The EU-Mercosur Agreement: An in-depth analysis of CO_2 emissions and labor market results

Prof. Dra. María C. Latorre (Director)
Facultad de Estudios Estadísticos,
Universidad Complutense de Madrid

Dr. Hidemichi Yonezawa
Statistics Norway

Dra. Zoryana Olekseyuk
Deutsches Institut für Entwicklungspolitik

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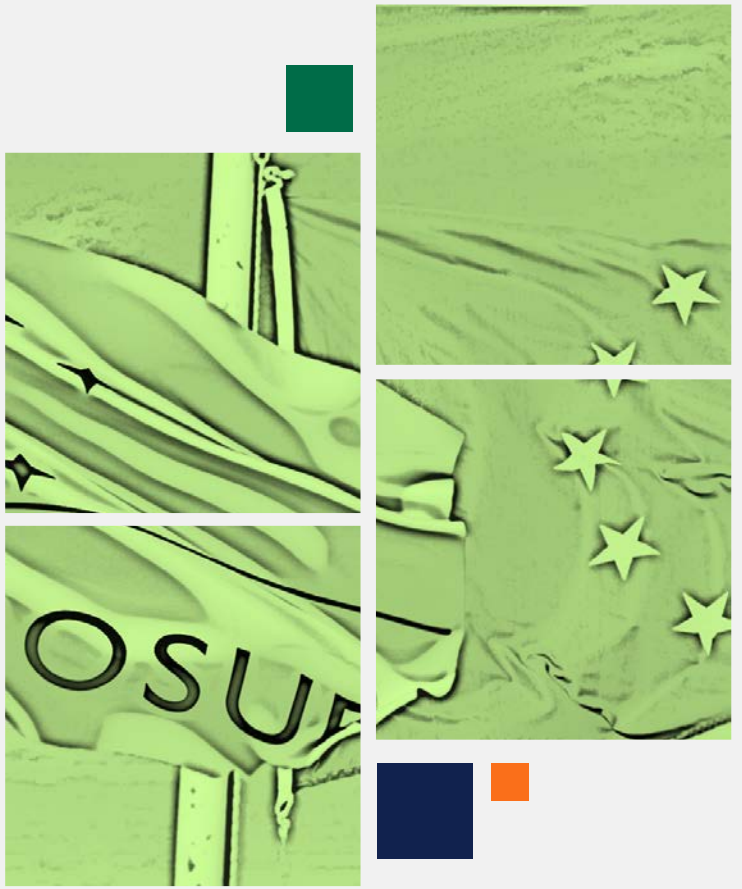



The
agreement

An updated view of the agreement

After Russian's invasion of Ukraine:

- The recovery from the Covid is in danger
- Import dependencies have been put on the table
- A new vision of allies and partners has arisen
- The provision of food, fertilizers and energy is problematic
- Therefore, the perception about the ratification of this agreement is changing…

The agreement in a nutshell (1)

Deep trade agreement including:

- Provisions for safeguarding the environment & labour standards
- Protection against imitation of 357 geographical indications of traditional European products (the largest ever)
- Public Procurement
- Digital Trade
- Trade in services
- Foreign Direct Investment ...

The agreement in a nutshell (2)

Compared to EU agreements with Japan & Canada (2020) …

Agreement with:	Population (in millions)	Population (% of world)	GDP (in $trillions)	GDP (% of world)	Exports (% of world)	Imports (% of world)	Tariff savings (in €billions)
Canada	485.8	6.3	15.5	18.9	34.0	32.4	0.54
Japan	573.6	7.4	18.3	22.3	35.4	33.8	0,9
Mercosur	716.3	9.2	16.2	19.9	33.3	31.5	3.6

Source: Own elaboration based on the World Development Indicators (World Bank, 2022). Note: UK is not included in these calculations.

A much larger population covered, although with smaller GDPpc

& similar trade size, but with much larger tariff savings

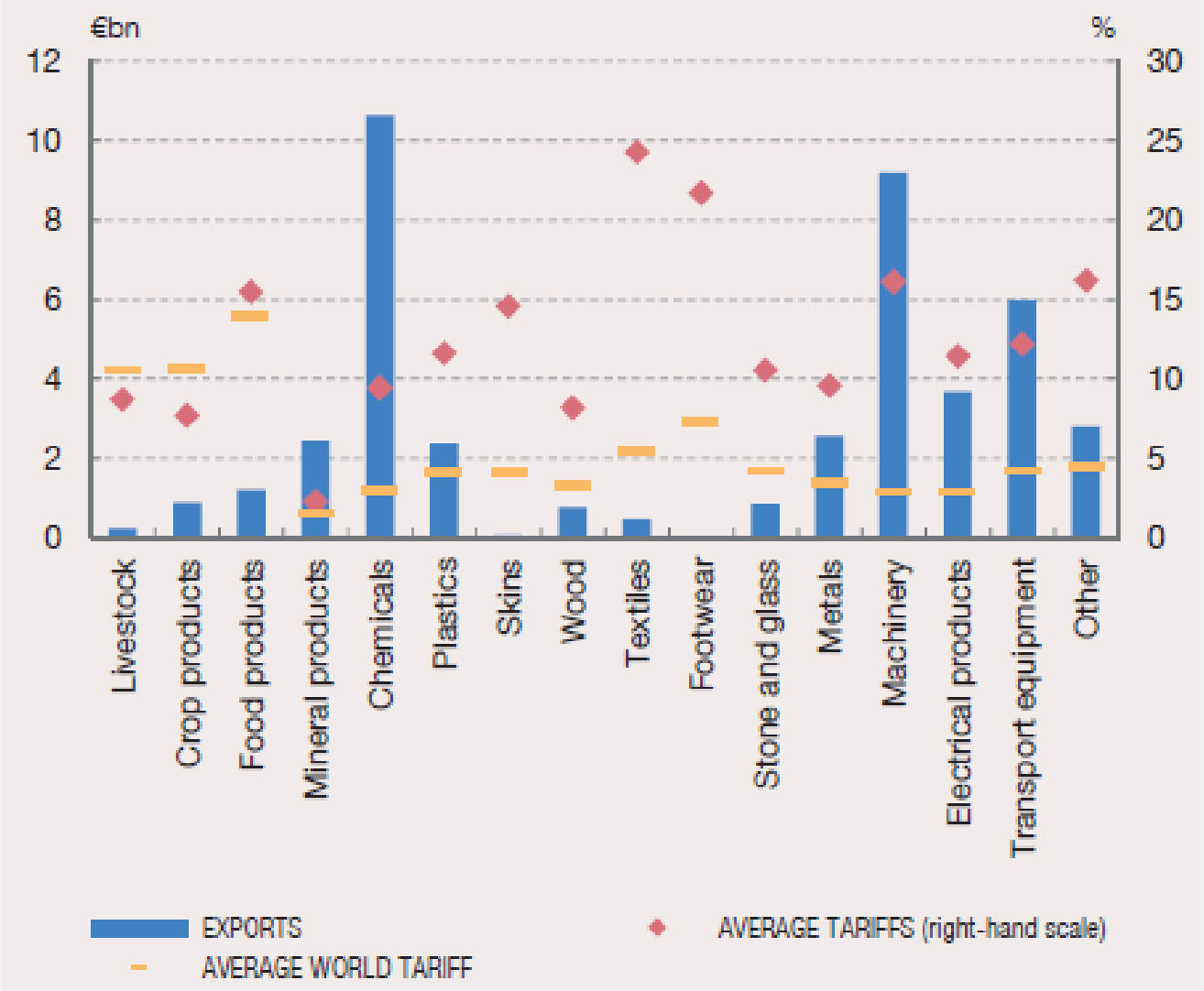
The agreement in a nutshell (3)

- Nowadays, around 850,000 jobs in the EU relate to exports to Brazil alone…
- Mercosur is around 2.2% of EU's trade in goods and services (similar to agreement with Japan & Canada)
- … but it implies a much larger reduction in costs, compared to Canada and Japan, since tariffs cuts will be sharper
- ➡ European Commission estimates savings of around €4 billion in tariffs, while they were of €1 billion for Japan & €0.6 Canada (although excluding UK roughly a 10% reduction should be made)

EU27 Exports to Mercosur & Average Tariffs

"**Average tariffs** in Mercosur (in red diamonds in the Figure) are **considerably larger than the world average tariffs** (Orange horizontal bars)".

"This is **particularly important for EU exports** of Chemichals, Machinery and Transport equipment"



Source: Bank of Spain (2019)


The Model

We have modelled this agreement using…

Based on the Negotiated Agreement

Combination of methodologies

Computable General Equilibrium (CGE)

+

Gravity models

+

Product space

Large coverage

Trade
- Goods
- Services

+

Multinationals

+

Public Procurement

Up to date

Tariffs & Quotas

Opening of Services

+

Opening to FDI

+

Public Procurement Opening

Our CGE Approach

In the real world…

1. There is **imperfect competition** → **Melitz** (2003) in 9 manufacturing sectors

2. **There are multinationals** → **foreign multinationals** (&FDI) in **7 services sectors with imperfect competition**

In line with our previous work: Latorre, Olekseyuk and Yonezawa, 2019; Latorre, Olekseyuk and Yonezawa, 2020; Latorre, Olekseyuk, Yonezawa and Robinson, 2020

3. **There is unemployment** → **unemployment wage curve** à la Blanchflower & Oswald (2005)

Our CGE Approach

In the real world…

1 There is i

2 There are multi

In line with our previo
Olekseyuk and Yoneza

3 There is unemp

1

The Melitz story

- Extends the full Melitz (2003) specification of **Balistreri et al. (2011) in Journal of International Economics**
- **Pareto distribution** with parameters as in Balistreri et al. (2011)
- We model **Melitz in several manufacturing sectors**

  Others have CGEs with Melitz in only one sector: Dixon et al., 2016; Akgul et al., 2016; Oyamada et al., 2015

- **The model includes firm exit and entry:**

  Contrary to the approach of Petri and Plumer, (2016) and Petri et al. (2012)

Our CGE Approach

In the real world…

1 There is imperfe

2 There are

In line with our previo
Olekseyuk and Yoneza

3 There is unemp

2

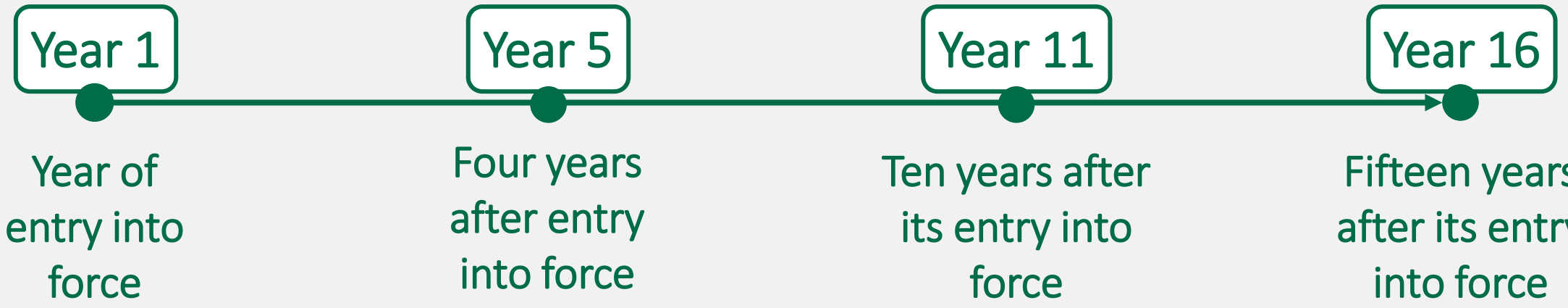
The FDI story

- In most services sectors we have 3 ≠ types of varieties:
  - Producing locally
    - Domestic firms
    - Multinational firms coming from ≠ countries
    - Imported varieties coming from ≠ countries
- The cost structure of domestic firms ≠ of multinational firms
  - Domestic firms use local production factors + intermediates
  - Multinationals also use local production factors + intermediates BUT, + specialized foreign inputs
- ↓ Barriers to FDI ↓ costs of multinationals, which affect their entry and profitability.
- FDI runs in **imperfect competition** à la Krugman (1980)


The
Simulations

Simulations (1)

We have analyzed the impact in 4 subsequent years:



Simulations (2)

In the 4 years we run the simultaneous effects of these **4 "negotiated" components:**

- **"Tariffs":** Joint impact of ⬇ tariffs & quotas (effort to translate tariffs and quotas at HS8 & HS6 level)
- "**NTMs years 1-16**": ⬇ of Non Tariff Measures on **trade in goods & services** (= % ⬇ in all 4 years):
  - More scope for liberalization in non-technical measures, less scope in SPS and TBTs
  - More scope for liberalization in Mercosur than in the EU
  - For manufactures: World Bank, 2019), for services (Benz and Jaax, 2020) converting CPC to GTAP
- **"FDI years 1-16"**: ⬇ of NTMs to FDI (= % ⬇ in all 4 years), (Jafari and Tarr, 2017)
- **Public Procurement:**
  - **"PP years 1 and 5"**: only **central government agencies** we simulate = ⬇ in NTMs to **trade in goods & services & to FDI.**
  - **"PP years 11 and 16"**: **extension to regional agencies** & also a **deepening of the agreement's achievements (i.e.,** NTMs ⬇ from PP in years 1 & 5 are multiplied by 2)

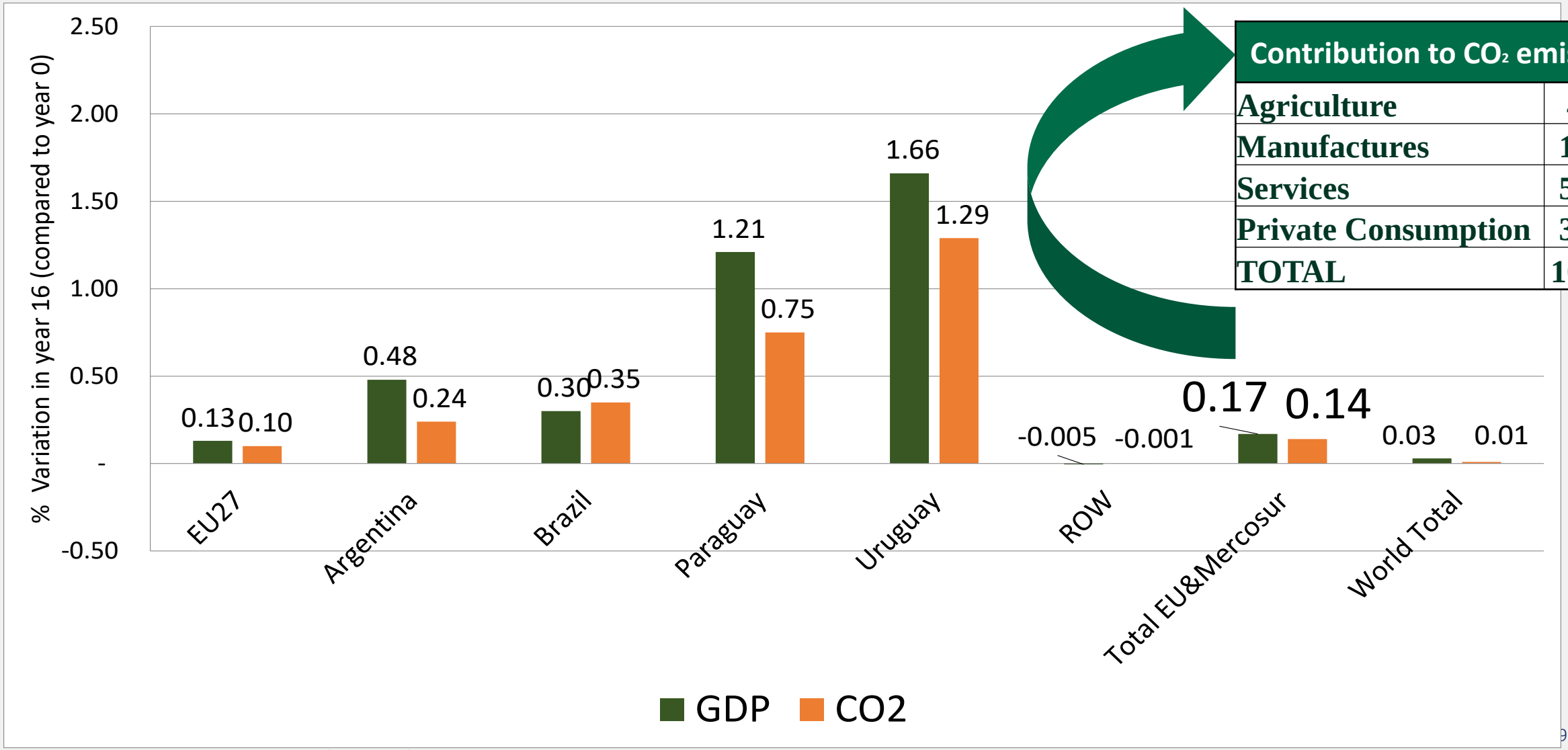

Results

Macroeconomic impact (Year 16)

	GDP	Consumption	Exports	Imports	Employment	CO2
EU27	0.13	0.21	0.23	0.25	0.06	0.10
Argentina	0.48	0.86	4.04	5.04	0.31	0.24
Brazil	0.30	0.65	4.69	4.11	0.24	0.35
Paraguay	1.21	1.51	-0.12	1.45	0.24	0.75
Uruguay	1.66	2.51	2.90	4.20	0.58	1.29
ROW	-0.005	-0.008	-0.038	-0.029	-0.002	-0.001

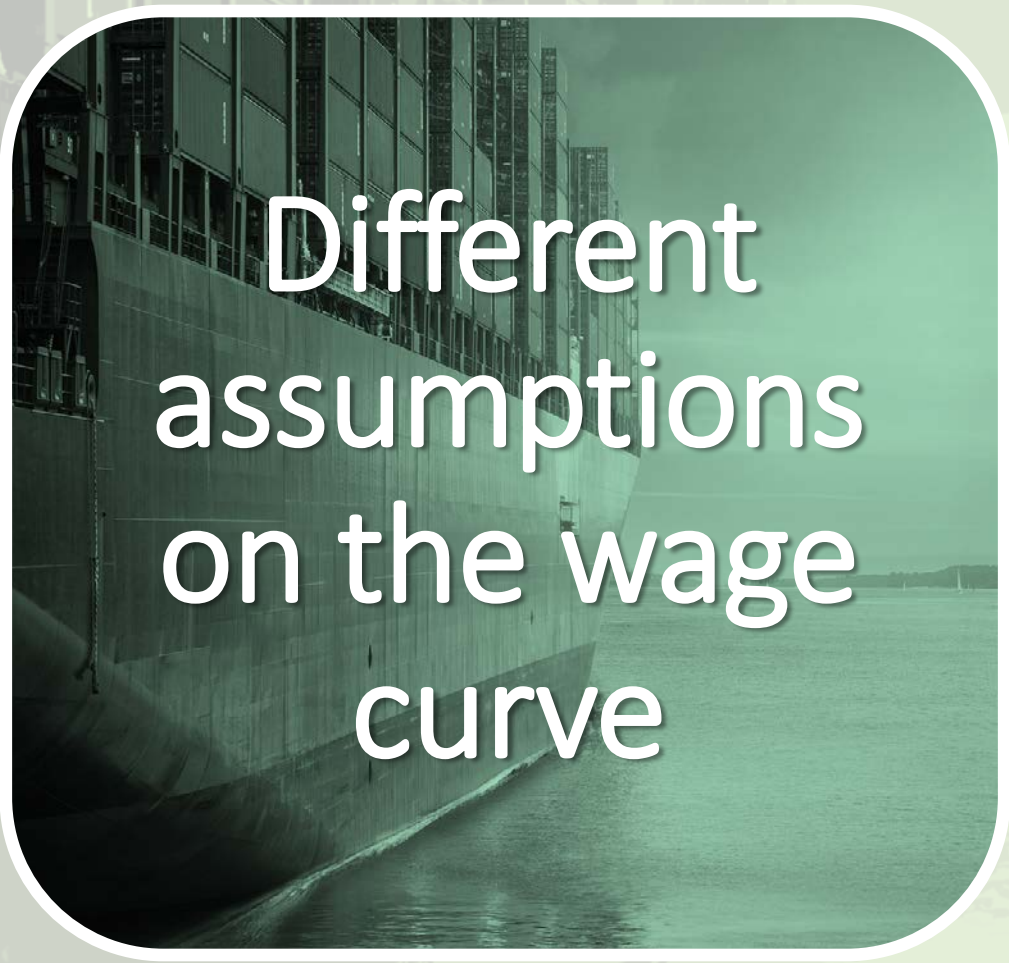
Source: Latorre et al. (2022)

GDP & CO_2 (Year 16)

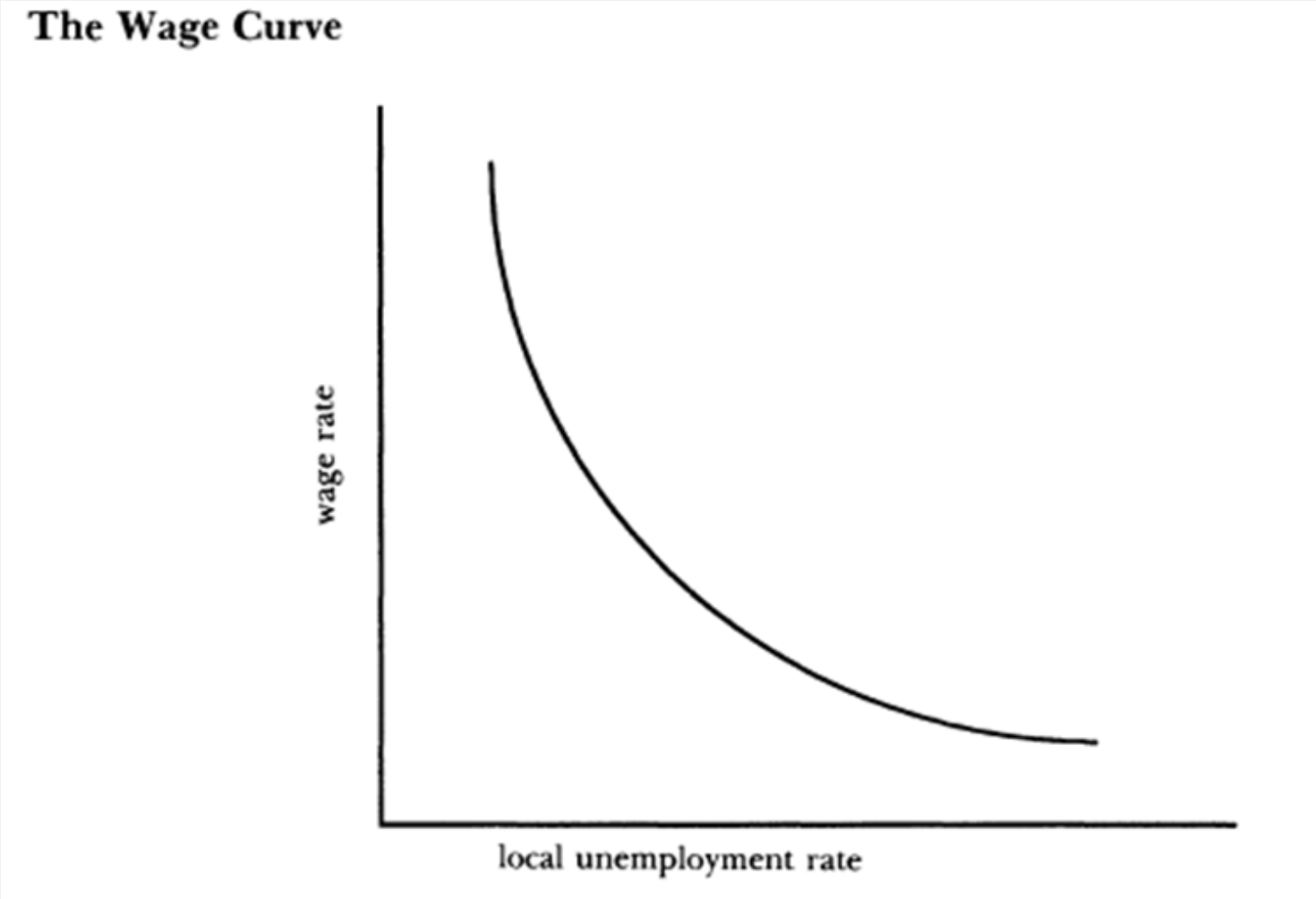


Contribution to CO_2 emissions	
Agriculture	4.0%
Manufactures	14.1%
Services	50.1%
Private Consumption	31.8%
TOTAL	100.0%

Source: Latorre et al. (2022)


Different assumptions on the wage curve

The wage curve



Source: Blanchflower and Oswald (1995)

Results' sensitivity to wage curve assumptions

Wage curve: log (real wages) $= \in . log \left({}^{U_f}/_{U_0} \right)$

Central scenario:

Standard value of the elasticity of wages with respect to unemployment ($\in$) of -0.1% (Blanchflower & Oswald, 1994,1994, 2005)

➡ a 100% rise (decrease) in unemployment causes a 10% fall (increase) in the level of wages

We also assume:

1) A particular initial level of unemployment taken from forecasts

2) 50% specific labor across sectors

Results' sensitivity to wage curve assumptions

We analyze 3 variations of the underlying assumptions:

1. Changes in elasticity of wages with respect to unemployment
2. Changes with respect to the initial level of unemployment
3. Assumption of exogenous unemployment with and without 50% of specific labor across sectors

Changes in elasticity of wages with respect to unemployment

We run 2 moderate variations in this elasticity (50% higher or lower) and 2 extremes variations (100 times larger or smaller) for the EU27:

Elasticity	GDP	Exports	Imports	Employment	Wages	CPI
REF=-0.1	0.13	0.23	0.25	0.06	0.10	0.05
Smaller values of the elasticity of of wages with respect to unemployment						
-0.05	0.15	0.25	0.27	0.08	0.09	0.04
-0.001	0.22	0.31	0.33	0.19	0.03	0.03
Larger values of the elasticity of of wages with respect to unemployment						
-0.15	0.12	0.22	0.24	0.04	0.11	0.05
-10	0.09	0.19	0.22	0.00	0.13	0.05

Compared to the reference value (-0.1), smaller (larger) values of this elasticity make wages less (more) sensitive to changes in unemployment. The decrease in unemployment, affects wages less (more) and it is less (more) costly for firms to create more jobs. With a smaller (larger) elasticity increase in trade and GDP are larger (smaller) than before and increases in wages are smaller (larger).

Changes with respect to the initial level of unemployment

We run 2 sets of simulations assuming a rate of unemployment that is 20% and 50% higher or smaller than our reference scenario (EU27=9.18%).

	GDP	Exports	Imports	Employment	Wages	CPI
Initial Unemployment rate	0.13	0.23	0.25	0.06	0.10	0.05
	Smaller initial values for unemployment rate					
20% smaller	0.12	0.22	0.24	0.05	0.11	0.05
50% smaller	0.11	0.21	0.24	0.03	0.11	0.05
	Larger initial values for unemployment rate					
20% larger	0.14	0.23	0.26	0.06	0.10	0.05
50% larger	0.14	0.24	0.26	0.07	0.09	0.04

Results are less sensitive to the initial unemployment rate than to the elasticity. Compared to the reference unemployment rate value, smaller (larger) rates provide a smaller (larger) pool of workers available so that it is more difficult (easier) to create new jobs without increasing wages much. With a smaller (larger) unemployment rate the increase in trade and GDP are slightly smaller (larger) than before and increases in wages are larger (smaller) than before.

Exogenous unemployment with or without 50% of specific labor across sectors

Now we turn unemployment exogenous and run the model keeping the 50% of labor specific across sectors vs exogenous unemployment with fully mobile labor. Results for the EU27 are:

GDP	Exports	Imports	Employment	Wages	CPI
0.13	0.23	0.25	0.06	0.10	0.05
Exogenous unemployment with 50% specific labor					
0.09	0.19	0.22	0.00	0.13	0.05
Exogenous unemployment with fully mobile labor					
0.09	0.19	0.22	0.00	0.14	0.06

Job creation cannot vary with the simulations now. With a fixed rate of unemployment the increase in trade and GDP are considerably dampened. Adjustments in the labor market only occur through wages, which grow more than before. These wage increases are slightly stronger with fully mobile labor compared to the 50% specific labor case.


Sectoral
Results

EU27 imports from Mercosur (Year 16)

Sector	Mercosur
1.Cereales	4.51
2.Frutas	2.55
3.Azúcar	0.29
4.Otra agricultura	3.58
5.Bovino	3.75
6.Productos animales	0.23
7.Lácteos	0.01
8.Silvicultura	0.05
9.Minerales	7.77
10.Porcino	2.18
11.Aceites	7.54
12.Otros alimentos	11.80
13.Bebidas	1.30
14.Textiles	0.07
15.Vestido	0.05
16.Cuero	1.80
17.Madera	6.03
18.Derivados petróleo	1.65
19.Químicos	3.71
20.Productos farmacia	0.81
21.Plásticos	0.33
22.Metales	4.51
23.Electrónica	0.37
24.Maquinaria	2.25
25.Automóvil	2.48
26.Otro transporte	1.42
27.Otras manufacturas	0.57
28.Construcción	0.09
29.Hostelería	0.44
30.Transporte marítimo	2.46
31.Transporte aéreo	0.90
32.Comunicaciones	1.48
33.Banca	0.95
34.Seguros	0.47
35.Servicios a empresas	11.43
36.Servicios personales	1.79
37.Otros servicios	4.79
38.Electricidad	0.73
39.Carbón	0.00
40.Petróleo	2.86
41.Gas	0.02

Bovine production in Brazil: 1,7%

Bovine Sector: 3,75%

This agreement goes far beyond agriculture

EU27 Imports from Mercosur	
Total agriculture	15.0 %
Total manufacturing	59.6 %
Total services	25.4 %
Total	100.0 %

Business Services: 11,43%


Conclusions

The **EU-Mercosur** agreement…

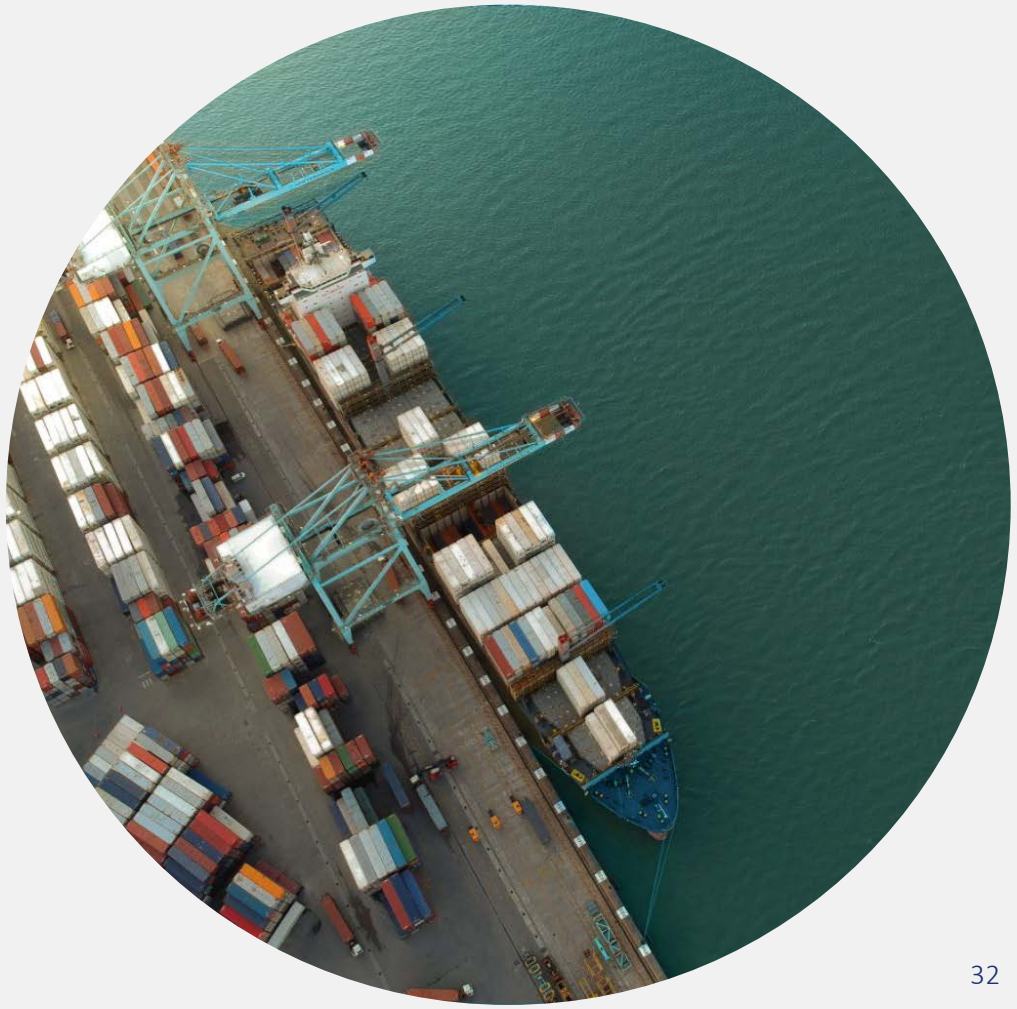
- ✓ …all **signatory countries gain**
- ✓ … favors **specialization in cleaner sectors** - CO2 emissions < GDP growth
- ✓ … **goes beyond agriculture**
- ✓ … is of a **strategic nature** in view of **China's advance** in Mercosur
- ✓ … is a **source of growth and employment**, helping to **fight inequality and poverty**

With respect to the wage curve…

In line with the literature (e.g., Gómez-Plana and Latorre, 2019)

- ✓ Results are not very sensitive with respect to the initial level of unemployment assumed
- ✓ They are more sensitive to the value of the elasticity of wages with respect to unemployment
- ✓ A smaller (larger) elasticity makes wages less (more) sensitive and increases (dampens) job creation and thus trade and GDP increases
- ✓ Assuming exogenous unemployment implies that labor market adjustments can only occur through wages, whose adjustment is magnified… sector specific capital does not affect the results much

¡Thank you!



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