

Doha Development Round and LDC

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Plan

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What is Doha Round ?

- Doha Round is called “The Development Round”
 - Flexibilities
 - New tariff preferences for LDCs

What is the impact of DDR ?

- According to some empirical studies show that DDR has positive impact on poverty.

What is the impact of DDR ?

Table 1. Poverty Impacts of a Prospective Doha Development Agenda

Country (Chapter No.)	Change in Poverty Headcount							
	Near Term: Fixed Capital			Long Term: Investment Impacts				
	Doha		Full-Lib		Doha		Full-Lib	
1,000	%	1,000	%	1,000	%	1,000	%	
Bangladesh (15)	38	0.3	1,354	1.1	0	0	-5,758	-4.6
Brazil (7)	-236	-0.4	-482	-0.8				
Brazil (9)					-380	-1.1	-1,030	-2.9
Cameroon (12)	-22	-0.4	303	4.8				
China (10)	-4,590	-1.1	-8,271	-2	-5,378	-1.3	-11,170	-2.7
Indonesia (11)	-48	-0.1	-1,384	-3.5				
Mexico (4)	4	0	127	1.1				
Mozambique (5)	27	0.3	60	0.6				
Philippines (13)	12	0	-7	0				
Russia (16)	209	0.9	-122	-0.5				
All Developing (17)								
\$1/day: 2001*	-7,000		-66,300		-9,700		-80,500	
2015**	-1,700	-0.3	-23,800	-3.8	-2,500	-0.4	-31,900	-5.1
\$2/day:2001	-8,700		103,900		-12,600		123,200	
2015	-4,100	-0.2	52,300	-2.7	-6,200	-0.3	-65,600	-3.3
Productivity Effects Added***								
\$1/day: 2001					-20,400		-126,500	
2015					-4,300	-0.6	-43,500	-6.5
\$2/day: 2001					-29,600		-193,200	
2015					-12,100	-0.6	-94,700	-4.9

Source: Hertel and Winters (2005).

*Based on percentage changes in 2015, but applied to 2001 poverty headcount.

What is this study result ?

Country/region	Without sensitive AG products		
	Terms of Trade	GDP	Welfare
LDCs	-185		-580
ROW	-242		27417

Country/region	Without 2% sensitive AG products		
	Terms of Trade	GDP	Welfare
LDCs	-198	-0.2	-741
ROW	-430	-0.3	17096

- LDC lose in term of declining GDP, Welfare, and Term of Trade

Our Objective

- To investigate why LDC decline welfare, GDP, and Term of Trade

Outline of Model

- **Model: Standard GTAP**
- **Closure: 1/ Fix Trade Balances;
2/ Fix the Real Wage and Allow for UnEmployment;**
- **Shock:**
 - 1/ Agricultural proportional cuts based on four-tier formula (S4)**
 - 2/ Agricultural proportional cuts base on a four-tier formula with
2% sensitive products.**
 - 3/ Agricultural cuts based on harmonizing formula (S1) and NAMA cuts
Based on a nonlinear Swiss-type (Girard) formula with a coefficient of 1 for
Developed countries and 2 for developing countries and LDCs get the
round for free**

Share of Export (1)

All good, from LDC to All REG

VIMS	1 CENTAM	2 China	3 Egypt	4 EU	5 India	6 Japan	7 LDC	8 MERCOSUR	9 MEXICO	10 ROW	11 USA	12 XME	Total
Agriculture	0.00	0.01	0.00	0.10	0.00	0.00	0.01	0.00	0.00	0.07	0.02	0.00	0.25
Non-agriculture	0.00	0.03	0.00	0.23	0.00	0.04	0.01	0.00	0.00	0.11	0.14	0.00	0.60
Service	0.00	0.00	0.00	0.05	0.00	0.00	0.00	0.00	0.00	0.03	0.03	0.00	0.13
Total	0.00	0.04	0.00	0.38	0.00	0.04	0.02	0.00	0.00	0.21	0.19	0.00	1.00

Share of Export (2)

All goods, from all REG to LDC

VIMS	1 CENTAM	2 China	3 Egypt	4 EU	5 India	6 Japan	7 LDC	8 MERCOSUR	9 MEXICO	10 ROW	11 USA	12 XME	Total
Agriculture	0.00	0.00	0.00	0.04	0.00	0.00	0.00	0.00	0.00	0.07	0.00	0.00	0.16
Non-agriculture	0.00	0.09	0.00	0.19	0.02	0.05	0.00	0.00	0.00	0.21	0.04	0.01	0.66
Service	0.00	0.01	0.00	0.08	0.00	0.01	0.00	0.00	0.00	0.04	0.05	0.00	0.20
Total	0.00	0.10	0.00	0.31	0.02	0.06	0.00	0.00	0.00	0.32	0.09	0.01	1.00

Import Taxes (1)

all good, from LDC to All Reg

rTMS	1 CENTAM	2 China	3 Egypt	4 EU	5 India	6 Japan	7 LDC	8 MERCOSUR	9 MEXICO	10 ROW	11 USA	12 XME	Total
Agriculture	0.01	0.02	0.03	0.04	0.11	0.28	0.03	0.02	0.06	0.08	0	0.02	0.7
Non-agriculture	0.02	0.02	0.03	0	0.06	0	0.02	0.03	0.04	0.01	0.01	0.02	0.3
Service	0	0	0	0	0	0	0	0	0	0	0	0	0.0
Total	0.03	0.04	0.06	0.04	0.17	0.29	0.06	0.05	0.1	0.09	0.01	0.04	1.0

Import Taxes (2)

All goods, from all reg to LDC

VIMS	1 CENTAM	2 China	3 Egypt	4 EU	5 India	6 Japan	7 LDC	8 MERCOSUR	9 MEXICO	10 ROW	11 USA	12 XME	Total
Agiculture	0	0	0	0	0	0	0	0	0	0.1	0	0	0.2
Non-agriculture	0	0.1	0	0.2	0	0.1	0	0	0	0.2	0	0	0.7
Service	0	0	0	0.1	0	0	0	0	0	0	0.1	0	0.2
Total	0	0.1	0	0.3	0	0.1	0	0	0	0.3	0.1	0	1

Production and trade

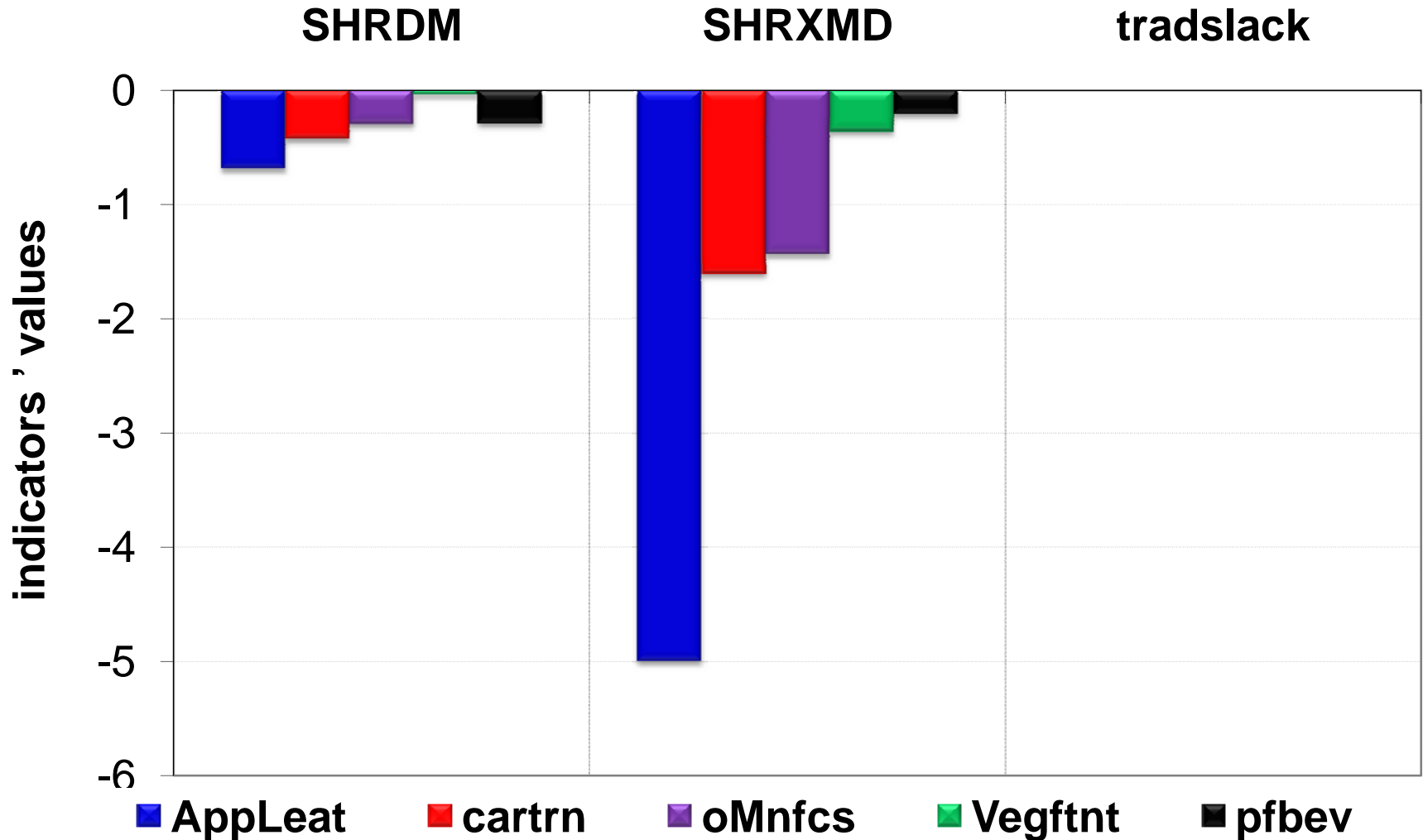
GDP

qgdp	-0.21	vgdp	-0.45
Component	GDP(r) * qgdp(r)	GDP(r) * vgdp(r)	shares
VGA	-930.79	-8249.15	0.07
VPA	-40912.51	-58852.61	0.48
REGINV	-36418.52	-52935.77	0.43
VIWS	-66782.52	-80235.83	0.66
VST	3738.5	3311.21	-0.03
VIWS	84972.12	74849.24	-0.61
Total	-56333.72	-122112.9	1

Output: volume and % change

Sectors	Volume change	% change
Apparel & leather products	-794.0	-5.6
Transportation equipment	-100.1	-2.0
Other manufactures	-109.3	-1.7
Vegetables, fruit & nuts	-47.5	-0.3
Processed food & beverage	-59.2	-0.8

Output decomposition



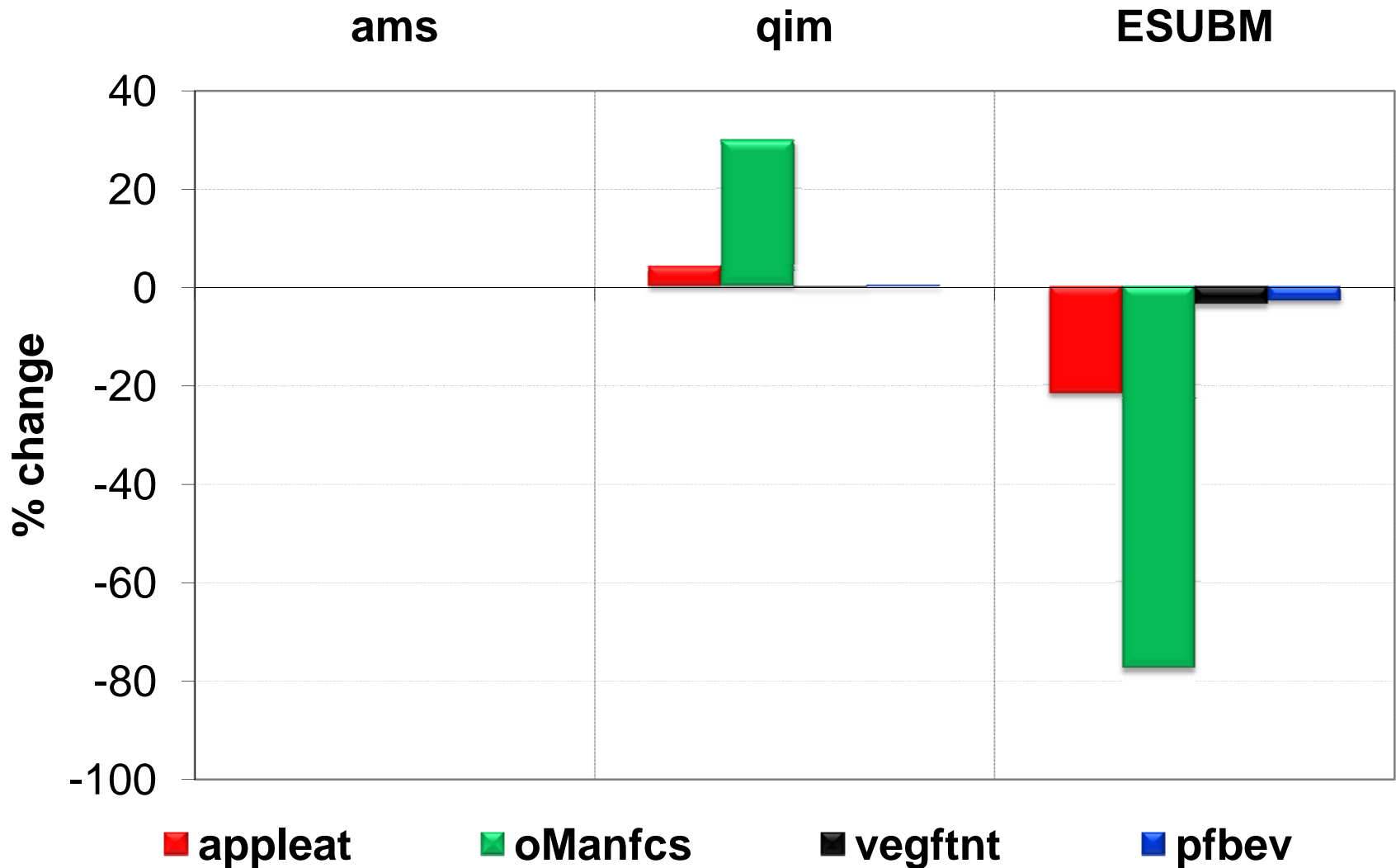
Exports vs. domestic allocation of output

Sectors	SHRXMD	qxs (LDC,reg)	SHRMD	qds (i,r)	ps [i, LDC]
AppLeat	0.29	-16.56	0.37	-1.88	-0.20
cartrn	0.19	-3.16	0.70	-0.62	-0.31
oMnfcs	0.02	-43.34	0.60	-0.50	-0.26
Vegftnt	0.10	-12.74	0.78	-1.44	-0.19
pfbev	0.12	-3.78	0.79	-0.05	-0.12

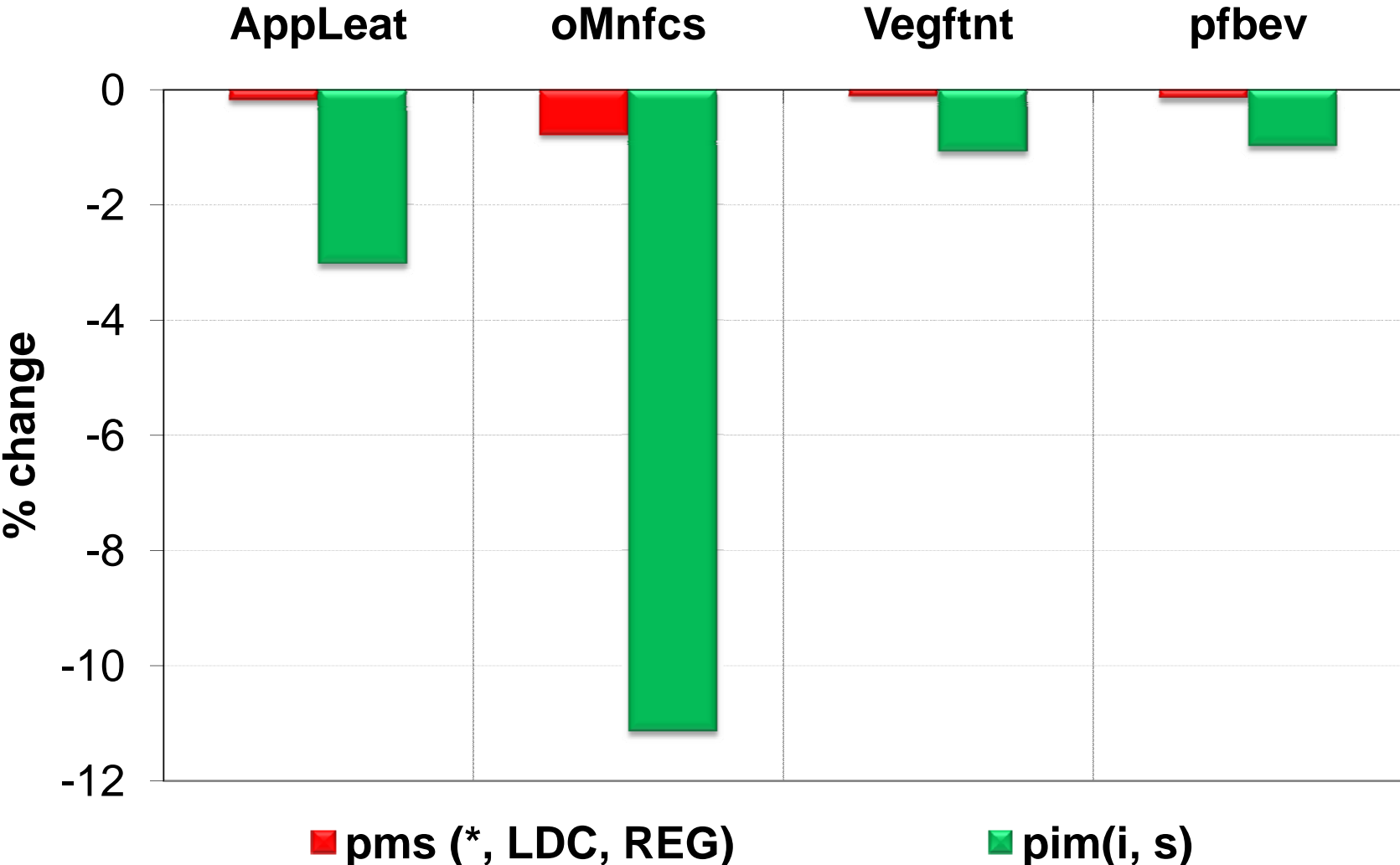
Volume change in exports

Sectors	EU	ROW	Total
AppLeat	-680.4		-697.3
cartrn	-29.0		-78.9
oMnfcs	-37.3	-57.6	-90.5
pfbev	-54.9		-61.9
Vegftnt	-54.7		-42.9
Total	-1102.6		-668.1

Demand for LDCs com. in the EU and ROW



Prices



Why?

Shock $tms(AG_COMM, REG, REG) = ?$

Shock $tms(NONAG_COMM, REG, REG) = ?$

Shock $txs(AG_COMM, REG, REG) = ?$

Sectors	tms		txs	
	base	updated	base	updated
AppLeat	4.46	4.46	0.00	0.00
cartrn	0.76	0.76	-0.12	-0.12
oMnfcs	5.70	5.14	0.00	0.00
Vegftnt	11.79	11.78	0.02	0.02
pfbev	0.70	0.67	0.00	0.00

Welfare decomposition in LDCs under DOHA

S5S9 Experiment with 2% sensitive
agricultural products

DOHA and LDCs

- If Doha is achieved, LDC countries will have a negative impact in welfare, equivalent to -741 million dollars.
- Within the welfare decomposition where are the main elements affecting LDCs?

Welfare decomposition for LDCs

-Total loss 741
million USD

Endowments
34%

-249

-258

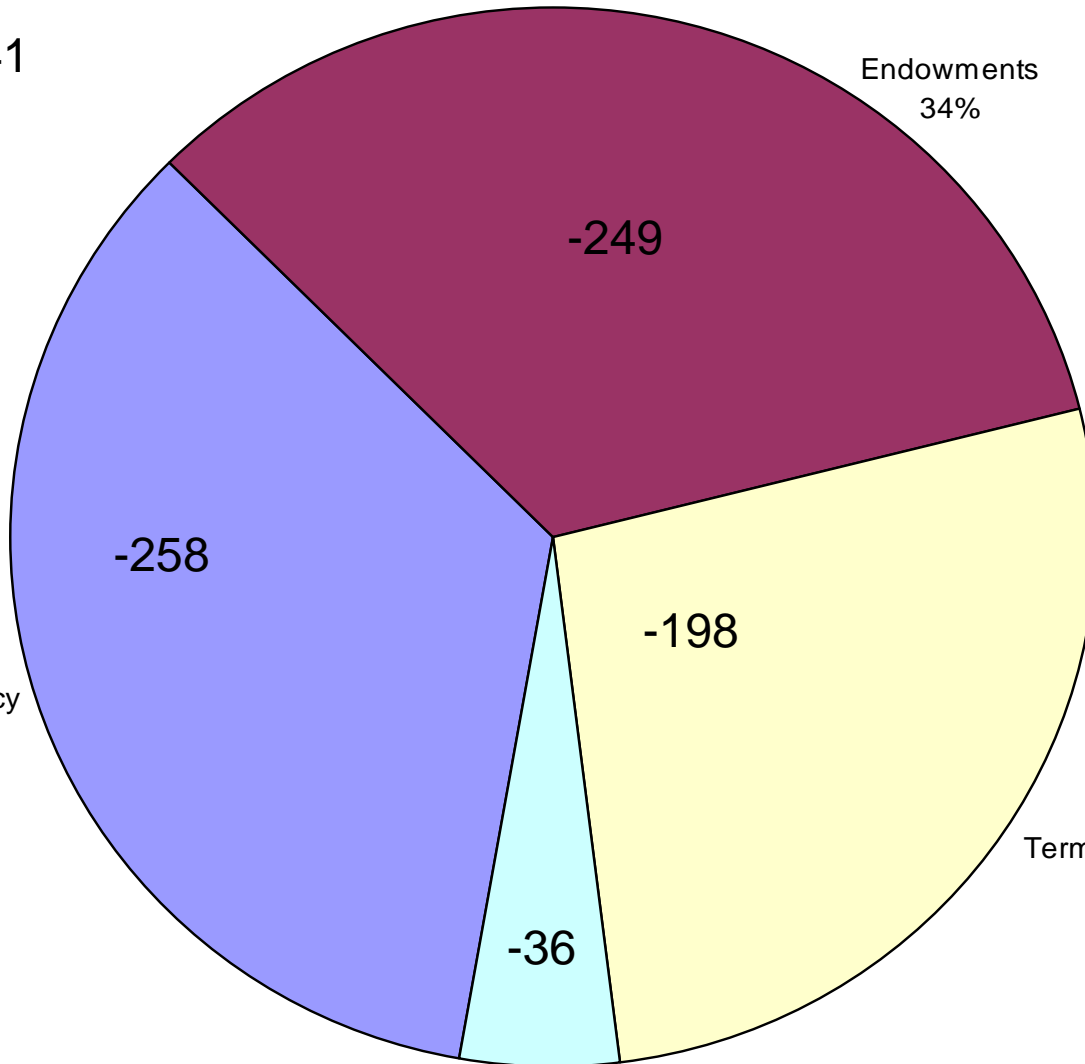
-198

-36

Allocative Efficiency
34%



Terms of Trade
27%

I-S
5%



Allocative Efficiency

- As we know that Allocative Efficiency is driven by tax effects:

1 pfacttax	-8		
2 prodtax	-57		22%
3 inputtax	-7		
4 contax	-28		
7 mtax	-158		61%
Total	-258		

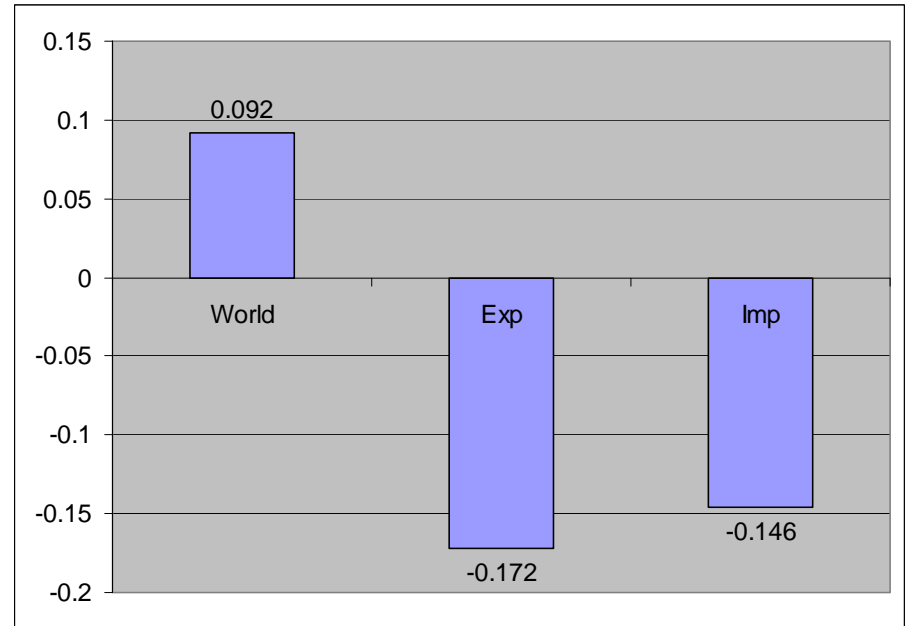
- **prodtax** (production tax) = - 57 million
 - 39 millions due to a decrease of unskilled labor (creation of unemployment to keep the real wage fixed- a closure issue) of 0.3%
 - 11 million due to a decrease apparel/leather production of 5.69%

- **mtax** (imports tax) = - 158 million
 - 52 million are explained by the reduction of imports in livestock (mainly from EU) and
 - 44 million are explained by the reduction of imports in textile (mainly from China)
 - Because LDCs did not reduce import tariffs their cannot have access to cheaper products of these two regions, therefore their welfare is diminished.

Terms of Trade

- Total welfare loss due to ToT for LDCs was = -198 million USD
 - $p_{\text{exports}} = -151$
 - $p_{\text{imports}} = -128$
 - $p_{\text{world}} = 81$

Price changes (ToT)



- When we look at which item in terms imports is contributing the most to the loss, we found that livestock contributes with 60% of that loss. This was due to an increase in world import prices of livestock and an even higher increase from LDCs region (1.57 and 6.96 respectively)
- In terms of exports “other agricultural products” item contribute with 23% to the loss. In this case the world export prices went up but not for LDCs (0.42 versus -0.10)

Endowments

- 249 million welfare loss (labor)
- A closure issue as well

Some conclusions

- LDCs import tariffs
- Prices of LVS (LDCs imports) went up and even more up for LDCs
- Prices of Exports (“other agricultural products”) went up but, not for LDCs (prices went down)

Closure

Assumption:

All countries other than developed countries and the emerging Asian giants have fixed trade balances

- `swap dtbalr("Egypt") = dpsave("Egypt");`
- `swap dtbalr("LDC") = dpsave("LDC");`

→ How does a fixed trade balances influences the results?

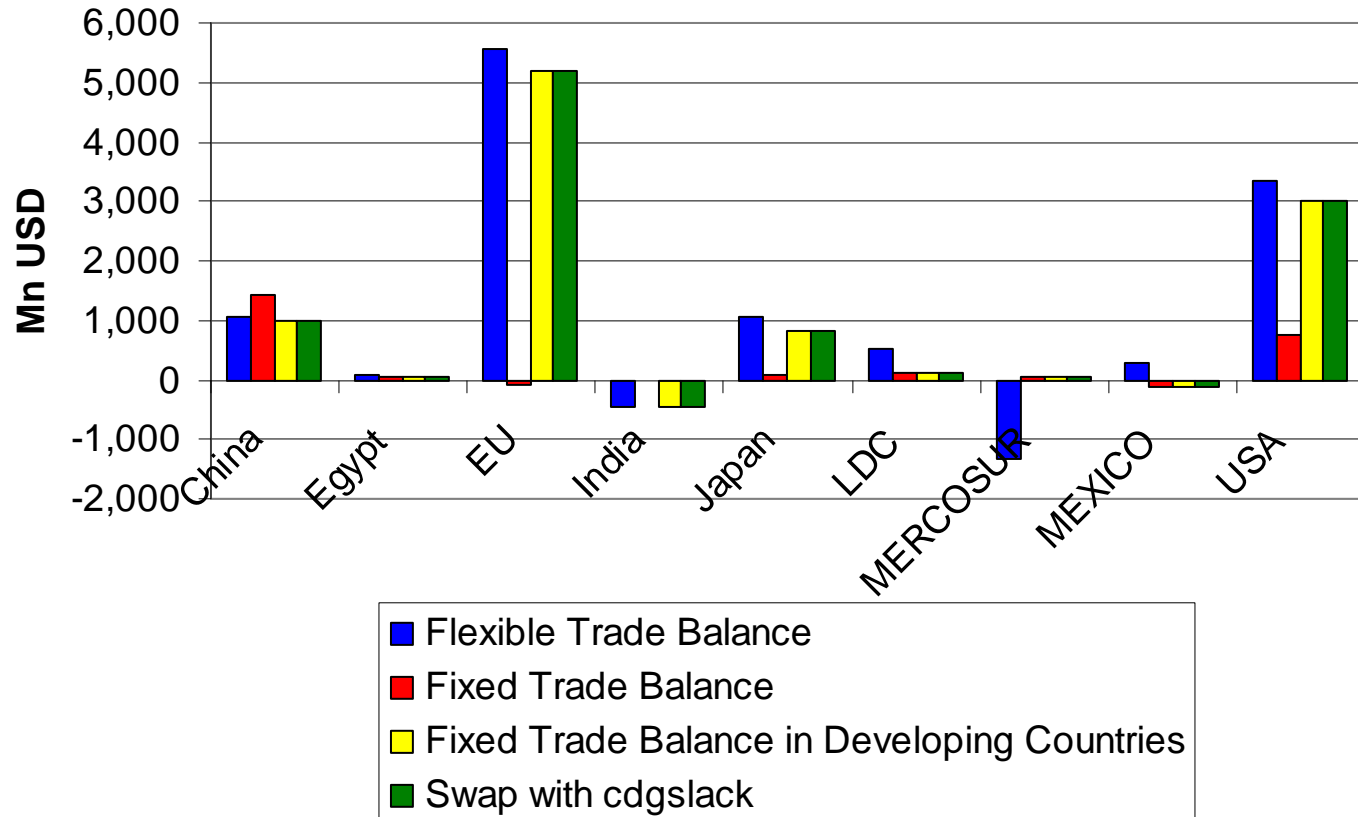
→ What happens if we swap dbtbalr with Investments (cdgslack)?

Closure changes

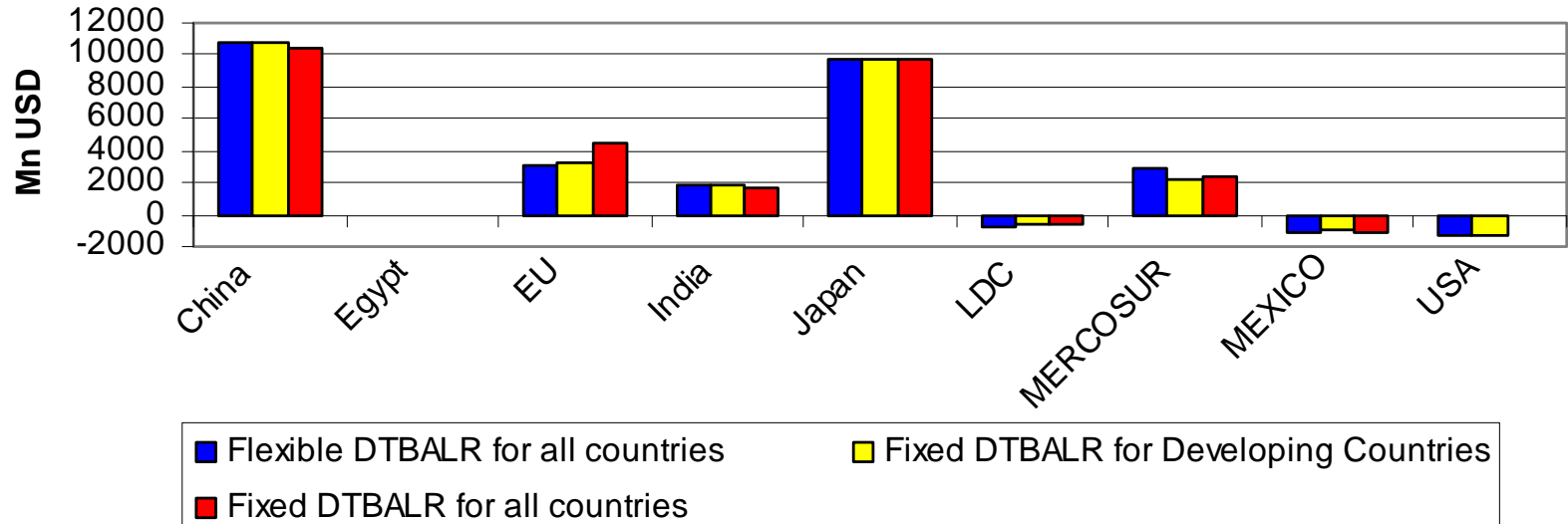
Therefore we changed the closure:

- flexible trade balances in all countries
- fixed trade balances in all countries
- fixed trade balances in developing countries
 - by swapping dtbalr with dpsave
- fixed trade balances in developing countries
 - by swapping dtbalr with cgdslack

Change in DTBALR



Welfare



Implications

- Changes in the balance of trade in goods and services must be balanced changes in the capital flows.
→ $S - I = X - M$
- In the GTAP model regional investment is driven by current and expected rates of return
- If $VKE(r) > VKB(r)$, then $RORE(r) < RORC(r)$

Change in Investment

	Not fixed	Fixed	Fixed for dev. countries
Egypt			
rorc	0.3	0.8	0.3
rorc	0.2	0.2	0.2
qcdgs	-0.2	-1	-0.1
qsave	0.1	0.1	0.2
EU			
rorc	0.3	0.8	0.3
rorc	0	0.1	0
qcdgs	-0.3	-1	-0.3
qsave	0.2	0.2	0.4

- Egypt:
 - Cap. Stock ↓
 - RORC ↑
 - Savings ↑
- EU:
 - Cap. Stock ↓
 - RORC →
 - Savings ↑

Change in EU Trade Balance

	DTBAL	=	S	I	=	X	M
Fixed	78		-2.3	-1		0.4	0.3
Not fixed	5561		0	-0.3		0.7	0.4

The Welfare Effect under Tax Replacement on Doha

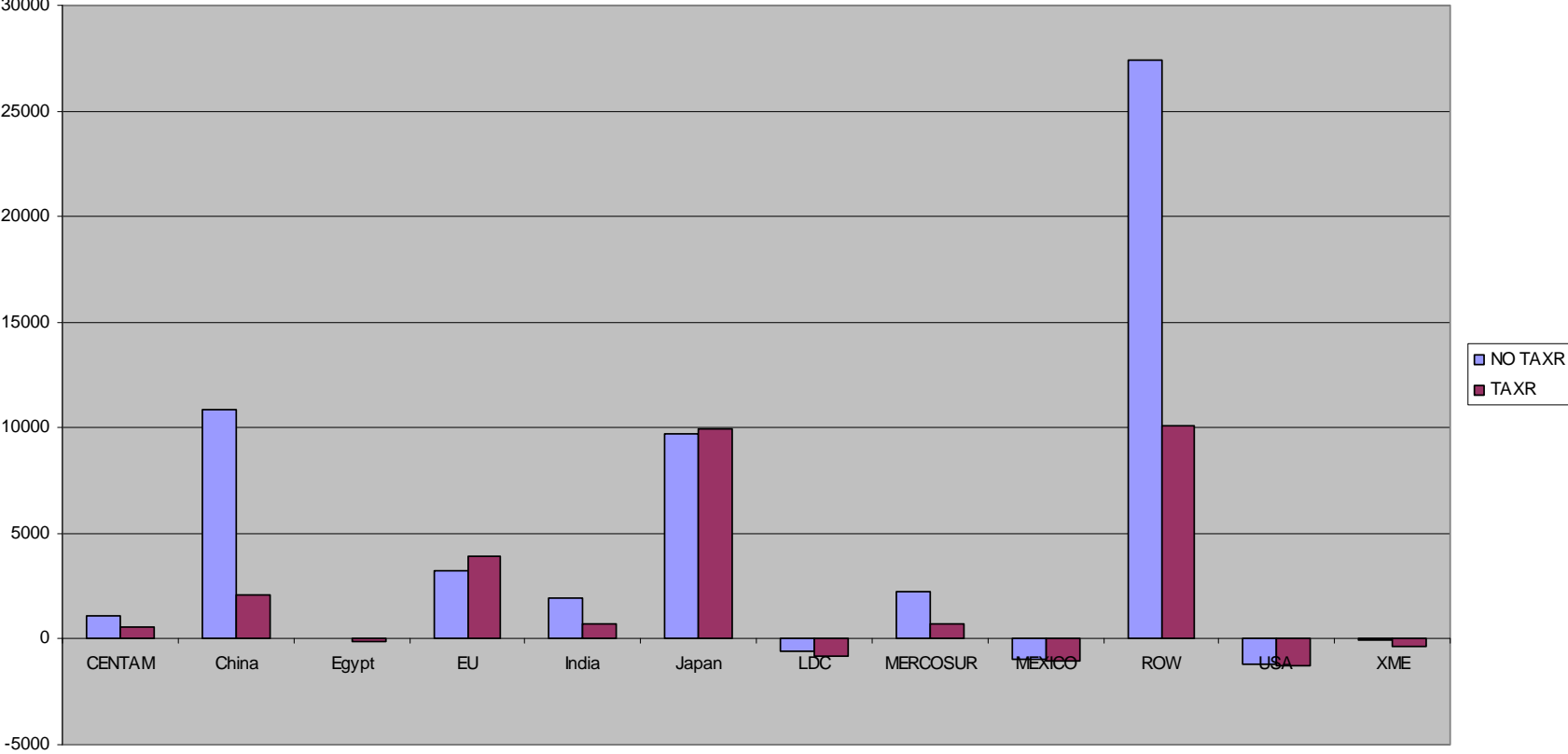
Question

- What happen to welfare gain if all region's gov keep the level of income? (Sim 1)
- Do the result different if only one region has tax replacement policy? (Sim 2)
- What cause the difference in impact of the policy (China, EU)?

Tax Replacement for all Region

- Closure
 - Same as the paper
 - Fix BOT for Egypt, LDC, CENTAM Mexico and MERCOSUR
 - Allow unemp in Egypt, LDC, India, CENTAM, China, Mexico, MERCOSUR and ROW
 - Add
 - swap $tp(\text{reg}) = \text{del_ttaxr}(\text{reg});$

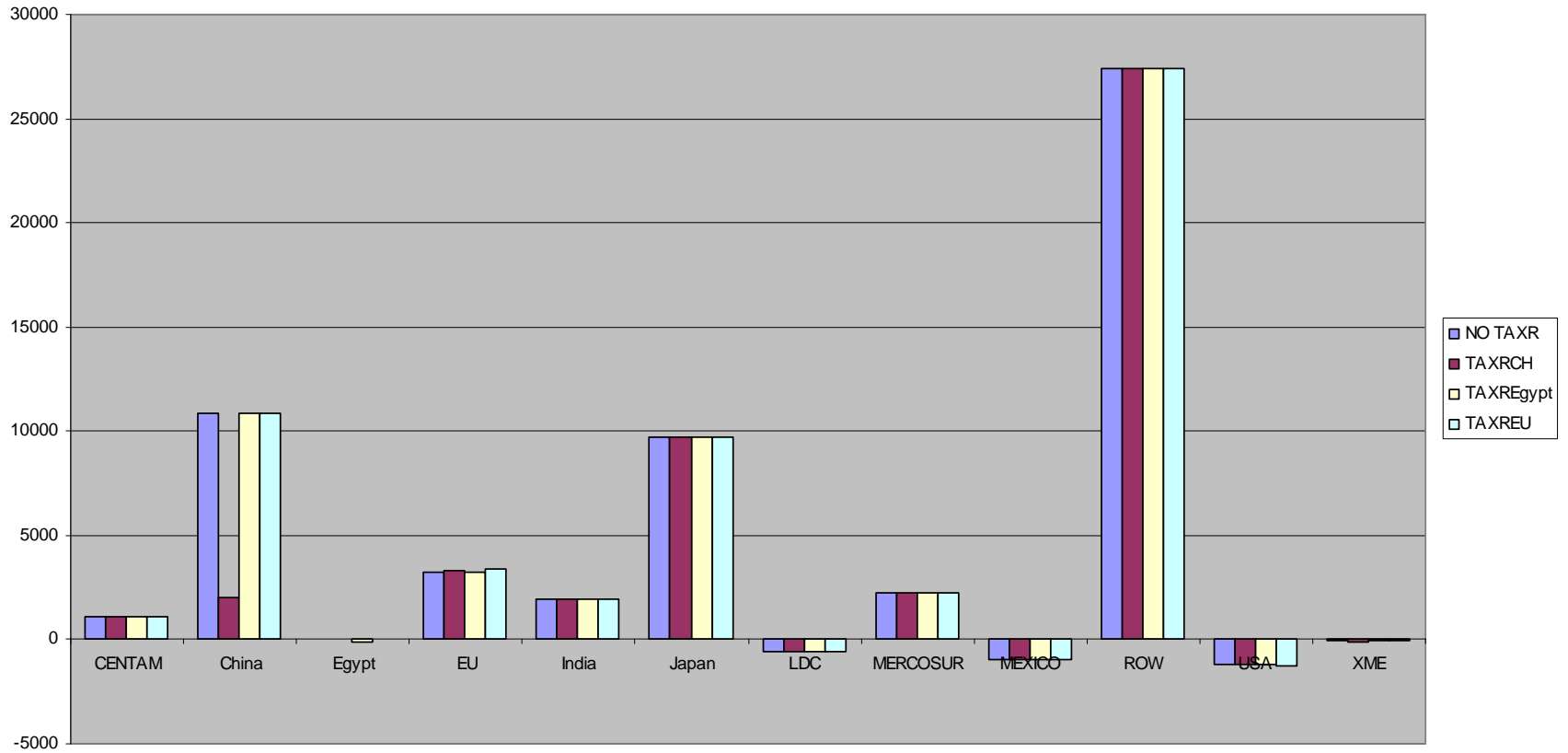
Tax Replacement for all Region



Tax Replacement in one Region

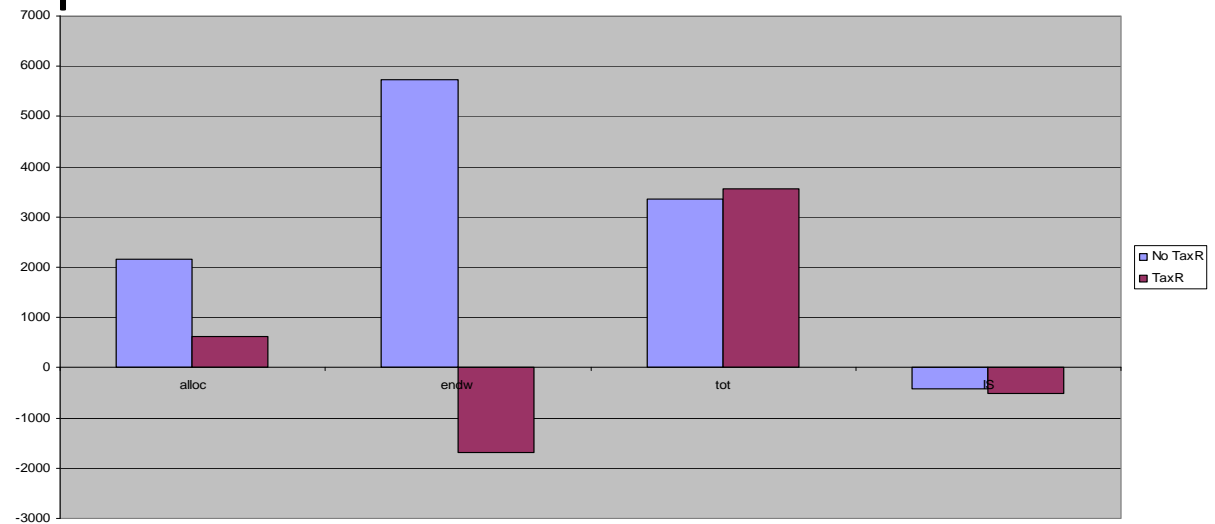
- Closure
 - Same as the paper
 - Fix BOT for Egypt, LDC, CENTAM Mexico and MERCOSUR
 - Allow unemp in Egypt, LDC, India, CENTAM, China, Mexico, MERCOSUR and ROW
 - Add
 - swap tp("China") = del_ttaxr("China");
 - Do it for China, Egypt, and EU

Tax Replacement in one Region



What Cause

- China lost the welfare gain in allocation efficiency and endowment component

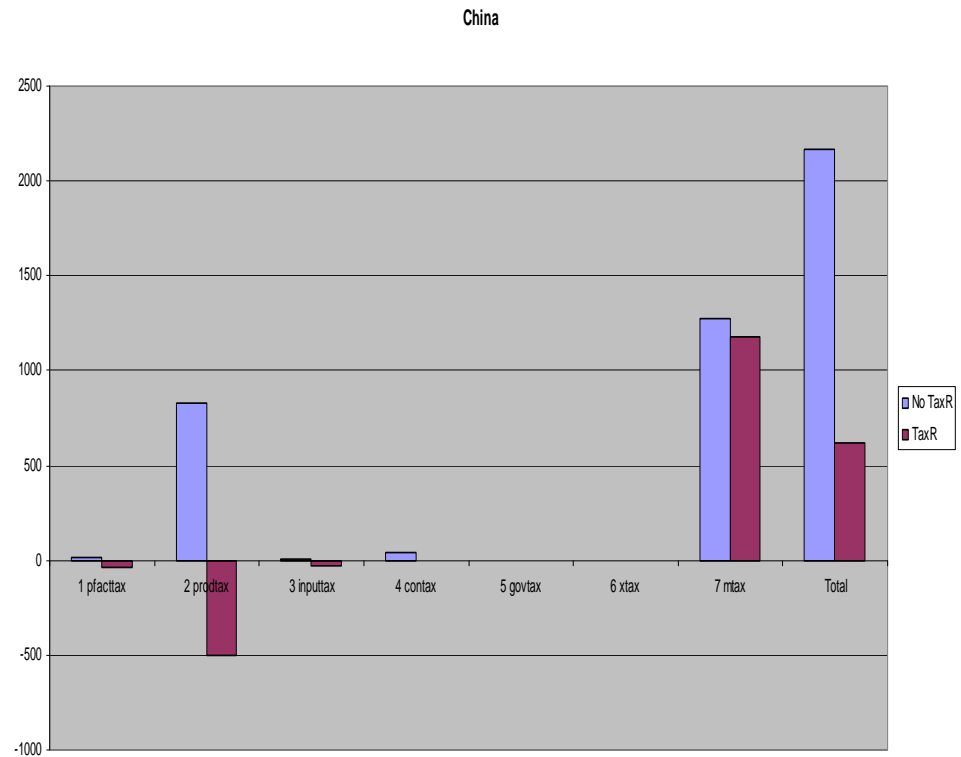


What Cause (Endowment)

- The endowment term is cause by unemployment
 - No TaxR the output by unskilled labor increase by 1.09% (More employ)
 - TaxR the output by unskilled labor decrease by 0.32% (More unemploy)
 - It cause by substitution effect since
 - without policy pva (1.35) > pfe (0.65)
 - with policy pva (1.34) < pfe (1.48)
- pfe increase because consumption price is increased by tax, so the unskill labors have been substituted out.

What Cause (Allocative Efficiency)

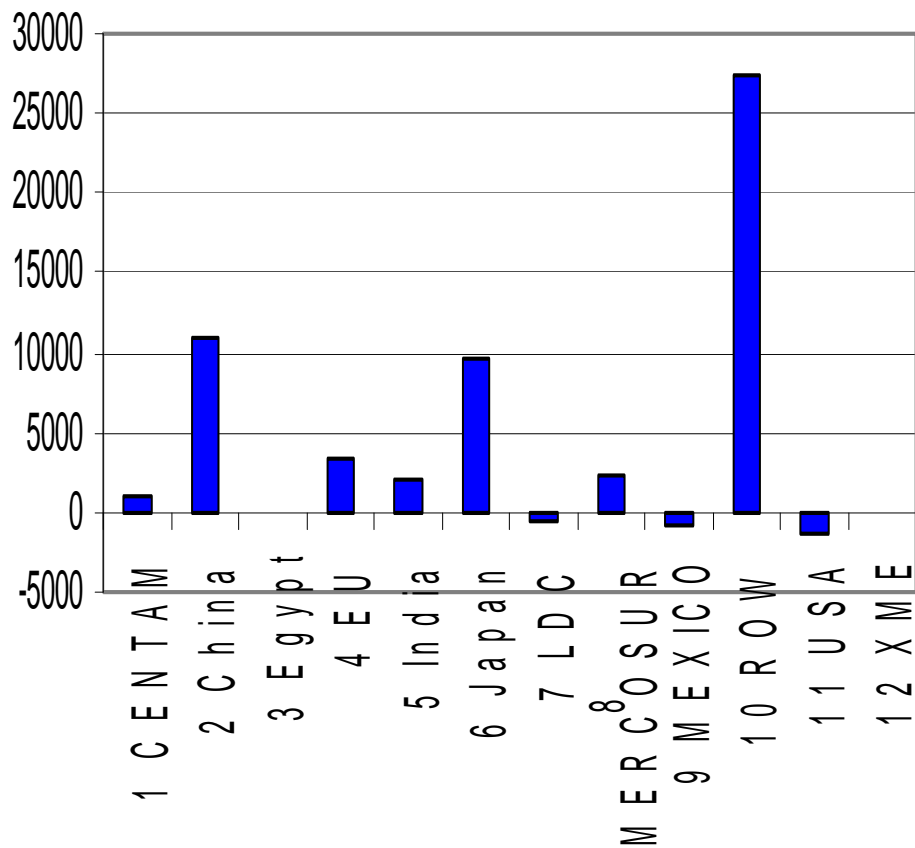
- Reduction of welfare gain is caused by the production Tax due to a decreasing of output in unskilled labor and finance sector and a increasing of tax in both sector



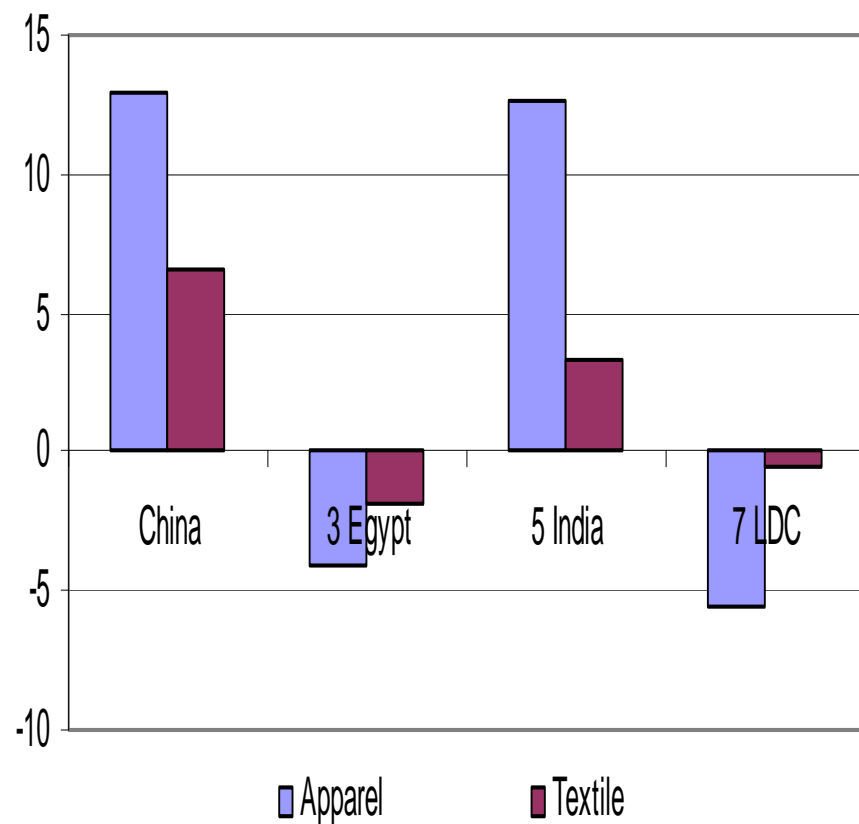
Multilateral VS Unilateral Liberalization

- Previous analysis shows that multilateral liberalization tends to have benefits to big countries such as China

Welfare



Output (% Chnages)



Tariff Reductions

Tariff reductions	China	Egypt (Doha)	Egypt (No distortion)
Apparel	-35.06	-38.47	-100
Textile	-24.84	-29.83	-100
Fibers	-0.29	-1.47	-100
Machines	-13.37	-9.16	-100
Other Manufact	-17.93	-5.38	-100

Welfare improves when small countries implement unilateral liberalization (follow Doha and no distortion)

Welfare	Multilateral	Egypt (no distortion)	(Uni Doha)
2 China	10837.534	-51.1023	-13.9585
3 Egypt	11.0318	1316.0832	175.7133
5 India	1922.2515	-122.5218	-5.6771
7 LDC	-580.1651	-5.7034	-1.4872

Qo	Multilateral	Egypt (no distortion)	(Uni Doha)
Apparel	-4.094	2.0408	1.346
Textile	-1.79	-0.7086	0.564
Fibers	-0.071	-1.9734	-0.102

Key Export Destinations

Share	China	EU	ROW	USA
Apparel	0.02	0.35	0.07	0.50
Textile	0.03	0.49	0.12	0.31
Fibers	0.08	0.34	0.31	0.03
Machines	0.01	0.53	0.13	0.03
Other Manufact	0.01	0.47	0.17	0.23

Exports from Egypt to World and China to World

QXS	Multilateral				Uni lateral (Doha)					
	Exports from Egypt to		Exports from China to		Exports from Egypt to		Exports from China to			
	EU	USA	EU	USA	EU	USA	EU	USA		
Apparel	-14.04	-4.37	30.26	22.69	-2.61	20.70	0.01	-0.08		
Textile	-11.12	-8.84	25.66	11.49	-1.51	7.08	0.01	-0.03		
Fibers	0.95	-0.40	-8.08	-8.72	-0.82	-2.18	0.11	0.08		
MacElc	0.64	1.43	-2.98	-0.57	-1.92	-2.14	0.00	0.00		
oMnfcs	-0.09	0.31	-0.67	-0.76	-1.53	-2.10	0.01	0.00		
		Unilateral								
		Exports from Egypt to		Exports from China to						
		EU	USA	EU	USA					
		Apparel	-22.5	39.3	0.03	-0.16				
		Textile	-23.7	8.0	0.07	-0.06				
		Fibers	-16.8	-8.7	0.79	0.36				
MacElct	-17.8	-17.3	0.00	-0.01						
oMnfcs	-19.2	-19.5	0.00	-0.02						

Imports

Imports	Multilateral	Uni (Doha)	Unilateral
Apparel	12.90	0.67	5.29
Textile	1.74	1.81	9.40
Fibers	-5.99	0.40	2.47
MacElct	-0.25	0.63	5.87
oMnfcs	2.74	2.12	13.56

Impact on Services Exports in Egypt

Implementation of Doha Round Tariffs on Egypt

- Agri-exports have gone up overall
- Major increases in livestock and diary (15.3%), other agri (9.7%)
- Decrease in only processed rice (-4.1%)
- Imports of all products came down except for two (paddy rice and processed rice which remained the same)
- Balance of Trade changes in Agri-products (6.8%)

Impact (...contd.)

- In Non-Agriculture commodity the balance of trade deteriorated by 11.1%
- Driven mainly by decrease in exports of Textiles and other manufactures
- And also increase in imports of Apparel, Textiles and cars and transport.

Implications

- Since the model had taken fixed real trade balance which fixed foreign trade as a percentage of income it implies that
- Either there has to be an offsetting change in exports and imports of services or in domestic savings and investment or both

Specification of the Experiment

- I have used experiments S5 and S9 as this seems to be the likely scenario
- Closure used in the model with flexible trade balance for developed countries and India & China and fixed trade balance for all LDCs
- I have subsequently changed the closure to flexible trade balance for all countries to find out the effect of real exchange rate movements on the results

Services Exports from Egypt

- Observed results show that exports of all services have gone up from Egypt and the imports of services have come down
- This has resulted in a positive BOT movement in services to the tune of 7.7%
- Services sector is a big contributor to Egyptian Economy given that its share of exports is around 55% and of output is around 50%

Digging deeper into the services Sector Results

- What are the reasons for increase in Export of services from Egypt?
- When changes in tariffs have been implemented in other sectors.
- Has it increased for Macro reasons due to real exchange rate adjustment or due to microeconomic reasons of shifts in competitiveness?

Selection of Sector

- We have concentrated on the transport and communications sector since observed changes in exports from this sector is to the tune of \$102.4 million which accounts for more than 50% of the changes in exports of services from Egypt

Results

- The model results shows that the change in output of transcom services have been mainly driven by the increases in exports of transcom from Egypt to other countries (85% of the change in output)
- Some increases are also observed in change in sales of transcom to global transcom services (15% of the change)

Explanation

- What has driven this export change in transcom?
- Is it the expansion effect (overall increase in imports of transcom services)?
- Or it is due the substitution effect of change in relative prices of transcomm?
- It is mainly driven by the substitution effect where ESUBM is 3.8 and domestic price of transcom in Egypt supplied to other countries have come down with respect to market price of composite import compared to all other regions

Explanation

- Chain of price reduction
- $pms \downarrow$ due to $pcif \downarrow$
- $pcif \downarrow$ due to $pfob \downarrow$
- $pfob \downarrow$ due to $pm \downarrow$
- $pm \downarrow$ due to $ps \downarrow$
- From zero profit condition we find that the reduction in supply price of transcom in Egypt has been driven by decrease in factor endowment prices unskilled labour and capital
- Transcom production process is intensive in usage of these factors (share of factor incomes going to these two factors in transcom being 37% and 44% respectively)

Explanation

- Prices of factor endowments capital and unskilled labour decreased because of two reasons
- Reduction in output of Apparel and leather whose exports have come down and imports have gone up. This released unskilled labour & capital in which this sector is intensive (53% & 36% of factor incomes respectively). Which reduced their prices.

Explanation

- Similarly reduction in textile output which is again intensive in these two factors (48% and 41% respectively) contributed to the reduction in prices of these factors.

Conclusions

- The macro effect was tested through change in the trade balance closure to make trade balances in all countries flexible. This didn't give different results from the one obtained from fixed trade balance model
- Thus the change in exports of services seems to be driven by relative price changes which is influenced by reduction in demand for endowment factors (unskilled labour & capital) in sectors which are contracting (Apparel & Leather and Textiles) which reduces their prices.

Thank you