Old foods new consumers in Mexico under economic reforms

Prepared for the

4th International Conference of the African Association of Agricultural Economists, Hammamet, Tunisia

Antonio Yunez-Naude

Center for Economic Studies

El Colegio de Mexico

and

Sustainable Food Development (DAS A.C.)

Introduction

Purposes:

1. To document and discuss the **experience of Mexico** based on its performance on **food production and consumption** under market oriented reforms and the North American Free Trade Agreement (NAFTA) applied since the 1990s.
2. This in order to suggest **lessons Mexico can offer** on these matters to other less developed countries
3. Instead of focusing on results of **quantitative analyses** about the impacts of reforms and NAFTA on specific aspects of agricultural trade, production and food consumption, I decided to present
   a. an **overview** of trends of relevant variables for this presentation
   b. hypotheses about food consumption patterns and
   c. discuss **government failures** in agricultural and food poverty policies Mexico.

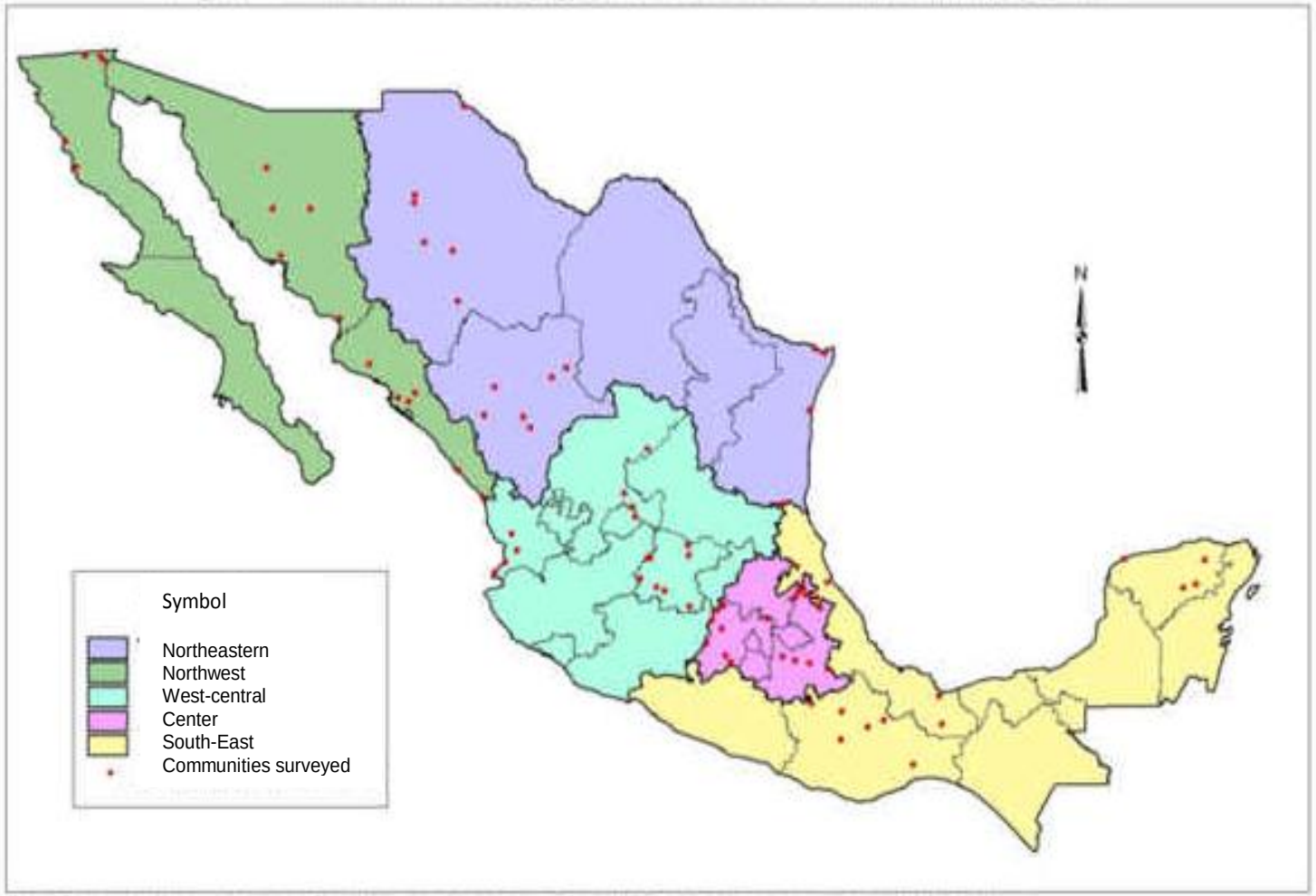
Outline

1. Reforms and NAFTA and expected impacts
2. Trends in
   - Food production (basic crops and meats)
   - Agri-food trade and food import dependency
   - Farm size and yields of major crops
3. Evaluation of the performance of Mexico in terms of: food consumption and expenditure, food security and poverty
4. Lessons the Mexican experience can offer
5. Final remarks.

Location of Mexico

Major rural regions of Mexico

National Survey of Rural Households in Mexico (2003)
Regions and geographical distribution of communities surveyed



Fuente: Elaborado en el Laboratorio de Análisis Espacial, Coordinación de Servicios de Cómputo, El Colegio de México con base en datos de la ENHRUM, 2003

1. Liberalization Process of Mexico´s Agriculture

POLICY	MAIN POLICY CHANGES	YEAR(S)
Mexico joins GATT and food imports restrictions began to be reduced	Substitution of import lisencing for tariffication of agricultural goods (tariffs ranging from 0% to 20%)	1986-1994
Sale of Food State Enterprises	Privatization of State Food Storage Facilities and State entreprices selling seeds and fertilizers at subsidized prices	1988/89
	Abolishion of State enterprises selling coffee, sugar and tobacco	
"Ejidal" Reform (land property rights reform)	Ending of agricultural land distribiution to peasants	1992
	Liberalization of agricultural land property rights	
Elimination of price supports to farmers producing food staples (in 1999 the State Trading Enterprise providing this subsidy was abolished)	Domestic prices of satples determined taking into account international prices	1989 to date
	Creation of ASERCA in 1991, a marketing support agency granting subsidies (deficiency payments) to comercial staple crops´ producers and buyers	
	Creation of PROCAMPO in 1994, a direct income transfers program to all producers of staples	
North American Free Trade Agreement (NAFTA)	Prohibits the use of import licenses and applies tariffication principles	Jan. 1994-Jan. 2008
	"Free" trade in 15 yerars. Sensitive agricultural products were subject to Tariff Rate Quotas for a transitional period of up to 15 years	
	Interventions are allowed in the 3 countries for Ag. subsidies , import restrictions on phytosanitary grounds and rules of origin and for packing.	
Aliance for the Countryside	Group of programs to promote agricultural and rural productivity, including small farmers	1995-2007

1. Main expected impacts of Ag. Reforms and NAFTA

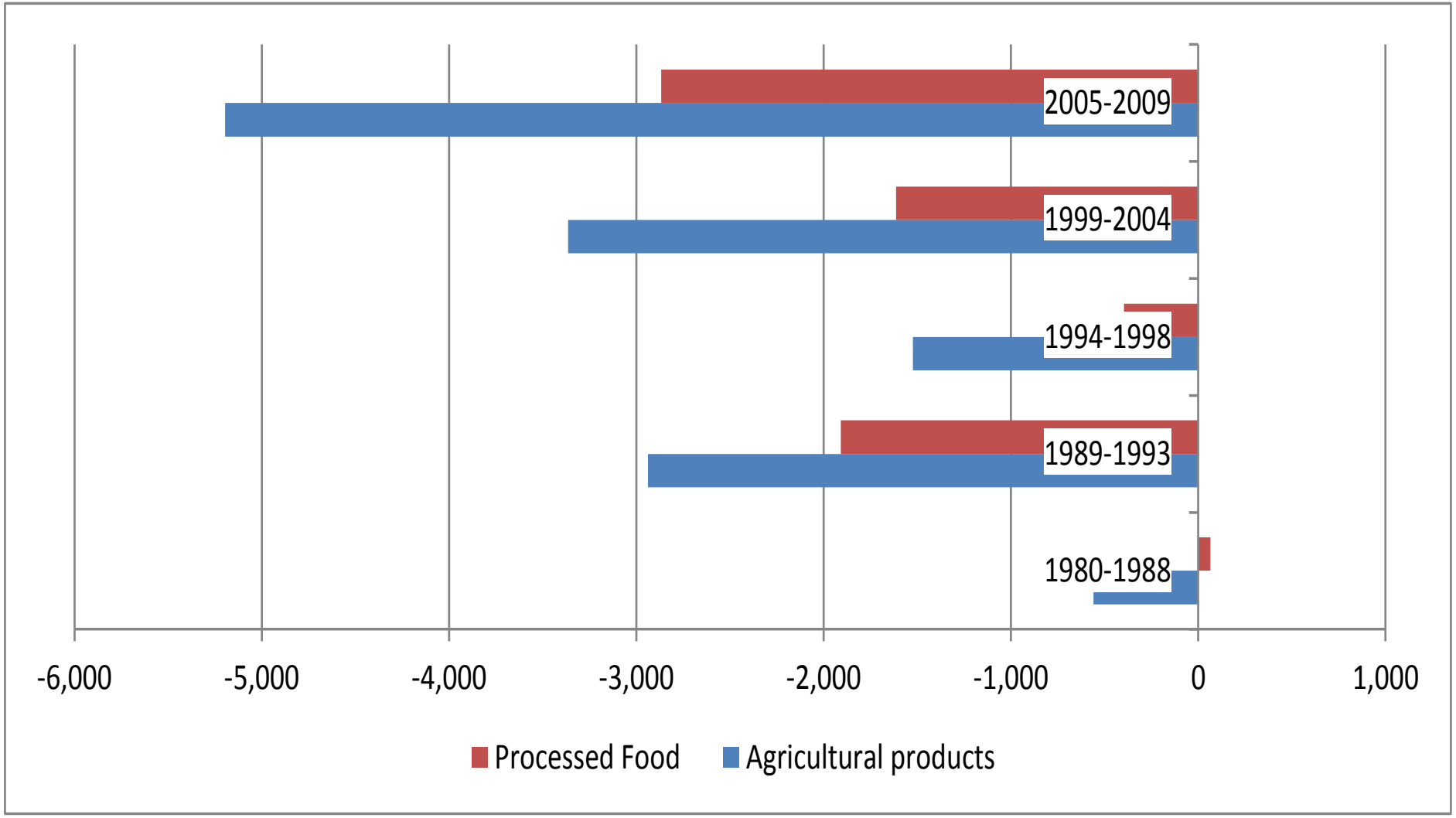
- The application of the **Law of ne Price**: Mexico's Agri-food prices to follow international/USA prices
- **Efficiency** gains in agricultural production of basic food staples and growth of competitive crops (fruits and vegetables).
- Increase in average **farm size**
- Rural **out-migration**, including migration to the USA during the short/medium run
- **No worries about food import dependency** (**food security** to be attained through income growth and the working of the markets).

2. Trends: non-satisfactory performance in overall and Ag. growth.

Period	GDP	Agriculture, Fisheries and Hunting	Field Crops and Pastures	Livestock	Processed Foods and Beverages
1980-1988	-0.41%	-0.10%	0.92%	-2.77%	1.97%
1989-1993	4.06%	1.27%	2.28%	-1.40%	5.41%
1994-1998	1.60%	-1.67%	-2.48%	0.53%	1.59%
1999-2004	4.60%	0.39%	-0.66%	2.86%	4.02%
2005-2008	4.38%	5.08%	8.11%	0.78%	3.21%
2009-2011	1.55%	-1.71%	-5.06%	2.72%	2.48%

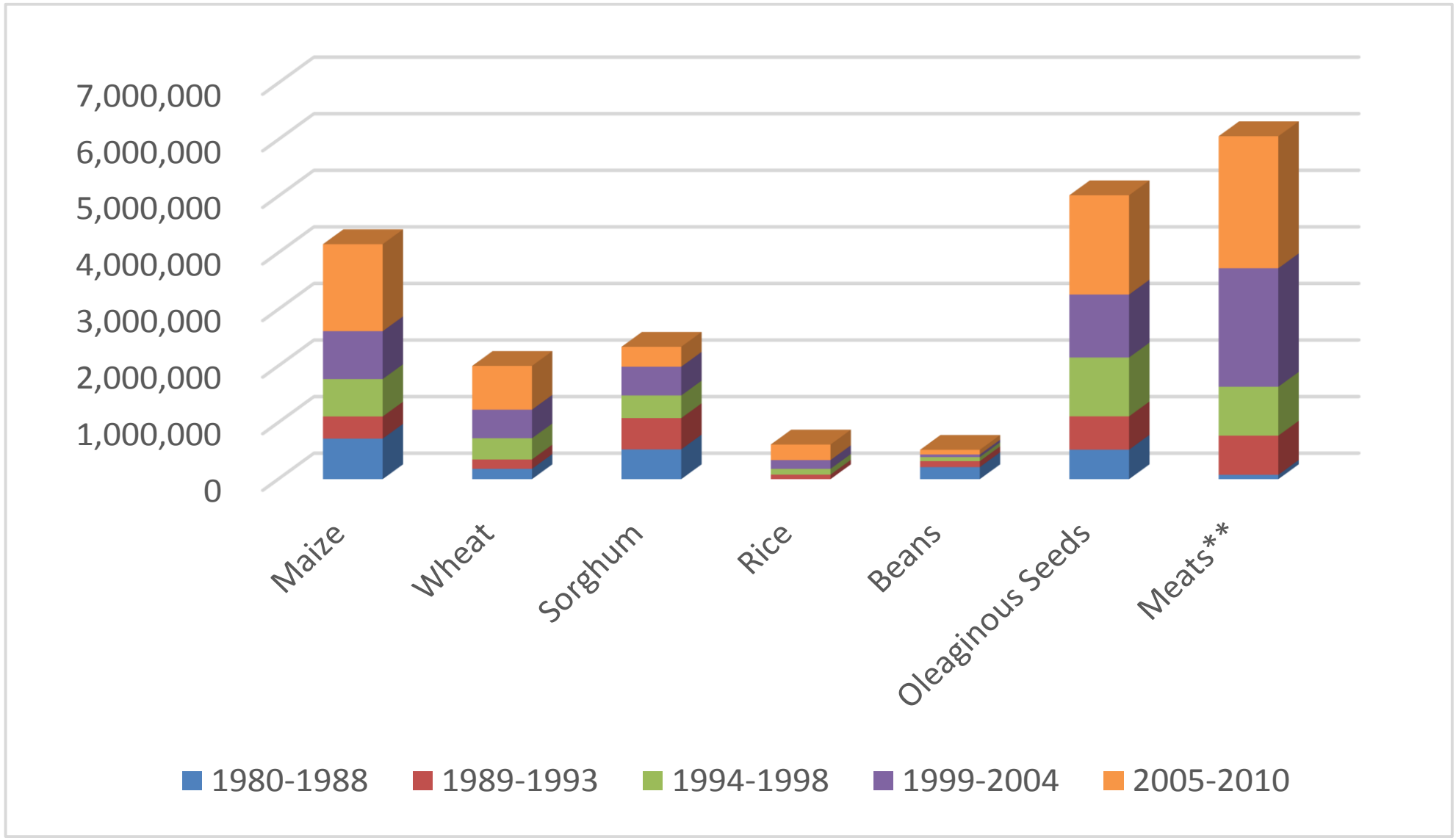
2. Trends: Increasing Agri-food Trade Deficits

(Thousands of US dollars at constant 2005 prices)

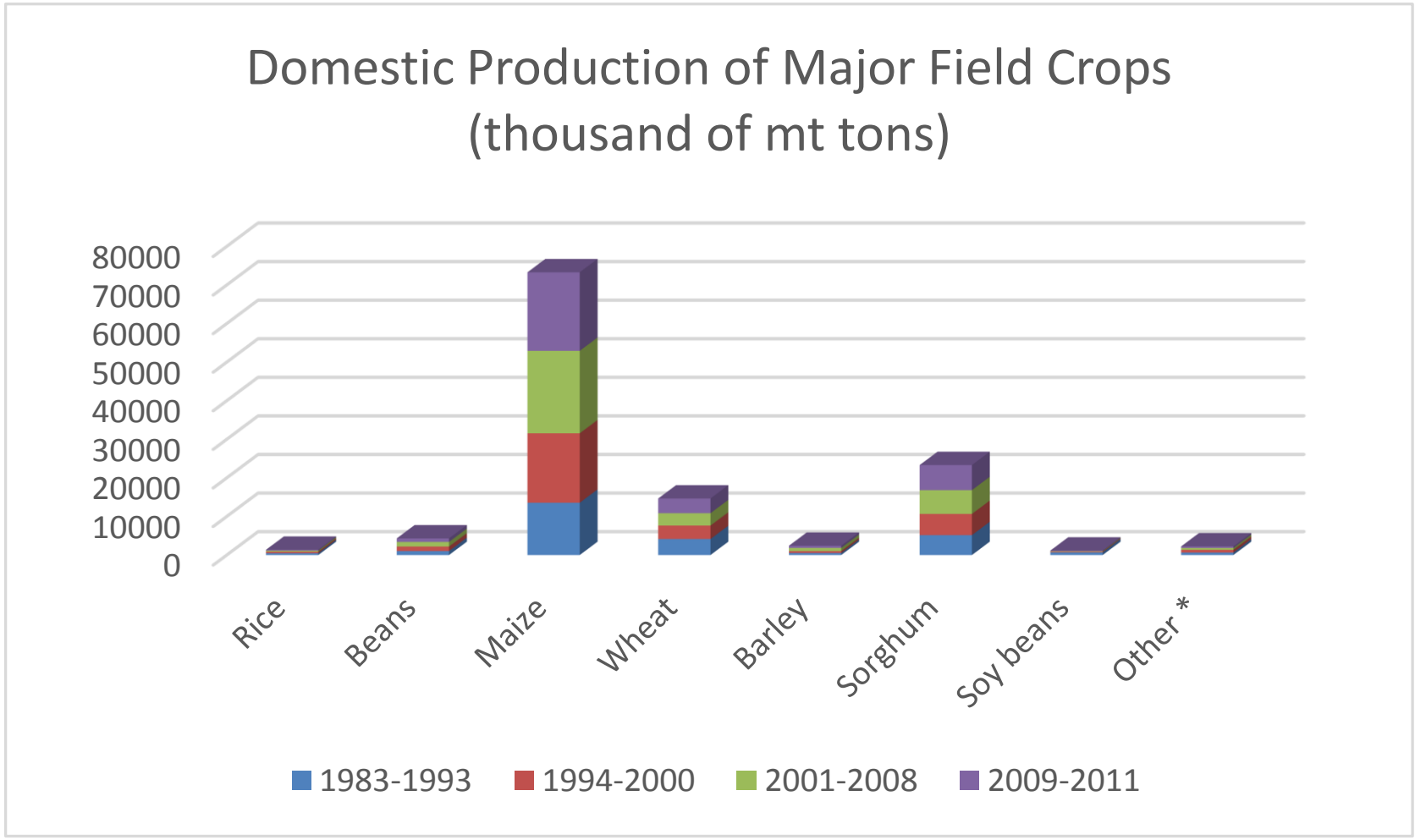


2. Trends. Increasing Imports of major food staples

Constant 2005 USAD



…however, domestic production of maize grew and that of wheat, sorghum and barley did not collapsed, whereas oilseeds production did collapsed.

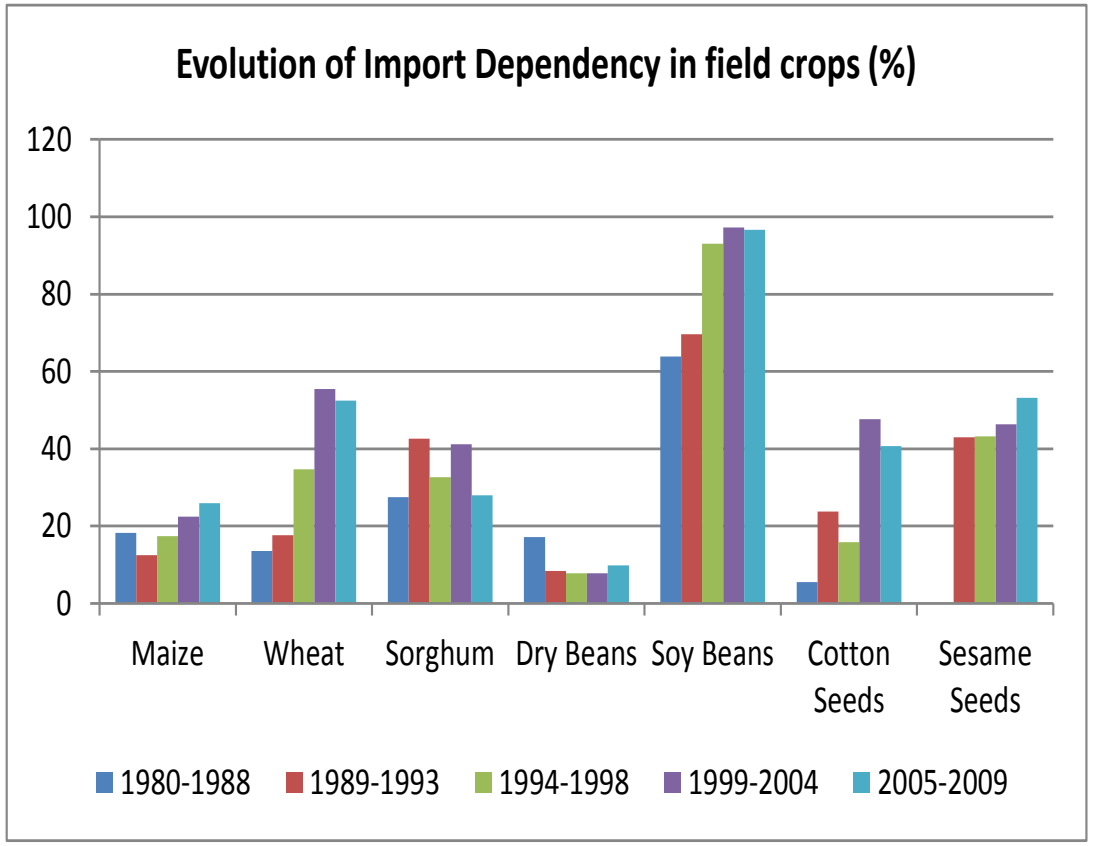


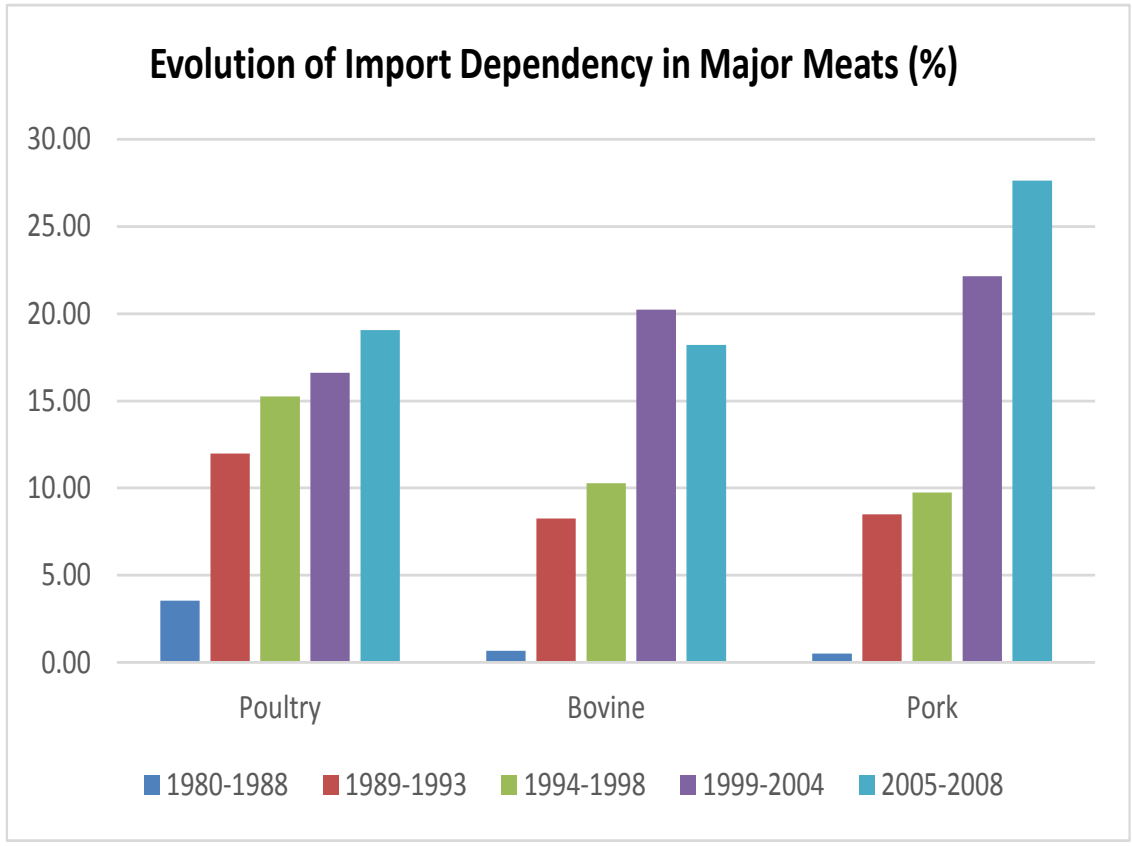
Why domestic production of maize (the major staple in Mexico) and of other grains crops has increased or not collapsed?

- **Commercial farmers** producing maize. Wheat and sorghum:
  - More efficient under NAFTA and/or
  - Receiving high income subsidies
- The resilience of **small farmers/rural households** producing maize explained by:
  - Their condition of being units of **production** and **consumption**
  - Their **diversification** of productive activities and income sources
  - The high **transaction** costs they face in some markets
  - The **security maize production** offers to face idiosyncratic shocks (*)

(*) results from agent-based microeconomic general equilibrium models applied to rural Mexico

2. Food import dependency has grown, specially in wheat, oilseeds and meats





2. Contrary to expectations, farm size did not increased and farms heterogeneity prevail

Quantity, Area and Size of Agricultural Units of Production (AUP): 1990 and 2007

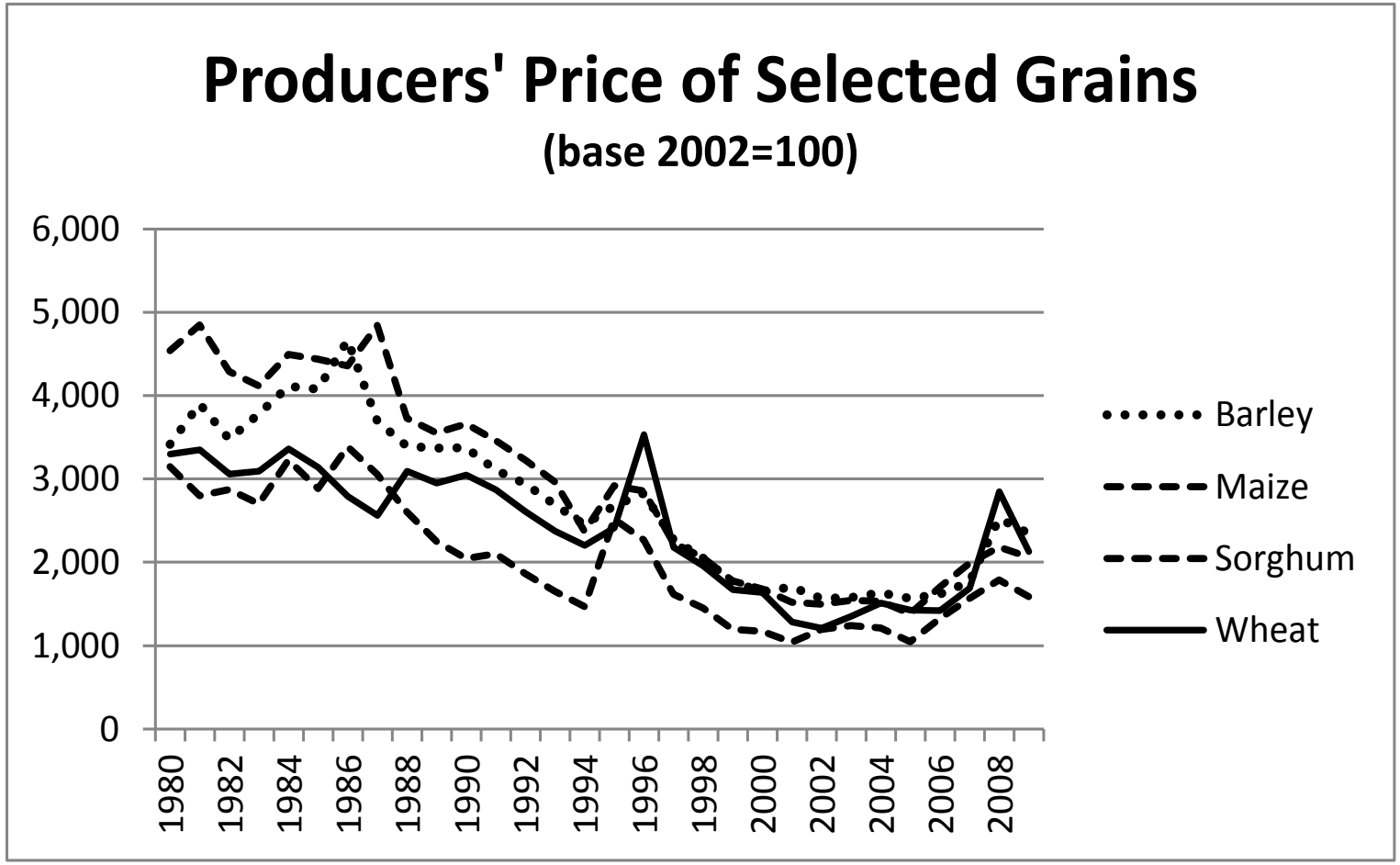
Census Strata	Average size of AUP (ha)		Distribution in total number of AUP (%)		Distribution in total area of AUP (%)	
	1991	2007	1991	2007	1991	2007
Up to 2 ha	1.12	1.09	34.56	44.47	4.71	6.10
From 2 to 5 ha	3.41	3.46	25.35	24.21	10.55	10.51
From 5 to 20 ha	8.78	9.23	31.25	23.16	33.52	26.84
From 20 to 50 ha	20.51	25.26	5.27	5.10	13.22	16.16
From 50 to 100 ha	42.64	51.68	1.77	1.74	9.24	11.32
From 100 to 1000 ha	104.11	130.58	1.67	1.25	21.22	20.45
From 1000 to 2500 ha	351.45	517.82	0.09	0.05	3.70	3.06
More than 2500 ha	710.86	1724.79	0.04	0.03	3.84	5.55
Total or average	**8.18**	**7.96**	100.00	100.00	100.00	100.00

2. Notwithstanding heterogeneity yields are similar and increased in all farm sizes

Yields of selected basic grains per Unit of Agricultural Production by size, 1991.2007

	Barley		Beans		Maize		Sorghum		Wheat	
	1991	2007	1991	2007	1991	2007	1991	2007	1991	2007
Up to 2 Has.	1.05	2.37	0.31	0.45	1.04	2.09	3.32	6.91	2.24	4.53
From 2 to 5 Has.	1.08	2.59	0.34	0.48	0.96	2.39	3.21	5.73	3.27	5.44
From 5 to 20 Has.	1.24	2.72	0.44	0.56	1.11	3.21	2.36	5.84	3.47	5.63
From 20 to 50 Has.	1.41	2.86	0.48	0.60	1.31	3.86	2.29	5.32	3.73	5.56
From 50 to 100 Has.	1.44	2.87	0.52	0.70	1.57	4.81	2.29	5.22	3.51	5.73
From 100 to 1000 Has.	1.36	2.76	0.62	0.74	1.82	5.07	1.89	8.99	3.52	5.94
More than 1000 Has.	1.63	2.52	1.10	0.38	1.87	4.10	1.60	2.32	3.59	4.30

2. Following international food commodities price trends, producer prices in Mexico decreased during the first NAFTA years and began to increase in 2006/7 (Iguazu paper)



3.
Evaluation of the performance of Mexico: food consumption, food security and poverty

Overall, per capita consumption of major field crops and meats increased since the reforms and NAFTA

Per Capita Consumption of Selected Basic Crops and Major Meats: 1980-2009 (Kg.)								
	Maize	Wheat	Sorghum	Beans	Soy Beans	Poultry	Bovine	Pork
1980-1985	224.2	64.7	109.9	17.4	22.2	7.0	14.4	17.8
1990-1995	225.8	48.6	86.7	16.3	22.0	12.9	14.9	10.0
2000-2005	236.7	59.6	96.9	9.2	39.5	25.6	18.0	12.9
2006-2007	287.3	59.3	77.0	12.2	35.8	29.6	18.5	13.6
2008-2009 *	283.7	50.7	78.3	11.1	33.6	30.3	18.8	14.3

- The rise of per capita consumption of **maize and wheat** has been sustained by domestic production and imports;
- increases in consumption of **soy beans** comes from imports (the same applies to **rice**)
- the increase in **meat** consumption based on both, domestic production and imports, although the increase of **beef** consumption is more dependent of imports.

From 1992 to 2010:

-per capita expenditure in **major field crops and meats** remained in around 25%, however

-per capita expenditure in **Other Cereals** and **Other Food** increased for all income groups

-expenditure on **fruits and vegetables and meats increased for the poorest deciles** (*Oportunidades*?), and **decreased for middle income and richer** households.

Per capita Expenditure on Major Foods by Income Decile: Absolute Changes 1992-2010

(2002 pesos) *

Major foods	Decile 1	Decile 2	Decile 3	Decile 4	Decile 5	Decile 6	Decile 7	Decile 7	Decile 9	Decile 10
Maize	0.78	0.88	1.02	0.99	1.04	1.07	1.07	1.17	1.13	0.96
Wheat	1.88	1.03	1.15	1.10	1.08	1.06	1.04	0.94	1.01	0.90
Rice	1.20	1.00	0.97	0.88	0.89	0.82	0.70	0.77	0.69	0.59
Other cereals	9.26	17.80	19.90	13.48	14.33	11.49	7.37	8.13	13.22	6.77
Beans	0.66	0.57	0.54	0.51	0.56	0.54	0.56	0.48	0.49	0.50
Vegatables	1.18	1.08	1.13	0.92	0.90	0.90	0.85	0.81	0.82	0.79
Fruits	1.59	1.10	1.08	1.05	0.88	0.78	0.87	0.75	0.76	0.87
Beef	1.77	1.18	0.92	0.82	0.68	0.64	0.59	0.59	0.57	0.41
Pork	1.27	0.82	0.91	0.79	0.72	0.63	0.63	0.60	0.52	0.43
Poultry	1.21	1.08	1.02	0.90	0.85	0.92	0.77	0.75	0.83	0.78
Other foods	1.80	1.38	1.32	1.25	1.18	1.26	1.22	1.23	1.36	1.34

Differences in change in expenditure patterns between the urban and rural sectors

Distribution of Urban and Rural Per Capita Expenditure on Foof: 1992 and 2012				
	1992		*2012*	
Food Groups	**Urban**	**Rural**	**Urban**	**Rural**
Maize	7.42%	12.27%	11.19%	13.01%
Wheat	7.49%	8.22%	8.56%	8.10%
Rice	0.98%	1.77%	0.78%	1.30%
Other cereals	0.13%	0.12%	1.65%	0.96%
Beef	14.65%	8.28%	9.38%	5.68%
Pork	3.91%	3.30%	3.24%	2.65%
Poultry	8.00%	7.04%	7.21%	6.56%
Vegatables	11.01%	12.37%	8.89%	9.07%
Fruits	5.65%	3.33%	4.82%	3.14%
Beans	3.24%	6.64%	2.96%	4.72%
Subtotal "fresh food"	***62%***	***63%***	***59%***	***55%***
Oils	1.42%	2.77%		2.91%
Fats	0.48%	1.41%	0.22%	0.52%
Sauses	1.09%	1.38%	1.18%	1.16%
Varied prepared food	0.00%	0.01%	0.07%	0.04%
Soups, pasta, etc.	2.13%	1.12%	10.69%	4.17%
Sweets	0.77%	0.56%	0.67%	0.38%
Non-alcoholic Drinks	5.83%	5.97%	10.72%	8.39%
Subtotal expenditure in processed "non-nutritional" foods *	***11.73%***	***13.21%***	***24.99%***	***17.57%***
Subtotal other processed foods	***25.81%***	***23.44%***	***16.34%***	***27.24%***
Total	100%	100%	100%	100%
* Excludes: processed meats, fish and seafood, milk and cheese, eggs, tubers, seeds, honey, coffee, tea, chocolate, baby				

4. One Lesson from Mexico: Changes in expenditure/consumption and obesity

Participation of per capita expenditure on **non-processed foods** declined in both sectors

However,

- The weight of expenditure in ***non-nutritional foods*** more than **doubled for the urban** population (**increased** for the rural population but to a much lower extent)
- The proportion of expenditure in ***nutritional processed food*** **increased for the rural** population (it **decreased** for the **urban** population)
- These tendencies, especially for the **urban** population, indicate that the change of food consumption patterns of Mexicans explains part of their raising problem of **obesity of Mexicans**
- According to the OCDE, amongst its member countries, Mexico is placed 2nd, just after the USA, in terms of adult obesity and 4th with respect to child obesity.

Hypotheses:
Changes in expenditure/consumption and obesity

Hypotheses for empirical inquires:

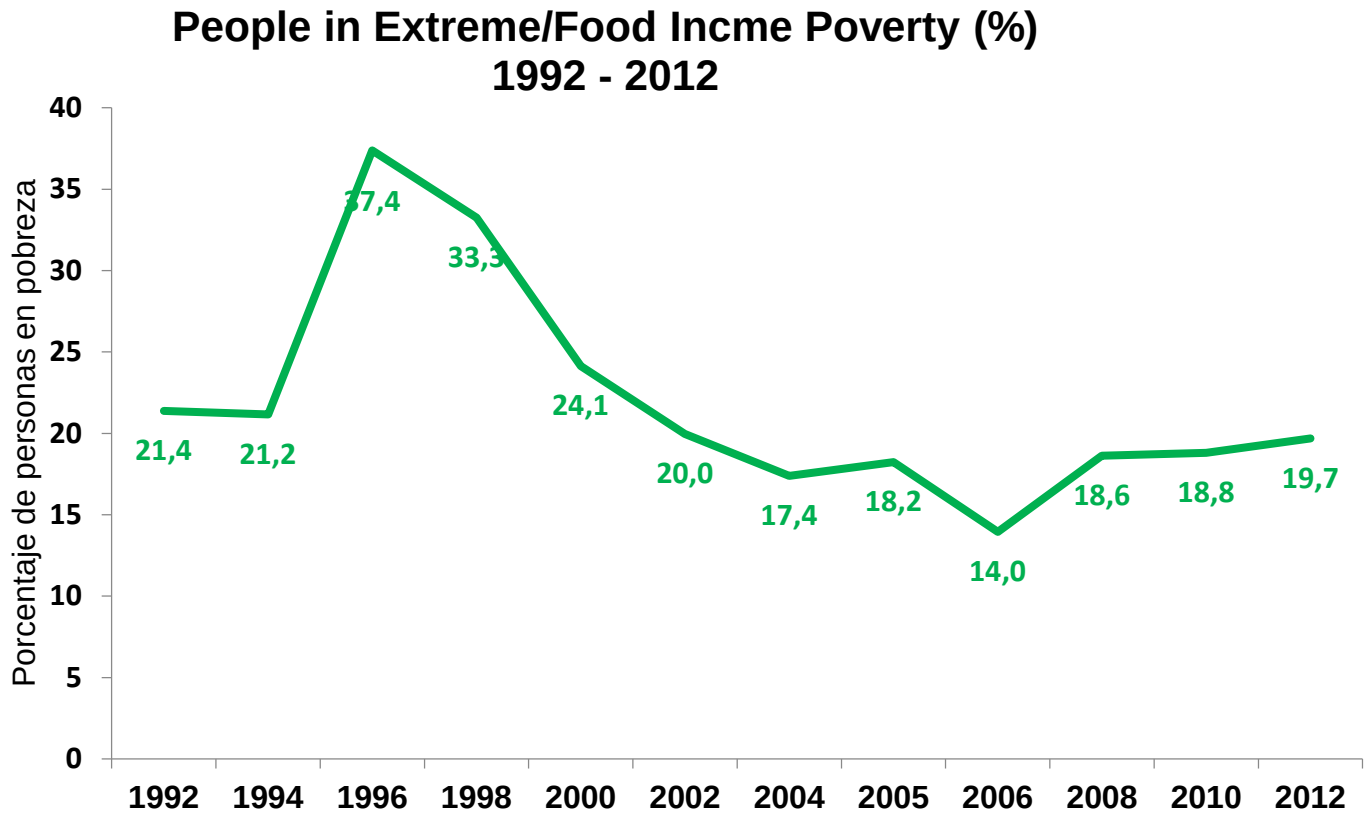
- Changes in Mexico-USA food trade explain part of the obesity problem of Mexicans: according to FAS of USDA, from 1992 to 2012 the value of imports of instant soups and snacks grew almost 11 times
- Until recently, no State regulations on food nutritional and quality standards
- No Value Added Tax to any type of food

4. Food Poverty: Lessons from Mexico

-**Macro-economic crisis** of mid-1990s increased the incidence of **poverty**

-The **social program** *Oportunidades* reduced poverty until the international food price surge

-**Social programs failed to reduce vulnerability** of Mexicans facing higher food prices



4. Lessons from Mexico

- **Market oriented reforms are not sufficient conditions** to attain high and sustained growth rates, including food production
- (However, **Mexico has succeed** in the attainment, since the end of the nineties, of **macroeconomic stability**)
- **Food import dependency may not be a threat to food security**; however, the experience of Mexico of **low incomes growth** and **high poverty and inequality** is **worrisome**, and…
- much **more** in the context of **climate change**, and increasing international **food prices and/or their volatility**
- **NAFTA** is **not necessarily** to blame for the present situation of the agricultural sector and poverty.
- A **better candidate** is the extreme view adopted by the Mexican State during the 1990s and 2000s that to **recur to the markets without major State regulations** are the best policy option.

4. Lessons from Mexico

- **Three features** of contemporary agricultural and rural policies of Mexico stand out:
- the **high public budget** directed to these two sectors,
- the **unequal distribution** of agricultural **supports** (most subsidies are based in income transfers benefiting **bigger-commercial farmers** of the arid North.
- the emphasis on the **provision of private**, rather than **public, goods and services**, including the lack of sufficient public investment in research, development and technology transfer to agriculture (R&D).
- However, and notwithstanding the last two features, **production in small farms survives**.

4. Lessons from Mexico

- There is a **potential for small-rural-household farmers to increase their contribution to food production in Mexico**.

The above is based on:

- The **continuation of agricultural production** on small farms during Mexico's economic reforms and trade liberalization,
- small rural **farmers' relatively high productivity and efficiency** in producing basic crops (Taylor and Yunez (2010),

- Some basic **policy requirements** to enhance small-farmers and rural households contribution to food production are:
  - To **reform agricultural and rural policies** so as to include small farmers, linking **social and productive policies**
  - To invest in the **provision of public goods**, including **R&D** of appropriate agricultural technologies, and
  - To encourage **decentralization** in public policies for agriculture and rural development, adopting a **territorial approach**

5. Concluding Remarks

- The **current government** is aware of the challenges Mexico face to create effective and efficient agricultural and rural policies to attain food security and, to e lesser extent, to reduce obesity.
- **Diagnosis of public policy failures are available**, as well as concrete proposals “to reforms the reforms”
- As in all other countries, **the application of reforms requires the political will of powerful groups**.

Many thanks