



Measuring the Level of Capacity Utilisation in Non-Manufacturing Sectors

Viviane Seda Bittencourt
Business and Consumer Surveys – FGV

Outline

- Introduction
- Preliminary studies
 - Benchmarking
 - Survey: Do firms understand the LCU concept?
- Questionnaire
- First results
- Conclusions
- Next steps

Introduction

- The Getulio Vargas Foundation (FGV) provides a survey-based LCU indicator for the Manufacturing Industry since 1966;
- FGV's Manufacturing LCU is widely used as a measure of the output gap in Brazil;
- In the last decade, the relevance of this indicator has decreased somehow due to (among other reasons) the increase in the share of Services in GDP;
- Recently, FGV started to produce monthly tendency surveys for the Services Sector (2008), Trade (2010) and Construction (2010) following the European model;
- In 2012, FGV started working on a measure of LCU for the non-manufacturing sectors with the support of Brazilian Central Bank.

- ❑ Benchmarking
 - ❑ Services - the European model is the reference
 - ❑ Trade - we hardly found any references
 - ❑ Construction - there are many different approaches (KOF, WIFO, South African BER, etc.)

- ❑ Survey: “Do firms understand the LCU concept?”

Survey: Do firms understand the LCU concept ?

The survey was conducted during the first semester of 2013 obtaining two types of information:

- Do firms monitor their LCU?
- What variables are taken into account along this process?

Around 4,200 firms were consulted:

- 2,350 from the Services Sector;
- 1,150 from the Trade Sector;
- 700 from the Construction Sector.

Survey: Do firms monitor their LCU ?

Do firms monitor their capacity utilisation levels?			
	Yes	No	
Services	76.6%	23.4%	
Specific Cases in the Services Sector			
Segments	Min	Segments	Max
Companies	70.1%	Information	83.6% (max)
<i>Legal and accounting activities</i>	66.5%	<i>Telecommunications</i>	86.7%
<i>Advertising</i>	63.9%	Transportations	
<i>Selection, management and leasing of temporary manpower</i>	60.8%	<i>Railway and subway transportation</i>	87.6%
Families	73.4%	<i>Highway transportation</i>	81.9%
<i>Recreational and cultural activities</i>	62.9%	<i>Air transportation</i>	87.3%
Trade	81.1%	18.9%	
Specific Cases in the Trade Sector			
Segments	Min	Segments	Max
Construction material	74.5%	Retail	80.5%
Retail	80.5%	<i>Food, Beverages and Tobacco</i>	90.0% (max)
<i>Furniture and Appliances</i>	74.0%	<i>Fuels and lubricants</i>	84.3%
<i>Books, newspapers, magazines and stationery</i>	74.5%	Wholesale	83.2%
<i>Textiles, apparel and footwear</i>	75.8%	<i>Intermediate products</i>	89.0%

Survey: How the concept of LCU in non-manufacturing firms is defined

- ✓ Labour is the major factor taken into account in all three sectors;
- ✓ 46% of the firms considered their *Own labour* as the main labour factor (80% in the construction sector);
- ✓ Capital is the second most important factor;
- ✓ Own machinery & equipment was mentioned by 25% of the companies. (Services sector 33%);
- ✓ Financial factors were mentioned by 18.0% of the companies (25% in Services Sector);
- ✓ Only 4.0% of the firms measure LCU based on other factors.

Formulation of the questions

Taking into account...

- ...the benchmark research;
- ...the survey on LCU knowledge;
- ...conversations with experts...

FGV decided to use the European formulation for the Services *and* the Trade LCU indicators on a monthly basis.

An additional question was added in all sectors:

*“How do you evaluate the supply capacity of your firm at the moment?”
(More than sufficient/ Normal / Insufficient)*

Formulation of the questions

In the case of the Construction sector FGV decided to obtain two separate measures:

For Labor: *"Regarding the labor available at this moment, what is the rate of the current productive capacity utilization of the company?"*

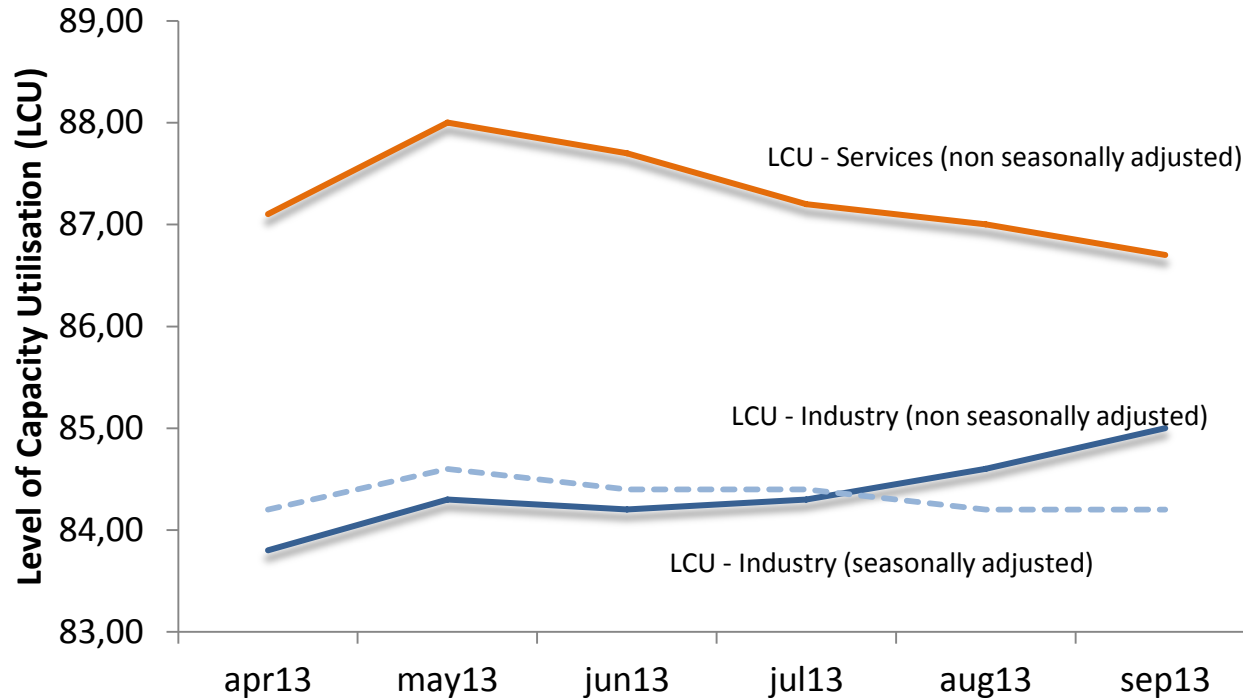
For Machines and Equipment: *"With respect to machines and equipment available at this moment, what is the company's rate of productive capacity utilization?"*

Results in the Service Sector

Brazilian Services Survey – a quick overview

- **Monthly since June, 2008;**
- **Sample size: 2400 firms**
- **Coverage: Brazil, 29 segments corresponding to 2/3 of the Services Sector**
- **Subsectors:**
 - Services provided to families (accommodation, restaurants, etc)
 - Services provided to firms (accounting, publicity, cleaning, security, etc)
 - Transportation
 - Information (telecommunications, IT, etc);
 - Real estate activities and renting of material;
 - Others

Results – Service vs Manufacturing



Source: FGV

- ❑ Average LCU in the Services Sector is approx. 3 pps. higher than in Manufacturing;
- ❑ Both Services and Manufacturing LCUs have low volatility;
- ❑ Non adjusted figures have been showing opposite directions since May, 2013. After adjusting Manufacturing for seasonality both seem to follow a similar pattern (less seasonality in Services?)

Results – Services Sector

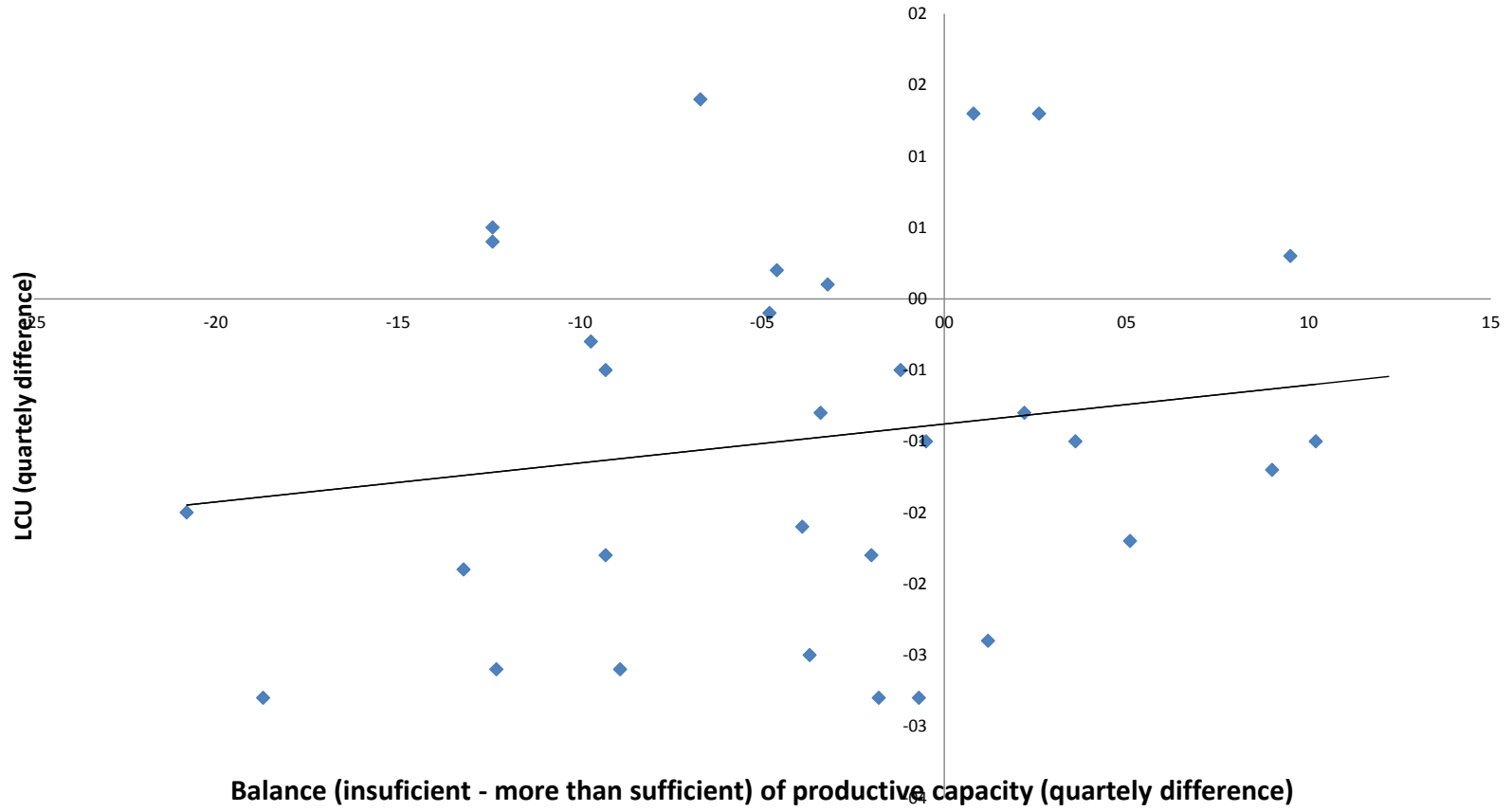
Segments	Average
Total Services	87.3
Services rendered to families	84.4
Information Services	88.4
Services provided to companies	86.7
Transportations, auxiliary services to transports and mail	88.5
Real estate activities and rental of movable and immovable property	86.1
Maintenance and repair services	85.3
Other service activities	86.6

Source: FGV; data not seasonally adjusted

- ❑ In general, four out of the seven more relevant segments of the services sector present an average LCU below the global average of the services sector;
- ❑ In Transportation, the Railway and subway subsector present the highest average LCU (93.4%);
- ❑ In the Services provided to companies, the activity of selection, management and leasing of temporary manpower shows the lowest LCU (82.7%).

Results – Services Sector

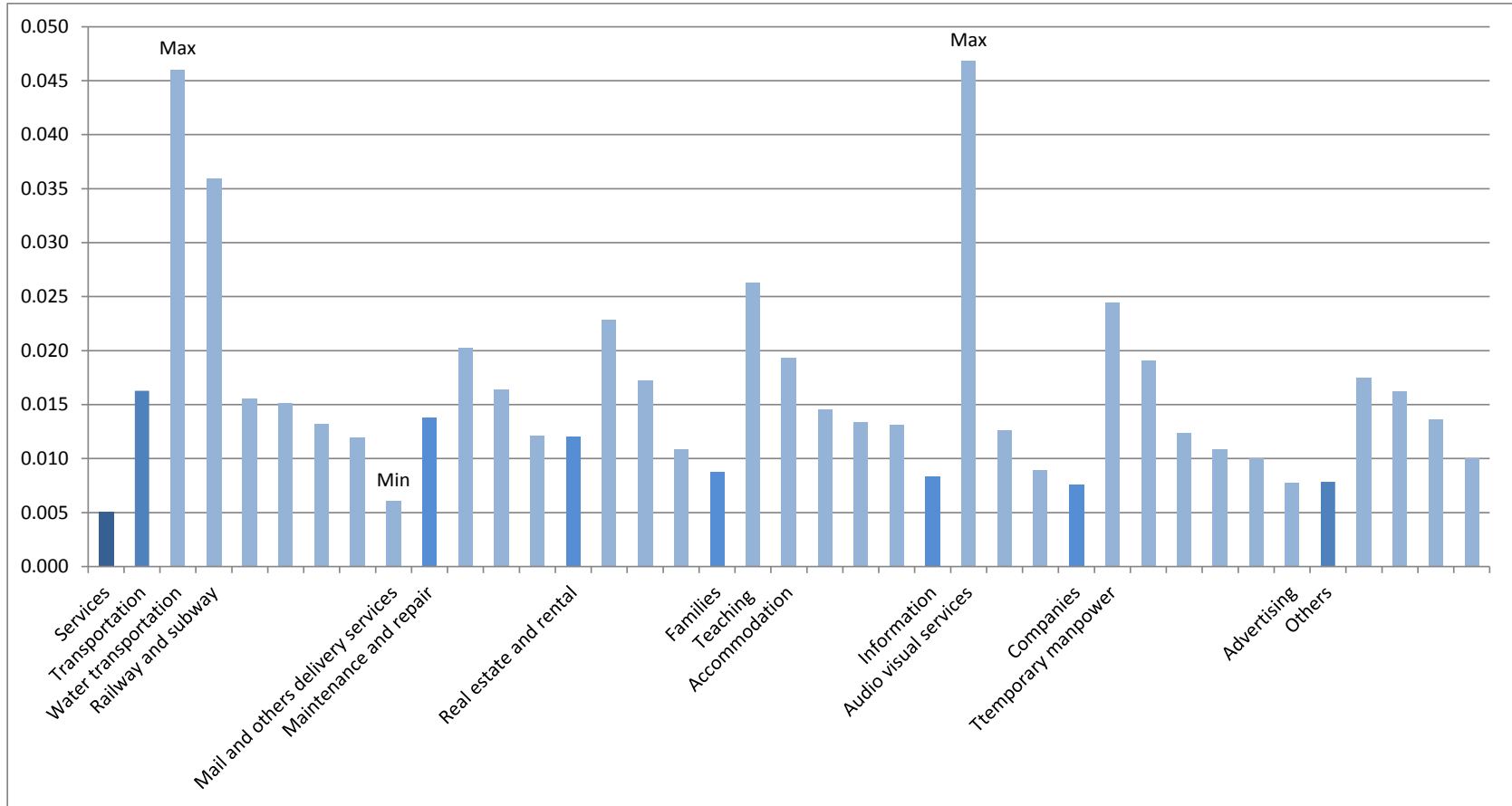
Consistency evaluation – correlation in changes in related variables
(Average of third quarter minus second quarter)



Source: FGV; data not seasonally adjusted

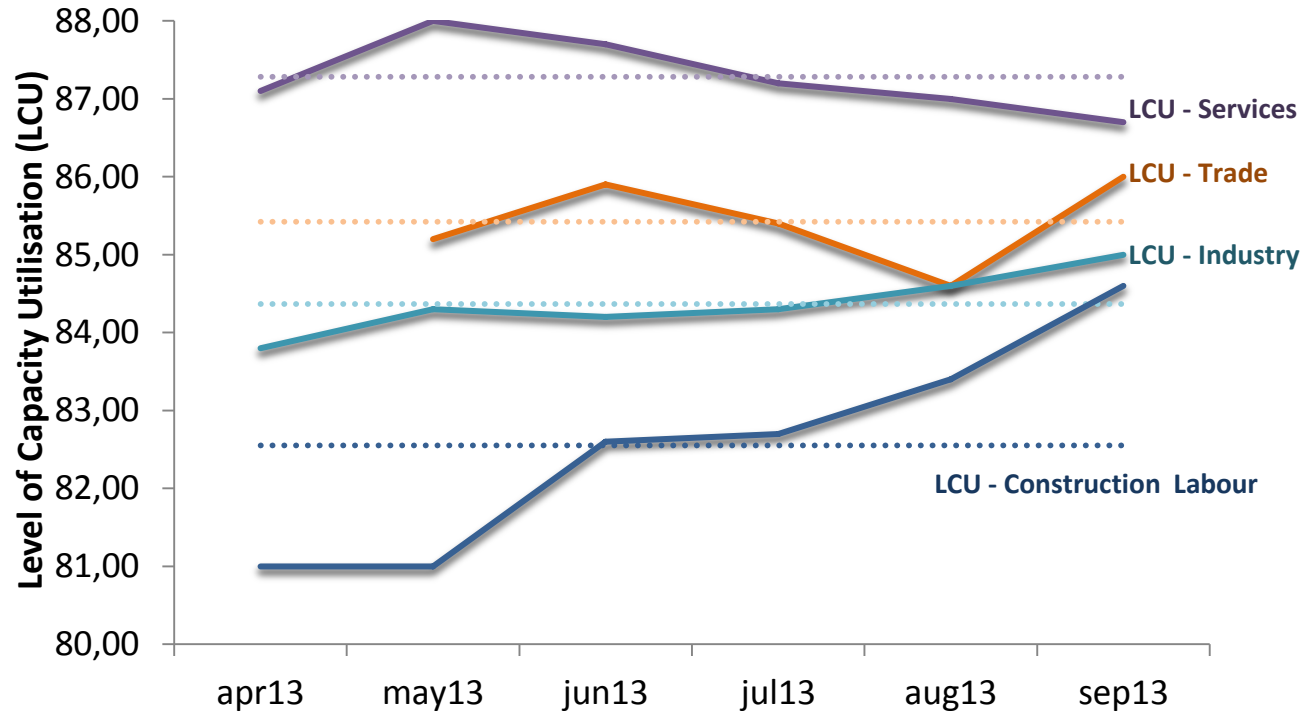
Results – Services Sector

Short-term volatility in Services Segments



Volatility defined as $\text{average}(|\Delta \text{LCU}|) / \text{average}(\text{LCU})$

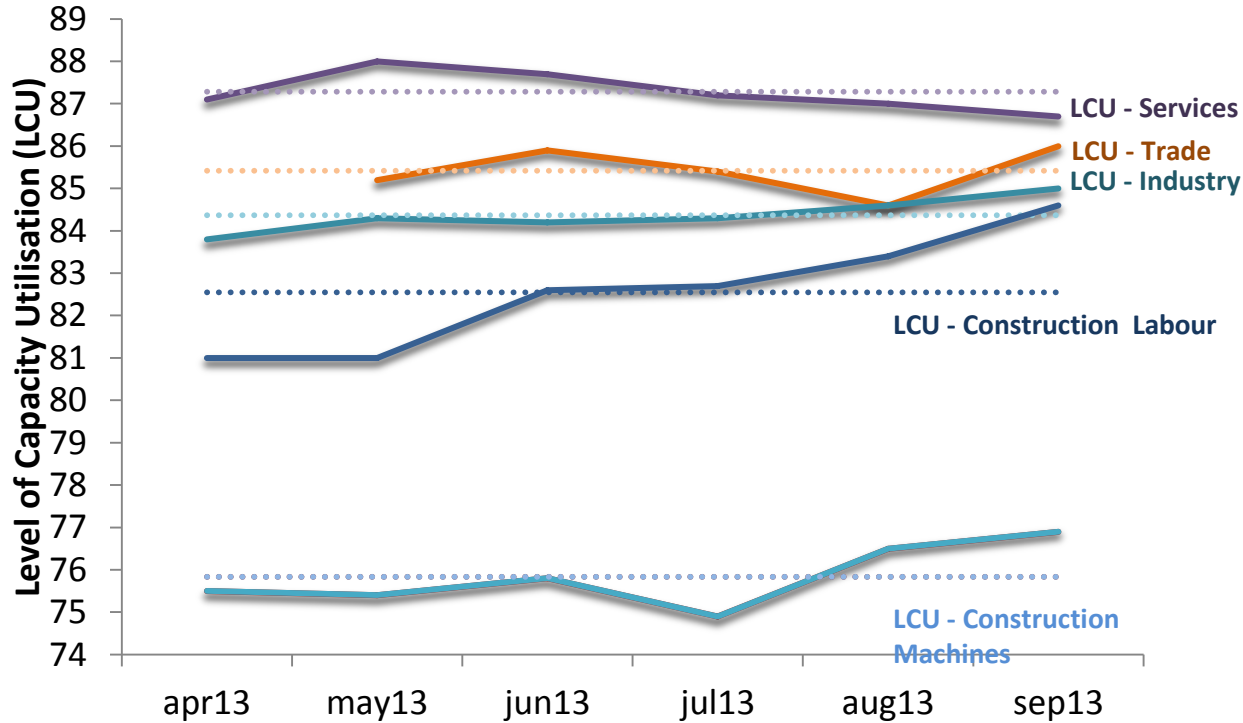
Results – Other Sectors vs Manufacturing



Source: FGV

- ❑ Average Trade LCU is also higher than in Manufacturing while Construction (Labour LCU) is being measured below manufacturing average levels;
- ❑ Construction also shows higher volatility (sd =1,4).

Results – Other Sectors vs Manufacturing



Source: FGV

- ❑ Average Trade LCU is also higher than in Manufacturing while Construction (Labour LCU) is being measured below manufacturing average levels;
- ❑ Construction also shows higher volatility (sd =1,4).

Conclusions

- ❑ FGV introduced questions on LCU in its non-manufacturing monthly surveys with good acceptance by the companies;
- ❑ The results show a reasonable cyclical behavior and are related to other variables within the surveys;
- ❑ The descriptive statistics (average, volatility) appear to be aligned and comparable with the Manufacturing LCU;
- ❑ Results of Manufacturing and Services appear to confirm the cyclical behavior of these sectors as measured by other survey and quantitative indicators;

Next Steps

- Survey on answering practices with special focus on the interpretation of the increase in the volume of activity (in percent or percentage points?);
- As more data is collected a more details analyses of the aggregate and sectorial results;
- Comparisons with international results;
- Introducing an aggregate LCU question for Construction.

Thank You!
(viviane.bittencourt@fgv.br)



www.fgv.br/ibre

Rio de Janeiro

Rua Barão de Itambi, 60
22231-000 - Rio de Janeiro - RJ

São Paulo

Av. Paulista, 548 - 6º andar
01310-000 - São Paulo - SP