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Domestic and International Sugar Prices: Differences, Links, Indications of Import Protection and Export Support

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A report for the American Sugar Alliance by
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Executive Summary

Observers of sugar industries frequently use prices quoted on international commodity exchanges as references against which to judge the competitiveness of a country's sugar industry. Such comparisons can, however be misleading. Sugar futures prices rarely reflect average global sugar production costs and are generally well below representative domestic market prices.

Barring government intervention (through, for example, import duties or export subsidies), economic theory and business practice suggest that domestic prices should be influenced by import or export prices. Domestic and international prices need not be equal, of course: exports are often priced at marginal cost, or lower, with total costs covered by higher domestic prices; import and export prices are influenced by transport costs. The impact of taxes such as sales taxes also creates differences in prices, and so do quality considerations, with international standards not necessarily being applicable to domestic markets.

Nonetheless, a domestic price for sugar of an exporting nation that is higher than the world market price over the medium to long term (that is, when internal prices are structurally above export-parity) constitutes a strong indication that competitor behavior or regulations provide a domestic "rent" to the industry, which subsidizes its exports. Thailand is a good example of this currently.

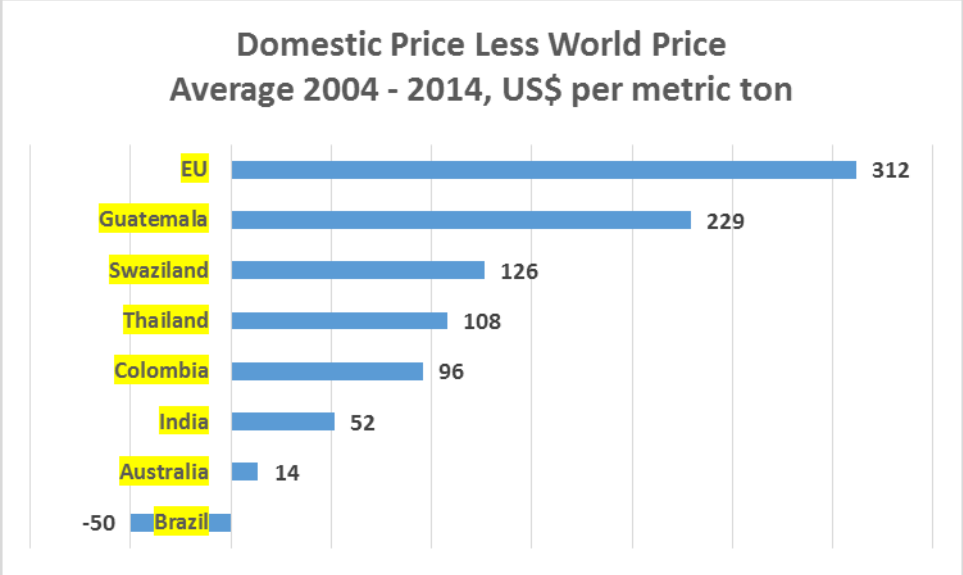
Conversely, for an importing nation, a domestic price for sugar that is higher than the world market price over the medium to long term at a level that cannot be justified by costs associated with importation (import-parity) constitutes a strong indication that import protection is provided to the local sugar industry. For many years, this was the case for the sugar industry of the European Union.

Further, having domestic sugar prices at, or close to, export-parity does not necessarily preclude subsidies: they can be supplied to a sugar industry through other channels such as tax-breaks, subsidized financing, and coproduct support. This is the case of Brazil.

Our sample contains eight countries, which together represent 58% of world production and 77% of world exports.

Sample Data 2014/15	Production (mmt)	% of World	Consumption (mmt)	% of World	Exports (mmt)	% of World	Imports (mmt)	% of World
World	173.63	100%	171.42	100%	56.80	100%	55.87	100%
Brazil	35.45	20%	12.29	7%	23.56	41%	-	0%
EU	17.87	10%	18.50	11%	1.35	2%	3.03	5%
India	25.75	15%	24.32	14%	2.14	4%	0.70	1%
Thailand	11.20	6%	2.89	2%	9.40	17%	-	0%
Australia	4.60	3%	1.02	1%	3.68	6%	0.10	0%
Guatemala	2.89	2%	0.74	0%	2.26	4%	-	0%
Colombia	2.40	1%	1.73	1%	0.80	1%	0.13	0%
Swaziland	0.69	0%	0.05	0%	0.64	1%	-	0%
Total Sample	100.84	58%	61.53	36%	43.80	77%	3.95	7%
	Source: ISO Quarterly Market Outlook-MECAS(15)10							

Countries in the sample show a wide range of differences between domestic and international prices: some countries have internal price levels well above world market prices (EU, Guatemala), in others these prices are close to each other (India, Australia) and, in one, the domestic price is below the world market price (Brazil).



The five countries in our sample with large domestic price premiums over the world market enjoy protection against imports, most of which is due to government intervention, some of which is due to logistical barriers. These are the EU (average premium: US$ 312 per metric ton), Guatemala (average premium: US$ 229 per ton), Swaziland (average premium: US$ 112 per ton), Thailand (average premium: US$ 108 per ton) and Colombia (average premium: US$ 96 per ton).

If applied to 2014/2015 domestic consumption (58 million metric tons), the sample's average price premium is US$ 117 per metric ton and translates into added revenues of US$ 6.8 billion.

The influence of artificial government measures to maintain the higher domestic prices can be considerable, but varies from country to country.

In two countries in the sample, domestic prices are close to world market levels: India (average premium: US$ 52 per ton) and Australia (average premium: US$ 14 per ton). Nonetheless, the underlying mechanisms that produce this result are strikingly different: Australia has minimal government-imposed impediments to sugar imports and limited government support for its sugar industry. The Indian sugar industry, on the other hand, benefits both from protection against imports and from large financial transfers to its sugarcane growers, whose electoral importance explains strong federal and state government support. India's domestic prices represent neither its sugar's true production cost nor true import-parity.

With a discount to the world market price, Brazil is the outlier in the sample (average *discount*: US$ 52 per ton). The discount is close to the rather high average cost of carrying Brazilian sugar to port: economics justify its level. It should come as no surprise that Brazilian domestic sugar prices track the world market price because Brazil, which exports about two-thirds of its production, supplies over 40% of internationally-traded sugar: the world market price must cover Brazilian production costs, otherwise supply will drop and the price will rise.

The discount to world market price does not prove, however, that the Brazilian sugar industry is not supported by government measures. In fact, support is significant: annually, it amounts to at least US$ 2.5 billion and reduces the industry's cost of production. Given Brazil's dominant position in the world sugar market, this support weighs upon world sugar prices. A ProSunergy 2013 analysis showed that prices at which Brazilian sugar is sold would have to rise by 15% at least to compensate for a disappearance of this government support.

In summary, the sample holds a representative selection of sugar-exporting industries and provides insight into the distortions that influence the level and behavior of world market prices for sugar.

Available data on domestic prices and production costs shows both to be materially higher than world market prices.

A recent survey by the International Sugar Organization of domestic prices in 78 countries from 2005 to 2014[1] concludes: "The world average domestic price at both the retail and the wholesale level remained significantly higher than world market prices." On average in this study, wholesale domestic prices are 46% above world market levels.

LMC International Ltd publishes cost-of-production data across a large sample of sugar industries[2]. Over the period 1998 to 2014, international market prices were 44% below the LMC-determined average cost. The marginal nature of the world market is thus made clear.

An important lesson is that international sugar prices should never be seen as the appropriate benchmark against which to judge a country's sugar industry performance, competitiveness and sustainability.

[1] "Domestic Sugar Prices – A Survey", International Sugar Organization, MECAS(15)16, May 2015.
[2] "Sugar Production Cost, Global Benchmarking Report", LMC International Ltd, September 2014.

Methodological Considerations

Reference prices for sugar traded on the world market are readily available for raw sugar (New York #11 contract) or for refined white sugar (London #5 contract), with a low color rating of 45 ICUMSA.

The reference price for this analysis is the London #5 contract price for a metric ton of refined white sugar[3]. It is deemed "Free on Board" ("FOB") and in bulk[4].

Generally, export prices are free of domestic taxes, whereas domestic sales include them.

When attempting to compare domestic prices with export prices, differences in sugar quality, packaging, taxes and logistical costs to point of sale ideally should be accounted for. This is not always possible, so recorded price levels should be seen as indicative only.

Sugar Qualities

In developed countries, domestic markets mainly are supplied with refined white sugar (with a color index of ICUMSA-45 or better). In developing countries, white sugar sales often represent the majority of domestic sales, but this sugar generally is less refined (it has higher color – ICUMSA 150 to 250, or more). Therefore, "white" sugar sale prices in developing countries is often not comparable to the reference international price: should it be offered on the international market, its price would be discounted against the London #5 refined sugar contract price.

For countries without representative domestic refined sugar sales prices, the Thai average domestic price difference between these two qualities has been used to make "plantation white" prices comparable with the reference world price for refined sugar.

Packaging also varies: whereas, in developed countries, refined sugar will be shipped bulk from a mill to industrial clients, who represent 75 to 85% of sales, in developing countries, most sugar will be shipped in bags, most of which will go to retail distribution. No allowance has been made for these differences. Prices in developing countries will reflect bagging whereas, as already mentioned, the London #5 contract is for bulk sugar.

World Market Price

World market prices used in this analysis are those given by the International Sugar Organization's International Sugar Agreement ("ISA") White Sugar Price Index, which are simple averages of the close quotes for the first two future positions of White Sugar Contract on the Euronext Liffe UK commodity exchange ("London #5 Refined Sugar").

A well-known characteristic of world market prices is their very high variability, be they for raw or refined sugar. This variability is due to external shocks from events such as unexpected climate patterns, exchange rate movements, and import and export policy modifications. It is reinforced by export and import volumes often being indifferent to price, at least in the short and medium term. Sugarcane, which supplies about 80% of the sugar consumed in the world, follows a multi-annual cycle in most areas where it is grown: in a given year, it will be harvested whether the price is right or not[5]. Further, it usually takes 18 months for new sugarcane to ripen, so supply response to high prices is slow.

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[3] 1 metric ton = 1.10231125 short tons

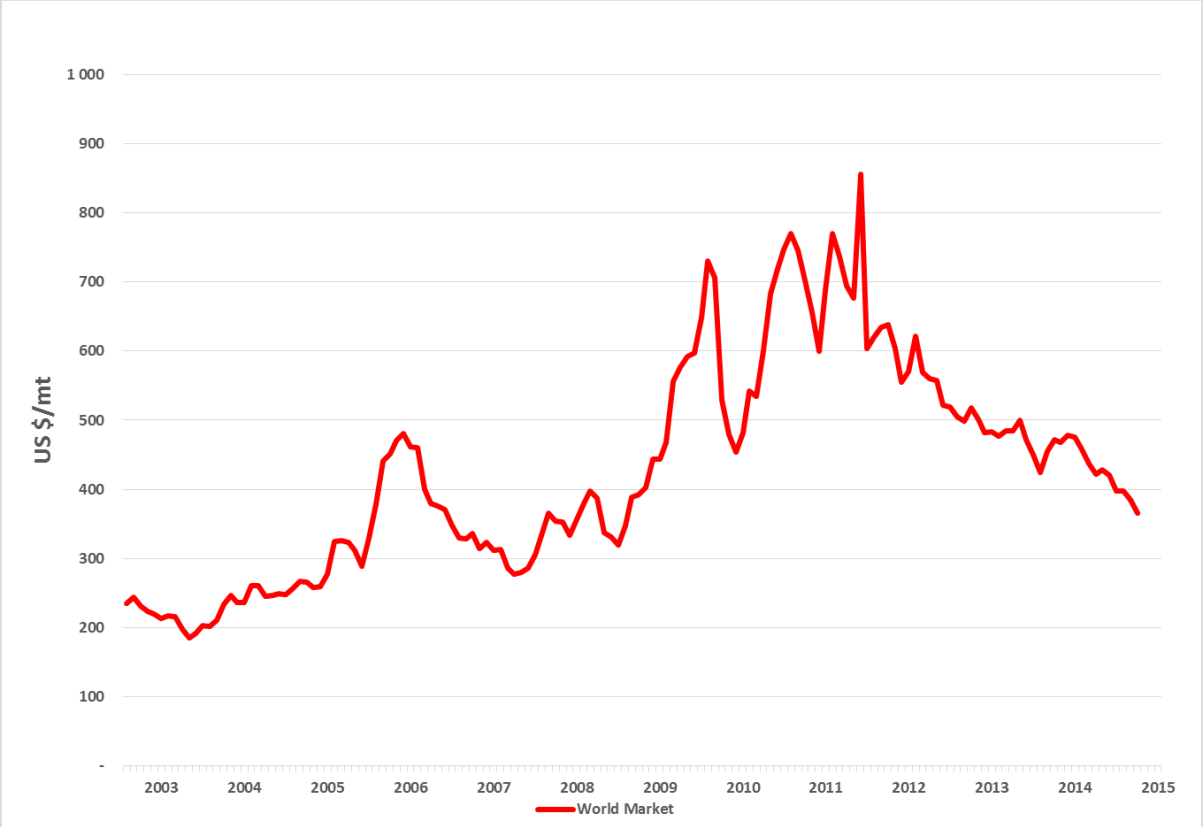
[4] "White beet, cane crystal sugar or refined sugar of the crop current at the time of delivery, free running of regular grain size and fair average of the quality of deliveries made from the declared origin from such crop, with minimum polarisation 99.8 degrees, moisture maximum 0.06% and colour of a maximum 45 units ICUMSA attenuation index, all at time of delivery to vessel at the port."

[5] India is a notable exception. There, the sugarcane cycle tends to be 2 years.

In countries that export sugar, the "Free On Board" prices tracked here must cover transportation to the port and ship loading costs.

For importing countries, it must be remembered that prices mentioned in the charts are for "Free On Board" sugar: delivering that sugar at destination entails administrative services, insurance costs, freight charges ("CIF": "costs, insurance and freight", in trade talk), and destination unloading, storage and transportation costs. Therefore, a world market price FOB is not directly comparable to a domestic ex-mill or ex-warehouse price. For importing countries, as a very rough rule of thumb for refined white sugar, one may use US$ 100 per metric ton as representative of these additional costs. However, the true amount will vary considerably from destination to destination, and from day to day.

World Market Refined Sugar Prices FOB – 2003 to 2015 (US$ per metric ton)



- Brazil
- The European Union
- India
- Thailand
- Australia
- Guatemala
- Colombia
- Swaziland

Together, they produce 58% of world sugar and generate 77% of sugar exports. Their key sugar statistics are shown here:

Sample								
Data	Production	% of	Consumption	% of	Exports	% of	Imports	% of
2014/15	(mmt)	World	(mmt)	World	(mmt)	World	(mmt)	World
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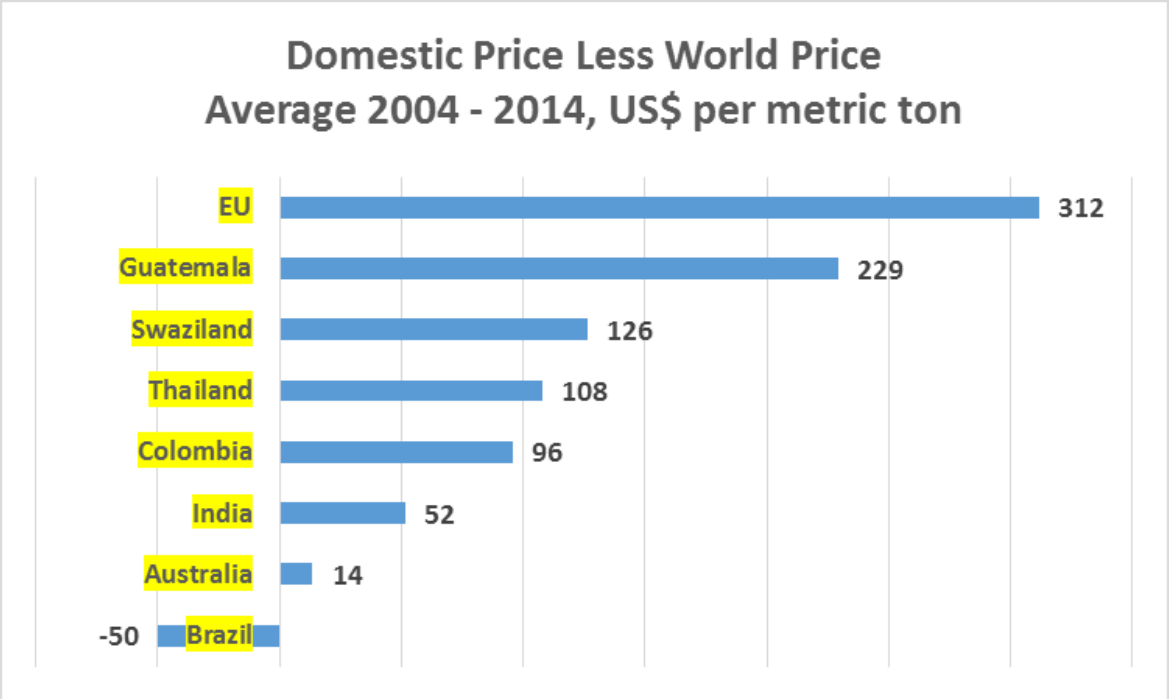
	Source: ISO Quarterly Market Outlook-MECAS(15)10							

The sample contains countries that experienced very high price premiums over the world market and one whose domestic prices were at a discount to world market, on average and over the periods observed.



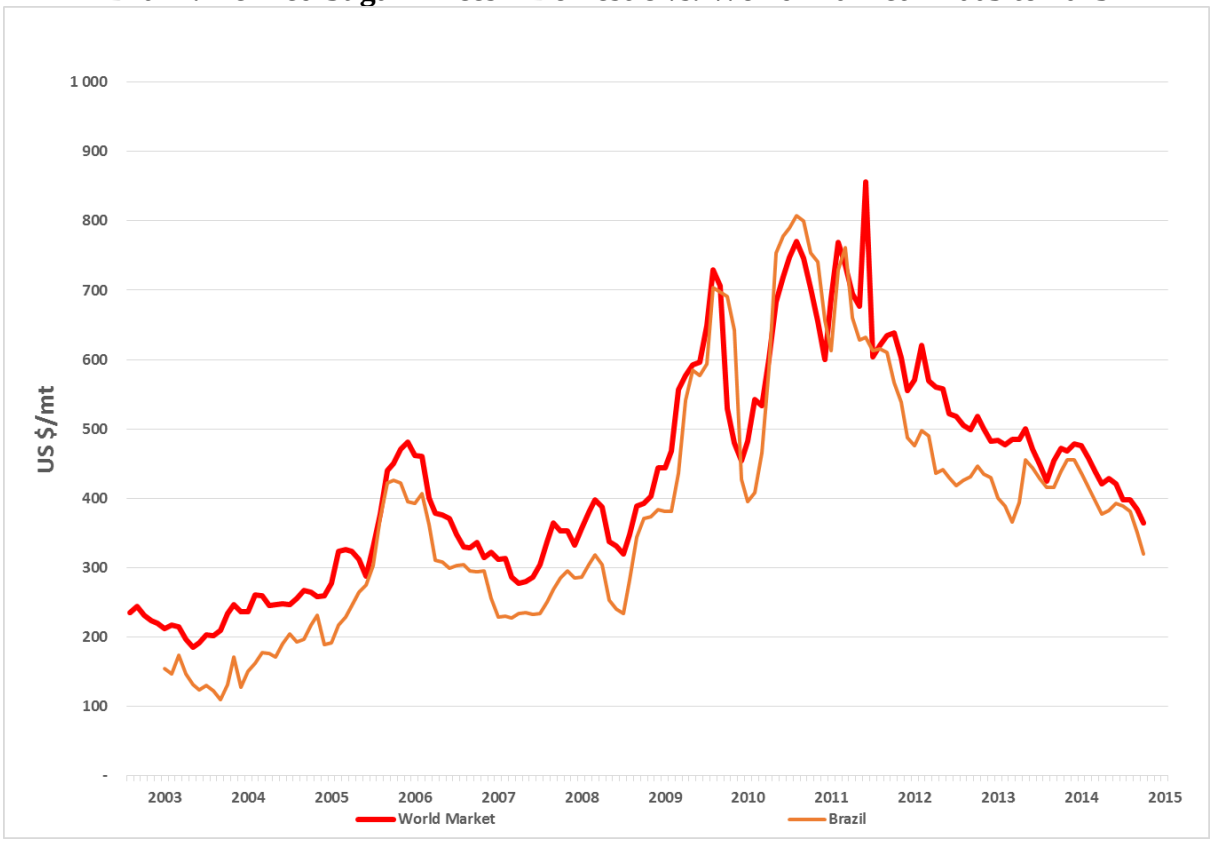
Brazil

Prices for Brazil are for "Cristal" sugar ex-mill São Paulo State, in 50 kg bags, net of taxes. The source is CEPEA/ESALQ, the Brazilian institute that tracks prices used to calculate the price to be paid for the sugarcane based upon the CONSECANA formula. The color rating of "Cristal" sugar is 150 to 180 ICUMSA, so this price series here is increased by 5.4% (Thailand quality differential basis) to approximate the price of the refined sugar quoted on the London exchange, which has 45 ICUMSA.

As the world's largest exporter of sugar by far, the relationship between Brazilian domestic and export prices is of particular interest. As shown in the chart hereafter, the price obtained on Brazil's internal market generally is lower than the FOB export price; on average, it is 12% below. The differential amounts to US$ 50/mt.

This should not come as a surprise, as costs from most mills to port are high (around US$ 50/mt), domestic competition between mills is strong and because Brazil, with a 40%+ market share of world trade, sets the world market price. This does not mean, however, that the world market price is undistorted: as shown in a previous study produced for the ASA, Brazil's sugar and ethanol industry enjoys support mechanisms which, taken together, provide benefits at least equivalent to a 15% premium for its sugar sales[6]. Brazilian government support for its sugar industry amounts to US$ 2.5 billion per year, at minimum.

Brazil: Refined Sugar Prices – Domestic vs. World Market – 2003 to 2015



[6] "Government Support and the Brazilian Sugar Industry" - March 16th, 2013 - ProSunergy

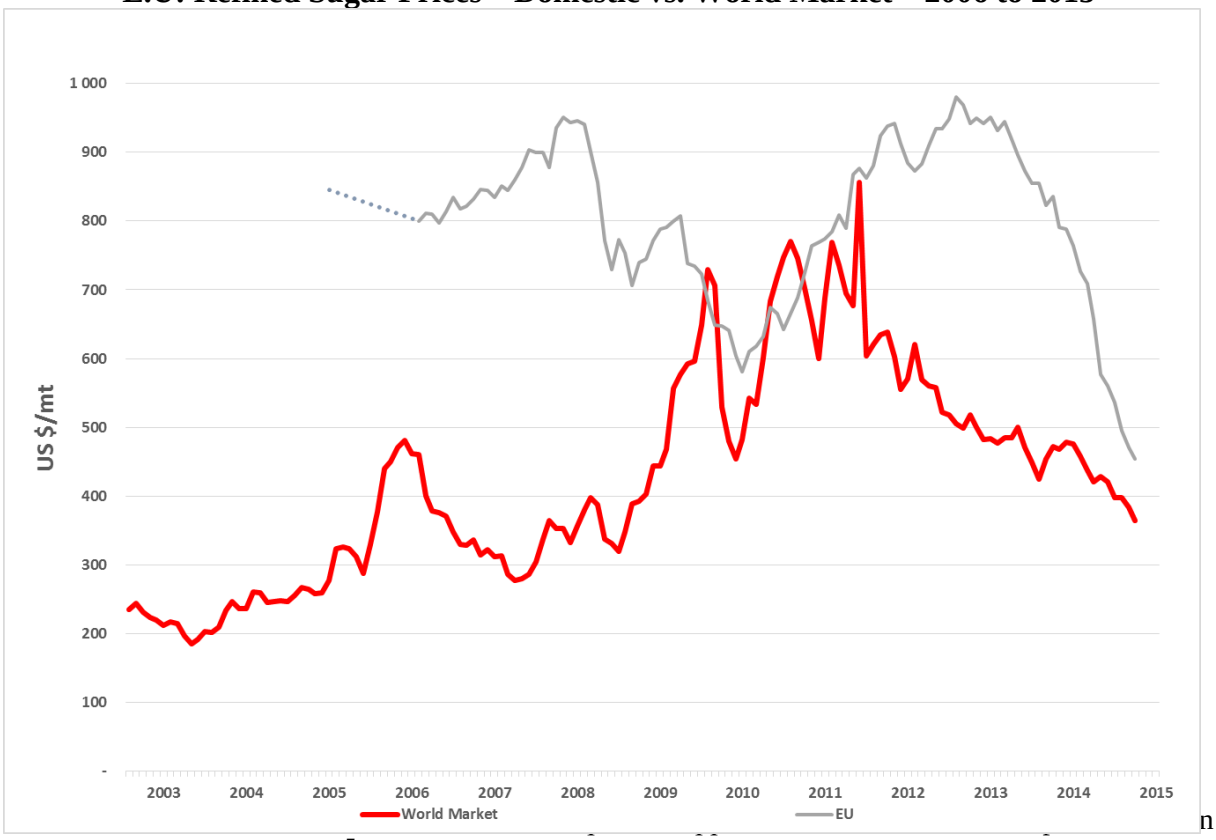
European Union

Price information for the EU is given by the European Union Commission, which tracks average bulk ex-works price for refined sugar (45 ICUMSA) monthly declared by a large sample of operators. It is therefore robust data.

Over the period for which the price series is available, 2006-14, EU internal prices were 64% above world market prices on average (US$ 312/mt), the highest spread in our sample.

The spread between domestic EU prices and world prices is remarkably unstable. The instability results from profound change in the European Sugar Regime during the period under review and from movements in the US$/EUR exchange rate.

E.U: Refined Sugar Prices – Domestic vs. World Market – 2006 to 2015



n (US$ 946/mt to US$ 480/mt[7]). This was partially compensated by a strengthening Euro. In dropping its official reference price, the EU Commission fully intended domestic prices to close in on world market prices. That happened from 2009 to 2011. But, in 2012 and 2013, these prices diverged strongly again when a drop in domestic supply, and production problems in countries with preferential access, coincided with high world market prices. Domestic prices surged.

The precipitous internal EU price drop in 2014 is due to aggressive domestic operator pricing following above-normal imports encouraged by the EU Commission, which opened successful low- or zero- import duty auctions. Combined with an erratic but continuous erosion of the Euro, some 17% since July 2008, this caused the gap with the world price to shrink.

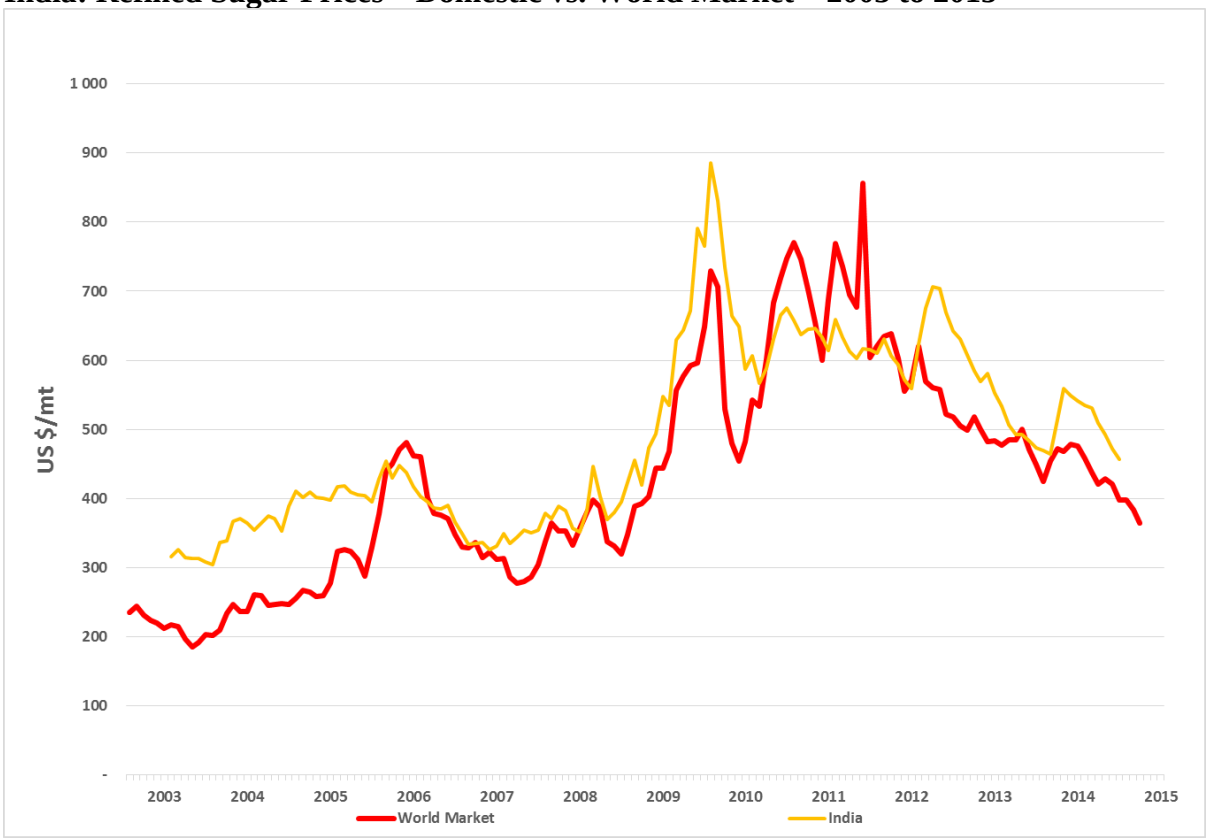
[7] At average exchange rates for 2006 and 2009 respectively.

India

Indian prices come from the National Commodity & Derivatives Exchange Limited (NCDEX), based on settlements front-month futures on a continuation chart. The quality is Plantation White (150 ICUMSA), with a medium size granule ("Grade M"). Prices are ex-warehouse in major delivery centers. As with Brazil, this price series is increased by 5.4% (Thailand quality differential basis) to approximate the price of refined sugar.

Prices include taxes and levies. Levies appear to be related to sugar support measures and should therefore be included in sugar industry revenue. Taxes are complex (there are State taxes and federal taxes, including taxes on trade between States) and have not been neutralized. So the observed price level may be a little higher than a strict comparison would warrant.

India: Refined Sugar Prices – Domestic vs. World Market – 2003 to 2015



India is neither a strong exporter, nor a large importer. That its domestic price appears so close to world market levels and rather well correlated is somewhat surprising because neither is India a competitive producer: production is heavily subsidized through mandatory sugarcane prices imposed on sugar mills by State and federal authorities. The Indian sugar industry is subject to state government controls, with sugar industry licensing, specified cane procurement areas for sugar mills, and cane pricing. Today, mills arrears on cane payments top US$ 3.3 billion, and cannot be honored without government intervention.

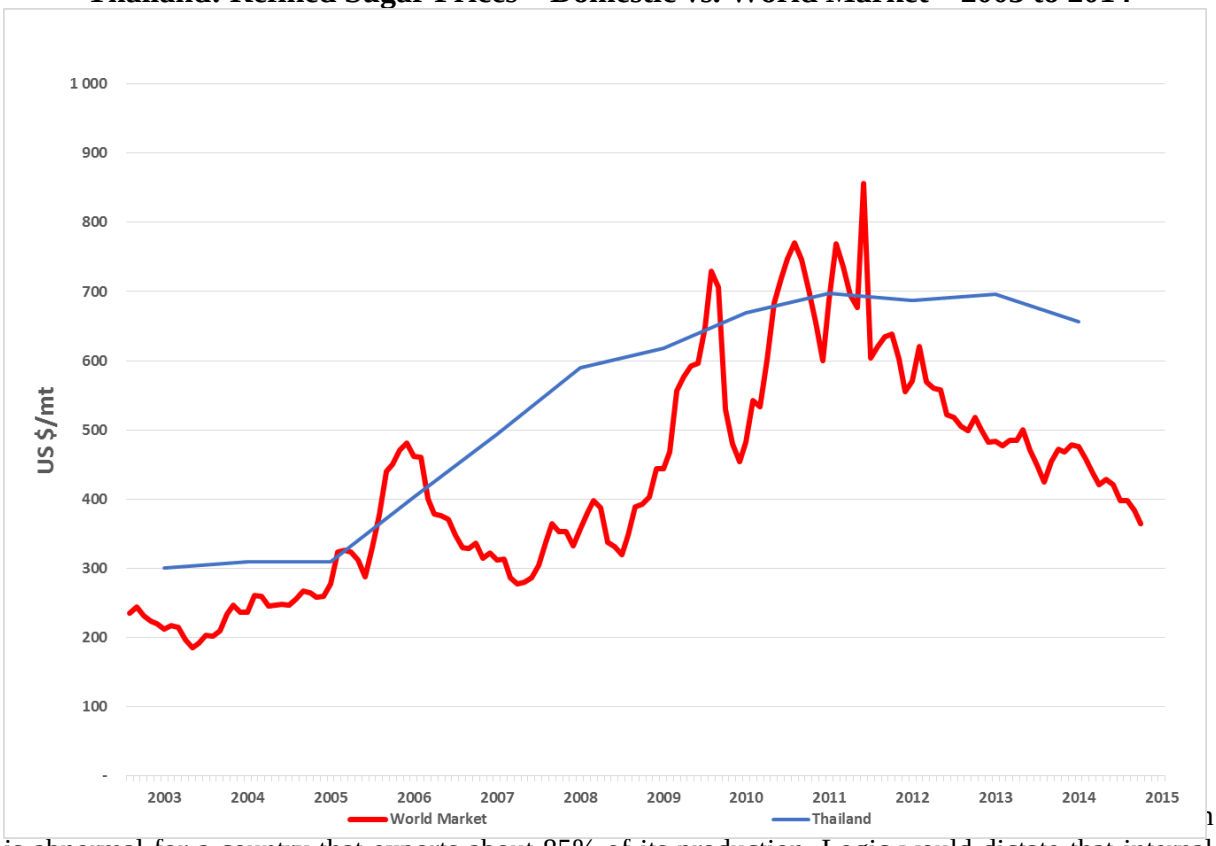
In India, there is little or no cross-subsidization of exports through domestic market prices, but there are direct subsidies mostly paid to cane growers and on exported sugar. The compatibility of the latter with India's international trade obligations has been questioned by other nations.

Thailand

The data for Thailand comes from the Thai Office of the Cane and Sugar Board. Prices are for refined sugar wholesale ex-works and include a Value Added Tax. Thai VAT on sugar is used to support the sugar industry and cane farmers: when domestic price is compared with world market price, the tax must not be deducted.

Thailand's domestic market is supplied with both "plantation white" and "refined" sugar. Domestic demand of 2.5 million tons is 60% plantation white sugar and 40% refined.

Thailand: Refined Sugar Prices – Domestic vs. World Market – 2003 to 2014



is abnormal for a country that exports about 85% of its production. Logic would dictate that internal prices align themselves closely to export prices. This situation results from a sugar policy mandating high domestic prices.

The Thai government implements a sugar policy that, like the old EU Sugar Regime, legally separates a domestic market with a (high) price guarantee and an export market, which are co-managed by the industry and the government[8].

In Thailand, internal market prices cross-subsidize exports.

[8] See "Thailand's Sugar Policy: Government drives production and export expansion", Antoine Mériot, Sugar Expertise LLC, June 3 2015.

Australia

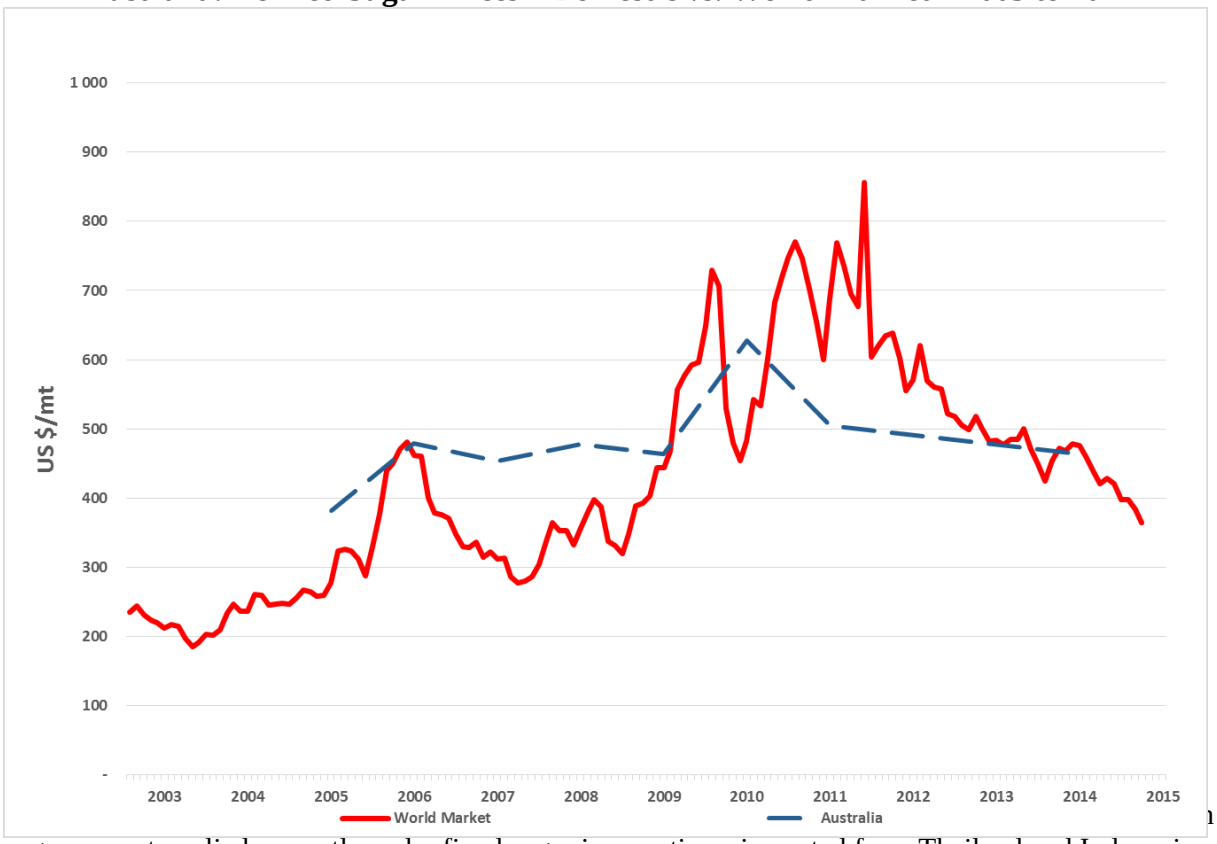
The data for Australia are wholesale prices used for modelling by OECD/FAO obtained through the International Sugar Organization. It is not known whether the prices include taxes or whether this is refined sugar (though that is probable). The data does not cover the whole period.

On this basis, the observed price premium over the world market is only 3% (US$ 14/mt). This makes sense, given that Australia exports 80% of its production: domestic prices should track export-parity closely.

Further, the generally strong Australian dollar puts pressure on internal commodity pricing. In fact, the combination of a strong currency and high exposure to the world market makes the future of the Australian sugar industry most uncertain.

Indeed, faced with low world sugar prices in the early 2000's, the Australian federal government initiated programs to aid the industry that totaled AUD 560 million (about US$ 444 million) during 2002-2007, and the state of Queensland provided additional assistance. Should current low world prices persist, Australian cane growers may need more support.

Australia: Refined Sugar Prices – Domestic vs. World Market – 2005 to 2014



sugar are not applied currently and refined sugar is sometimes imported from Thailand and Indonesia.

Australia is a price taker whereas Brazil, which also has low domestic prices in relation to international prices, is the world market price maker.

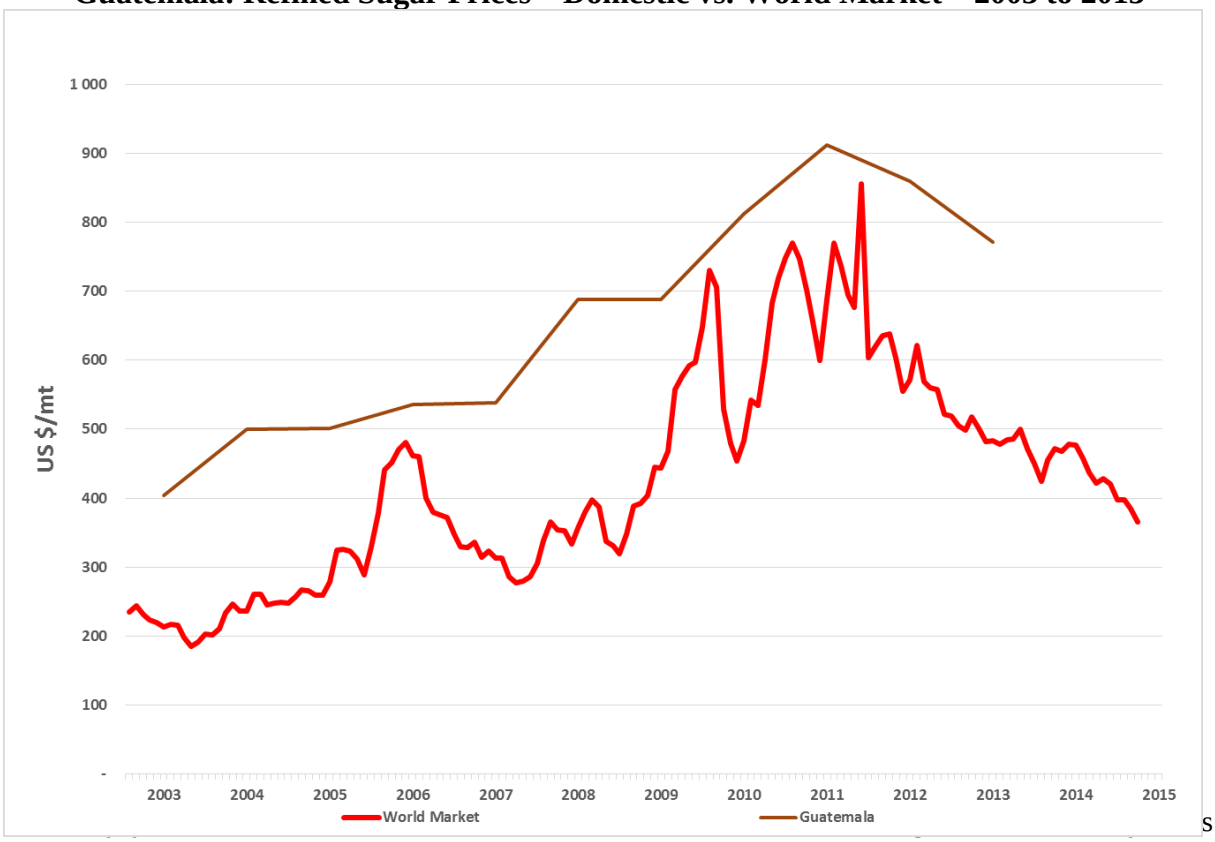
Guatemala

The ISO has provided the price data for Guatemala. The nature of this price is not known.

Like Australia, Guatemala is a vigorous exporter, shipping over 70% of its production to foreign customers. Unlike Australia, its sugar industry enjoys a significant disconnection between internal and external prices: the domestic price premium over world market is 54% on average (US$ 229/mt).

Why are Guatemalan domestic prices not close to export parity? The answer is market organization by the industry. The industry runs a single desk exporting organization: all exports are managed through the ASAZGUA (the Sugar Producers Association) and the Ministry of Economy has to approve exports. The Sugar Board of Guatemala establishes production goals, sets sugarcane prices, and allocates exports for the country's US sugar quota.

Guatemala: Refined Sugar Prices – Domestic vs. World Market – 2003 to 2013



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form of non-tariff barrier undoubtedly discourages imports. The cost of vitamin A fortification can be estimated at some US$ 11 per metric ton of sugar so it cannot justify the US$ 229/mt domestic price premium mentioned above[9].

The data clearly suggest that Guatemala practices cross-subsidization of sugar exports by high internal prices.

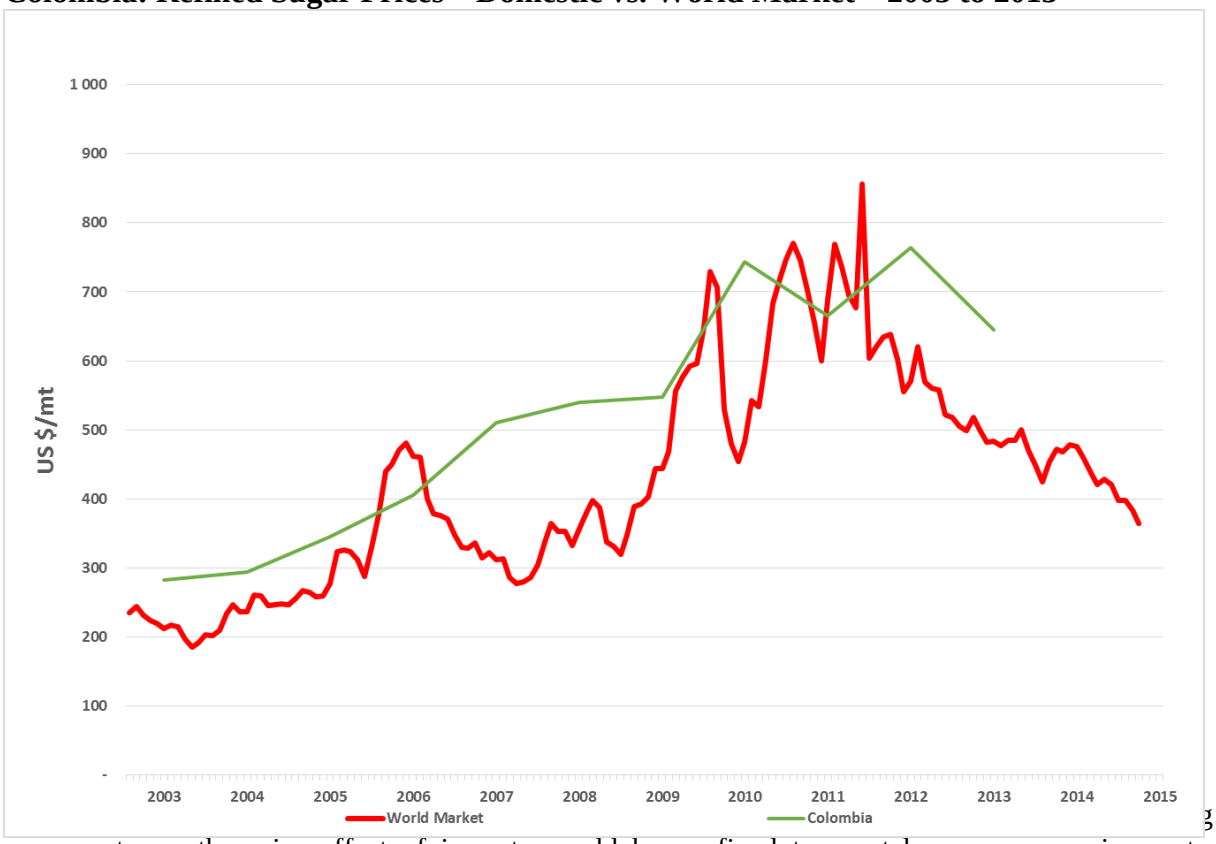
[9] See "Fortification of Vegetable Oil and Sugar with Vitamin A in Uganda – Progress, Issues, Costs and Prospects" by Jack Fiedler, Ph.D. Social Sectors Development Strategies A2Z / Ronald Afiidra Bsc A2Z Fortification Advisor, Uganda / Omar Dary, Ph.D. A2Z Food Fortification Specialist, Washington D.C. - The USAID Micronutrient and Child-blindness Project – AED - Washington DC - May 2009.

Colombia

Colombia's Departamento Administrative Nacional de Estadística (DANE) is the source for prices. Line 23520010 of table 6.2 of its Encuesta Anual Manufacturera – EAM – records annual wholesale sales in pesos (COP) and volumes for refined sugar.

Colombian domestic prices enjoy a healthy premium over world market prices – 22% on average over the period (US$ 96/mt). Indeed, in May 2015 Colombia's competition authorities submitted a report to the public prosecutor that recommends fines for the main sugar producers because they allegedly colluded to prevent imports.

Colombia: Refined Sugar Prices – Domestic vs. World Market – 2003 to 2013



upon costs, so the price effect of imports would be confined to coastal areas near major ports. Moreover, Colombian production costs are low: it is likely that the industry could fend off most imports.

Nonetheless, Colombian exports represent over 30% of production: the domestic premium could be lower, i.e. closer to export-parity. This indicates that some type of cross-subsidization may be occurring and the existence of a single-desk export organization would support that indication. Whether this is due to illegal producer collusion or to sensible decisions (one does not sell to one's regular market at marginal cost) will be seen when the results of the government's current competition authority investigations are out.

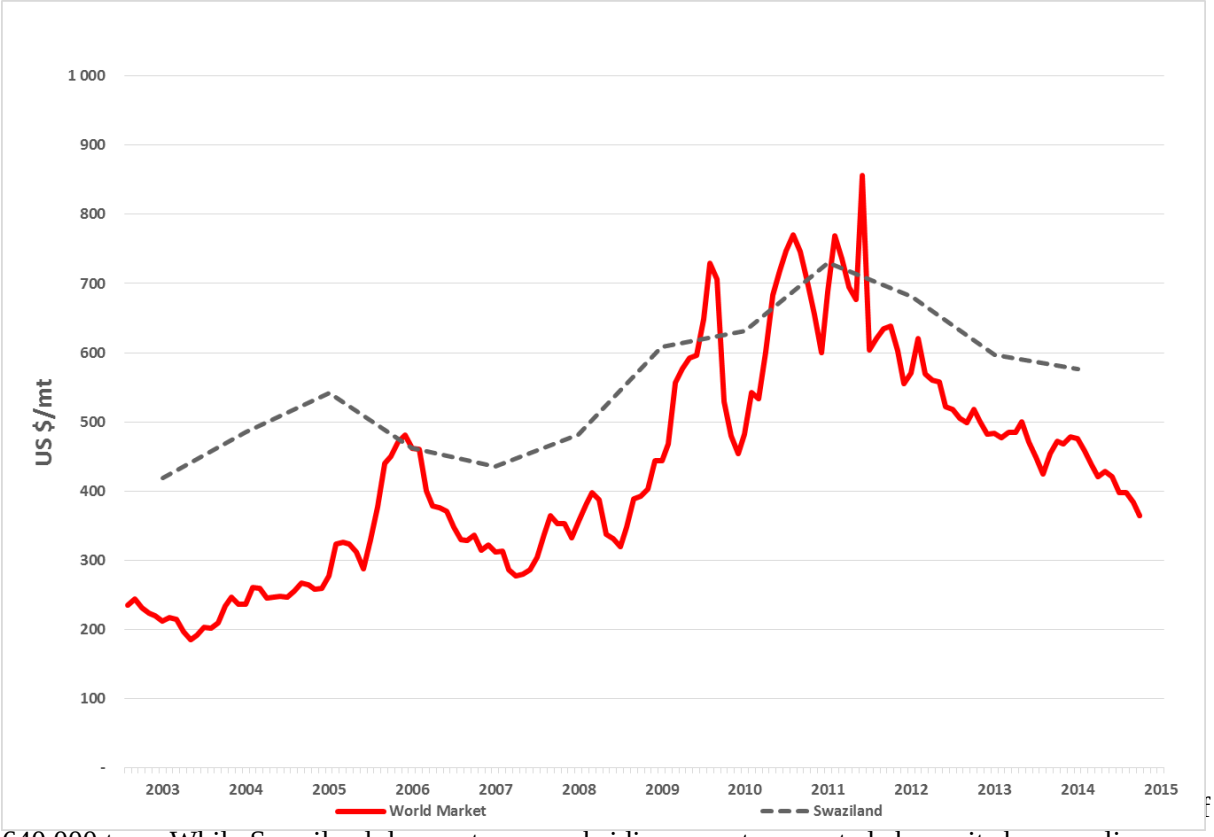
Swaziland

The International Sugar Organization is the source for price data for Swaziland. It pertains to wholesale refined sugar.

Swaziland is special in that, though nearly 90% of its production is exported, exports are to preferential markets (the EU and South Africa, notably) where prices are higher than on the world market. Another distinctive factor is the high cost of transport to get sugar from this land-locked nation to ports (Maputo, in Mozambique) – maybe US$ 100/mt. This would of course also penalize imports.

On average, the internal price is 30% above world market levels (US$ 126/mt). Logistics and access to preferential well-priced markets in the EU and in the South Africa Customs Union, which account for 45 to 50% of Swaziland's exports, easily explain this.

Swaziland: Refined Sugar Prices – Domestic vs. World Market – 2003 to 2014



640,000 tons. While Swaziland does not cross-subsidize exports, as noted above, its heavy reliance on preferential markets helps it maintain domestic prices substantially above world market prices.