

# Latin America's commodity dependence and the China effect

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# Outline

- 1 Introduction
- 2 Measuring commodity export concentration in Latin America
- 3 Empirical results
- 4 Case of study: dependency on China
- 5 Conclusions

# 1

# Introduction

## Introduction

# Perceived increase of export concentration vs the potential benefits of product diversification

**Concerns about the commodity windfall**  
Policy makers reaction: Australia vs Latin America

**Increase interest among academics and policy makers concerning the perceived increase in exports concentration and the potential benefits of product diversification** (Feenstra and Kee 2004, Greenway and Kneller 2007)

**Some concerns are focused on the danger of “excessive” specialization of commodity exports by developing countries, including Latin America** (Jansen 2004, de Ferranti, Perry, Lederman and Maloney 2002)

**One major worry is the potential adverse impact of commodity export concentration on the economic growth of developing countries**

1 Introduction

2 Export concentration

3 Empirical results

4 Case of study

5 Conclusions

## Introduction

# Why should exports concentration lead to dampened prospects of growth?

## Concentration on any kind of good is negative for growth outlook

- **Diminishing returns argument.** As a country continues to invest in any particular activity, the rates of return will generally fall
- **Unexpected fall in demand.** Concentration of exports, whether it is in high-tech items, can be subjected to periodic and sometimes unexpected fall in demand and decreased prices

## Introduction

# Why should exports concentration lead to dampened prospects of growth?

## If any kind of export concentration can be detrimental to growth, what about when it is in the export of commodities or natural resources?

- ✘ **Natural resources can be subjected to a secular decline in their terms-of-trade.** As countries become richer, they will spend proportionally more on manufactured products and services. The change of relative demand will lower the terms-of-trade of commodities
- **Volatility of export revenues.** This is more pronounced for concentration of exports of commodities and fuels. Individual exporting economies face a fairly inelastic demand. Adverse international market conditions may lead to a severe decline in export revenues
- **Dutch disease.** A boom in commodities may lead to negative consequences given the real exchange rate appreciation and the rise of the economy-wide wage levels, leading a loss of competitiveness process and de-industrialization process
- **Excessive specialization undesirable.** Fuels and food have lower scope for productivity improvements. Significantly climbing up the value added ladder seems harder with mineral and oil exports. Countries that export goods associated with higher productivity levels seem to grow at faster rates (Hausman, Hwang and Rodrik 2006)
- **The challenges faced by economies characterized by poor institutions**
- **Empirical studies link concentration of exports to smaller productivity gains and smaller rates of growth** (Al-Marhubi 2000, Feenstra and Kee 2004, Herzer and Nowak-Lehmann 2006)

## Introduction

# Growing academic and policy literature on commodity export concentration in LATAM

## Discernible boom in export of natural resources

### Is it particularly to rapidly growing emerging countries like China?

- Is this boom in trade in commodities by LATAM and others accompanied by a greater concentration of such exports?
- If so, is the rise of China partly responsible for the increased concentration?

## If the hypothesis is true what should policymakers do?

### Policymakers should be aware in order to:

- Track more carefully the development path of China
- Review the economic ties with China more critically

### What mitigating strategies should Latin America pursue in case there is a hard landing in China?

# 2

## Measuring commodity export concentration



## Measuring concentration

## Definitions, sample and data source

**Groups of countries**

- **LATAM 7:** Argentina, Brazil, Chile, Colombia, Mexico, Peru and Venezuela
- **South America:** LATAM7 excluding Mexico
- **Sample:** 74 economies; 45 emerging and 29 industrialized

**Time span and data source**

- **COMTRADE,** we use trade data according to classification SITC rev 1 with a two digit disaggregation
- **1962 - 2010,** exports and imports reported by country
- **Missing values:** Peru didn't report data for 1981 and Venezuela in 2007
- **Commodities:** We group as commodities groups xxx

**How is it measured?**

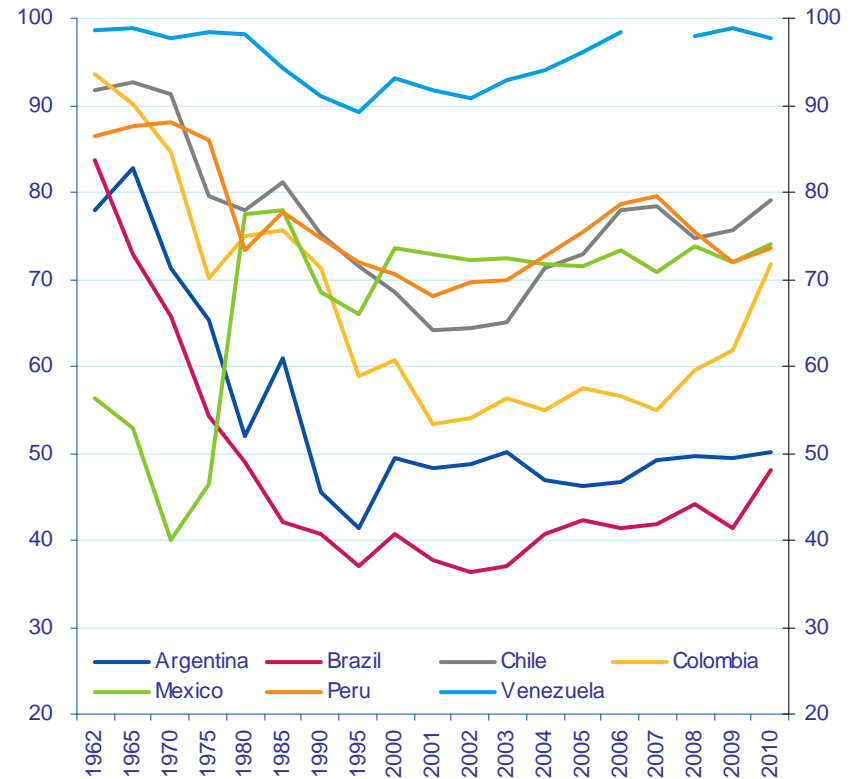
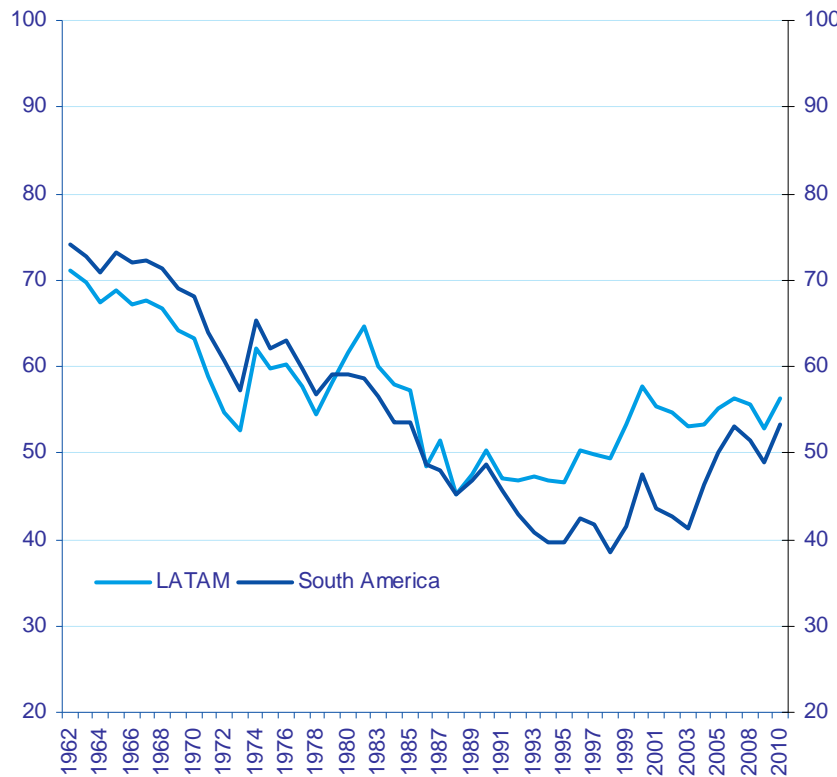
- **Exports concentration:** Top 5 goods cumulative share, Gini index, HH index
- **Commodity exports concentration:** Commodity exports share of total exports
- **Excessive commodity exports:** Difference between the commodity exports concentration for a country or region relative to the world average

Measuring concentration

# Export diversification process stalled in the last decade

## Exports: Top 5 goods cumulative share

Source: COMTRADE and BBVA Research



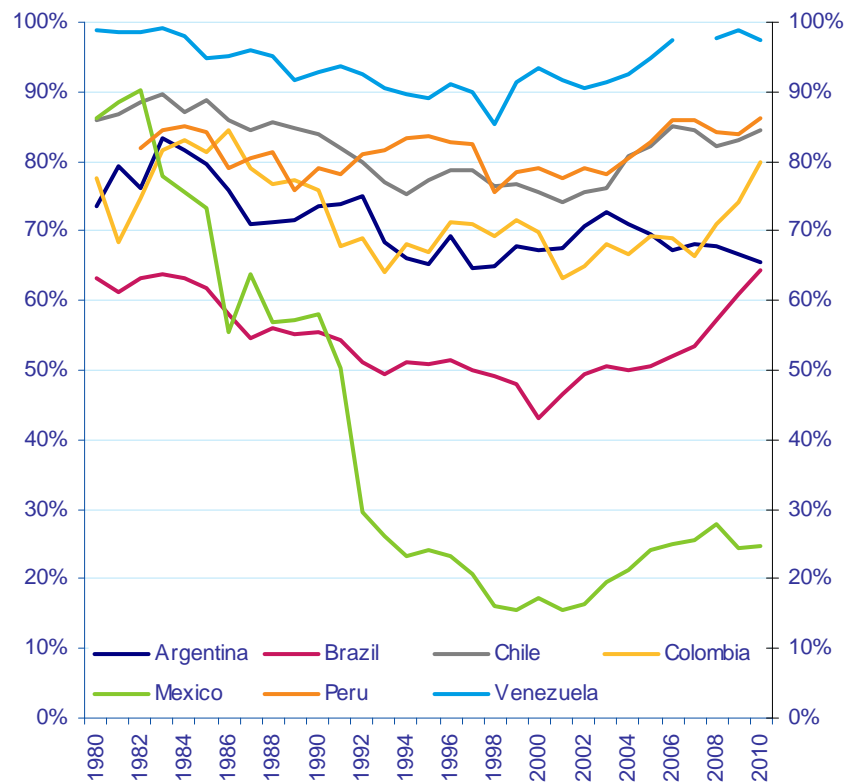
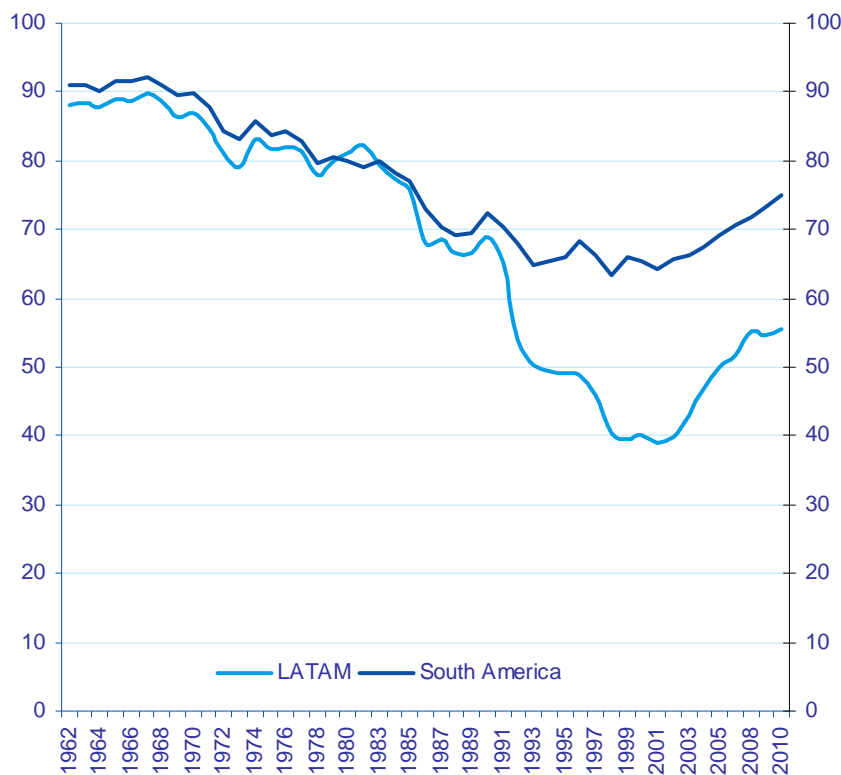
In the case of South America there has been a reversal which began 10 years ago, coinciding with the emergence of China as a world powerhouse

Measuring concentration

# Export diversification process stalled in the last decade

## Commodity Exports: Share of total exports (%)

Source: COMTRADE and BBVA Research



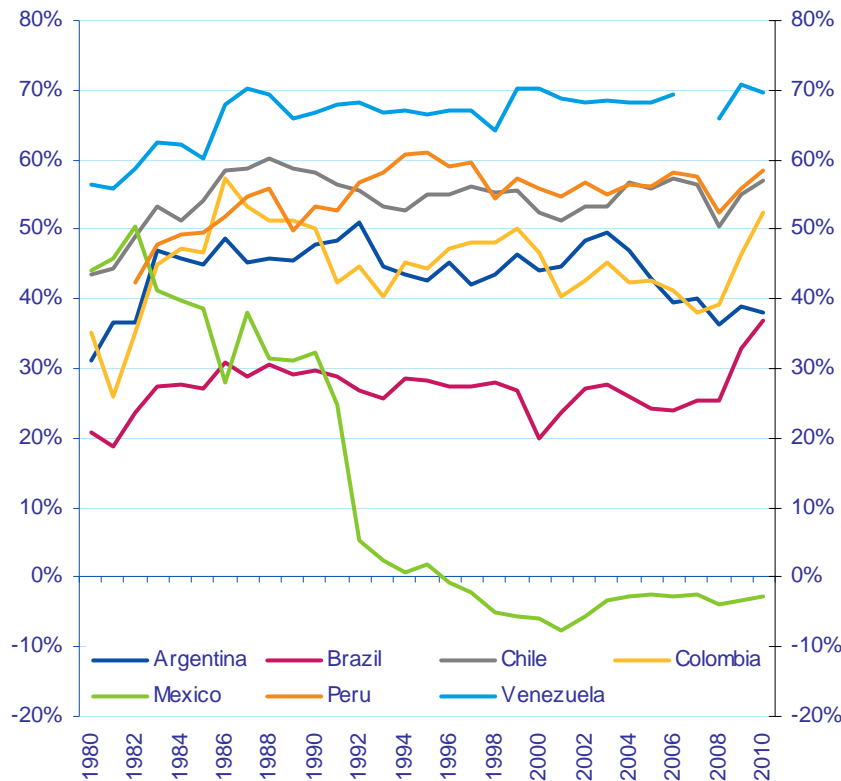
Commodities have always taken an important share of LATAM exports. After NAFTA, Mexican economy structure changed

Measuring concentration

# Export diversification process stalled in the last decade

## LATAM's excessive commodity exports: LATAM commodity exports share vs World average

Source: COMTRADE and BBVA Research



NAFTA helped changing the structure of Mexican economy

It was only since 2008 that the share of South American economies commodity exports rose more than the world average. This may imply the following:

- The rise of China and its impact on the commodity markets have a similar effect all over the world until 2007
- The Chinese hunger for commodities may have had an impact on South American exports since 2008. Some caveats should be taken into account like the grim performance of Venezuela's economy and its negative effect on Colombian manufactured goods exports

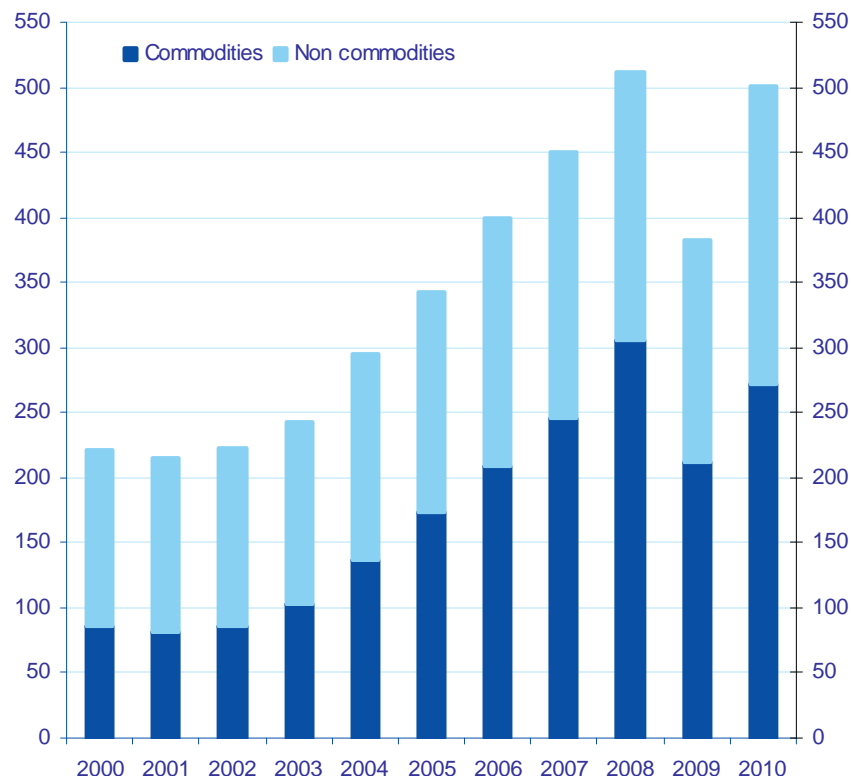
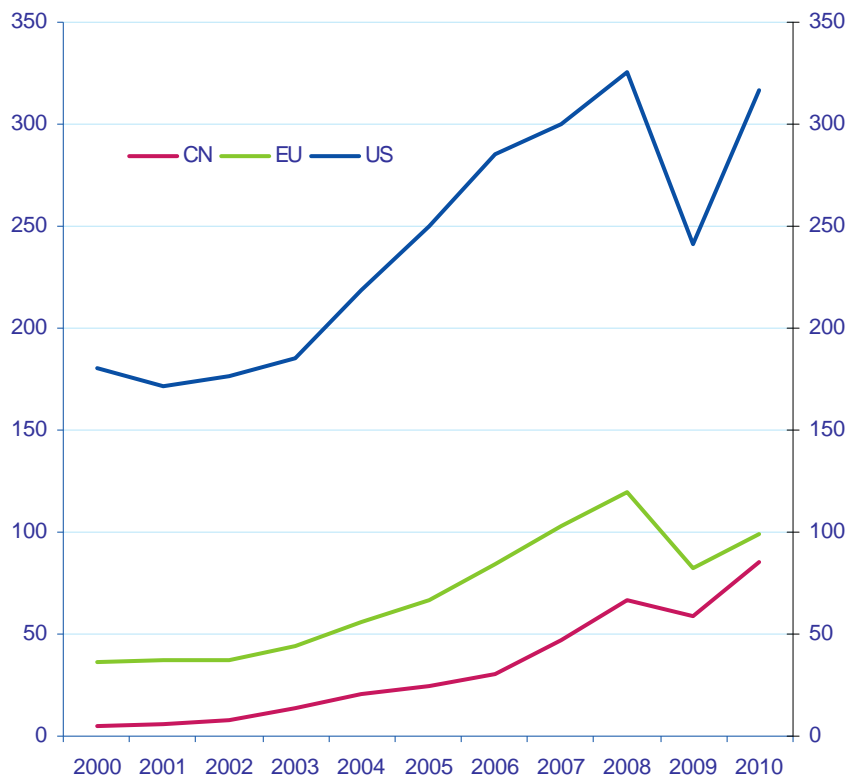
Compared with the rest of the World, South American economies have always been intensive in commodity exports

Measuring concentration

# US is still, by far, the most important partner of the region

## US, EU and China: Total imports from LATAM 7 in USD Billions

Source: COMTRADE and BBVA Research



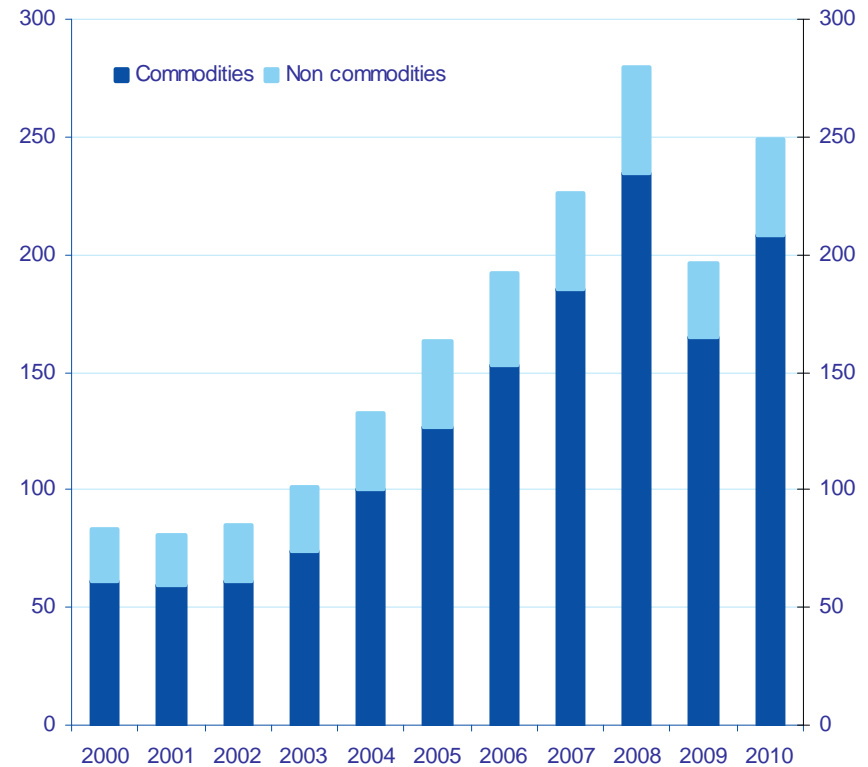
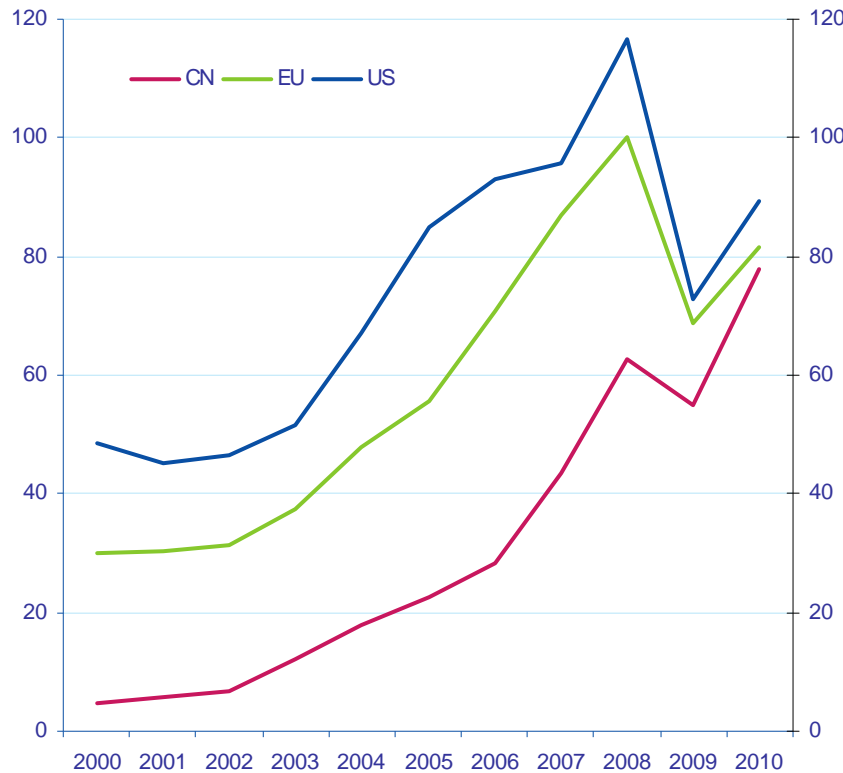
The rise of China is dramatic and in 2010 almost caught up with EU (EZ+UK) as the region second largest partner. Commodities are about half of the total exports

Measuring concentration

Considering only South America the picture is different...

**US, EU and China: Total imports from South America in USD Billions**

Source: COMTRADE and BBVA Research



Although the US is still the top export destination, the difference with EU and China is not as large. Commodities dominate export flows. China's demand was a buffer in 2009

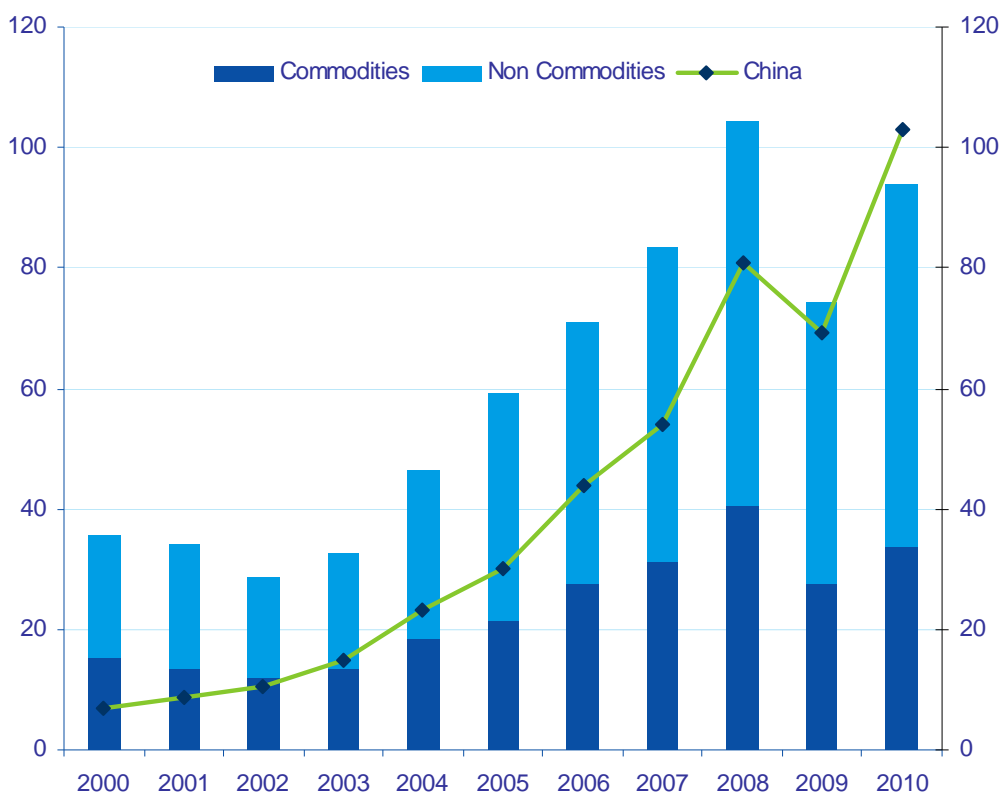
Measuring concentration

# Intraregional trade growing fast also and relatively focused on manufactured goods

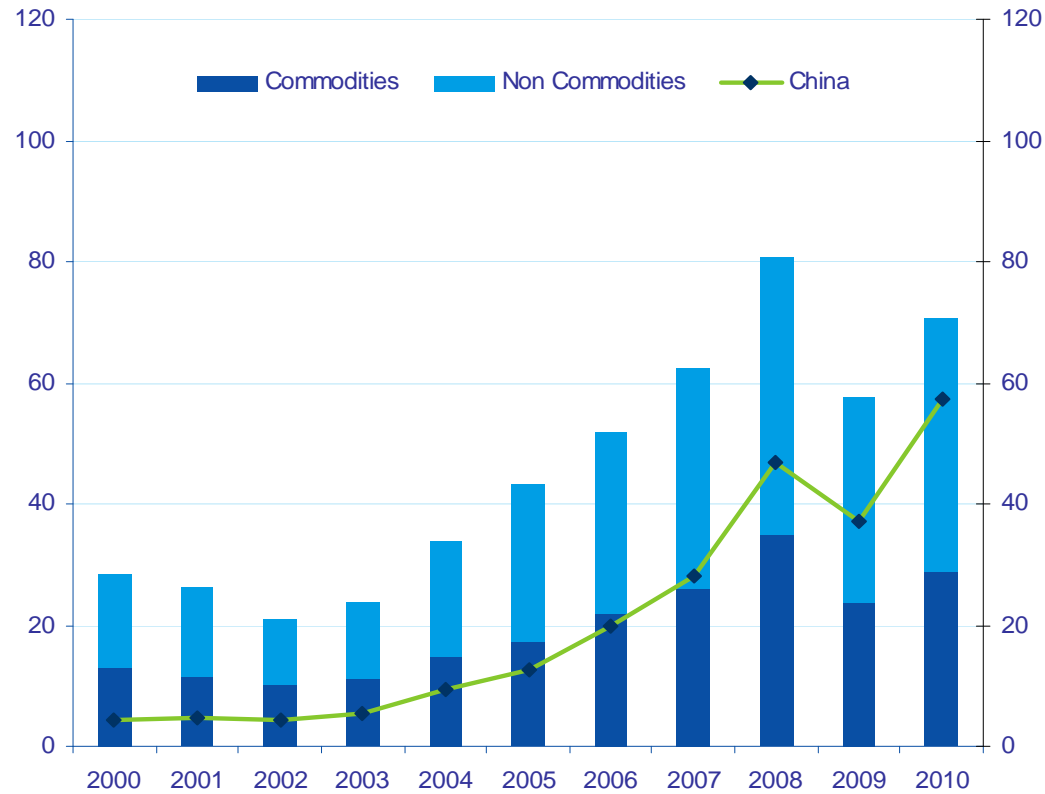
## Intraregional trade and Sino imports: in USD Billions

Source: COMTRADE and BBVA Research

### LATAM 7



### South America



# 3

## Empirical results

Based on Fung, Garcia Herrero and Nigrinis (2012)



Empirical results

# Definitions

## Purpose

- Is export concentration of commodities related to the growing importance of China, after controlling for other relevant determinants?

## Dependent variable

$$\left( \frac{ComExport}{TotalExport} - \frac{WorldComExport}{WorldTotalExport} \right)_{it}$$

## Independent variables

Label	Variable
Com Price Index / CPI	$\left( \frac{CompriceIndex}{CPI} \right)_t$
VA	$\left( \frac{ValueAddedinCom}{ValueAddedinGDP} - \frac{WorldValueAddedinCom}{WorldValueAddedinGDP} \right)_{it}$
ln (GDPpct/wGDPpct)	$\left( \ln\left( \frac{GDPpct}{WorldGDPpct} \right) \right)_{it}$
Infrastructure dummy	(Dummy of Quality of Infrastructure Index 2010) <sub>t</sub>
g	$(GrowthRateOfCommodityExportToChina)_{it}$
CN	$\left( \frac{CNComImports}{CNTotalImports} - \frac{WorldComImports}{WorldTotalImports} \right)_t$

Empirical results

# China behind higher concentration of commodity exports

Label	GLS					
	1980-2010		1990-2010		2000-2010	
<b>Com Price Index/CPI</b>	0.092*** (0.0084842)	0.269*** (0.020433)	0.099*** (0.0081242)	0.299*** (0.0195782)	0.124*** (0.0067679)	0.363*** (0.0162077)
<b>va</b>	0.857*** (0.0469829)	0.802*** (0.0425693)	0.988*** (0.0479426)	0.992*** (0.0448415)	1.367*** (0.0298013)	1.357*** (0.0313704)
<b>ln(GDPpct/wGDPpct)</b>	-0.004 (0.0046766)	-0.005 (0.0044361)	0.005 (0.0051616)	0.003 (0.0050045)	0.043*** (0.0050842)	0.042*** (0.0050641)
<b>infrastructure dummy</b>	-0.076*** (0.0215151)	-0.078*** (0.021573)	-0.063*** (0.0222208)	-0.051** (0.0214127)	-0.079*** (0.0247188)	-0.061** (0.0260994)
<b>g</b>	8.69 e-07** (4.45 e-07)		1.09 e-06** (4.41 e-07)		1.18 e-06 (1.01 e-06)	
<b>CN</b>		3.712*** (0.2617042)		4.069*** (0.2500846)		4.906*** (0.2093698)
<b>_cons</b>	0.021 (0.0230092)	-0.261*** (0.0368113)	0.003 (0.0224505)	-0.337*** (0.0348343)	-0.022 (0.0255795)	-0.435*** (0.0337675)

We control for the standard determinants of export concentration, such as terms of trade, the endowment (va) relative income per capita and infrastructure

## 4

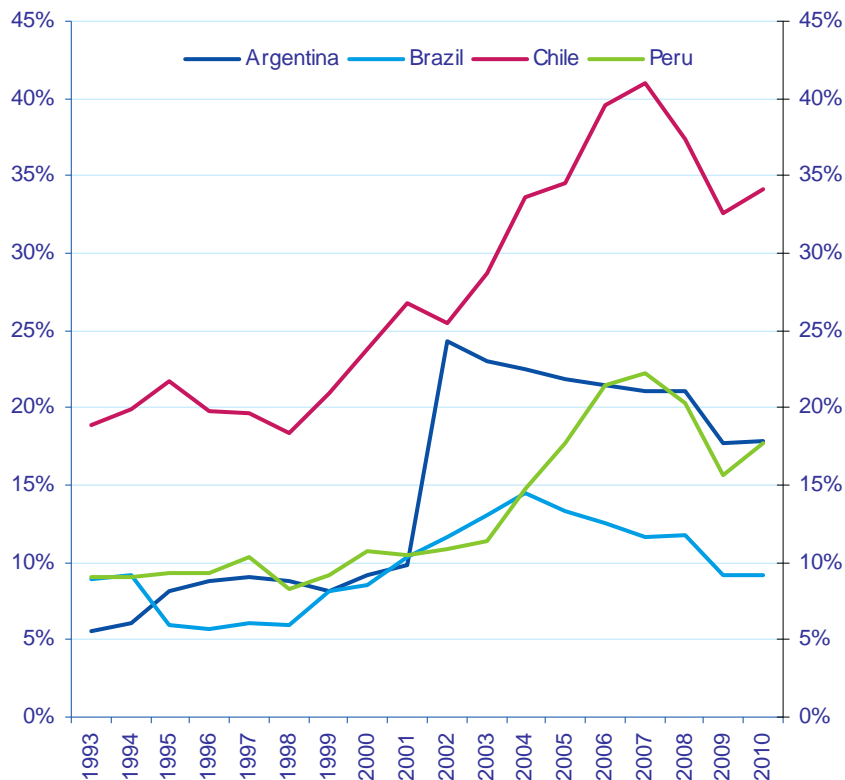
# Case of study: dependency on China

Based on Ferchen, Garcia Herrero and Nigrinis (2011 and 2012)

# The importance of exports is not homogeneous

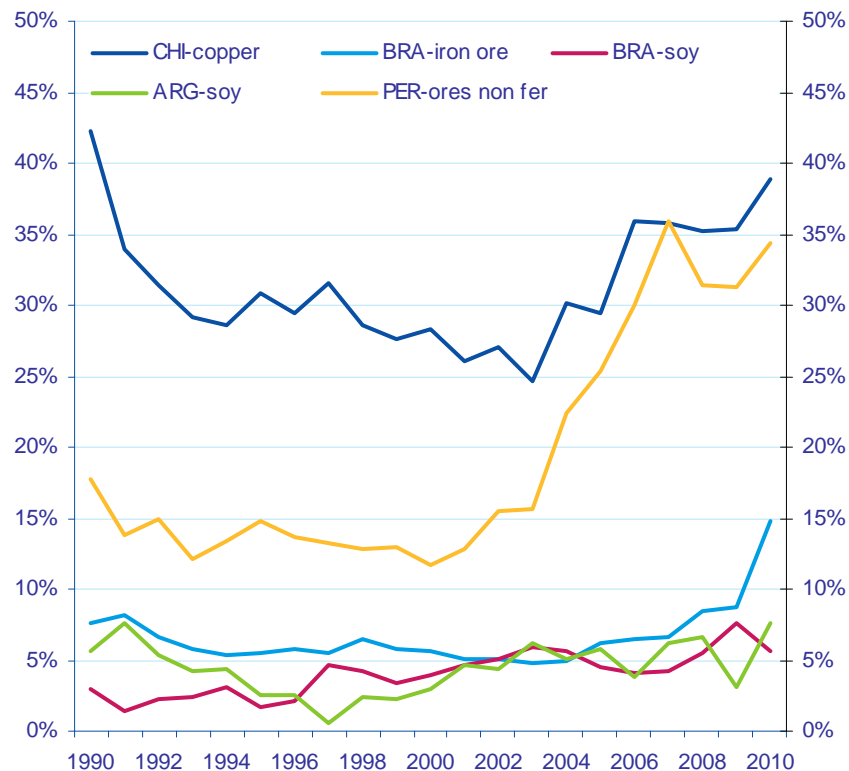
## Total exports: % of GDP

Source: COMTRADE, Haver and BBVA Research



## Commodity exports: % of total exports

Source: COMTRADE, Haver and BBVA Research

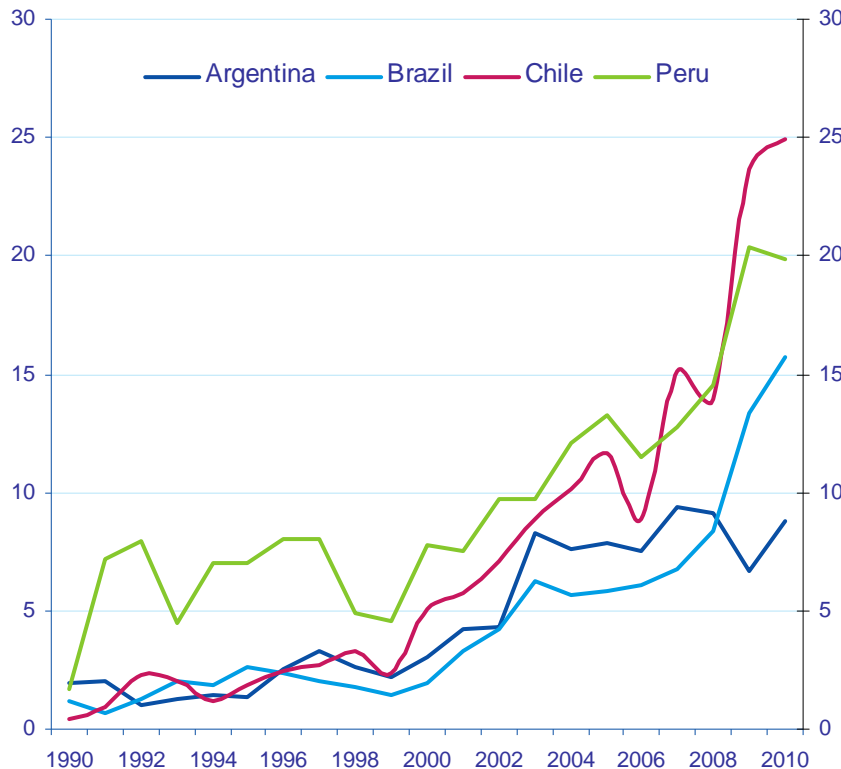


In some countries, total exports are concentrated in just one or two commodities

# China is becoming key as destination

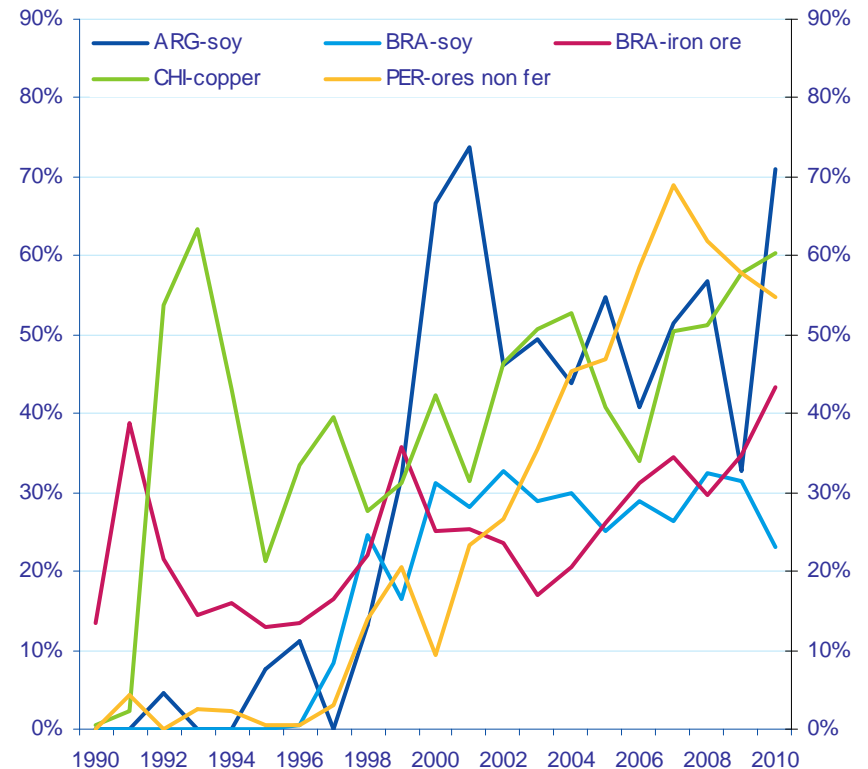
## Exports to China: % of total exports

Source: COMTRADE, Haver and BBVA Research



## Commodity exports to China: % of total exports to China

Source: COMTRADE, Haver and BBVA Research

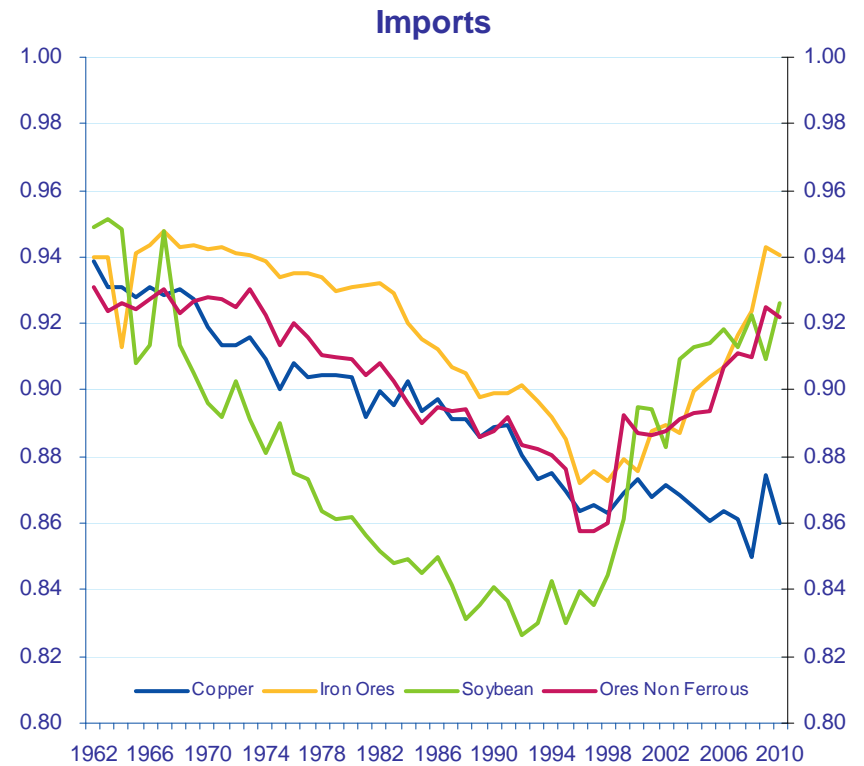
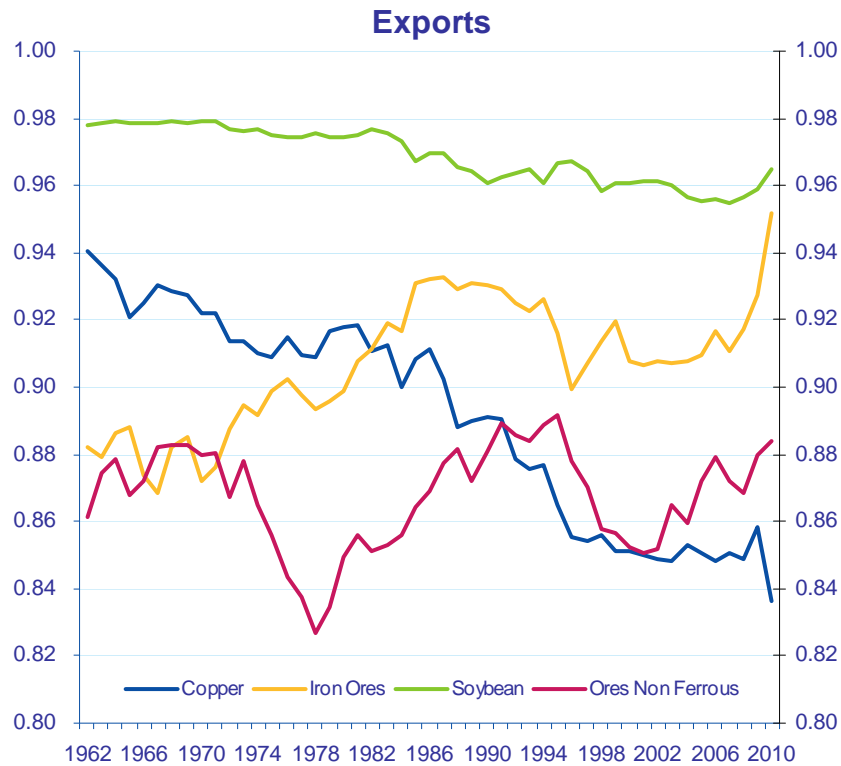


In all cases these commodities represent more than half of total exports towards China

# Commodity markets highly concentrated

## Market concentration: Gini index

Source: COMTRADE and BBVA Research

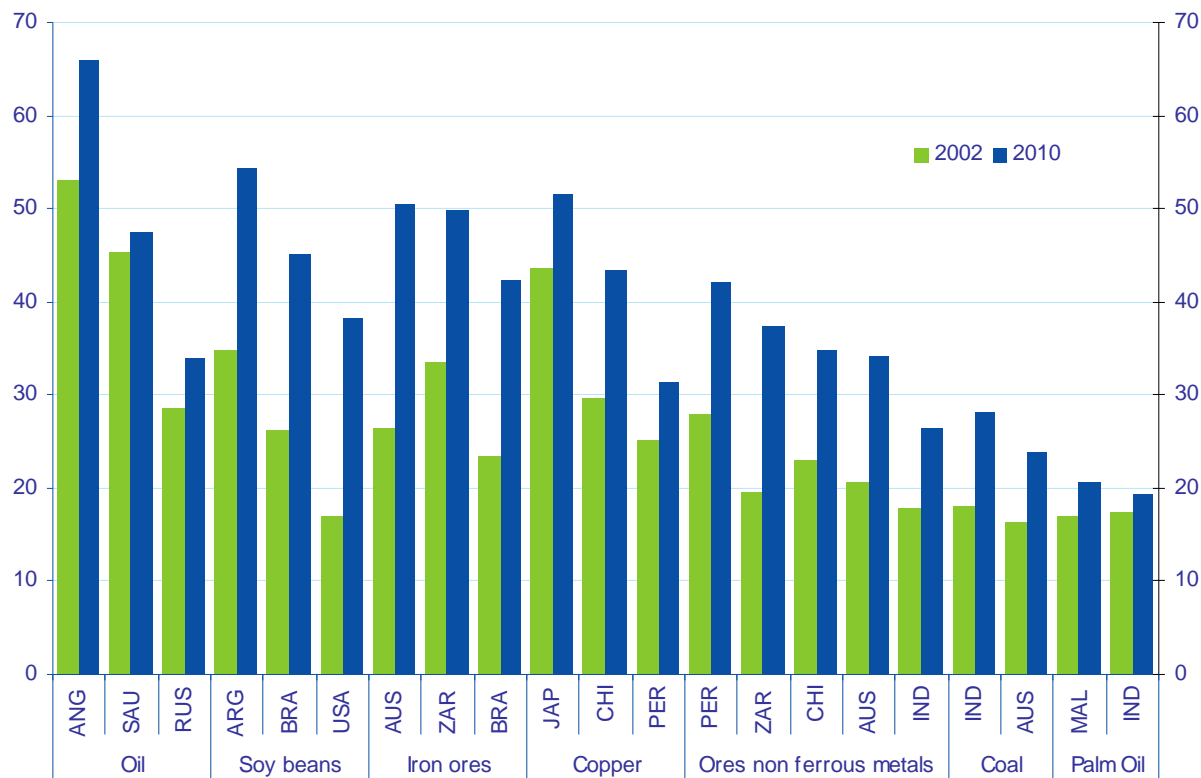


In recent years China gained lots of market power as the main buyer whereas South American countries are not always the largest suppliers

# Playing with fire?

## Exports dependency of China index: 0 no dependency - 100 absolute dependency

Source: COMTRADE and BBVA Research



Dependency on Chinese demand for all commodities considered have increased compared to year 2002

With the exception of iron ores and copper, the four South American countries considered are more reliant on Chinese demand than the other exporters

These results must be reviewed considering the size of exports relative to GDP, their weight on fiscal revenues and their appeal for FDI projects

# 5

## Conclusions



# Conclusions

## Exports concentration as a source of concern

- There seems to be a growing consensus that **excessive concentration of exports may be detrimental for economic development**, in particular when concentration is in commodities

## What has happened in LATAM?

- **Historically LATAM exports have been concentrated in commodities** although a process of diversification did indeed take place until the end of the last century
- That trend has changed starting 2008 and quite rapidly

## Is China responsible?

- Our results show some **evidence that China is indeed behind the renewed concentration on exports on commodities**

## Dependency of Chinese demand

- Our case of study show that **for commodities like soy bean and non ferrous metals, South American economies are more reliant on Chinese demand** than other exporters. For oil and iron ore other countries are more dependent than South American ones

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