

**What has been the impact of Chile's open trade policy for its food and agriculture sector and for poverty alleviation?**

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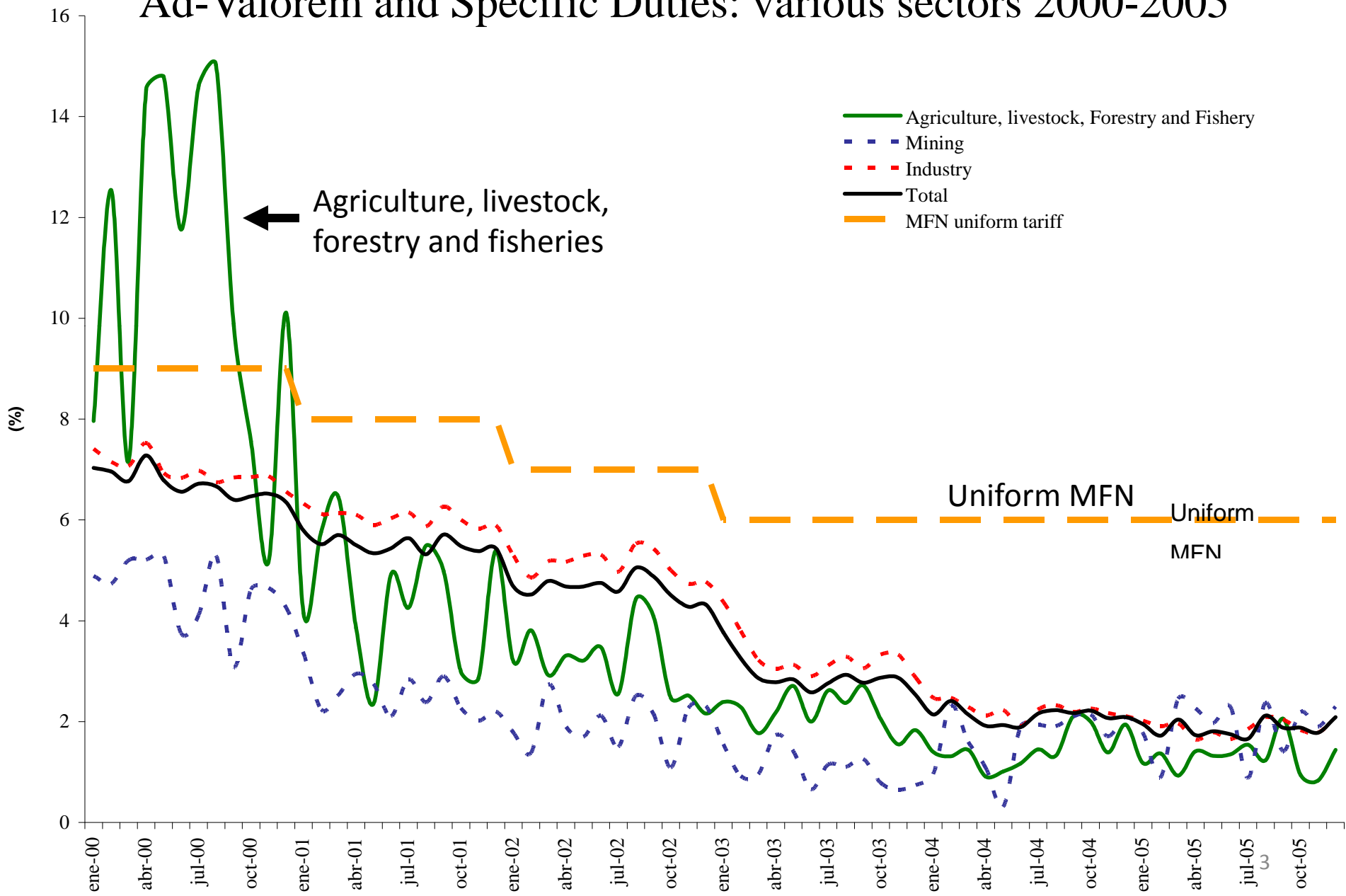
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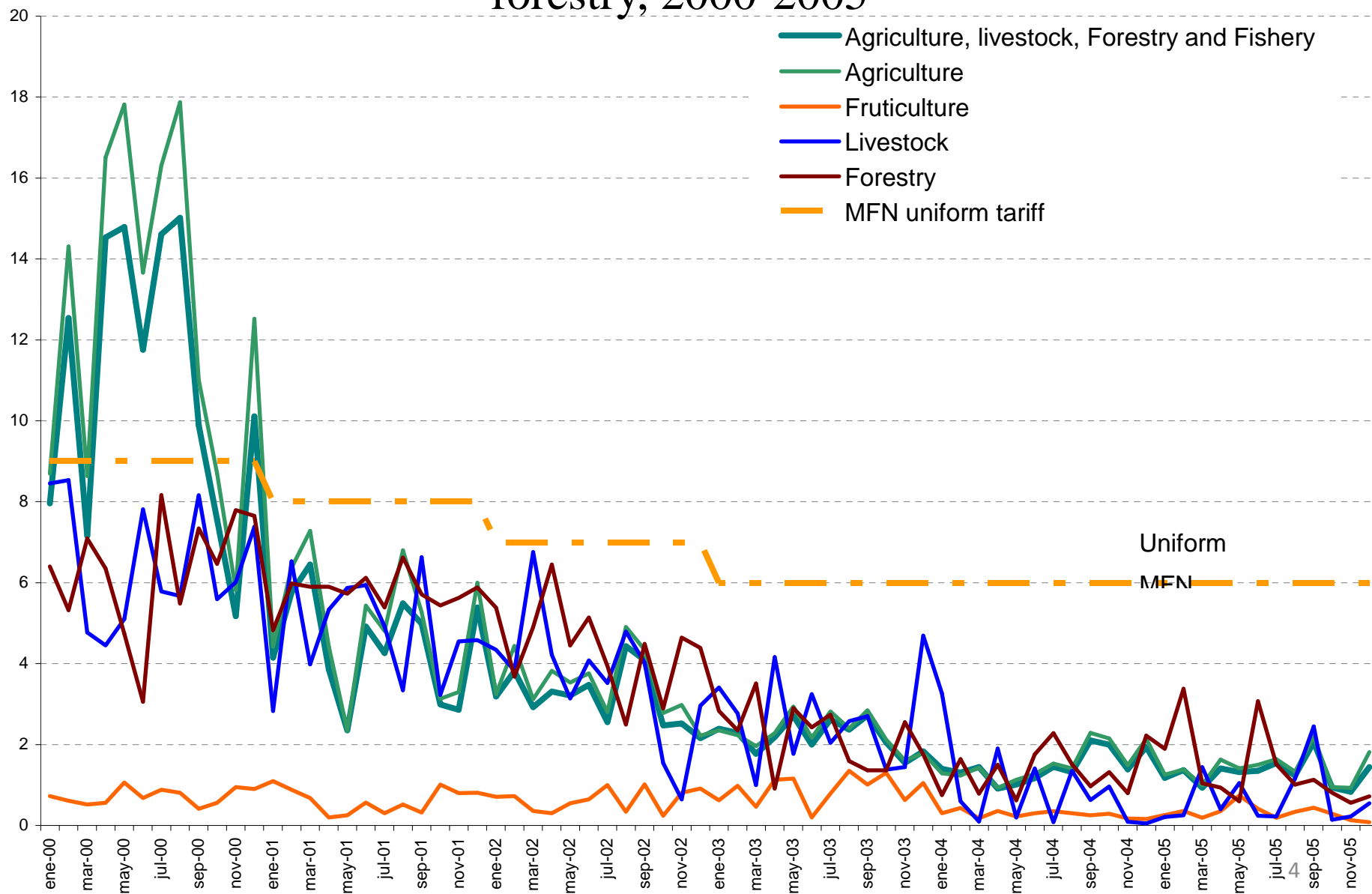
# Is food security a policy issue in Chile? The case of a higher income open economy

- Themes:
  - Open economy is becoming even more open.
  - Is there a domestic debate about food security in Chile?
  - Have small farmers benefited from trade liberalization and today's openness?
  - Quick note appended on Chile in TPP.

# Applied Tariff Adjusted for Trade Preferences, including both Ad-Valorem and Specific Duties: various sectors 2000-2005



# Applied Tariff Adjusted for Trade Preferences, including both Ad-Valorem and Specific Duties: agriculture, fruits, livestock, forestry, 2000-2005



## Effective tariffs paid on imports from trading regions, Chile 2009 and 2010.

África	5,5%	5,9%
Asia (excluye P4)	2,2%	2,2%
EFTA	2,1%	2,7%
Europa (excluye CEE y Efta)	1,1%	5,8%
Mercosur	0,3%	0,2%
Nafta	0,7%	0,8%
Oceanía (excluye P4)	0,7%	0,7%
Otro América	6,0%	6,0%
P4	2,0%	1,9%
Resto LAM	0,5%	1,2%
Unión Europea	0,8%	0,7%
Total General	1,1%	1,3%

# Distribution of the share of import value by applied tariff level, Chile 2010.

No QRs, no price controls on tradables and no export taxes or export bans. Natural gas and gasoline prices

subject to govt. guidelines

Tariff range	Share of imports
5.1-6%	10%
4.1-5%	3%
3.1-4%	4%
2.1-3%	6%
1.1-2%	12%
0.1-1%	16%
0%	49%

77%

Country pair	Date	Bilateral and LAC regional trade agreements and date signed	
Chile-Canada	1996		
Chile-Mercosur	1996		
Chile-Mexico	1998		
Chile-Peru	1998		
Cent. America-Chile	1999	NAFTA	1992
Chile-EFTA	2002	Mexico-Bolivia	1994
Chile-EU	2002	Mexico-Colombia	1994
Chile-Korea	2003	Mexico-Costa Rica	1994
Chile-US	2003	Mexico-Peru	1995
<b>Chile-China</b>	2005	Mexico-Nicaragua	1997
Chile-New Zealand-Singapore-Brunei (P4)	2005	Mexico-EFTA	2000
Chile-Japan	2007	Mexico-EU	2000
Chile-Australia	2009	Mexico-Israel	2000
Chile-Turkey	2009	Mexico-Northern Triangle	2001
(Chile-Vietnam-Malaysia)		Mexico-Uruguay	2003
		Mexico-Japan	2004
Country pair	Date		
Mercosur-Bolivia	1998	Peru-Thailand	2005
Mercosur-Canada ( ACE59)	2004	Peru-Mercosur (ACE59)	2005
		Peru-US	2006
		Peru-Singapore	2008
CAFTA-DR	2004	Peru-Canada	2009
Colombia-US	2006	<b>Peru-China</b>	2009
Panama –Singapore	2006	Peru-Korea	2011
<b>Costa Rica - China</b>	2010		

## Total agro-food-forestry exports from Chile, and export shares to principal partners (%), 1998-2008, ODEPA

Year	Total Ag-food trade billion US\$	Year-to-year change %	China	Japan	Korea	USA	E.U.	Canada	LAC	ROW
1998	4.33		3.7	10.5	1.2	29.5	24.1	<b>1.3</b>	<b>22.6</b>	7.1
1999	4.72	8.95	1.2	9.1	2.6	31.9	23.2	<b>1.3</b>	<b>20.5</b>	10.2
2000	4.98	5.42	3.6	9.5	2.0	29.7	24.2	<b>1.4</b>	<b>21.7</b>	7.9
2001	4.79	-3.84	5.9	9.4	1.7	30.4	22.1	<b>1.5</b>	<b>23.5</b>	5.5
2002	5.18	8.35	5.4	8.1	2.1	33.5	21.8	<b>1.7</b>	<b>20.9</b>	6.5
2003	5.94	14.49	4.4	8.2	<b>2.4</b>	<b>32.8</b>	<b>24.5</b>	<b>1.9</b>	<b>18.6</b>	7.2
2004	7.51	26.59	5.2	8.2	<b>2.5</b>	<b>32.1</b>	<b>24.1</b>	<b>1.9</b>	<b>19.1</b>	6.9
2005	8.04	7.03	<b>5.2</b>	8.3	<b>2.9</b>	<b>30.5</b>	<b>23.9</b>	<b>1.8</b>	<b>20.8</b>	6.6
2006	8.90	10.63	<b>5.0</b>	7.6	<b>3.1</b>	<b>30.5</b>	<b>23.7</b>	<b>1.9</b>	<b>21.1</b>	7.1
2007	11.01	23.74	<b>7.8</b>	<b>7.0</b>	<b>3.9</b>	<b>24.3</b>	<b>25.6</b>	<b>1.8</b>	<b>20.8</b>	8.9
2008	12.76	15.87	<b>7.3</b>	<b>6.7</b>	<b>4.0</b>	<b>22.3</b>	<b>26.8</b>	<b>1.9</b>	<b>24.2</b>	6.8
2009	10.81	-15.24	<b>10.0</b>	<b>6.6</b>	<b>4.2</b>	<b>24.4</b>	<b>24.6</b>	<b>2.3</b>	<b>21.6</b>	6.4
2010	12.32	13.89	<b>8.5</b>	<b>6.7</b>	<b>4.3</b>	<b>23.1</b>	<b>26.2</b>	<b>2.3</b>	<b>22.0</b>	6.9

Source: Authors' calculations based on data de ODEPA. *Excludes* fisheries, fishmeal and aquaculture products, but includes forestry products. Figures in bold indicate FTAs with Chile and years in which trade treaties are in effect



# Is there a domestic debate about food security in Chile?

- Answer: NO.
- How did gov't policy change during the food price spikes in 2008-09?
- Food price inflation an issue - according to FAO, in Chile food prices increased 9.8% in 12 months after the price spikes in world markets.
- Poverty line in Nov 2011 was ch\$ 72,098 per month per person (approx. US\$ 145 – about US\$ 4.80/day.).
- Chile PPP 2011 income per capita: US\$ 15,000. Almost out of middle-income category.
- In 2009 agric. represented 12.3% of employment, 15.6% of total exports, 7.4% of total imports, and approx. 3.7% of GDP (with forestry, 5% with aquiculture). 8-10% of GDP if net linkages to nearby industries added.

# How could a country's policy respond to market volatility? A list of options

- Trade policies
- Domestic market policies : food subsidies, price controls, food stores, payments to producers, taxes/subsidies on the producer or consumer side, emergency reserves/national stocks policies
- Role of govt in risk management, producers: ex ante and ex post
  - subsidies for crop and price insurance schemes and for futures contracts. Ex post: disaster relief, debt rescheduling
- Drawing on int'l assistance.
- Role of govt on risk management for consumers
  - safety net policies with targeted transfer in the form of cash and/or in-kind transfers, food stamps, works programs
- Chile relied largely on safety nets, no intervening in the market (OECD Jones and Kwiecinski 2010), financed by govt.

FAO Regional Office, housed in Santiago, emphasizes food security in LAC, but few Chileans do.

- In Chile, income focus. Little problem of nutrition.
- Diversified diet. Growing obesity, in fact.
- Food security based on foreign trade and production based on comparative advantages.
- Domestic storage private, low prob of govt. interventions. No govt storage (except Cotrisa's small farmer price support for wheat w/ short-term holding).
- Safety nets (once-only cash transfers applied in 2008).
- Goal of rapid economic growth and employment to reduce poverty.
- Food safety: contamination and health events. Requires constantly updating regulatory framework and enforcement.
- Sanitary infrastructure (over 95% urban coverage)

# Other considerations on food security in Chile

- GMO seed. Imports, yes; production, no, except for export seed. Curious.
- Net food importer, net agricultural exporter, with a positive balance of agric trade.
- Food imports a low share of total imports. Financing food import bill not an issue. Food basket diversified and not a large importer of grains.
- Food security in Chile is not a choice between trade and stocks.

## Safety net measures to counter food price volatility.

- Short-term response to occasional food price spikes such as 2008-09 – via safety net measures.
- Food expenditures represent 19% of CPI.
  - Bread and cereals 30% of food, meats 20%, dairy 11%.
  - Price volatile product: vegies 14% of food.
- 2011 price increases also had impact on the poor, due more to non-tradables - drought.
- Between Oct 2010 and Oct 2011, cost of food rose by 7.5%, while CPI national rose by 3.7%.
- Chile exports poultry, powder milk, and pork (and imports poultry too), which provides a source of flexibility, but not in a govt plan.
- Convenient for producers and exporters to sometimes divert from exports due to shocks (e.g., chicken plant fire led to fall in exports and to imports of one firm).

# Since the reforms of 1970s

- Private sector has played a substantial role both in crisis avoidance and response.
- Stable rules and no govt involvement in foreign trade or food stocks policy.
- Avoiding govt interventions that could undermine market mechanisms.
- Food a lower share in household expenditures.
- If there are shocks...such as earthquake of Feb 2010:
- Immediate logistic disruption, but after a couple of days food supplies were back to normal – fairly quick remedy to short run supply idiosyncratic shocks.
- If there is a drop in the world supply, we are all affected...of course.
- Diverting resources to domestic production would have little impact on the poor.

## From Jones and Kwiecinski's OECD study of responses to food price surge of 2006-2008

- Chile Policy response
  - Chile One-off added payments to poor. One US\$ 35 check per household, poorest 40% of population – about US\$ 50 million in 2008.
  - On top of pension supplement, family allowance, targeted housing, water and electricity subsidies. (& more generally available education and health subsidies).
- Chile Impact
  - High level of price transmission.
  - Severe winter compounded rise in international prices, leading to a relatively large increase in food prices.
  - Some offsetting effect of the Chilean currency appreciation
- Chile Outcome
- Adjustment burden fell on consumers, eased by targeted assistance.
  - Very low fiscal cost. Producers benefited from higher commodity prices.

## As OECD's Jones and Kwiecinski note:

- “In addition to safety nets for the poor, the study revealed the importance of income growth within emerging economies as a key for compensating losses in consumers' utility due to relative increase in food prices. Thus policies able to stimulate overall economic growth and ensure that the benefits flow through to households could be part of a relevant policy-mix to prepare for future food price spikes.”



Jones and Kwiecinski note some interesting differences in food costs.

- Chile and Russia have a similar level of per capita national income, food accounts for one-third of household expenditure in Russia but less than one-quarter in Chile.
- Average household in Argentina spends considerably more proportionally on food than in Brazil and South Africa who are poorer on a per capita basis.
- My question: Food expenditure outside home in restaurants? How does national CPIs consider food from “recreation” (which includes beverages and alcohol)?

# Have small farmers benefited from trade liberalization and today's openness?

- To what extent do small farm sector depend on farming as income?
- To what extent do they depend on exports?
- Commercial agriculture could benefit, but small farms less.
- INDAP – special extension and credit support targeted to small farmers. Expensive.

## Farm income as a share of family income by farm size, census 2007

Farm size HRB	>75%	50% to 75%	25% to 50%	< 25%	Total
< 2	14	9	15	62	100
2 to 12	28	14	18	41	100
12 to 60	35	14	17	33	100
> 60	39	12	13	37	100
All	18	11	16	55	100

Few small “farm” families depend on own farm production for income. Majority depend on off farm sources.

HRB = quality-standardized land unit in hectares.

Changes in total land use in export products: fruits, vineyards and horticulture, by farm size, 1996-2007. Larger gains by larger farmers.

% Change	1996-2007		
HRB	Fruits	Vineyards	Horticulture
< 2	2.90%	-22.10%	-12.10%
2 to 12	16.70%	-2.60%	-21.50%
12 to 60	23.50%	43.10%	7.70%
> 60	66.10%	140.50%	11.80%
All	38.50%	58.70%	-2.90%

Authors' calculation, Agricultural census, 1996 and 2007.

Changes in hectares in annual and fruit crops, by farm size,  
1997 and 2007

Farm size HRB	1997	2007	% change
< 2	203,219	138,683	-31.8%
2 to 12	359,637	252,053	-29.9%
12 to 60	436,076	410,552	-5.9%
> 60	396,859	491,173	23.8%
All	1,397,788	1,294,468	-7.4%

Sales profile by farm size, 2007. Percent of farms according to size by equivalent productive capacity (HRB).

Farm size	Exports	Sales to agro- industry	Contract farming
< 2	2.5	4.3	1.0
2 to 12	8.7	18.2	7.4
12 to 60	27.4	39.4	21.9
> 60	44.8	45.6	29.5
All	6.4	10.7	4.4

Note that indicators of market integration are not exclusive.

But small operations had biggest gains in forest plantings,  
starting from a smaller base.

Total forest plantation and share by farm size, 1997 and 2007

Farm size			% change
HRB	1997	2007	in hectares
< 2	3%	4%	57%
2 to 12	10%	11%	32%
12 to 60	16%	15%	15%
> 60	71%	70%	17%
Total hectares	2,192,187	2,618,418	19.4%

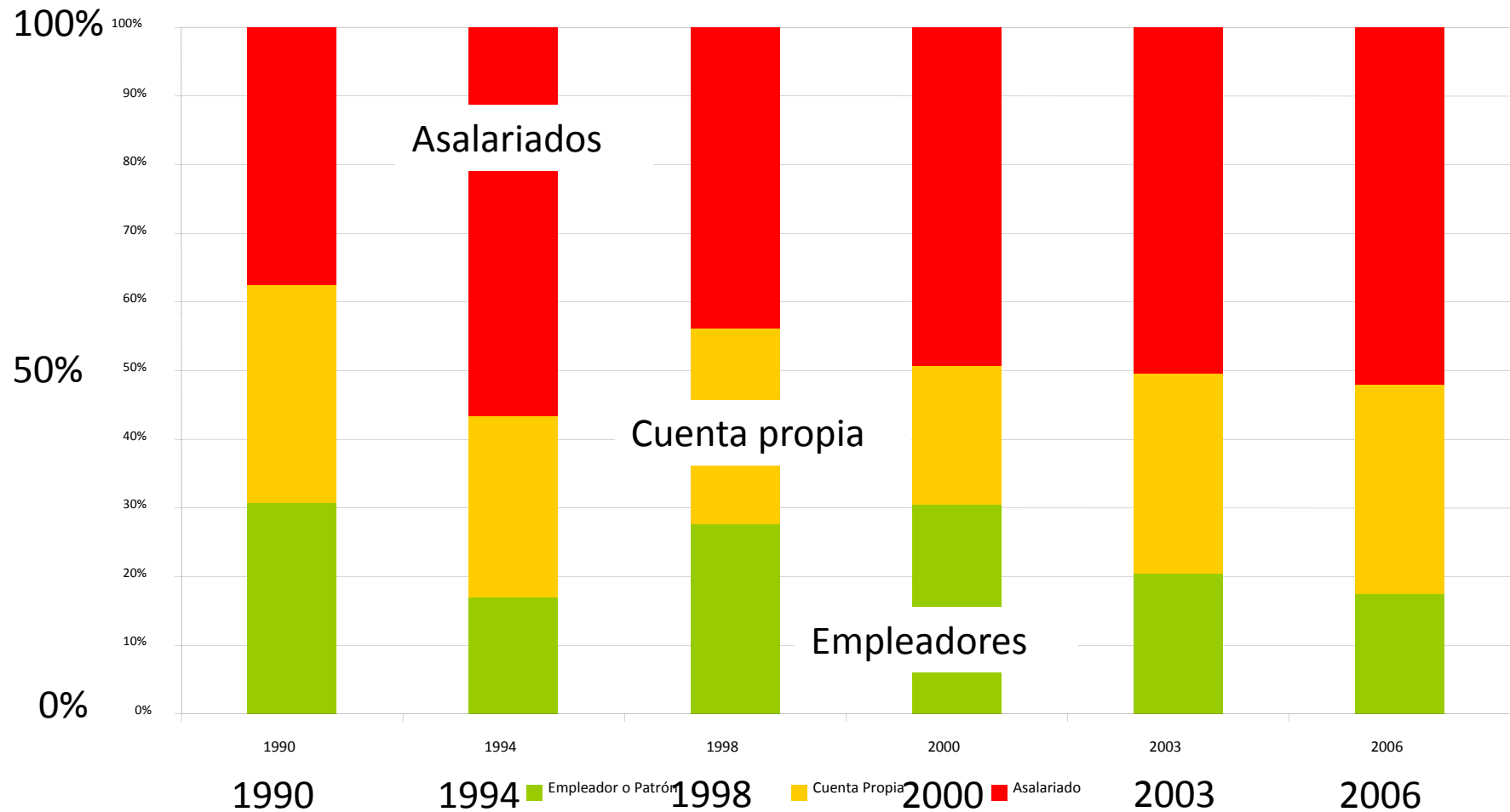
## Farm units owned by women by farm size, 2007

Farm size HRB	total number of units	Number owned by women	% owned by women
< 2	197,029	59,593	30%
2 to 12	67,795	13,418	20%
12 to 60	19,351	2,841	15%
> 60	5,331	420	8%
All units	289,506	76,272	26%

Perhaps many are widows. Consistent with CASEN data on “inactive” female heads of households with income from farming or farm labor.



# Share of all agricultural income generated in the sector, based on household surveys, by occupational status, 1990 to 2006



Salaried share of total sector income growing over time.

1994 gives false impression – CASEN incomes adjusted to match national accounts

# Agricultural growth in Chile has reduced poverty mainly via employment effects

- Three channels:
  - Poverty reduction via small farmer production increases.
  - As a result of declining prices of food for poor households.
  - Through employment in farming and in agro-processing and downstream activities.
- In Chile the last has been important.
  - Chile is open economy and price taker, and bulk of food tradables.
  - Small farmer share in dynamic sector of ag has declined.
- Lopez and Anriquez (2005), chapter 3 of Valdes and Foster, *Externalidades de la Agricultura Chilena*, in english in *FAO Roles of Agric (ROA)*  
[www.fao.org/es/esa/roa](http://www.fao.org/es/esa/roa).

# Annex

Chile as a member of the Trans Pacific Initiative (TPP):

- Chile has FTAs with all current members of TPP and with Japan, Mexico and Canada
- Thus, gains in market access unlikely to be significant, except perhaps for the Accumulation of Rules of Origin criteria
- Labor standards follows ILO rules and environmental standards according to national standards, as negotiated under FTAs.
- For Chile, intellectual property rights issue is probably the most sensitive, specially on pharmaceuticals.

Livestock sector generally shrinking (mainly dairy and beef). Land use in forage and pastures by farm size (1000 hectares), 2007

Farm size		Improved	Natural
HRB	Forage crops	pastures	pastures
< 2	26.5	114.7	509.9
2 to 12	73.4	286.0	860.2
12 to 60	120.2	353.3	947.0
> 60	174.0	206.3	4,184.4
All	394.1	960.3	6,501.5
% Change	1997-2007		
< 2	17.8%	45.2%	-12.6%
2 to 12	-22.0%	0.5%	-26.0%
12 to 60	-21.2%	0.6%	-22.7%
> 60	12.0%	18.6%	-19.4%
All	-7.2%	8.0%	-20.3%

Livestock numbers, beef, sheep and dairy, by farm size,  
(1000s head), 2007

Farm size HRB	Beef cattle	Sheep	Dairy cows
< 2	600.2	594.3	56.3
2 to 12	1,004.1	392.3	151.6
12 to 60	1,114.7	193.4	195.3
> 60	723.9	198.8	88.3
All	3,442.9	1,378.8	491.5
Change	1997-2007	More specialized breeds, productivity increased	
< 2	-2.4%	15.6%	-40.4%
2 to 12	-13.7%	-1.3%	-32.6%
12 to 60	-8.9%	-14.4%	-3.6%
> 60	-12.3%	-20.8%	-2.0%
All	-10.1%	-0.7%	-19.7%