

**Regional Seminar on International Trade Statistics:  
Implementation of recommendations**

*32. Business Registers for international Trade*

Addis Ababa, Ethiopia  
12 – 16 May 2014



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EUROSISTEMA

## The Business Register and the “Castaway” problem



*Mediterranean view form the Strait of Gibraltar*

Mediterranean Sea covers an area of 2.5 million Km<sup>2</sup>  
Islands are about 3.500, with a surface of 95.000 Km<sup>2</sup>  
Their lands cover less than 4 per cent of Mediterranean Sea

*That is: in a shipwreck it is very difficult to land at an island...*

## The Business Register and the “Castaway” problem



*... but it is much more difficult to search enterprises in Italy with outward FDI!*

In Italy about 14.000 enterprises have outward FDI  
from a total number of about 900.000 units...

## The Business Register and the “Castaway” problem



... in proportion, for “our castaway”, it is like the Mediterranean Sea without 3 large islands like Sicily, Sardinia and Crete.

# Agenda

International Framework

*Golden Rules* to build the BR

Italian Experience

Sampling Techniques & BR



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# International framework



The ECB regards payments data as a potentially useful tool in particular to identify the reporting population to be surveyed, i.e. to set up and maintain a register of internationally active firms [4]. This concerns information that is readily available to the banks and that can be supplied to b.o.p. compilers in a fully automated fashion at reasonable intervals...

*Opinion of the European Central Bank, 6 January 2009*

# International framework



21.12 Business registers can be used as survey frames for balance of payments (BoP) surveys .... The data collection for BoP has moved considerably from transaction-based data collection to direct surveys.

**EUROSTAT (Business registers-Recommendations manual 2010 edition)**

# International framework



Sources for identifying direct investment units for the survey frame

2.19 The sources of information on potential survey respondents having foreign ownership and/or investment in enterprises abroad are varied, and the work required to compile an information database will depend on the extent to which such an information database already exists in the compiling agency.

**IMF - THE COORDINATED DIRECT INVESTMENT SURVEY GUIDE (March 2008)**



# *Golden rules of the “BR - BoP oriented”*

## **Step 1: list of population**

*The Business Register of the National Institute of Statistics is a good source for determining the complete list of local companies*

## **Step 2: relevant subpopulation**

*Listed companies; firms involved in international transactions; dimensional threshold*

## **Step 3: auxiliary variables**

*Balance Sheet data; presence of FDI; international turnover; sector activity; geographical breakdown*



# Italian Experience: Why a BR dedicated to the Bop?

**Framework (a little historical digression):**  
*The reason why Bank of Italy cannot access to the ISTAT Business Register*

*For historical reasons there was a sort of detachment between Bank of Italy and NSO (Istat). The idea (of the law) was to maintain clearly separate the function of supervisor of the bank system of the Central Bank and the statistical data production, typically of the NSO.*

*According to the "bank secret", no exchange of information was allowed between the two worlds.*

*In the 90th years, the Bank of Italy has started to contribute in a factive way to the Euro Area statistical production, and the two functions have been divided also in the Bank.*

# Italian Experience: Why a BR dedicated to the Bop?

## **Against this background**

*Begin a strictly cooperation between the statistical functions of the Bank of Italy and Istat*

*They have set up a Committee of Coordination, and many working groups (for instance, BPM6 and NSA 2008 - registers) on specific topics*

*An exchange of individual data is started (beginning with the Direct Reporting - other services) for the production of European Statistics*

*The common Oversight of the financial variables is established (first application: FISIM)*



# Italian Experience: Why a BR dedicated to the Bop?

## **Against this background**

*The cooperation between Bank of Italy and Istat for the registers*

*Exchange information about the Registers: methodologies, possible sources, aggregate figures.*

*Cooperation for the Italian compiling of the EGR (European Group Register), according with the European Regulation (n. 1097/2010).*

*In a near future, the Bank of Italy will have access to the National Business Register; and hopefully can contribute to the Register itself.*

# Italian Experience: BR for BOP purpose

**Target:** Business Register as a complete instrument, integrated and dynamic

**Complete:** *it reports all the enterprises potentially involved in international transactions*

**Integrated:** *different sources are used at the same time*

**Dynamic:** *the sources can change over time*



# Italian Experience: BR for BOP purpose

**Complete**

**InfoCamere**, the shareholding consortium of the Italian Chambers of Commerce, ensures the completeness of the list of Italian enterprises

1.3 million of enterprises  
800-900.000 enterprises with balance data  
No relevant gap with Istat Business Register



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# Italian Experience: BR for BOP purpose

## Integrated Approach

Different sources are linked by a “**Bridge Table**”

Source: A  
Identification Key: 1

Source: B  
Identification Key: 2

Source: C  
Identification Key: 3

## Bridge Table

Id Key 1

Id Key 2

Id Key 3

1

AA

100

2

BB

200

3

CC

300

...

...

...



# Italian Experience: BR for BOP purpose

## Integrated Approach

The Keys Map (Bridge Table) is the base of an homogeneous structure

Source: A  
Identification Key: 1  
Turnover: 100

Source: B  
Identification Key: AA  
Equity: 200

Source: C  
Identification Key: 100  
Total Assets: 150

Id Key 1	Id Key 2	Id Key 3
1	AA	100
2	BB	200
3	CC	300
...	...	...

Tom, Dick and Harry Company

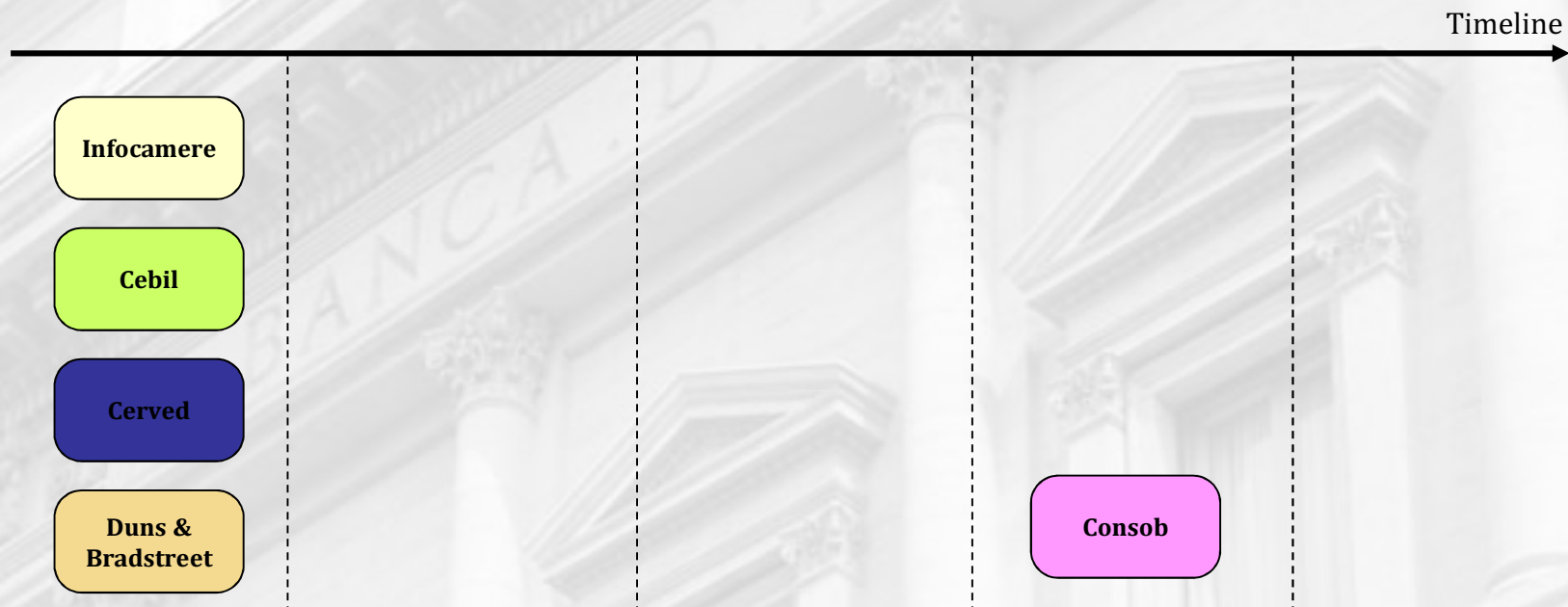
Enterprise	Turnover	Equity	Tot. Assets
Tom, Dick and Harry Company	100	200	150



# Italian Experience: BR for BOP purpose

## Dynamic Approach

*Sources can change over time*



# Italian Experience: BR for BOP purpose

## Italian Business Register

**BRIDGE TABLE**

**A key map assures the link among different sources**

**REGISTRY TABLE**

**Name, address, geographical area, sector, etc**

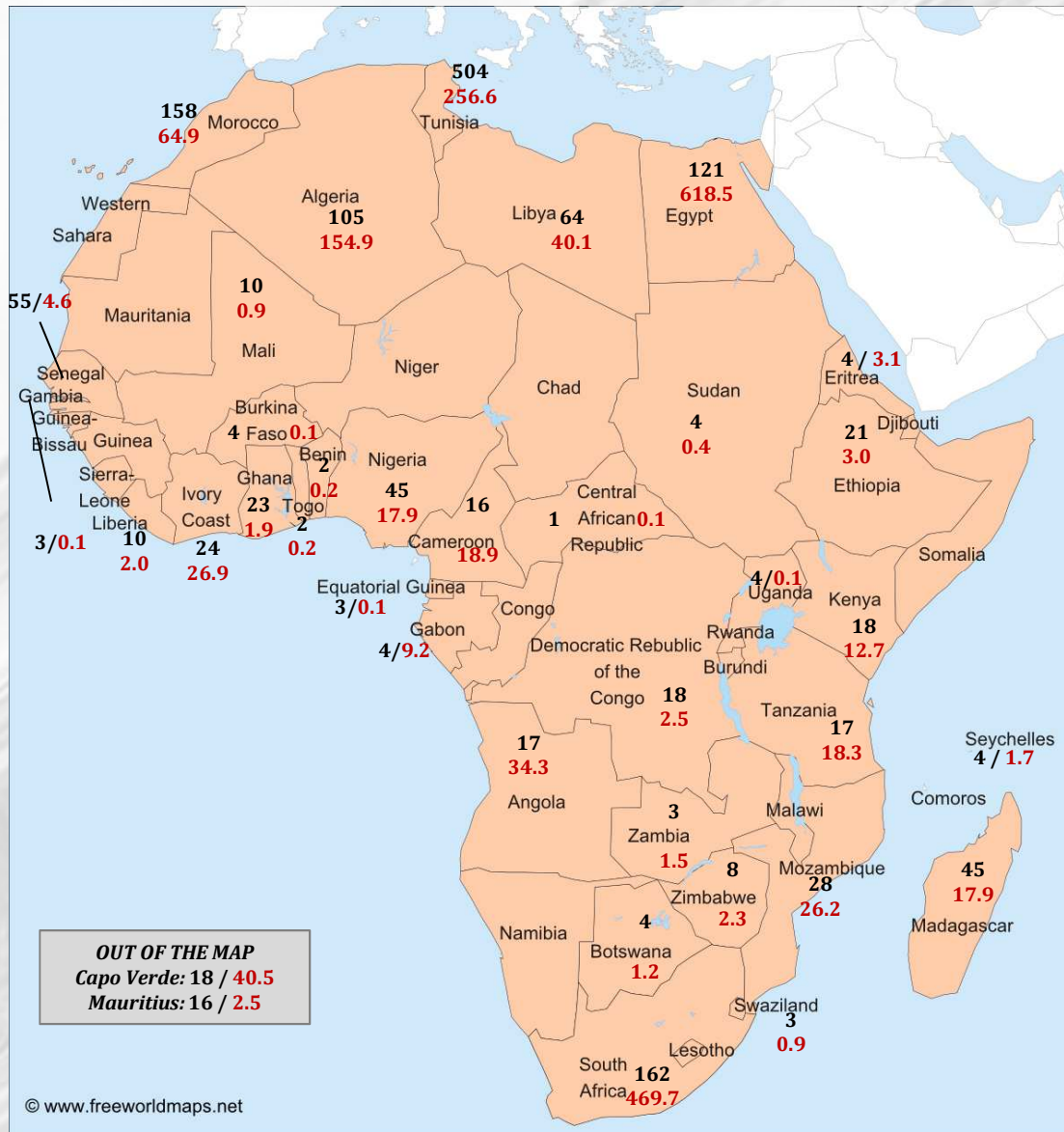
**QUANTITATIVE DATA TABLE**

**Balance data, number of employees, etc**

**FDI TABLE**

**Inward, outward, group structure, etc**





**FDI from Italy to African countries**

**A QUERY FROM BOP BR**  
 (Data referred to 31/12/ 2012)  
 In black the number of FDI  
 &  
 In red the value in millions of Euro

**TOP NUMBER: Tunisia 504 FDI**  
**TOP VALUE: South Africa 469.7 millions**

## FDI from Italy to Ethiopia

Enterprise	%	Estimated Value (in Euro)
PIDIGI & DESPA EAST AFRICA	30	25.535
EDILMAC DEI F.LLI MACCABELLI SRL (ETHIOPIA BRANCH)	100	36.999
EAST AFRICA TANNERY PLC	50	976.561
ITALPROGETTI AFRICA	80	68.800
DAMI.ET	99	4.473
DELLAS SPA ETHIOPIAN BRANCH	100	69.339
REPICO FOR AFRICA	100	80.341
PLAN CONSTRUCTION PLC	90	
DE.RE.AN LTD	50	
CONSTA ETHIOPIAN CONCRETE PLC	95	74.142
CONSTA JOINT VENTURE	95	237.500
ETHIOPIAN CONSTRUCTION PLANT PLC	95	74.142
MATTIOLI JOINT VENTURE	76	38.000
FORTE SICURA	10	100.000
FRI-EL ETHIOPIA FARMING & PROCESSING P.L.C.	99	72.742
GITTO CONSTRUCTION ETHIOPIA PLC	84	1.018.058
MATTIOLI JOINT VENTURE	23	11.500
SCAE CONSTRUCTION MACHINERY RENTAL PLC	60	13.728
PIDIGI & DESPA EAST AFRICA - ERIOPIA	20	17.023
J.V. SALINI ACCIONA	50	9.000
SOPRAL SHARE CO.	33,3	

# Interaction between BR and DR

The Business Register is useful to check Direct Reporting data

There are some instruments to put the check level before data acquisition

Data Entry

Diagnostics

Automatic Input Reply



# Interaction between BR and DR

Presence of international transactions in Business Register and Direct Reporting without operations



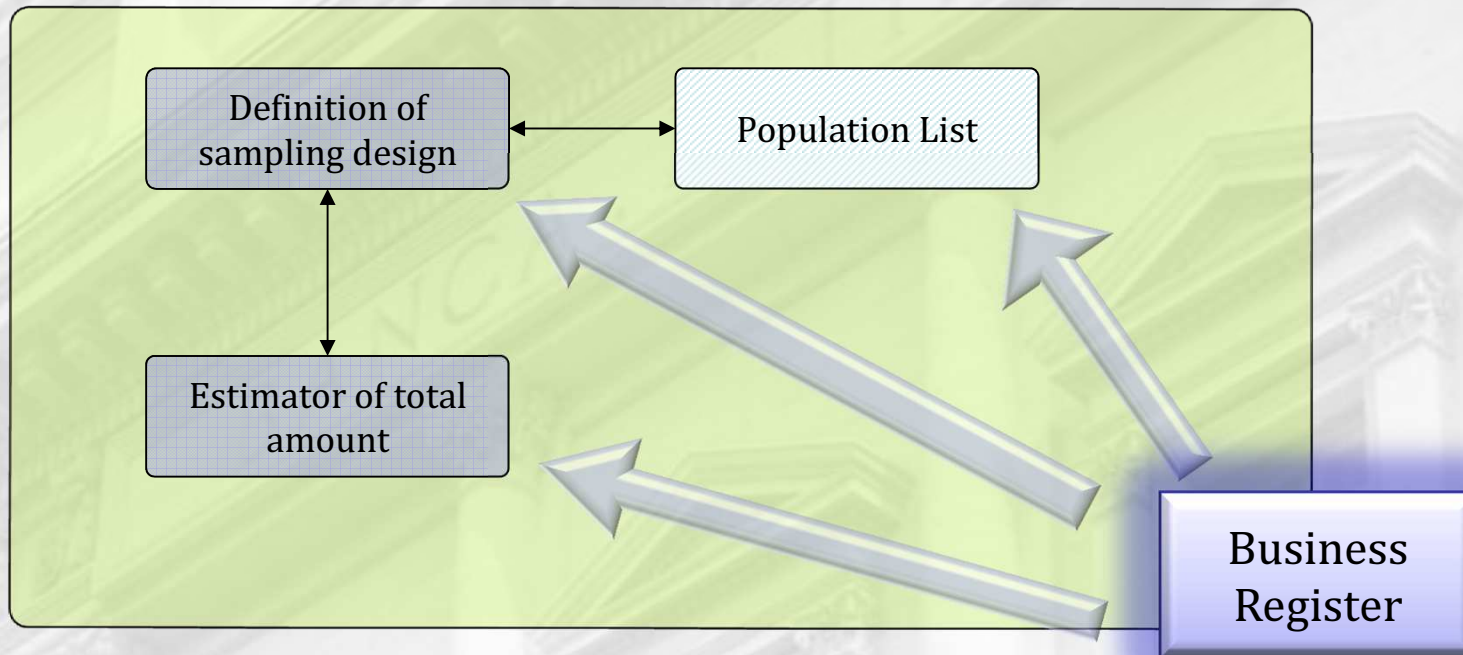
*Instant data check*



*Instant correction of mistakes*

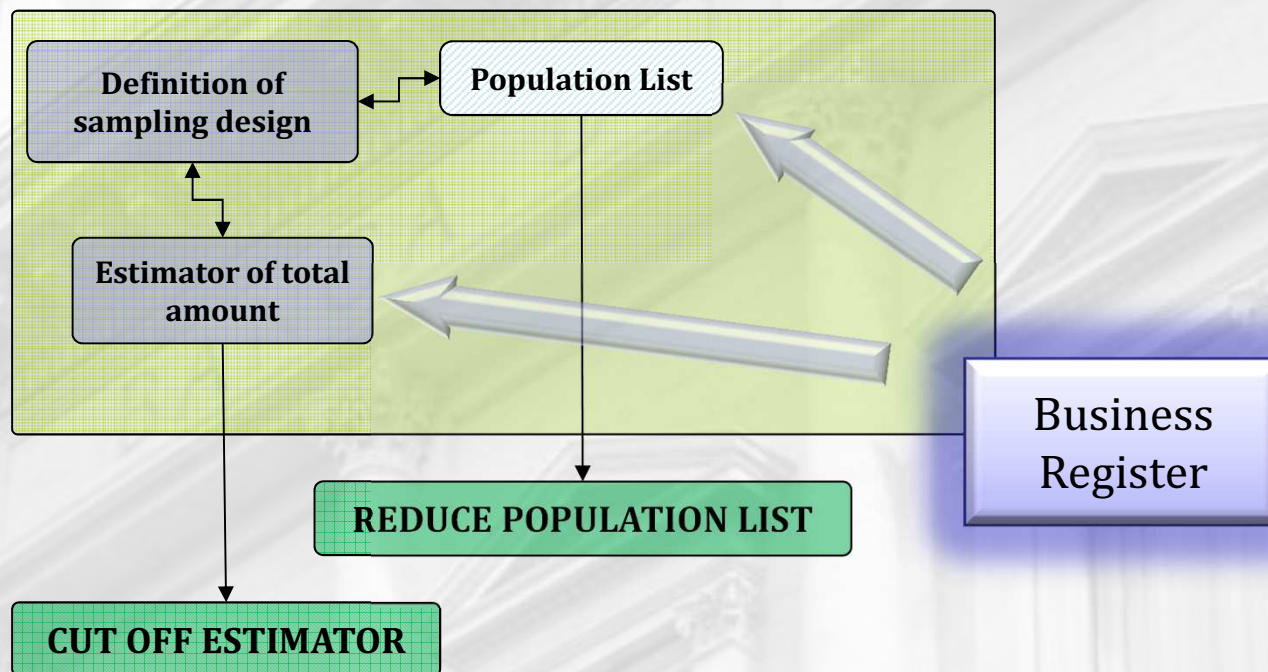
# Sampling techniques and business register

## SAMPLING TECHNIQUES



# Sampling techniques and business register

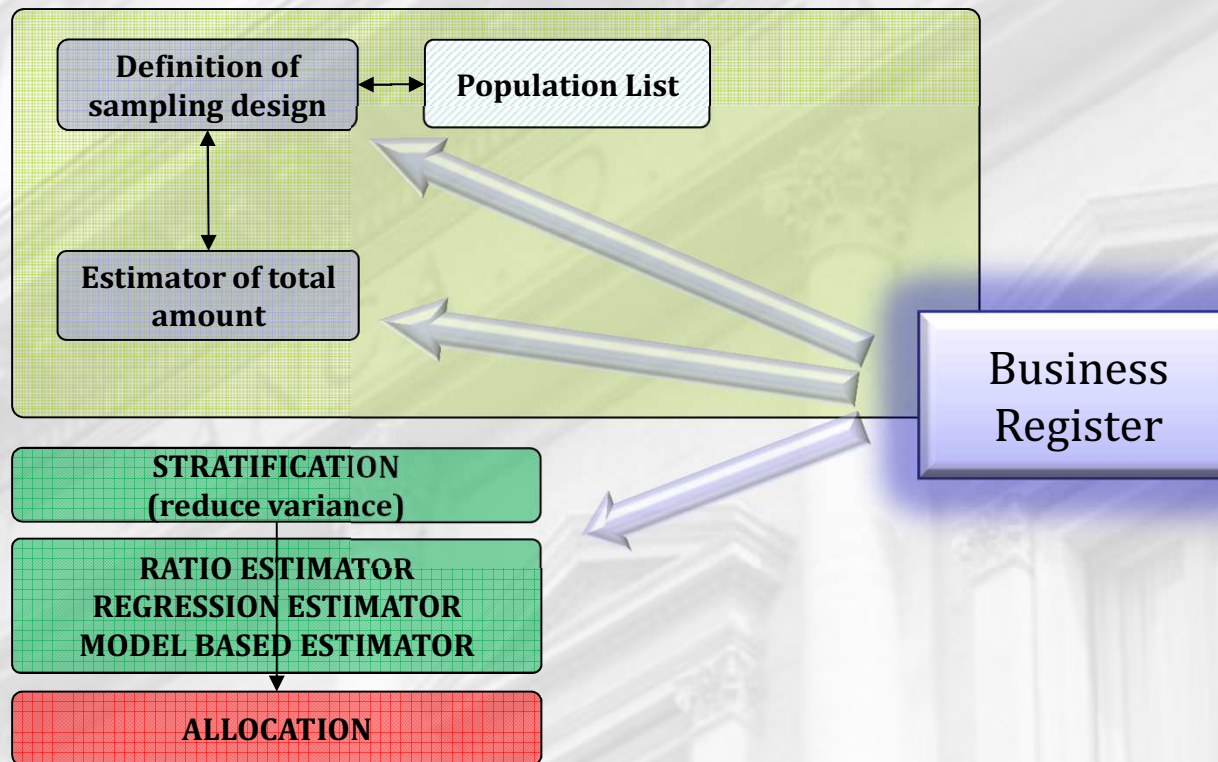
When variables are highly concentrated





# Sampling techniques and business register

When variables have an high dispersion



# Sampling techniques and business register

**When variables are highly concentrated**

**Definition of sampling design**

**Estimator**

**List of population unit**

**Cut-off**

**When variables have a high dispersion**

**Stratification  
PPS**

**Horwitz Thompson  
Ratio  
Regression  
Model Based**



# Business Register in BI direct reporting

Used for financial stocks/flows but also for non financial transactions (“other services”)

## SAMPLING TECHNIQUES

Define the population frame

Stratification

Estimator (ratio estimator)



# Business Register in BI direct reporting (the samples)

**Each phenomenon is analyzed with a specific sample**

**Three independent samples are selected**

**Services Transactions**

**About 3.000**

**FDI (inward and outward)  
Financial Stocks and  
Flows**

**About 4.000  
About 6.000**

**Other Financial  
phenomena**

**About 3.000**

---

**Total DR**

**Less than 7.000**

# Business Register in BI direct reporting

## From Samples to Questionnaires

Services  
Sample

TTN - Services Transactions - Q

Financial  
Sample

EMF - FDI Flows - M  
+  
CAF - Financial Stocks - A  
+  
SAC - Group Data - A

Big Players

OMF - Financial Flows - M  
or  
OTF - Financial Flows - Q



# Business Register in BI direct reporting

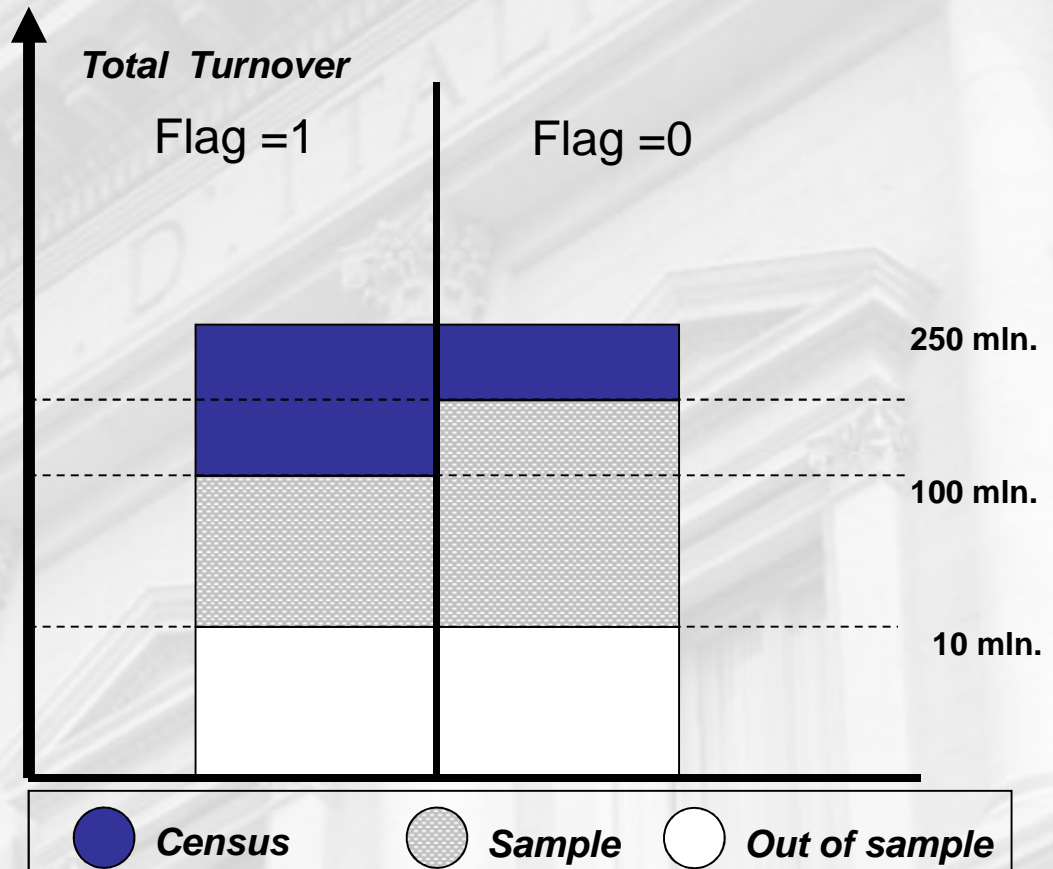
## Other Services: Sampling Techniques

### Stratification variables

Presence of international transactions  
Dimension (total turnover)

### Presence of international transactions

Report from the bank system of enterprises involved in international payments



## Conclusions (I)

A common trend is in act in Europe to collect data for BOP and IIP

The Business Register is a primary source for the Direct Reporting surveys:  
it's a basic pillar in selecting samples

The optimal selection of sampling is functional to population structure and  
concentration of the investigated variables

## Conclusions (II)

Advantages in using a BR for multipurpose survey  
(FDI stock + financial flows + other services)  
CREATE A BOP BR

NSI BR is a good starting point  
(population list + turnover + number of employees)

Other variables (total assets) and attributes (presence of FDI, international transactions) are useful for Bop/IIP purpose

Cooperation between NCB and NSI

Not enough...  
Need for European Group Register



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