

Brazilian Sugar Policy

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August, 2012

What are the questions?

- Does Brazil have any policy that helps domestic sugar production and can support a future expansion?
 - No.
- Can local production continue to expand and, if so, for how long?
 - Yes, for at least the next 10 years.
- Is Brazil a threat to the world sugar economy?
 - No. It is a solution.

Brazilian sugar policy is quite simple.

Policy

- Policies are directed towards two markets that are intrinsically connected.
 - Sugar market.
 - Biofuel market.
- Policy in both markets are the same:
 - Laissez faire - laissez passer.
- Of course there are basic institutional rules.
 - They are designed to assure free market rules.
 - Both markets are subject to taxes, as all sectors in the Brazilian economy.

Market has particular features that are relevant to determine its dynamics and institutional framework. Policy

- There is a world market for sugar, where Brazil is a major exporter.
 - Local dynamics affects world market equilibrium and prices.
- There is also some world market for alcohol biofuel.
 - It is small and highly regulated within domestic economies.
- Sugarcane can be used alternatively to ethanol and sugar.
 - A reasonable share of mills has ability to produce both outputs in whatever proportion.
 - There is minimum proportion of alcohol, which is a byproduct of sugar production.
- Brazilian cars can substitute alcohol for gas with 70% of relative efficiency.
- There is addition of anhydrous ethanol on gasoline in Brazil.
 - The share is determined by public policy.
- International trade on gasoline is free in Brazil.

Brazilian sugar market is integrated with other markets.

Policy

World markets

- Sugar market.
 - Brazilian share is around 50% of total supply.
- Petroleum market
 - Gasoline market
 - Brazil is a small player as it is almost self sufficient on oil.
- Corn market.
 - Through US biofuel prices and trade.
- Ethanol market
 - Alternative use of sugarcane on production

Brazilian domestic market

- Sugar market.
- Petroleum market
 - Gasoline market
- Ethanol market

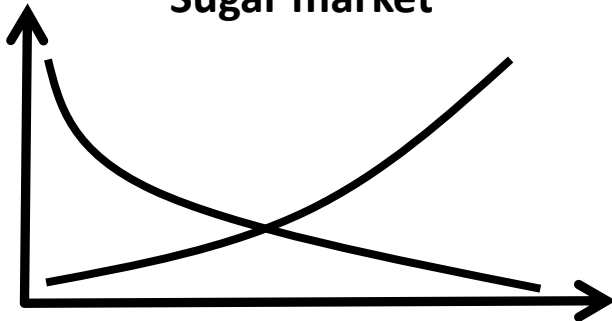
Schematic representation of markets and potential policy reach.

Policy

World markets

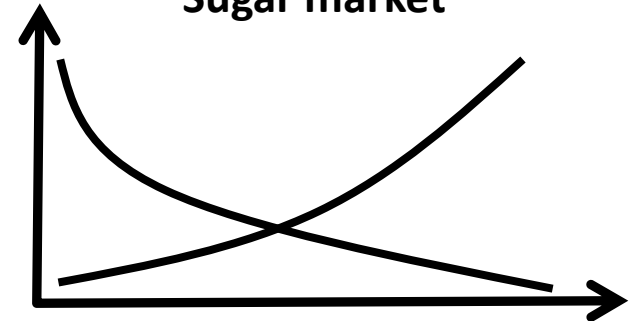
Brazilian domestic markets

Sugar market



Brazilian market affects world market

Sugar market



Oil market

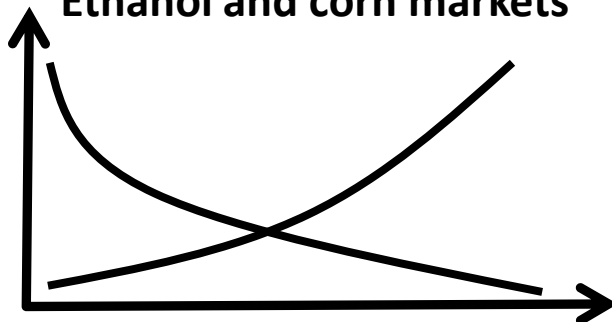


Brazilian market does not affect world market

Oil market

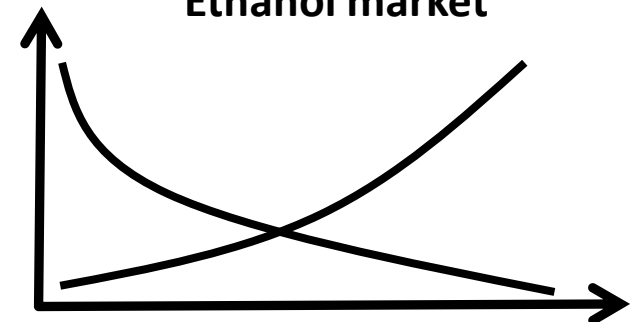


Ethanol and corn markets



Brazilian market affects world market

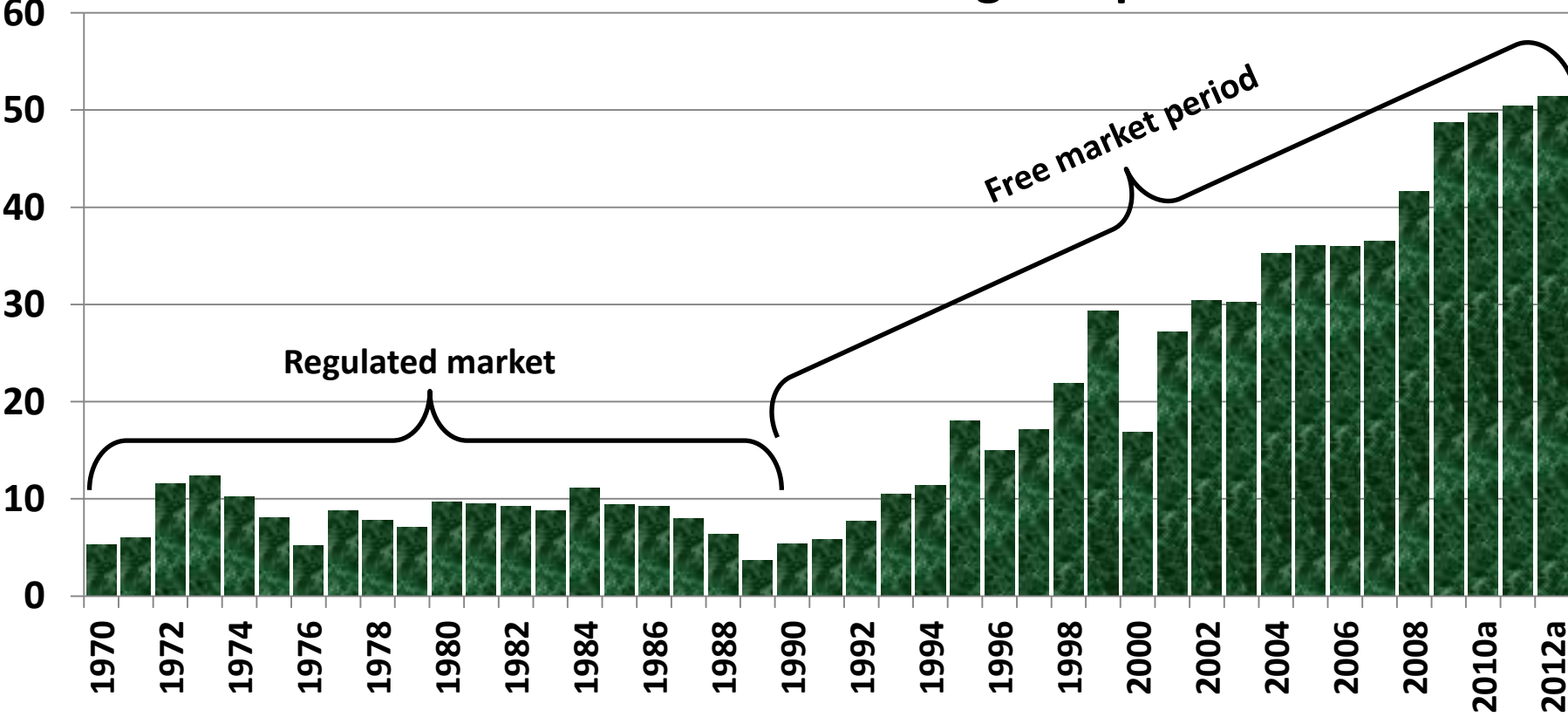
Ethanol market



Brazilian share of world sugar exports is over 50%.

Policy

Brazilian share on world sugar exports

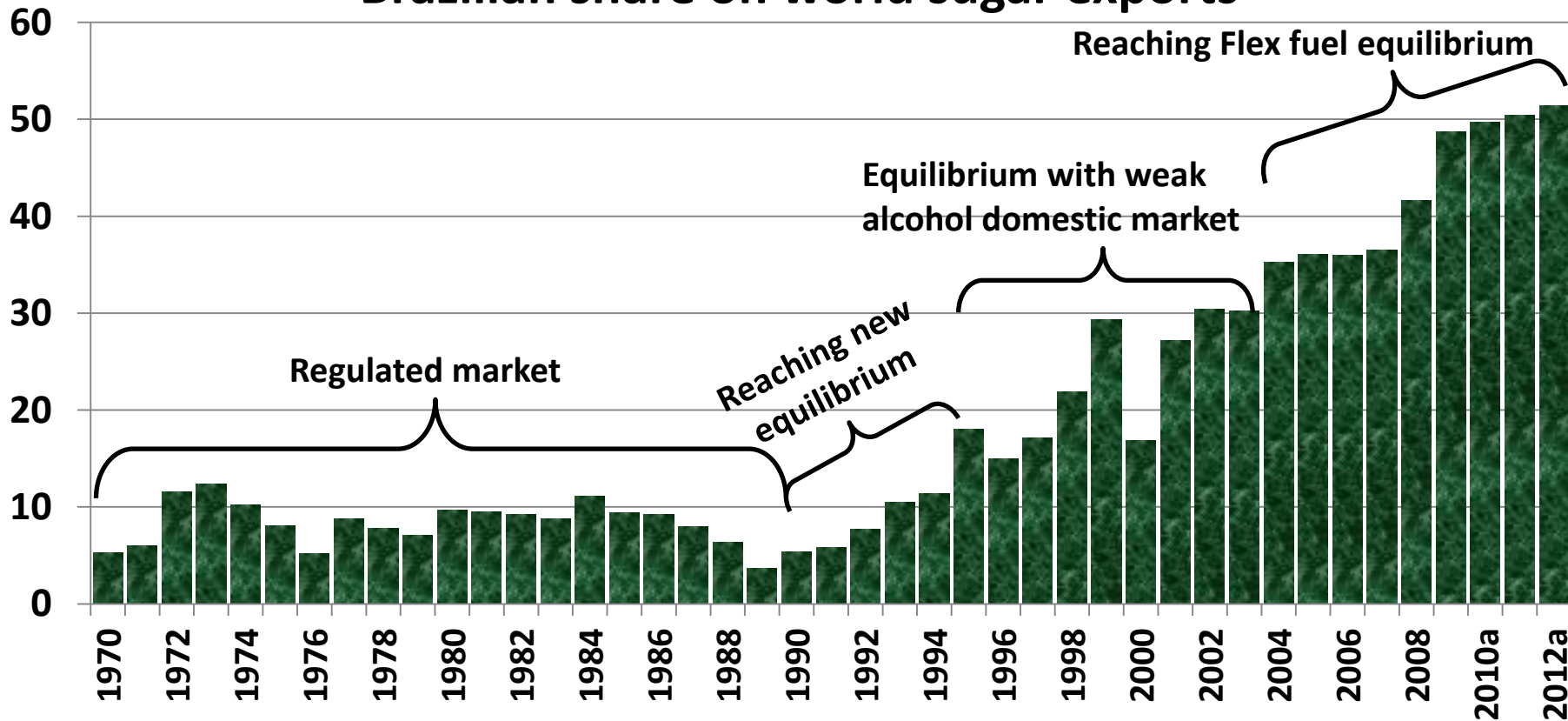


Source: FAO

a: Authors' estimations using data from USDA.

Phases of recent periods.

Brazilian share on world sugar exports

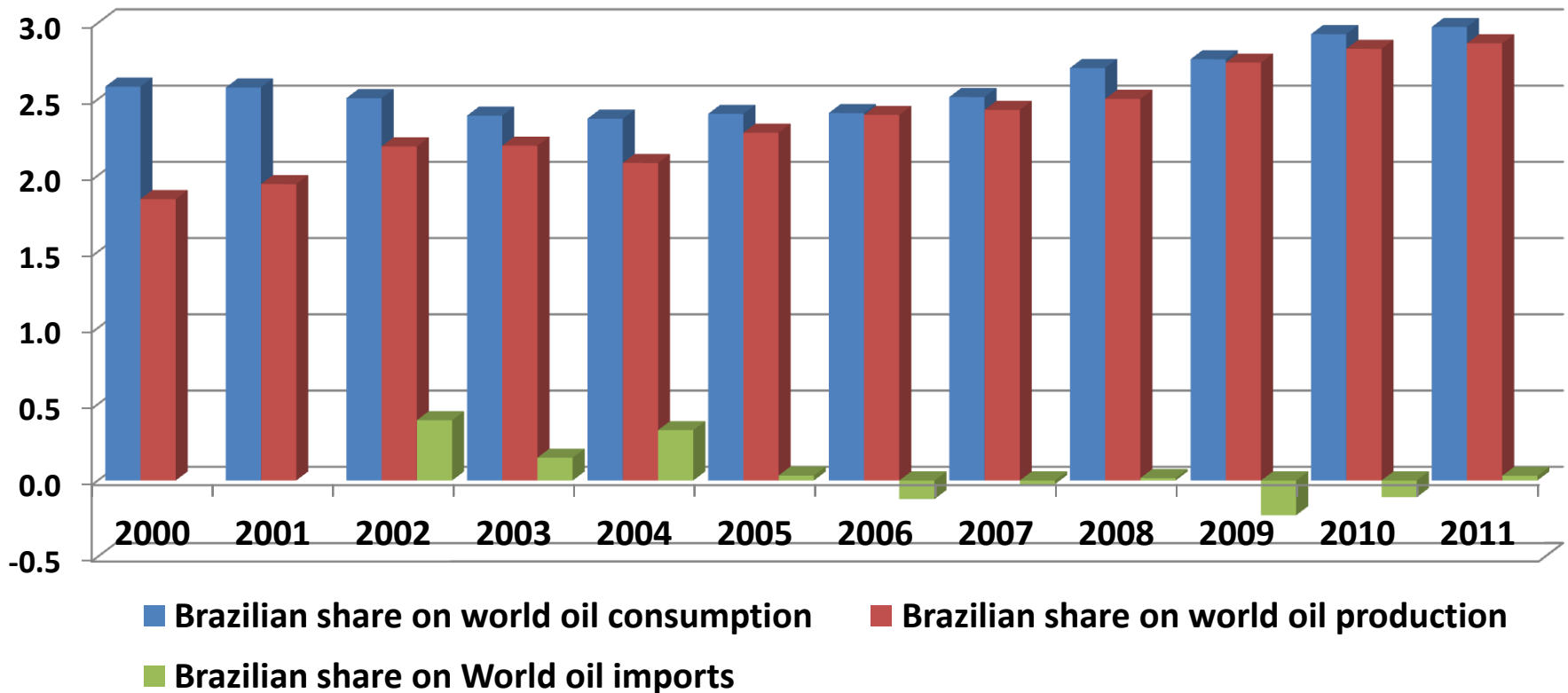


Source: FAO

a: Authors' estimations using data from USDA.

Brazil has a marginal role on oil market. Policy

Brazilian share on world consumption, production and imports of oil (%)

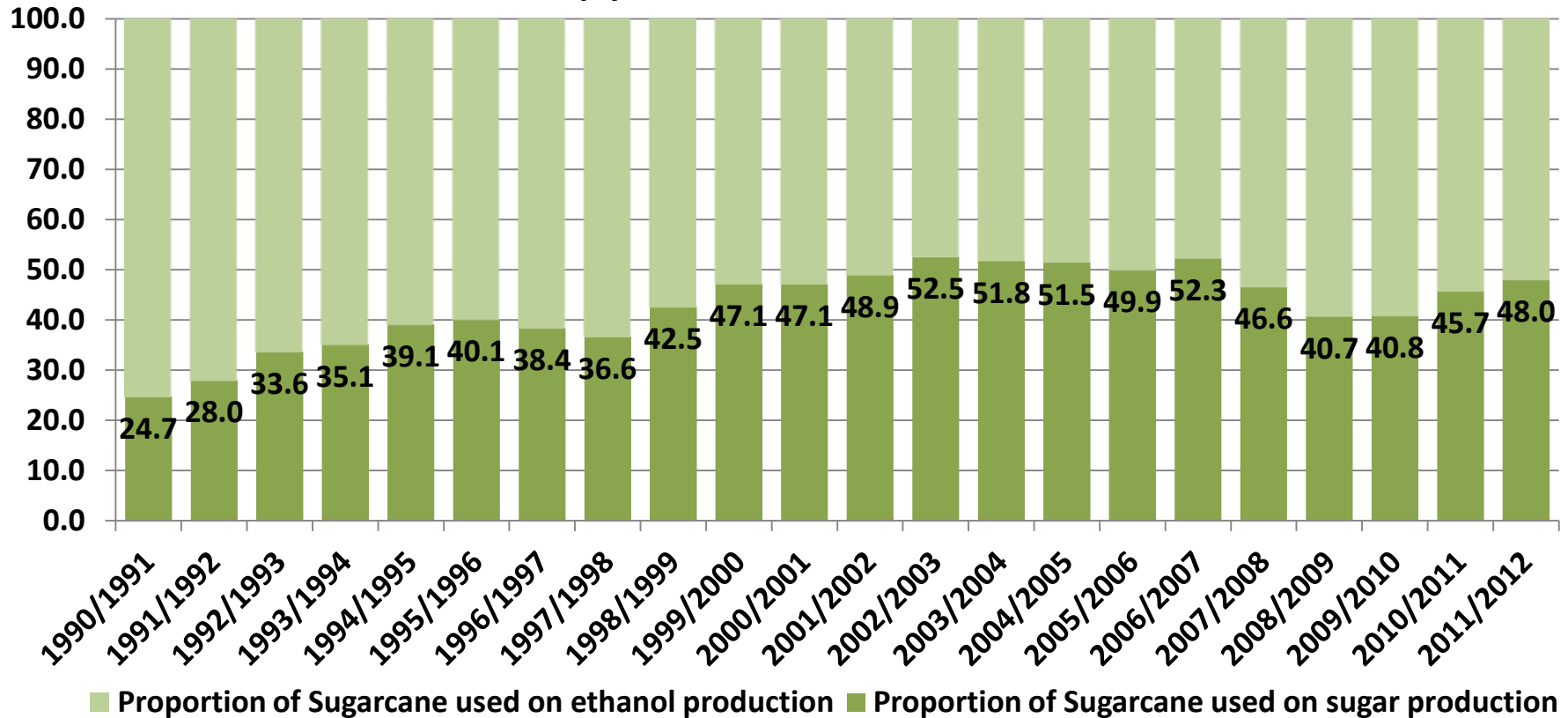


Source: ANP and BP Statistical Review of World Energy June 2012

Ethanol market is small but its use of sugarcane can affect sugar market.

Policy

Share of sugarcane directed to sugar and ethanol production in Brazil (%)
Crop years: 1990/91 to 2011/2012



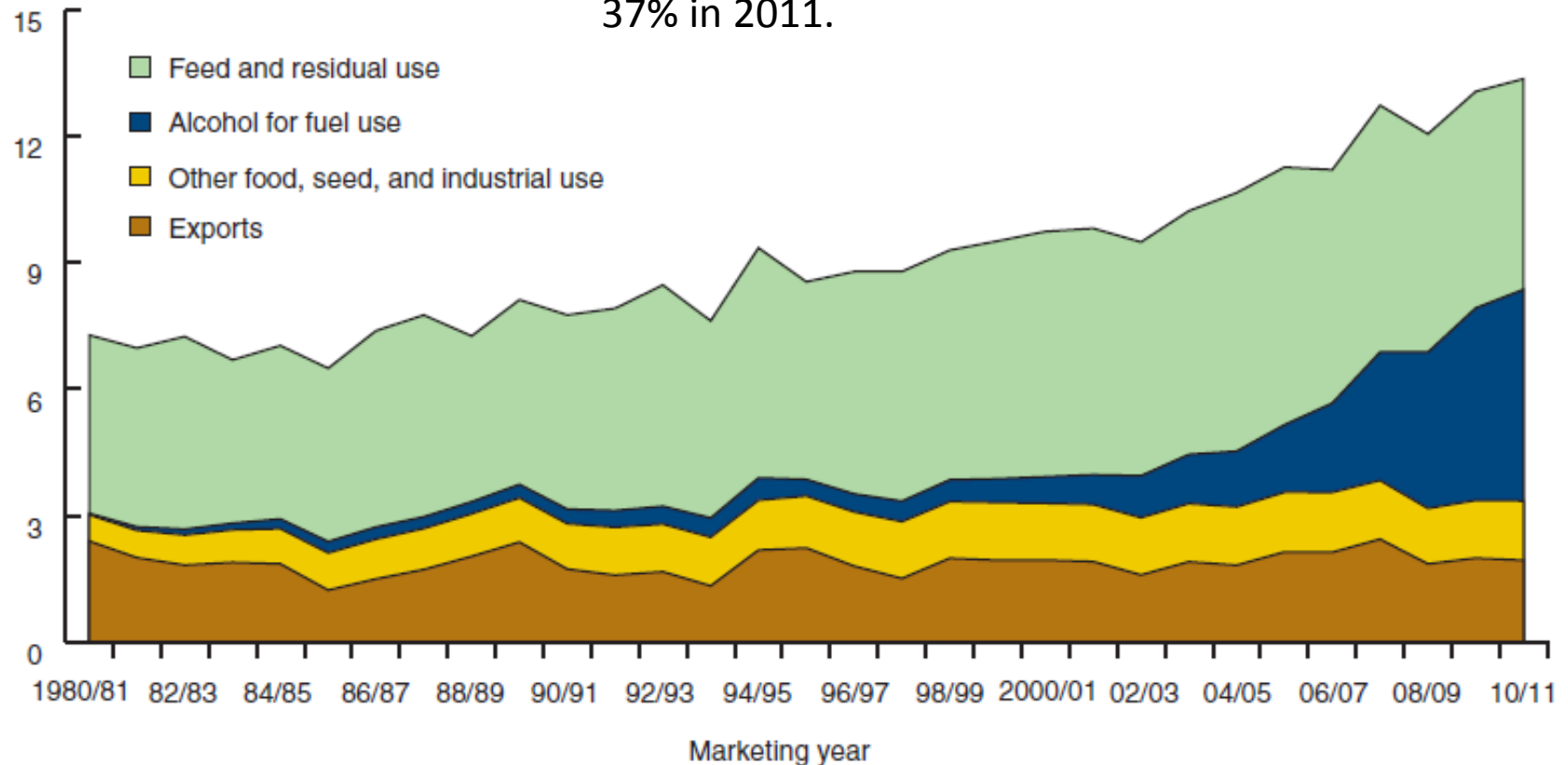
Source: Authors calculation with data from UNICA and CONAB, Perfil do Setor do açúcar e do álcool no Brasil 2008/2009, Brasília: CONAB, 2010.

Corn market is already affected by its use on ethanol production.

Policy

Figure 9
U.S. corn use

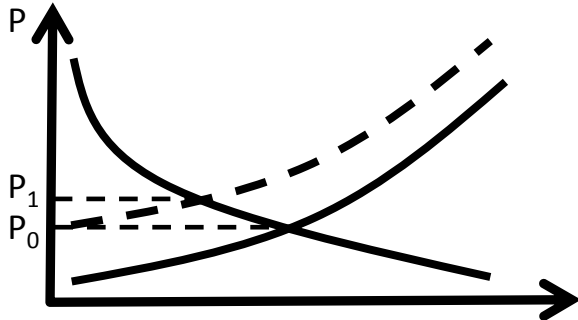
Billion bushels



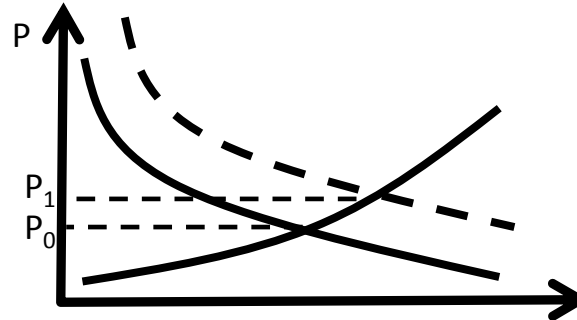
Source: USDA, Economic Research Service.

Dynamics of integration

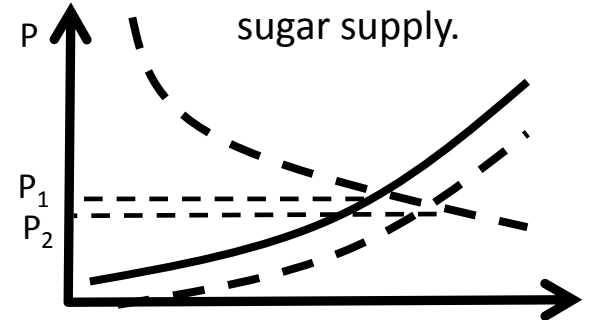
Changes in world supply or demand affects world equilibrium sugar prices



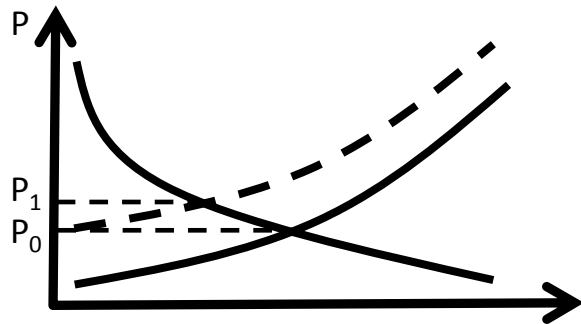
This leads to a change in demand for Brazilian sugar.



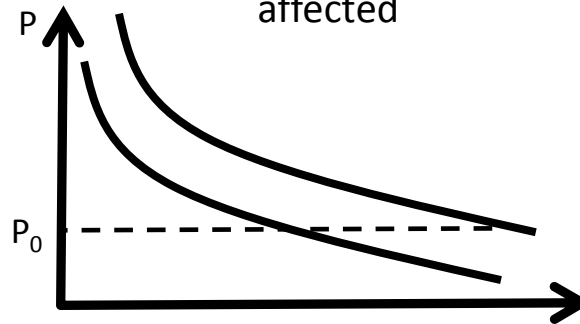
This higher prices attracts sugarcane from alcohol to sugar increasing local and international sugar supply.



Prices for ethanol will increase because of supply movement



This will increase demand for gasoline, but prices will not be affected



Corn prices can rise because of higher demand to make ethanol.

Ceteris paribus, world sugar prices tend to be more stable because of integration with ethanol market and flex fuel cars in Brazil.

Policy instrument for sugar market.

Sugar:

- Local sugar Production and consumption are free.
 - Taxes are the only public sector instruments to affect them.
 - They are higher than for the set of agricultural sectors altogether.

Ethanol market:

- Local ethanol production and consumption are also free.
 - Taxes also can affect them.
 - There are government definition of percentual addition of anhydrous alcohol on gasoline.

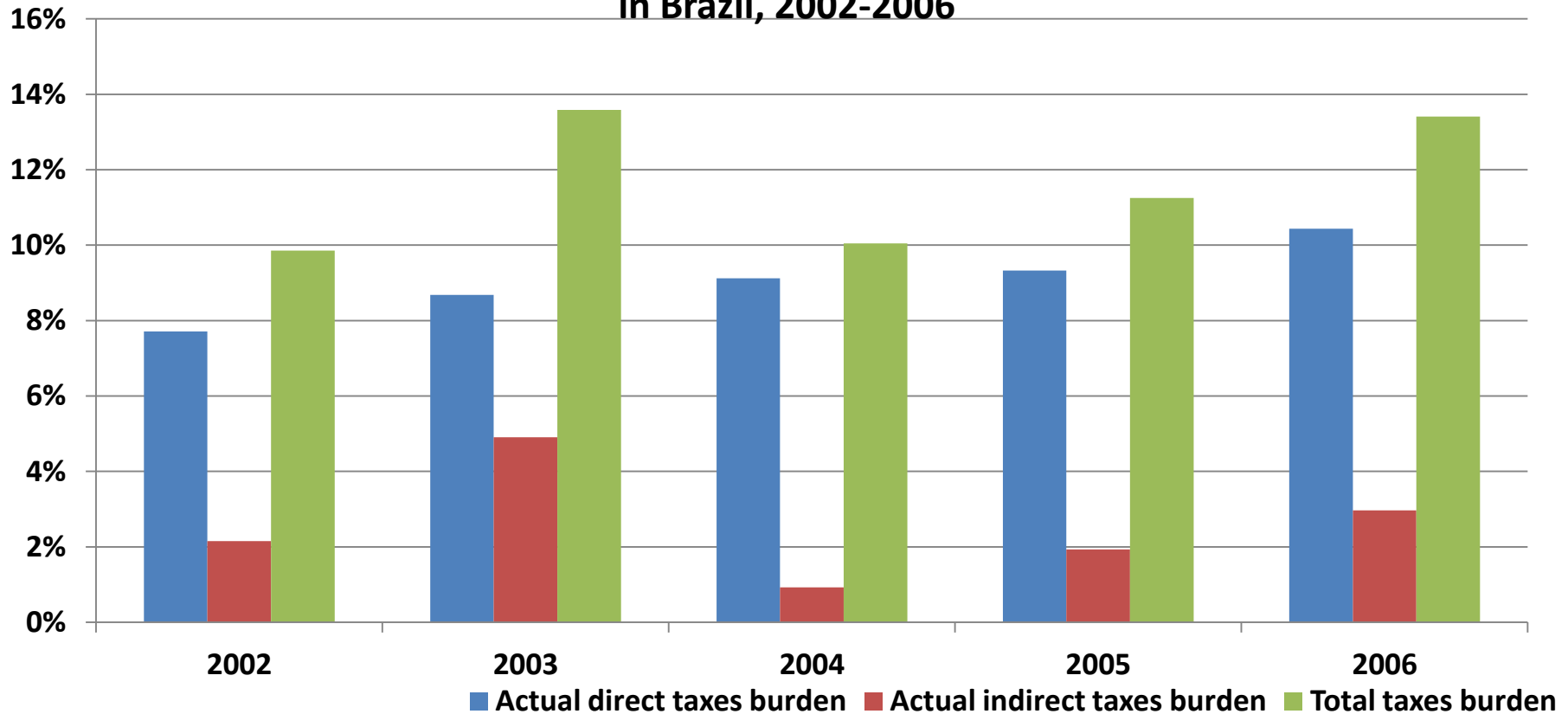
Gasoline:

- Wholesale prices are strongly influenced by government.
 - Major supplier is a State company (Petrobrás).
 - There is a especial tribute (CIDE) which applies to fossil fuel.
 - Currently it is 0% on gasoline.

Tributes are high for alcohol and sugar.

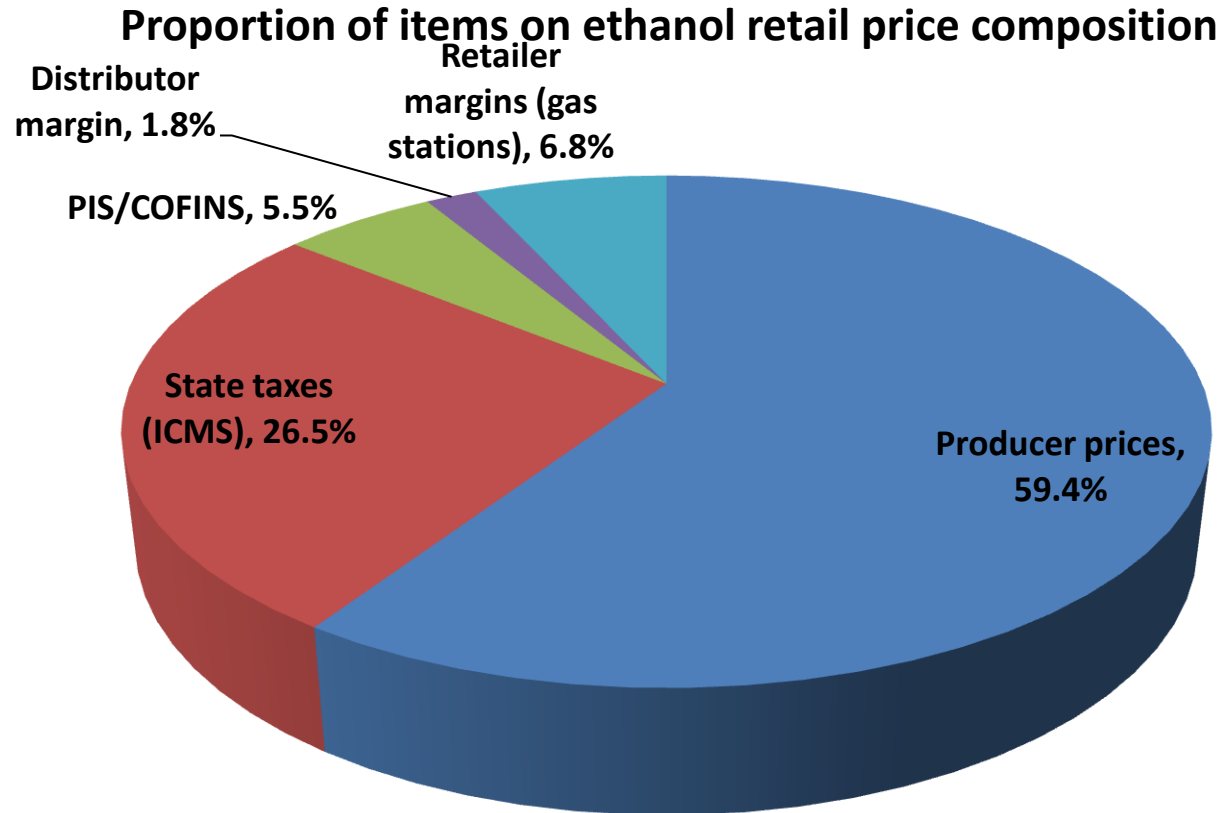
Policy

Taxes burden percentage on gross revenue in the Alcohol-Sugar sector
in Brazil, 2002-2006



Source: Joia, Fregonesi and Resende, "Análise da Carga Tributária no Setor Sucroalcooleiro," *Qualitas Revista Eletrônica*, 1(1): 0-20, 2011.

Taxes for domestic ethanol consumption are even higher.



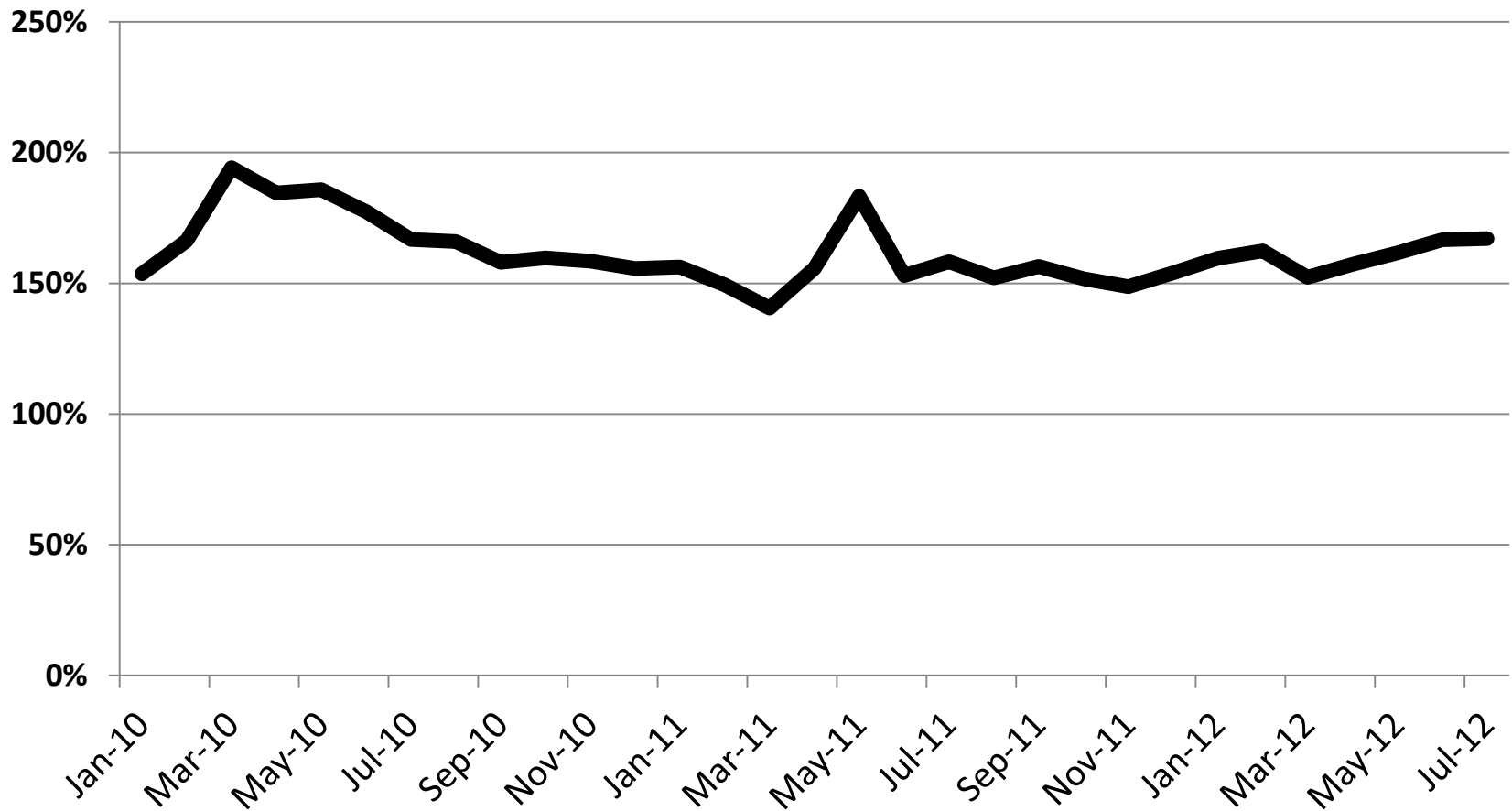
Source: Authors calculation with data from Jornal do Comercio.

Total taxes (ICMS+PIS+Cofins) = 32%.

Taxes plus logistic and trade costs are quite high in Brazil.

Policy

Proportion of consumer to producer prices in São Paulo



Source: Calculated with data from ÚNICA.

Definitions of proportion of anhydrous alcohol added to gasoline can be important to the sector

Policy

Governments incentives.

- Low prices for gasoline, but not sufficiently low to damage Petrobrás profitability.
 - Inflation control.
 - This implies in more alcohol on gasoline.

Producing sector incentives.

- Change proportion as world market prices for sugar and alcohol change.
 - If Brazil was a price taker this would imply in a simple rule.
 - Brazilian share on world sugar market makes this a more complicated game.
 - There are producers who cannot produce sugar. They always want a higher share.

A price of democracy is that these adjustments are not optimal.

Summing up: Is there relevant policies to support the sector?

- There is no specific policy to the sugar sector in Brazil.
 - They pay taxes as most other sectors.
 - They are even higher than those to exporting agriculture.
- The major policy instrument available is the central government influence on gasoline price definition.
 - It is not used to benefit the sector.
 - Inflation control and equilibrium of profitability of Petrobrás are the major targets.
- Brazilian sugar sector integrates the dynamics of sugar market to three others.
 - Oil market \Rightarrow Stable and it is not affected by any Brazilian policy.
 - Ethanol market \Rightarrow It is highly influenced by Brazilian developments.
 - Corn market \Rightarrow Brazil does not have any influence on this. It brings the USA policies to the game.

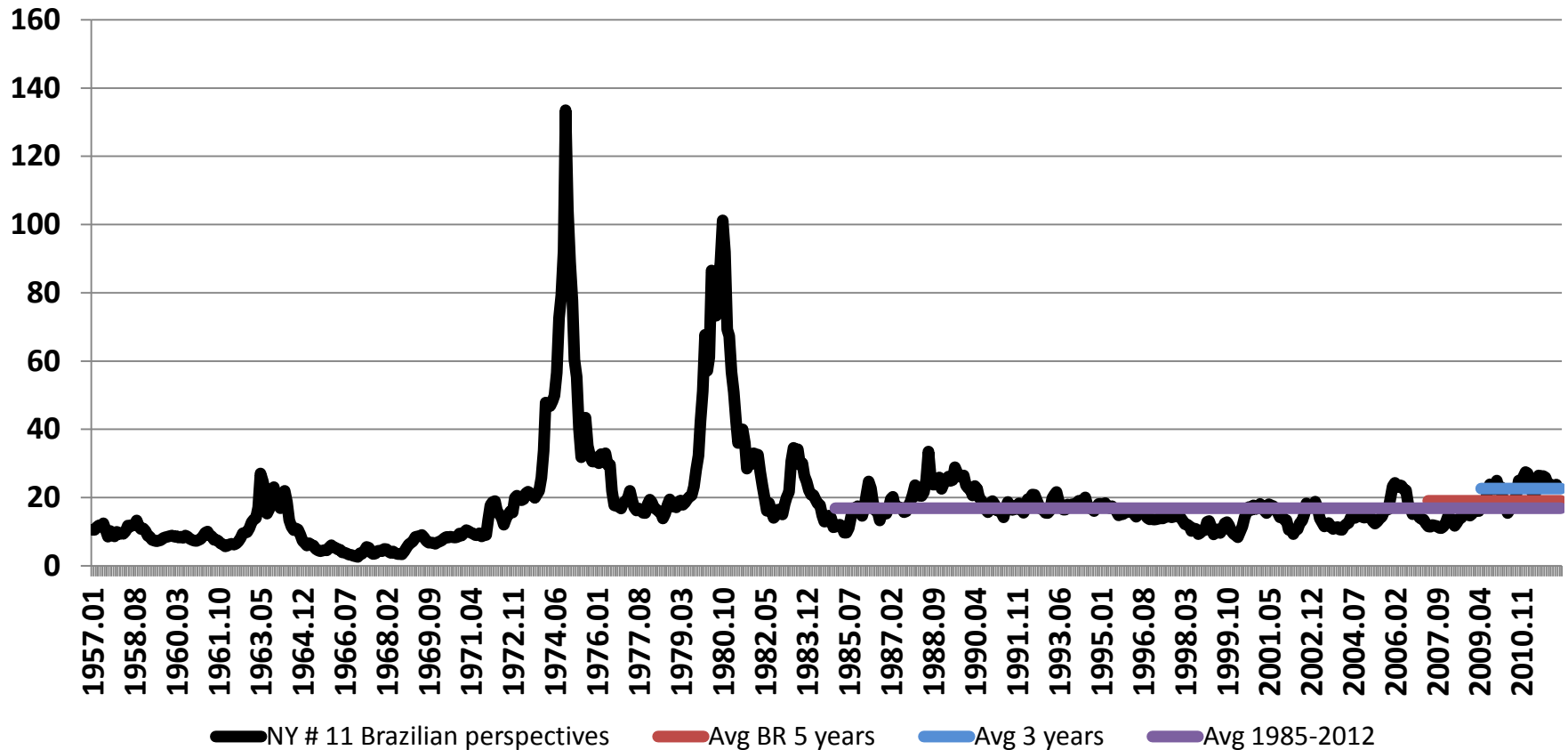
Can local production continue to expand and, if so, for how long?

Current sugar prices are high for domestic producers.

Perspectives

World recent sugar prices are attractive to Brazilian producers (US\$ cents/lb)

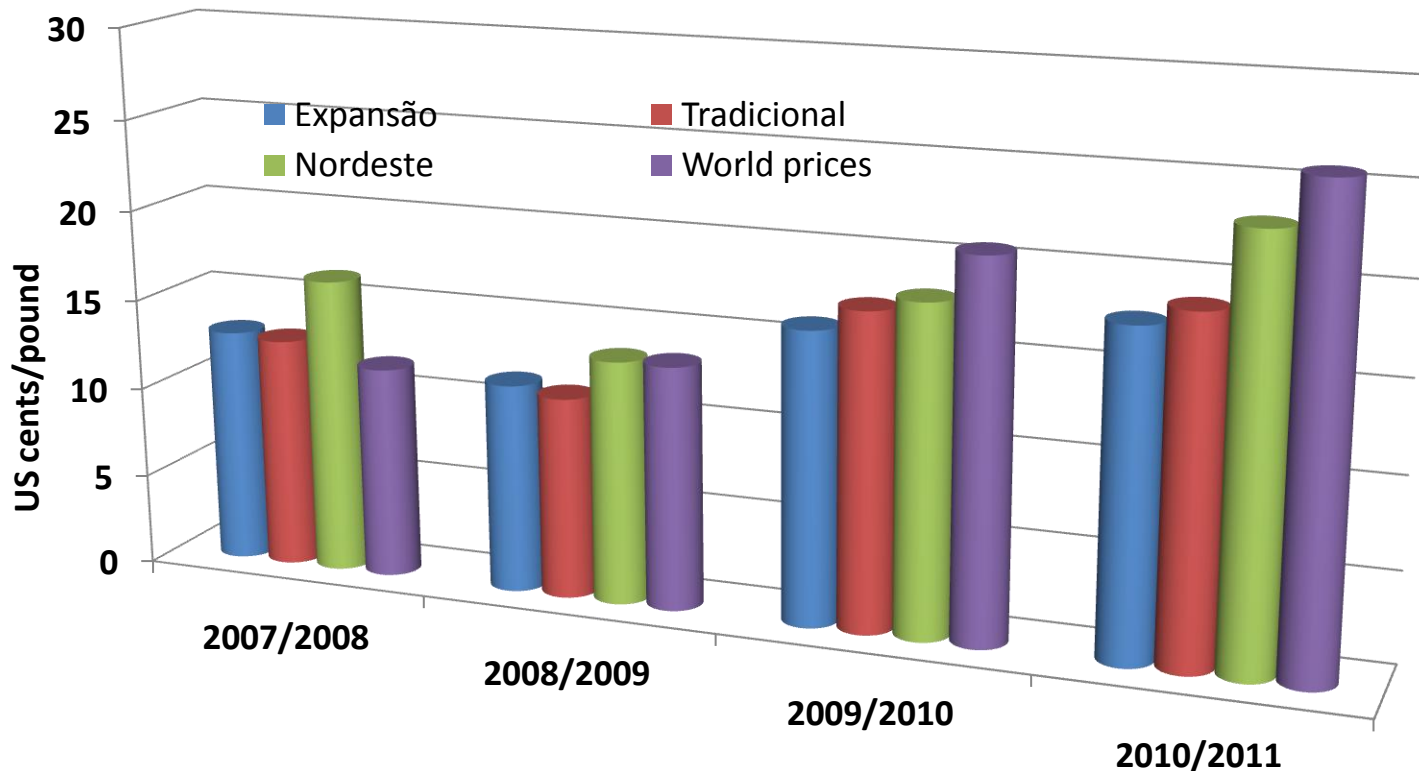
World sugar prices on Brazilian producers perspective
Constant prices on Brazilian R\$



World sugar prices has been persistently over local average costs.

Perspectives

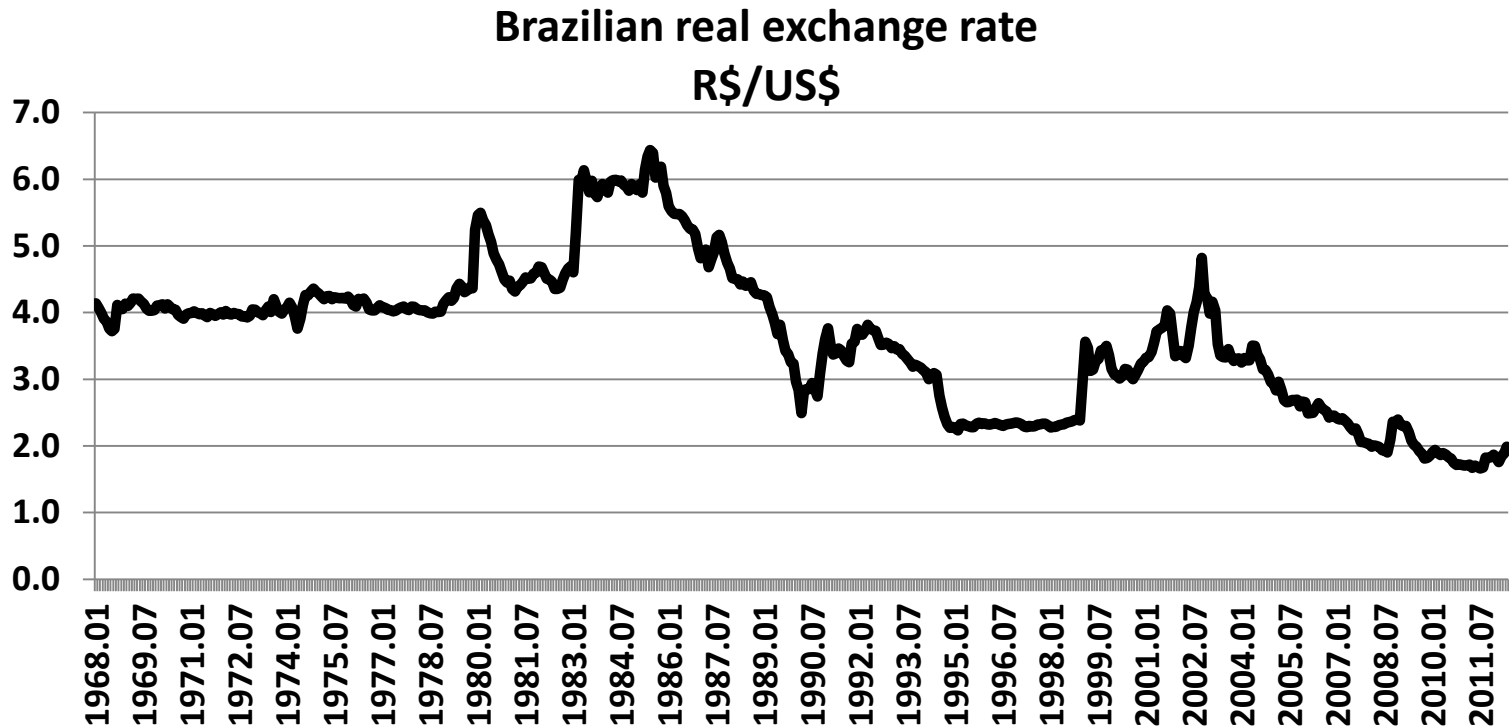
Brazilian current costs and world sugar prices (US cents/Pound)



Source: ESALQ, *Custos de produção de cana de açúcar, açúcar e etanol no Brasil: Fechamento da safra 2010/2011*, Ribeirão Preto: ESALQ, 2012.

Brazilian exchange rate is overvalued for its historical behavior.

Perspectives



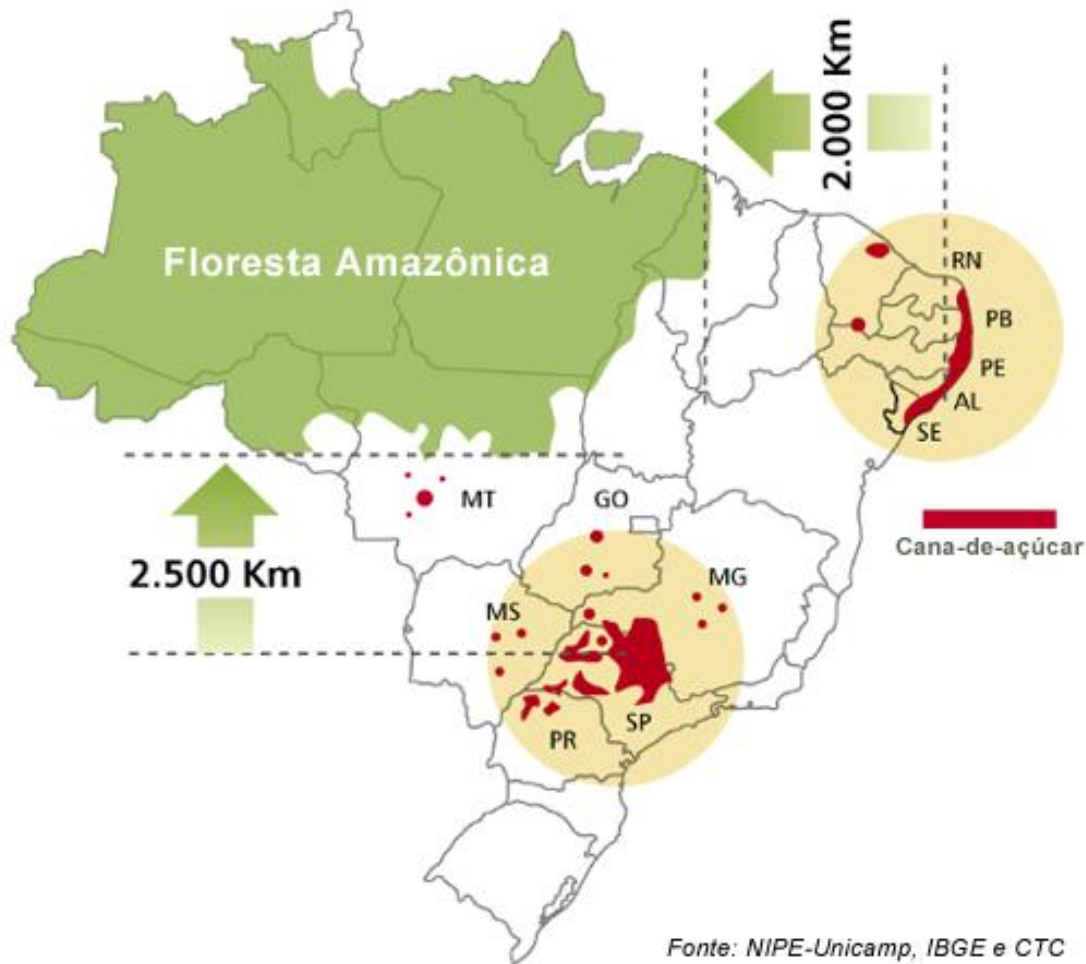
Source: IPEADATA.

Note: Prices are IGP-DI, Disponibilidade interna.

- If it comes up to the R\$ 2,3 level, profitability will rise.
- Expansions will pick up again.

It will not have problems with area, as Brazilian production is concentrated in particular areas.

Perspectives



- Expansions are mainly over cattle raising areas.
 - Already deforested.
- They are further from alcohol consumer centers.
 - Increases costs.

It used only 1,08% of Brazilian total territory in 2010.

- Only 9,2 million hectares.
- Area smaller than the one Pernambuco.
- Brazil has 851,5 millions hectares.

Summing up for perspectives.

- Production still can grow as profitability is currently reasonable.
 - Projected expansions will catch up slowly.
- Its long term trend will depend on:
 - Brazilian exchange rate.
 - Upward tendency \Rightarrow Recover balance of payment old equilibrium.
 - Prices of gasoline.
 - Tendency is to increase because of Petrobrás lost of profitability.
 - Technological developments.
 - Ethanol second generation.
 - Energy from bagasse.

Is Brazil a threat to the world sugar economy?

Its size is not a thread but a solution.

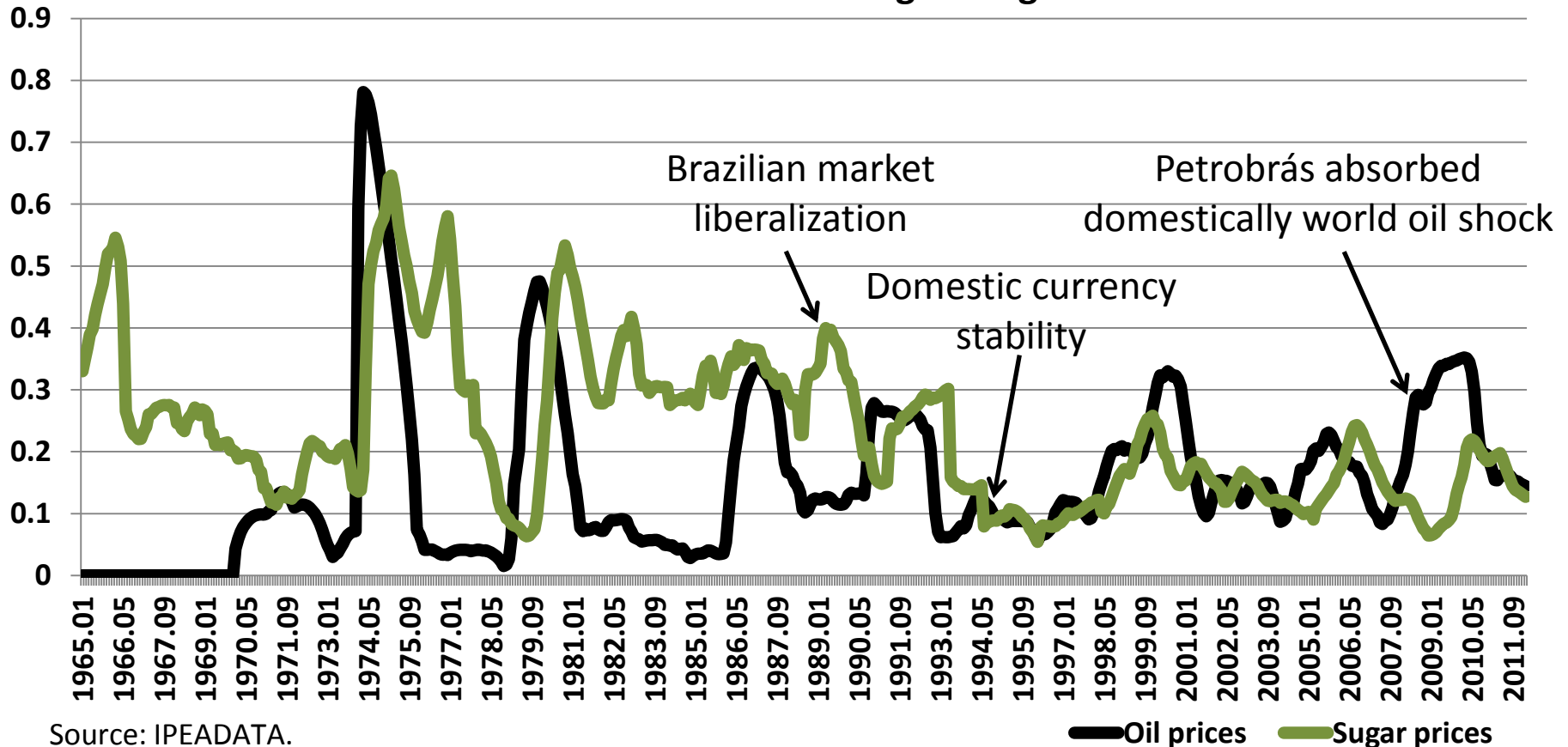
Thread?

- Brazilian introduced arbitrage between markets reinforce price stability.
 - More markets to dumping localized adverse shocks.
- Brazil tends to generate further stability in the world sugar economy in the near future.
 - Exchange rate tends to be stable in the long term with a slow devaluation movement in the medium term.
 - There is no expectations of sudden changes in relative profitability which would move sugarcane production to one or another output.
- Government is about to recover Petrobrás profitability and to use it as a buffer to world oil fluctuations.
 - Soon Brazil will become a stable oil exporter.

Brazil has already brought price stability for the world sugar market.

Thread?

Coefficient of variation for monthly sugar and oil world prices
24 months moving average



Source: IPEADATA.

Summing up for the thread.

Thread?

- Brazil is not a threat to the world sugar economy.
 - It brought stability to world prices.
- It still will continue to grow its domestic production.
 - It could be viewed as a threat to those who think in expanding exports at the expense of someone else.
 - There is no sign that Brazilian sugar production will retreat easily.

Major conclusions.

- Brazilian sugar policy is quite simple:
 - Free market for sugar and ethanol.
- Taxes paid by the sector are high, when compared to other primary commodities.
 - Specially considering that it exports a reasonable share of its output.
- Government has two major instruments to affect the sector:
 - Definition of the share of anhydrous ethanol on gasoline.
 - Price of gasoline which is much determined by PETROBRAS, a state controlled company.
- Government incentives in both cases can conflict with the sector interest.
- Sugarcane expansion in Brazil will not destroy our rain forest.