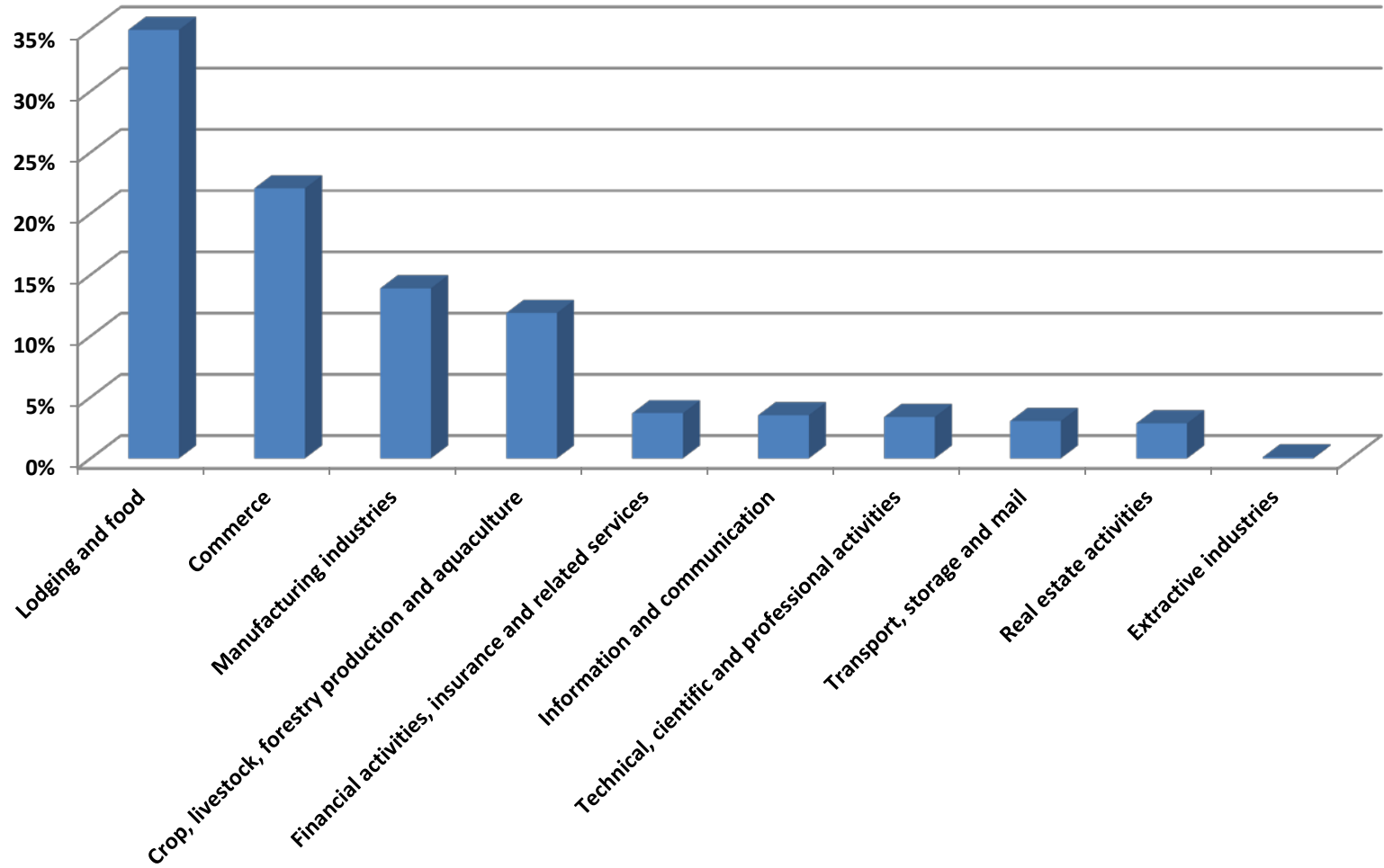
Stock of Brazilian Investment Abroad



Brazilian Direct Investment Abroad – Stock Evolution for Investment Sectors



Brazilian Direct Investment Abroad – Return on Equity (ROE) for Investment Sectors



Thank you!

Camila Maia

camila.maia@bcb.gov.br

Katherine Hennings

katherine.hennings@bcb.gov.br