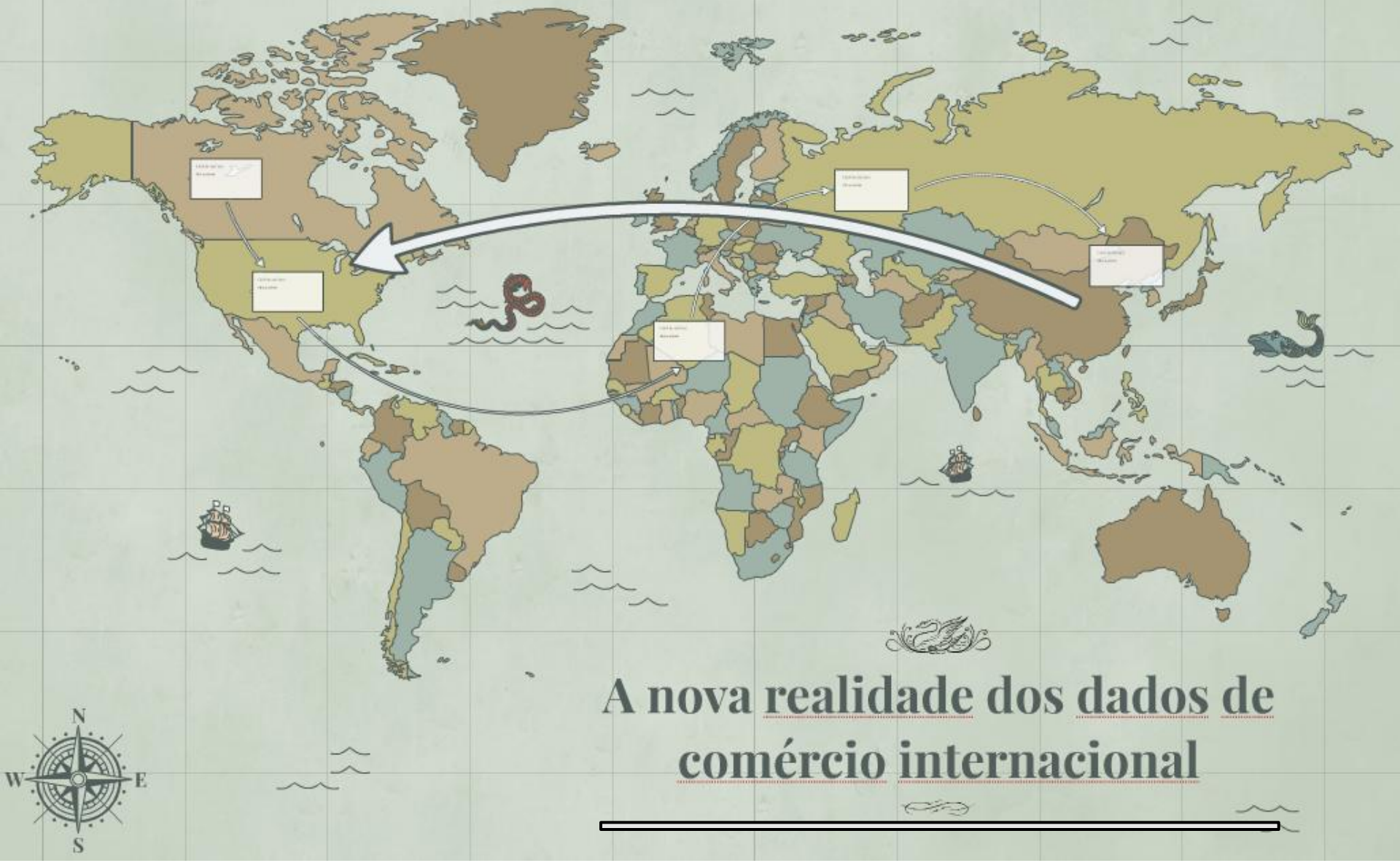


A nova realidade dos dados de comércio internacional

LISBON SCHOOL OF ECONOMICS & MANAGEMENT
UNIVERSIDADE DE LISBOA

- ***MOTIVAÇÃO*: AS CADEIAS GLOBAIS DE VALOR**

- ***PROBLEMA*: COMO AS ATUAIS ESTATÍSTICAS DE FLUXOS DE COMÉRCIO PODEM SER ENVIESADAS**

- ***CONTRIBUTO*: NOVAS BASES DE DADOS PERMITEM NOVOS ÍNDICES**

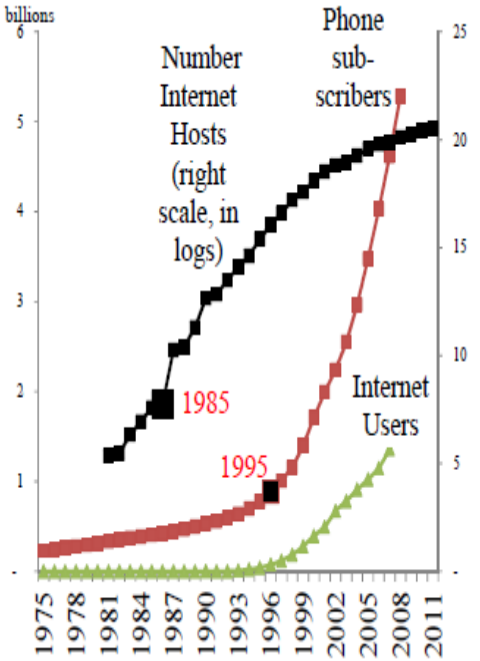
- ***APLICAÇÃO PRÁTICA*: REGRESSÃO EXPLICATIVA DO STOCK BILATERAL DE IDE ENTRE 2002 e 2012, (índice proposto é significativo)**

AS CADEIAS GLOBAIS DE VALOR

1: séc. XIX-XX, máquina a vapor reduz amplamente custos e dispersão do produto final

2: 1980-2000, TICs permitem a dispersão das várias fases de produção (fragmentação internacional da produção e cadeias globais de valor)

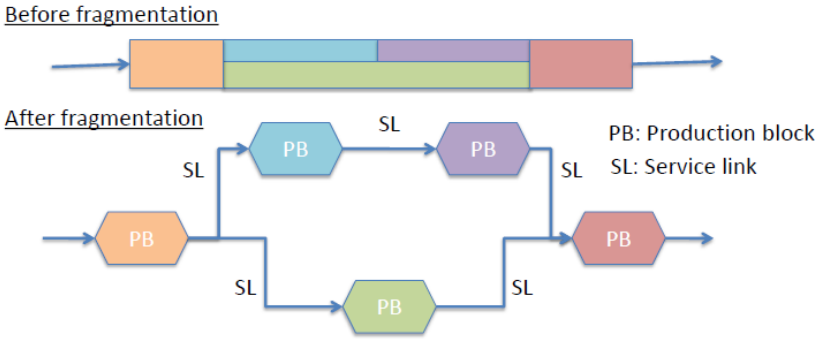
3: futuro, restrição *face to face* deixa de existir, fases de produção dispersam globalmente e novas regiões do mundo (África e América do Sul) associam-se às cadeias globais de valor



Os grandes números das cadeias globais de valor

- **CGV representam 80% do comércio mundial** - UNCTAD 2013

- **Comércio em bens intermédios representa 60% do comércio mundial** ((56% no caso de bens, 70% no caso de serviços) - MIROUDOT *et al* (2009)



- ***Factory Asia*: Comércio em partes e componentes representa 70% das exportações de manufacturas da China** - MIROUDOT *et al* (2009)

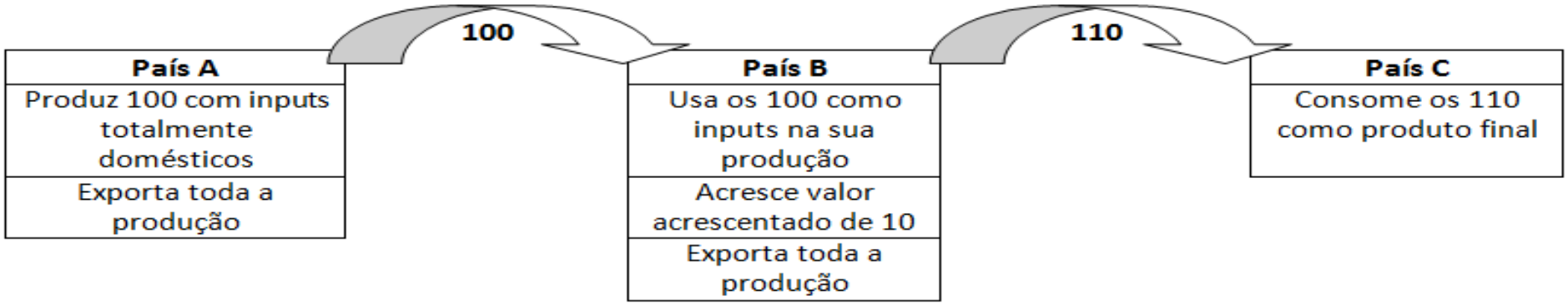
1.

WHAT YOU SEE IS NOT WHAT YOU GET

LAMY (2010): "*the international fragmentation of production is turning the current trade statistics and policies obsolete*"

Como as estatísticas falham

Um mundo simplificado, três países, um produto



As falácias

- Valor total do comércio mundial = 100+110 = 210 (mas na verdade a produção mundial foi apenas de 110)
- Estatísticas bilaterais mostram que:
    1. C tem um défice comercial com B de 110, e não tem comércio com A
       ERRADO, tem um défice comercial de 10 com B e de 100 com A (!).
    2. A não tem comércio com C, pelo que C não será afetado pelas decisões que A tome, e vice-versa
       ERRADO, C é o maior consumidor dos produtos de A, pelo que serão ambos amplamente afetados pelas decisões de política económica e comercial um do outro.

UNCTAD (2013) conclui que 28% do comércio internacional mundial era inexistente em 2010, USD 5 biliões

2.

POLITICIANS GET IT WRONG

THE CHINA TOLL

U.S.News & WORLD REPORT NEWS

Growing U.S. trade deficit with China cost more than 2.7 million jobs between 2001 and 2011, with job losses in every state

USA TODAY
A GANNETT COMPANY

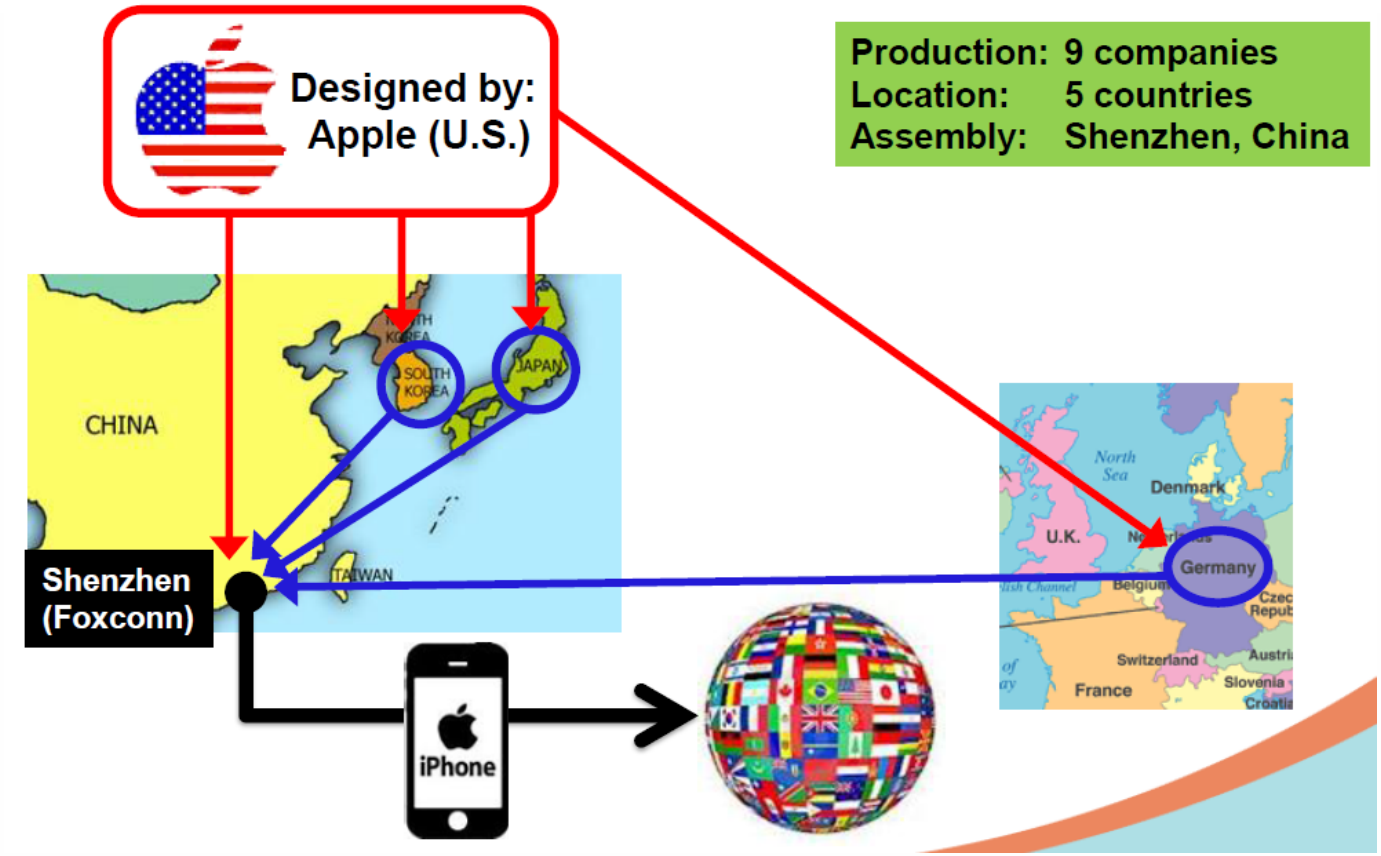
The Outsourcing of American Jobs Hurts the Economy on Every Level

The Washington Post

President Obama's jab at Mitt Romney: 'All you've done is send [China] our jobs'

COMO OS ATUAIS DADOS DE FLUXOS DE COMÉRCIO PODEM SER ENVIESADOS

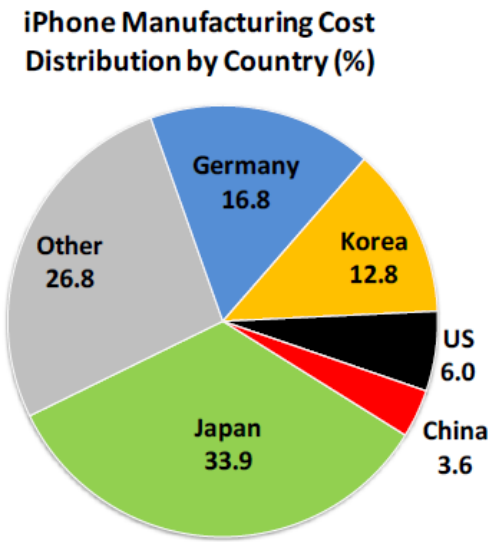
Xing (2010) – The supply chain of the iPhone and Trade in value added



COMO OS ATUAIS DADOS DE FLUXOS DE COMÉRCIO PODEM SER ENVIESADOS

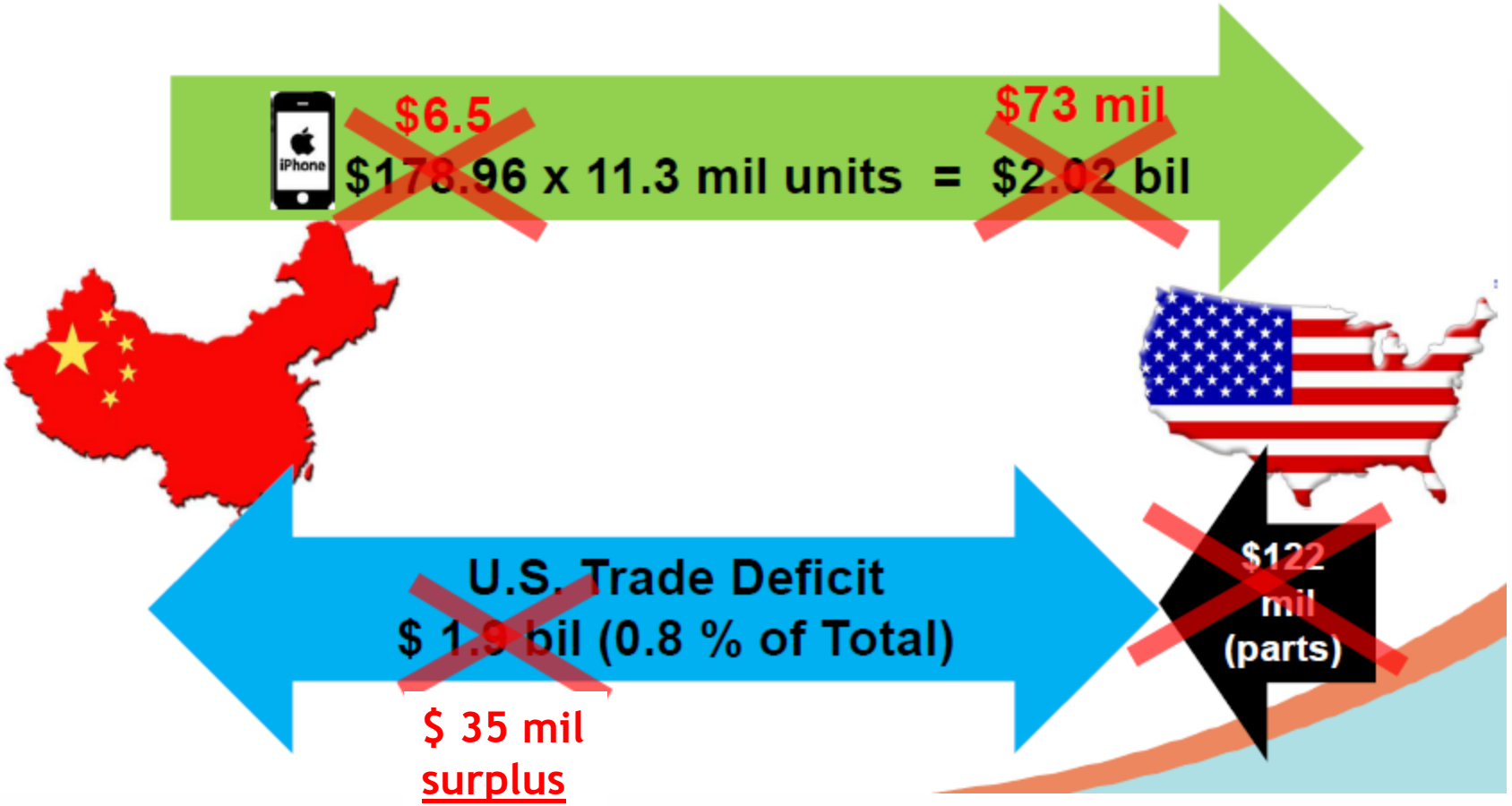
Table 1 . Apple iPhone 3G's Major Components and Cost Drivers

Manufacturer	Component	Cost (USD)
Toshiba (Japan)	Flash Memory	$24.00
	Display Module	$19.25
	Touch Screen	$16.00
Samsung (Korea)	Application Processor	$14.46
	SDRAM-Mobile DDR	$8.50
Infineon (Germany)	Baseband	$13.00
	Camera Module	$9.55
	RF Transceiver	$2.80
	GPS Receiver	$2.25
	Power IC RF Function	$1.25
Broadcom (USA)	Bluetooth/FM/WLAN	$5.95
Numonyx (USA)	Memory MCP	$3.65
Murata (Japan)	FEM	$1.35
Dialog Semiconductor (Germany)	Power IC Application Processor Function	$1.30
Cirrus Logic (USA)	Audio Codec	$1.15
Rest of Bill of Materials		**$48.00**
Total Bill of Materials		**$172.46**
Manufacturing costs		**$6.50**
Grand Total		**$178.96**

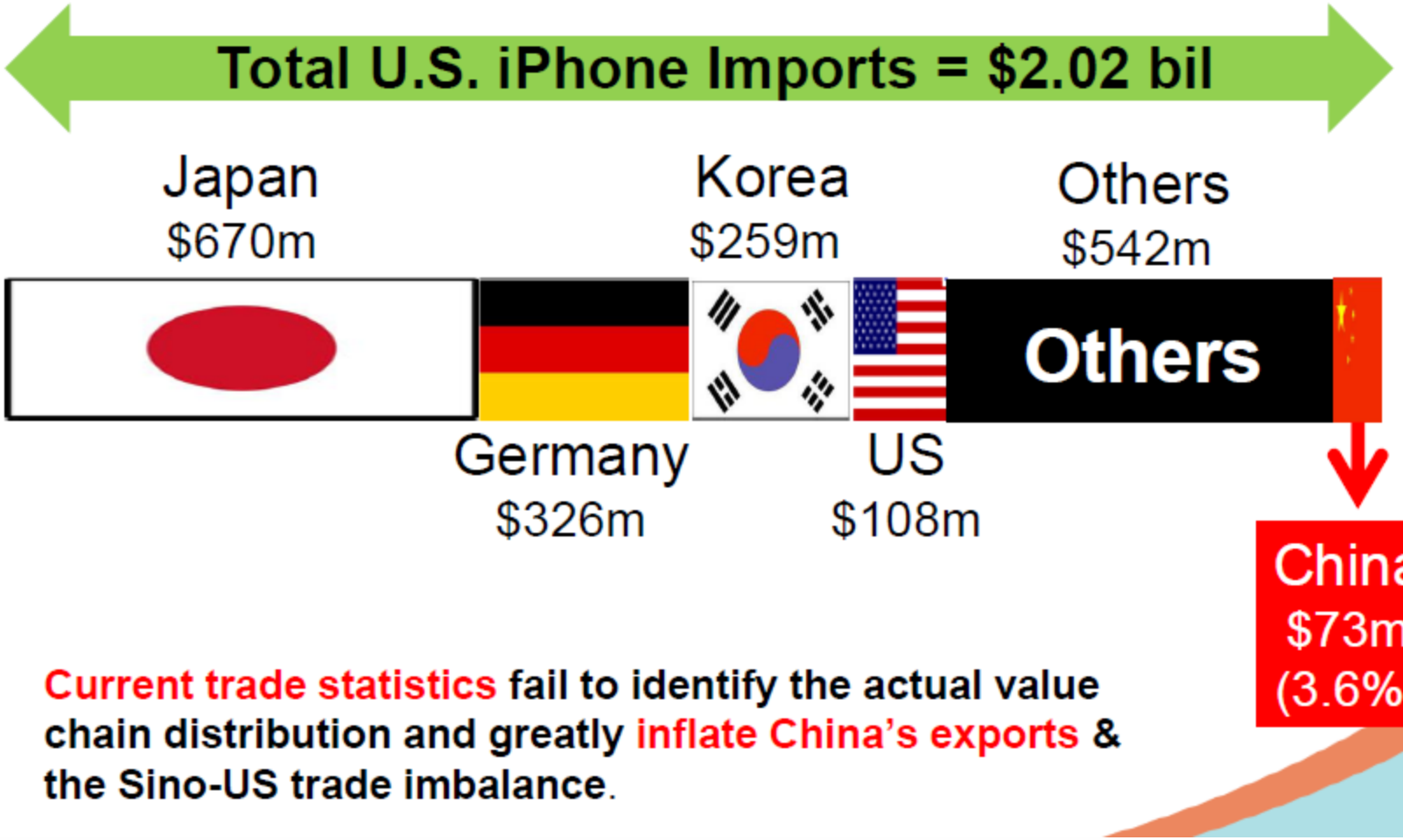


Source: Xing and Detert (2010)

COMO OS ATUAIS DADOS DE FLUXOS DE COMÉRCIO PODEM SER ENVIESADOS



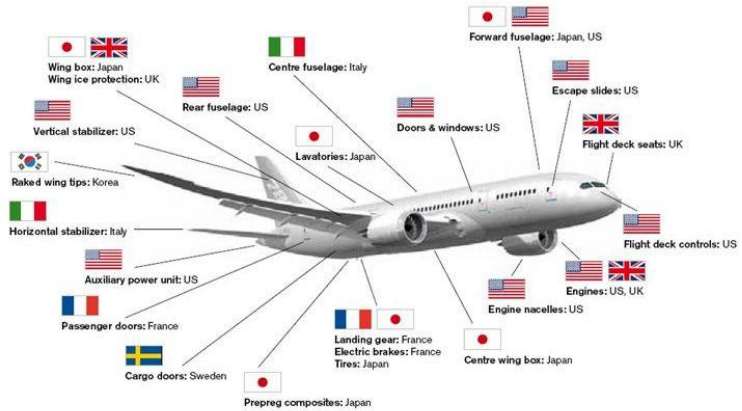
COMO OS ATUAIS DADOS DE FLUXOS DE COMÉRCIO PODEM SER ENVIESADOS



COMO OS ATUAIS DADOS DE FLUXOS DE COMÉRCIO PODEM SER ENVIESADOS

Other studies:

La fragmentación geográfica de la producción es creciente. Ejemplo del Boeing 787 Dreamliner



Fuente: WTO e IDE_JETRO con base en Meng y Miroudot (2011)

Complete list at www.globalvaluechains.org

Getting the statistics right is the first step

Os indicadores utilizados

Metodologia	+	-
Estatísticas de comércio internacional em partes e componentes	• Muito fáceis de obter e elevada comparabilidade internacional	• Apenas cobre bens, não serviços • Qualidade depende no grau de desagregação das estatísticas • Classificação nem sempre coincide com o uso efetuado (BI e BF) • Não permite leituras de *second-round effects*
Estatísticas das alfândegas para bens em processamento	• Mostram second-round effects • Segue de perto a origem inicial do produto	• Disponíveis em poucos países, logo comparabilidade internacional é quase nula
Dados ao nível das firmas	• Elevado grau de detalhe	• Dificuldade de obtenção (confidencialidade) • Comparabilidade muito limitada

(recente) Matrizes input-output ligadas com dados de comércio internacional	• Categoriza bens e serviços por uso efetivo, e não pela categoria • Aplicações práticas muito amplas	• Apenas espaçadas no tempo (95, 00, 05, 09) • Não mostram *second round effects*

Duas novas iniciativas nos últimos anos

- Ambas baseadas na interligação internacional de matrizes de input-ouput domésticas através de dados bilaterais de comércio

WIOD World Input-Output Database

www.wiod.org

- Universidade de Groningen com financiamento UE
- Lançada em abril de 2012
- 35 setores (18 de serviços) e 40 países
- Complementada com base de dados socioeconómica e ambiental

MADE IN THE WORLD "Made in the World" WORLD TRADE ORGANIZATION

www.wto.org/miwi

- iniciativa OMC-OCDE
- Lançada em janeiro de 2013
- 18 sectores (7 de serviços) e 56 países
- Publica estatísticas de saldos líquidos das balanças comerciais dos países

O que é uma matriz input-output

- Baseia-se nos dados de inquéritos aos agentes económicos

Vantagens e desvantagens

Vantagens
Categoriza bens e serviços em intermédios e finais pelo seu uso efetivo, e não pela sua categoria
Permite uma leitura clara e facilmente comparável

Desvantagens
Existem espaçadas no tempo (1995, 2000, 2005, 2009)
Também é em última instância uma estimativa
Não mostram *second* e *third round effects*

Como funciona uma matriz input-output (I)

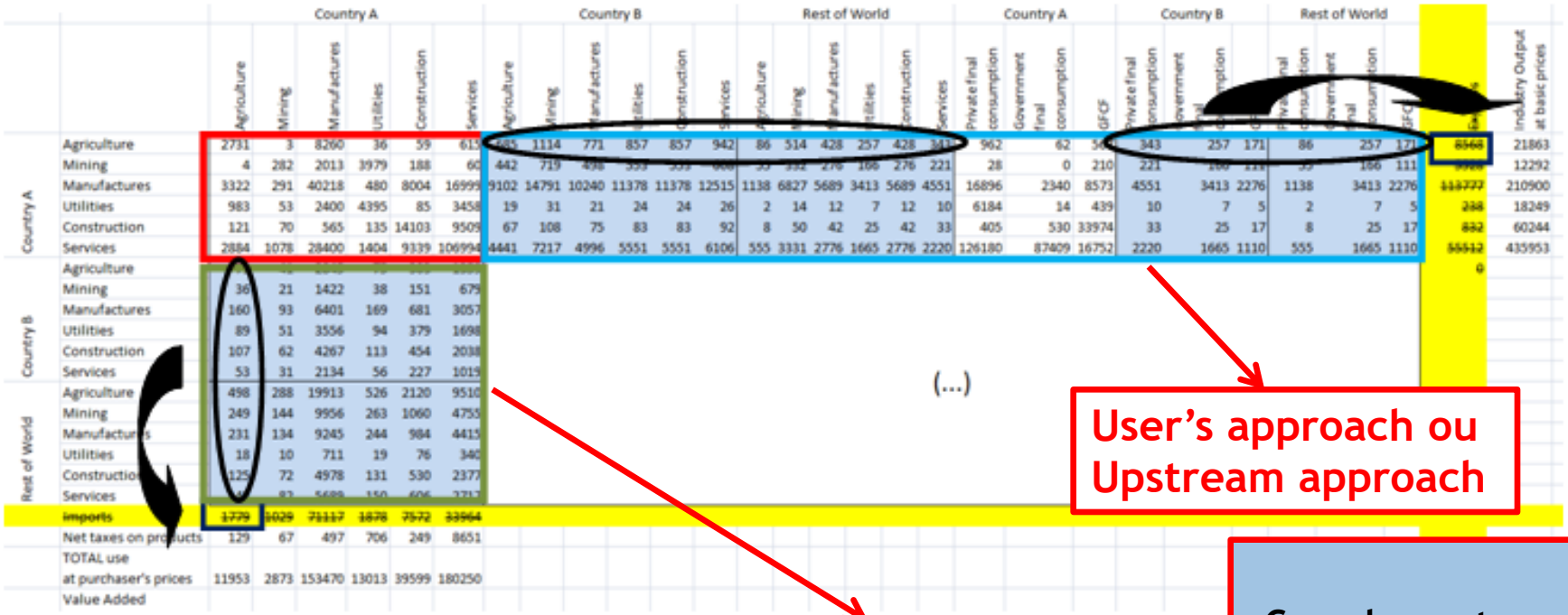
The basic structure of an input-output table: a simple example of a domestic transactions input-output table

Users / *Suppliers*	Agriculture	Mining	Manufactures	Utilities	Construction	Services	Private final consumption	Government final consumption	GFCF	Exports	Industry Output *at basic prices*
Agriculture	2731	3	8260	36	59	615	962	62	567	8568	21863
Mining	4	282	2013	3979	188	60	28	0	210	5528	12292
Manufactures	3322	291	40218	480	8004	16999	16896	2340	8573	113777	210900
Utilities	983	53	2400	4395	85	3458	6184	14	439	238	18249
Construction	121	70	565	135	14103	9509	405	530	33974	832	60244
Services	2884	1078	28400	1404	9339	106994	126180	87409	16752	55512	435953
Imports	1779	1029	71117	1878	7572	33964	*24189*	*1085*	*17771*	*81863*	
Net taxes on products	129	67	497	706	249	8651	*22908*	*-152*	*10233*	*0*	
TOTAL use *at purchaser's prices*	11953	2873	153470	13013	39599	180250	*197752*	*91288*	*88519*	*266318*	
Value Added *at basic prices*	9910	9419	57430	5236	20645	255703					
Industry Output *at basic prices*	21863	12292	210900	18249	60244	435953					

Source: WIXTER et al (2006).

Como funciona uma matriz input-output (II)

The basic structure of an internationally linked input-output table (for three regions)



		Country A						Country B						Rest of World						Country A			Country B			Rest of World				Industry Output at basic prices
		Agriculture	Mining	Manufactures	Utilities	Construction	Services	Agriculture	Mining	Manufactures	Utilities	Construction	Services	Agriculture	Mining	Manufactures	Utilities	Construction	Services	Private final consumption	Government final consumption	GFCF	Private final consumption	Government final consumption	GFCF	Private final consumption	Government final consumption	GFCF	~~Exports~~	
Country A	Agriculture	2731	3	8260	36	59	613	485	1114	771	857	857	942	86	514	428	257	428	343	962	62	343	257	171	86	257	171	~~8568~~	21863
	Mining	4	282	2013	3979	188	60	442	719	496	559	559	608	55	332	276	166	276	221	28	0	210	221	166	111	55	166	111	~~1106~~	12292
	Manufactures	3322	291	40218	480	8004	16999	9102	14791	10240	11378	11378	12515	1138	6827	5689	3413	5689	4551	16896	2340	8573	4551	3413	2276	1138	3413	2276	~~11377~~	210900
	Utilities	983	53	2400	4395	85	3458	19	31	21	24	24	26	2	14	12	7	12	10	6184	14	439	10	7	5	2	7	5	~~238~~	18249
	Construction	121	70	565	135	14103	9509	67	108	75	83	83	92	8	50	42	25	42	33	405	530	33974	33	25	17	8	25	17	~~832~~	60244
	Services	2884	1078	28400	1404	9339	106994	4441	7217	4996	5551	5551	6106	555	3331	2776	1665	2776	2220	126180	87409	16752	2220	1665	1110	555	1665	1110	~~5551~~	435953
Country B	Agriculture																												0	
	Mining	36	21	1422	38	151	679																							
	Manufactures	160	93	6401	169	681	3057																							
	Utilities	89	51	3556	94	379	1698																							
	Construction	107	62	4267	113	454	2038																							
	Services	53	31	2134	56	227	1019																							
Rest of World	Agriculture	498	288	19913	526	2120	9510																							
	Mining	249	144	9956	263	1060	4755																							
	Manufactures	231	134	9245	244	984	4415																							
	Utilities	18	10	711	19	76	340																							
	Construction	125	72	4978	131	530	2377																							
	Services																													
	~~imports~~	~~1779~~	~~1029~~	~~71117~~	~~1878~~	~~7572~~	~~33964~~																							
	Net taxes on products	129	67	497	706	249	8651																							
	TOTAL use at purchaser's prices	11953	2873	153470	13013	39599	180250																							
	Value Added																													

(...)

Source: Author, based on TIMMER *et al* (2012).

User's approach ou Upstream approach

Supplier's approach ou Downstream approach

Complementares

Análise conduzida

WIOD (84% PIB mundial e 78% dos fluxos comerciais, 40 países, 35 setores, 18 de serviços) complementada com SEA, para analisar:

Indicadores

The income measure of embeddedness

$$EMBINCO_i = \frac{\sum_{j=1}^{n} GAININCO_{i,j} + \sum_{j=1}^{n} LOSTINCO_{i,j}}{OUTPUT_i}$$

The income measure of embeddedness of participating in GVCs (2011)

Country	OUTPUT (USD billion)	GAININCO (A) (USD billion)	LOSTINCO (B) (USD billion)	(A+B) (USD billion)	EMBINCO (%)
Luxembourg	160.6	76.2	63.1	139.3	**86.7%**
Ireland	477.1	147.4	131.4	278.8	**58.4%**
Hungary	309.4	87.1	78.0	165.1	**53.4%**
Taiwan	1,052.8	298.2	225.2	523.4	**49.7%**
Belgium	1,113.9	275.0	249.4	524.4	**47.1%**
Czech Rep.	532.2	128.8	112.0	240.8	**45.2%**
Malta	17.7	4.1	3.7	7.8	**44.1%**
Netherlands	1,659.0	384.1	324.6	708.7	**42.7%**
Slovakia	214.4	46.9	40.9	87.7	**41.0%**
Austria	811.2	171.5	128.1	299.6	**36.9%**
Portugal	439.5	39.7	45.5	85.2	**19.4%**

OS ÍNDICES ATUAIS DE CADEIAS GLOBAIS DE VALOR E COMO PODEM SER MELHORADOS

– The income measure of goodness

$$GOODINCO_i = \frac{\sum_{j=1}^{n} GAININCO_{i,j} - \sum_{j=1}^{n} LOSTINCO_{i,j}}{OUTPUT_i}$$

The income measure of net gains from participating in GVCs (2011)

Country	OUTPUT (USD billion)	GAININCO (A) (USD billion)	LOSTINCO (B) (USD billion)	(A-B) (USD billion)	GOODINCO (%)
Russia	3,262.7	448.2	138.4	309.8	**9.5%**
Luxembourg	160.6	76.2	63.1	13.1	**8.2%**
Taiwan	1,052.8	298.2	225.2	73.0	**6.9%**
Germany	6,773.1	1,248.6	813.0	435.6	**6.4%**
Sweden	1,036.3	201.7	142.2	59.5	**5.7%**
Austria	811.2	171.5	128.1	43.4	**5.4%**
Estonia	43.2	8.7	6.7	2.0	**4.6%**
Canada	3,184.5	427.9	289.9	138.0	**4.3%**
Australia	2,844.6	289.3	173.7	115.6	**4.1%**
Netherlands	1,659.0	384.1	324.6	59.5	**3.6%**
Portugal	439.5	39.7	45.5	-5.8	**-1.3%**

Country	GAININCO (A) (USD billion)	LOSTINCO (B) (USD billion)	(A-B) (USD billion)	GOODINCO (%)
France	3.77	2.38	1.39	**3.5%**
Spain	8.72	14.04	-5.32	**-13.3%**

- The job measure of embeddedness

$$EMBJOBS_i = \frac{\sum_{j=1}^{n} GAINJOBS_{i,j} + \sum_{j=1}^{n} LOSTJOBS_{i,j}}{EMPLOY_i}$$

The job measure of embeddedness of participating in GVCs (2009)

Country	EMPLOY (thousand jobs)	GAINJOBS (A) (thousand jobs)	LOSTJOBS (B) (thousand jobs)	(A+B) (thousand jobs)	EMBJOBS (%)
Luxembourg	247.3	104.4	280.5	385.0	**155.6%**
Ireland	1,547.4	371.9	790.5	1,162.4	**75.1%**
Netherlands	7,616.3	1,153.3	3,775.5	4,928.8	**64.7%**
Belgium	3,756.8	677.5	1,217.9	1,895.4	**50.5%**
Finland	2,161.2	251.8	661.9	913.7	**42.3%**
Malta	129.4	32.0	19.9	50.8	**39.3%**
Denmark	2,450.7	289.9	656.4	946.3	**38.6%**
Hungary	3,101.2	701.3	428.6	1,129.9	**36.4%**
Portugal	4,521.4	306.9	304.0	610.9	**13.5%**

OS ÍNDICES ATUAIS DE CADEIAS GLOBAIS DE VALOR E COMO PODEM SER MELHORADOS

The job measure of net gains

$$GOODJOBS_i = \frac{\sum_{j=1}^{n} GAINJOBS_{i,j} - \sum_{j=1}^{n} LOSTJOBS_{i,j}}{EMPLOY_i}$$

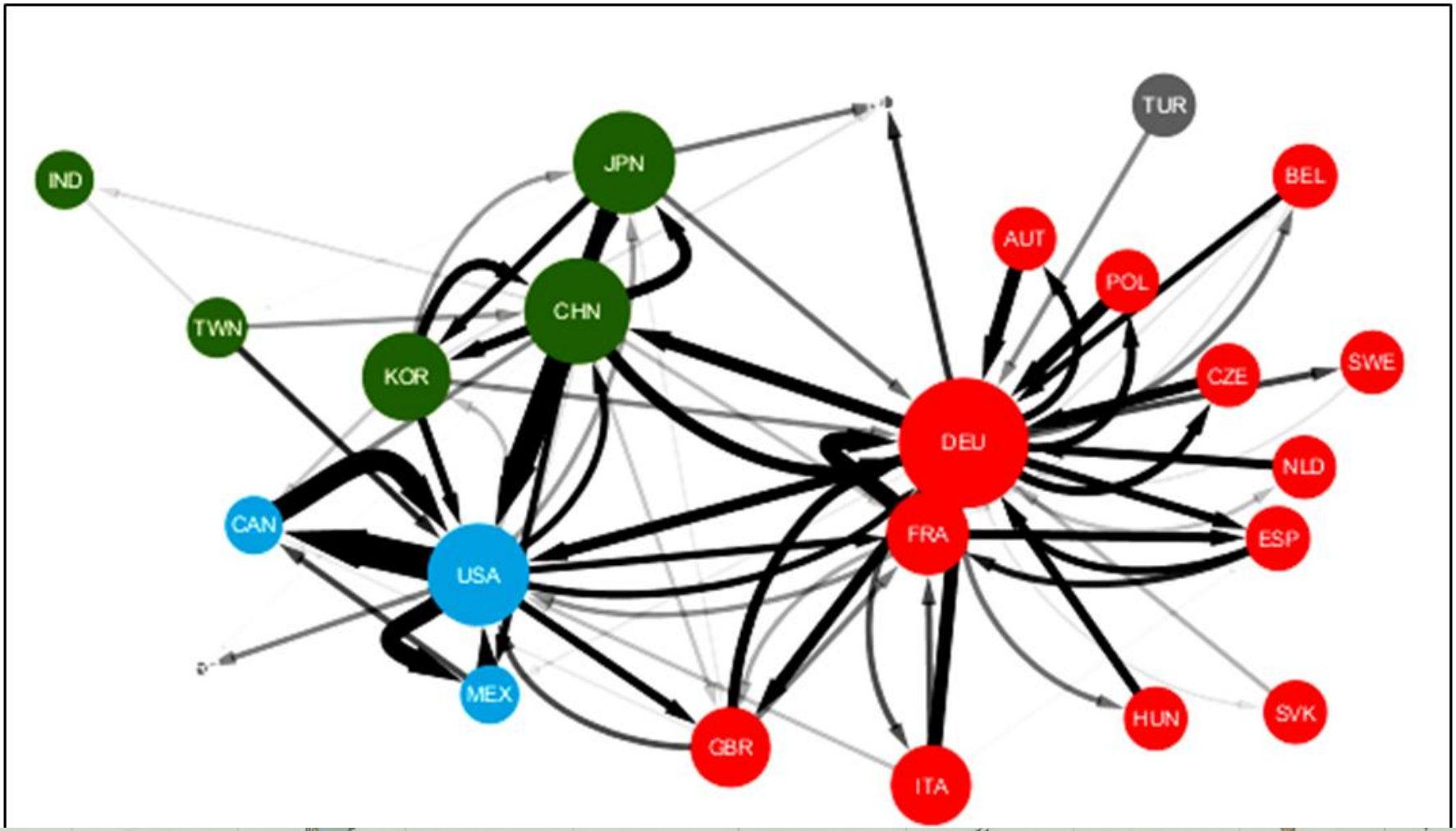
The job measure of net gains from participating in GVCs (2009)

Country	EMPLOY (thousand jobs)	GAINJOBS (A) (thousand jobs)	LOSTJOBS (B) (thousand jobs)	(A-B) (thousand jobs)	GOODJOBS (%)
Bulgaria	2,999.2	511.2	146.5	364.7	**12.2%**
Taiwan	8,536.2	1,795.4	898.8	896.6	**10.5%**
Latvia	817.2	131.1	47.7	83.4	**10.2%**
Malta	129.4	32.0	18.9	13.1	**10.1%**
Estonia	470.6	91.9	46.9	45.0	**9.6%**
Hungary	3,101.2	701.3	428.6	272.7	**8.8%**
Romania	8,011.0	919.7	314.5	605.2	**7.6%**
Slovenia	817.3	145.3	90.3	55.0	**6.7%**
Czech Rep.	4,363.2	866.6	575.9	290.7	**6.7%**
Portugal	4,521.4	306.9	304.0	2.9	**0.1%**
Spain	75.9	55.0	20.9		**8.3%**
India	0.3	25.0	-24.7		**-9.7%**
China	3.4	30.9	-27.5		**-10.8%**
Brazil	7.9	68.6	-60.7		**-24.0%**

Quais as maiores CGV do mundo

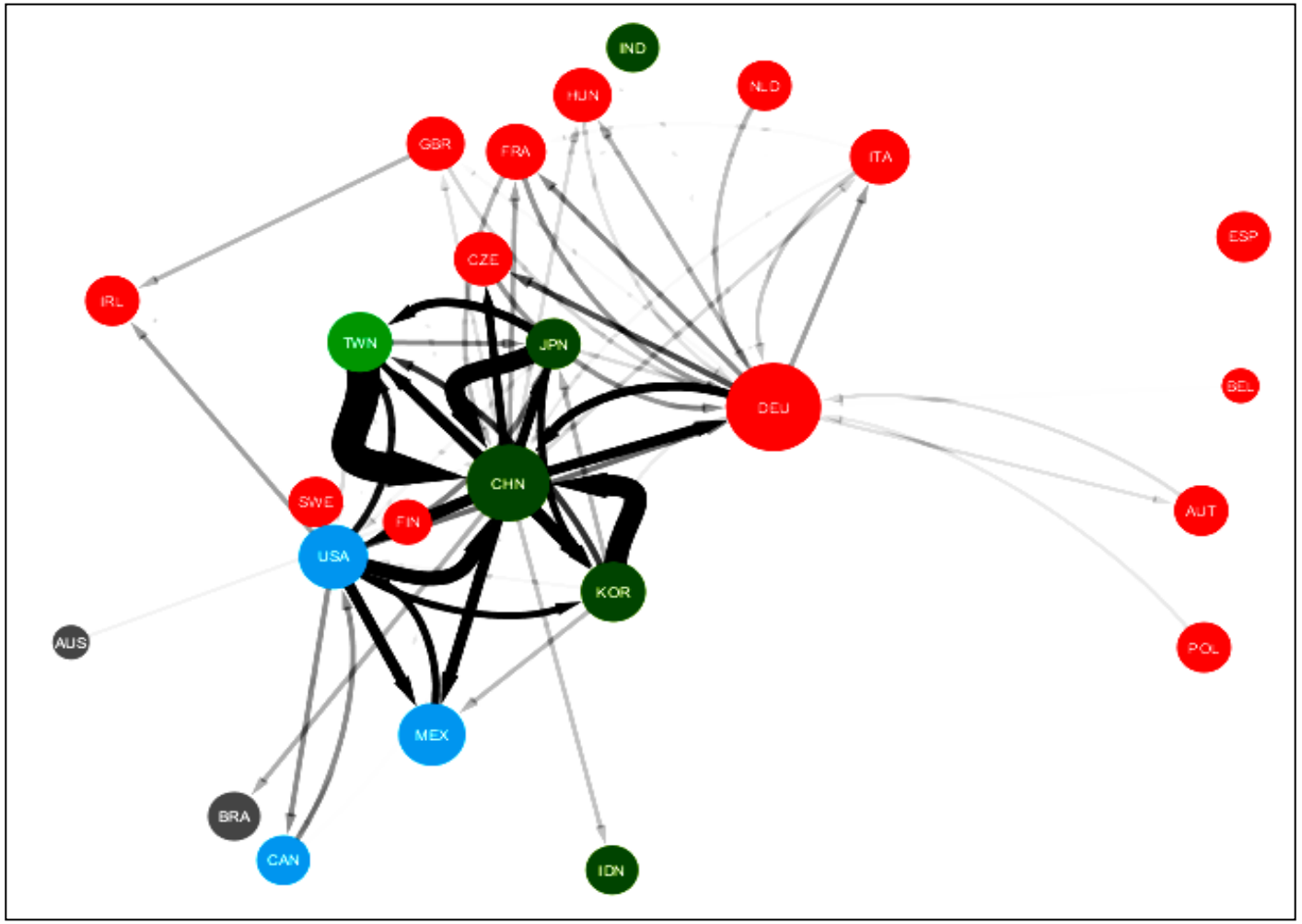
The weight of GVC in total output (2011)	Value of imported inputs (USD billion) (A)	Value of total output (USD billion) (B)	Weight of GVC (%) (A/B)
Coke, refined petroleum and nuclear flue	1,228.9	3,216.9	**38.2%**
Transport Equipment	945.6	4,739.7	**20.0%**
Electrical and optical equipment	1,088.6	5,611.8	**19.4%**
Manufacturing, nec; Recycling	178.4	1,020.1	**17.5%**
Basic metals and fabricated metal	1,020.1	6,348.2	**17.4%**
Chemicals and chemical products	722.3	4,362.7	**16.6%**
Machinery, nec	497.6	3,306.4	**15.0%**
Rubber and plastics	250.5	1,721.4	**14.5%**
Water transport	95.7	680.8	**14.1%**
Air transport	87.7	648.4	**13.5%**
Electricity, gas and water supply	456.1	3,716.5	**12.3%**
Textiles and textile products	229.4	2,022.8	**11.3%**
Pulp, paper, printing and publishing	225.0	2,192.5	**10.3%**

The GVC of transport equipment : network representing the flows of foreign goods and services used as inputs in the domestic production processes, 2011 (supplier's approach)



OS ÍNDICES ATUAIS DE CADEIAS GLOBAIS DE VALOR E COMO PODEM SER MELHORADOS

Equipamento elétrico e ótico (inputs)



O caso de Portugal – Quais CGV? (downstream)

More embedded sectors in global value chains of the Portuguese economy (downstream) (2011) (%)

Code	Sector	Abroad	Intra-sector	Other services sectors	Other manufacturing sectors	Output at basic prices (USD million)
8	Petroleum	74.2	9.7	8.2	8.0	8,835
15	Transport equipment	38.0	30.2	17.2	14.5	7,578
10	Rubber and plastics	27.5	20.1	23.5	18.9	3,908
9	Chemicals and chemical products	26.1	24.9	30.8	18.1	7,041
13	Machinery nec	25.9	36.1	19.0	19.0	5,031
14	Electrical and optical equipment	25.7	26.9	16.7	30.7	9,091
12	Basic metals and fabricated metals	24.9	28.0	19.6	27.6	11,159
5	Leather and footwear	19.9	35.7	24.2	20.2	2,852
25	Air transport	18.8	22.7	52.1	6.4	3,804
16	Manufacturing nec and recycling	17.3	31.2	21.1	30.4	4,671

% do valor da produção apropriada por fornecedores estrangeiros, na forma de inputs

O caso de Portugal – Com quem? (downstream)

Countries that the Portuguese economy is more integrated with in terms of global value chains (downstream) (fifteen largest) (2011) (%)

Country	Income transferred – Total		Income transferred in manufacturing sectors		Income transferred in services sectors		Main sectors				
	(USD million)	(%)	(USD million)	(%)	(USD million)	(%)	Petroleum	Transport equipment	Rubber and plastics	Chemicals	Machinery, nec
Spain	14,040	3.2	7,890	6.6	6,151	1.9	5.8	11.9	9.4	9.0	9.4
Rest of the World	7,970	1.8	5,757	4.8	2,214	0.7	52.9	0.5	1.8	2.1	0.7
Germany	4,439	1.0	2,876	2.4	1,564	0.5	1.0	10.5	4.1	3.6	3.6
France	2,372	0.5	1,469	1.2	909	0.3	0.4	3.9	1.7	1.5	1.7
Brazil	2,286	0.5	1,192	1.0	1,094	0.3	6.7	0.4	0.5	0.6	0.4
United States	2,108	0.5	659	0.6	1,449	0.5	0.3	0.8	0.7	0.7	1.3

% do valor da produção apropriada, na forma de inputs

O caso de Portugal – Empregos gerados no exterior?

	All sectors	Manufacturing sectors (%)	Services (%)	Most benefited sector (name and thousand jobs)
Brazil	68.6	50.7	49.3	"Food, beverages and tobacco" – 17.6
Spain	55.0	57.8	42.2	"Food, beverages and tobacco" – 5.7
China	30.9	39.7	60.3	"Other community, social and personal services" – 5.6
India	25.0	73.6	26.4	"Textile and Textile products" – 7.5
Germany	20.6	57.0	43.0	"Electrical and Optical Equipment" – 2.3
United Kingdom	12.0	34.8	65.2	"Renting of M&Eq and Other Business Activities" – 1.5
Romania	10.1	83.0	17.0	"Food, beverages and tobacco" – 4.4
France	9.8	59.5	40.5	"Food, beverages and tobacco" – 1.7
Italy	8.8	64.7	35.3	"Textile and Textile products" – 1.0
Indonesia	8.0	54.3	45.7	"Textile and Textile products" – 1.8
United States	7.4	23.1	76.9	"Renting of M&Eq and Other Business Activities" – 1.4
The Netherlands	6.8	45.3	54.7	"Renting of M&Eq and Other Business Activities" – 0.8

- *MOTIVAÇÃO: AS CADEIAS GLOBAIS DE VALOR*

- *PROBLEMA: COMO OS ATUAIS DADOS DE FLUXOS DE COMÉRCIO PODEM SER ENVIESADOS*

- *PROPOSTA: NOVAS BASES DE DADOS → NOVO ÍNDICE DE CGV*

- ***APLICAÇÃO PRÁTICA: REGRESSÃO EXPLICATIVA DO STOCK BILATERAL DE IDE ENTRE 2002 e 2012 (índice proposto é significativo)***

UMA APLICAÇÃO PRÁTICA DOS INDICADORES

$$FDI_{i,j}^{t} = \alpha + \beta_1 . GDPpc_i^t + \beta_2 . GDPpc_j^t + \beta_3 . GDP_i^t + \beta_4 . GDP_j^t +$$
$$+ \beta_5 . EXPORT_{i,j}^t + \beta_6 . IMPORT_{i,j}^t + \beta_7 . DIST_{i,j} + \beta_8 . CONTIG_{i,j} + \beta_9 . COMLANG\_OFF_{i,j} +$$
$$+ \beta_{10} . COLONY_{i,j} + \beta_{11} . OFFSHORE_{i,j} + \beta_{12} . EMBINCO_{i,j}^t + \beta_{13} . GOODINCO_{i,j}^t +$$
$$+ \beta_{14\text{-}25} . YEAR\_DUMMIES\_2002to2012 + \beta_{26\text{-}216} . COUNTRY\_DUMMIES + e_{i,j}^t$$

UMA APLICAÇÃO PRÁTICA DOS INDICADORES

Number of obs =	10968
F(17, 10950) =	424.12
Prob > F =	0.0000
R-squared =	0.3970
Adj R-squared =	0.3961
Root MSE =	29055
Chi² =	44382.37
Prob Chi² > X =	0.0000

FDI	Coef.	Std. Err.	t	P>|t|	[95% Conf.	Interval]
CONST	-12623.24	790.1637	-15.98	0.000	-14172.1	-11074.37
GDPpcj	0.2956113	0.015863	18.64	0.000	.264517	.3267056
GDPpci	0.207731	0.0156834	13.25	0.000	.1769887	.2384733
GDPj	2.65e-09	1.21e-10	21.81	0.000	2.41e-09	2.88e-09
GDPi	2.03e-09	1.27e-10	15.99	0.000	1.78e-09	2.28e-09
EXPORT	4.15e-07	2.56e-08	16.24	0.000	3.65e-07	4.66e-07
IMPORT	3.07e-07	2.49e-08	12.31	0.000	2.58e-07	3.56e-07
DIST	-.6380666	0.0769138	-8.30	0.000	-.7888316	-.4873016
CONTIG	11951.41	1632.534	7.32	0.000	8751.354	15151.48
COMLANG_OFF	28825.74	1768.424	16.30	0.000	25359.31	32292.17
COLONY	14769.5	1419.055	10.41	0.000	11987.9	17551.11
OFFSHORE	1588.21	840.8849	1.89	0.059	-60.07588	3236.497
EMBINCO	5.21e-06	9.51e-07	5.48	0.000	7.07e-06	3.34e-06
GOODINCO	-6.49e-07	8.20e-07	-0.79	0.429	-2.26e-06	9.60e-07
Y2009	-2103.569	404.809	-5.20	0.000	-2897.014	-1310.125
Y2010	-1686.141	404.3867	-4.17	0.000	-2478.757	-893.5241
Y2011	-951.7249	424.9599	-2.24	0.025	-1784.666	-118.7841
Y2012	-1573.918	426.0642	-3.69	0.000	-2409.023	-738.8124
PRC	6611.089	2617.354	3.58	0.000	9443.3413	1605.33

LIMITATIONS

(i) the **narrow number of countries and sectors covered** by the main international input-output databases (e.g. the WIOD covering just 40 countries and 35 sectors or the MIWI covering 56 countries but 18 sectors);

(ii) trade in value-added being an **estimate based on a number of assumptions**, rather than a measurement;

(iii) databases recently created by the University of Groningen (WIOD) and OECD-WTO (MIWI) **not considering at least second-round effects** in the use of intermediates by GVC, i.e. the inputs used in the production of the inputs; and

(iv) OECD's broad definition of FDI, since OECD's definition of FDI flows does not differentiate between speculative and productive FDI stock and one should admit that determinants of both sorts of FDI stocks are different.

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