

Proposed Reforms in the Structure of Thailand's Sugar and Cane Industry

Viroj NaRanong*

1. BACKGROUND

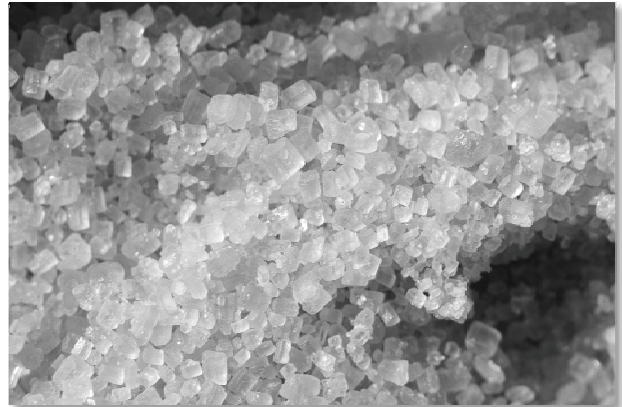
During the past three decades, the Thai sugar and cane industry has been under the state-controlled system known to the public as the “70:30 revenue-sharing system,” which has been implemented since 1982/83 in the wake of unanticipated oversupply of cane and the fall in the global price of sugar in 1981/82. To gain support from the major stakeholders, the government set new domestic prices of sugar at twice that of the then global prices. The excess profit from the increased price of the domestic sales (the so-called “Quota A”) was used to support both farmers and mills. The 1984 Cane and Sugar Act was enacted to form the backbone of the system.

For 15 years since that time, the system ran rather smoothly. The negotiations on cane prices, which once had been unpredictable — and occasionally violent or the cause of street demonstrations — were replaced by peaceful talks at the negotiating table.

The Thai sugar industry has grown from being the fifth or sixth largest exporter in the world to be among the top three, eventually securing the solid position of “Number 2 exporter.” Ironically, this expansion was possible because of the stability afforded by the government’s control and the 1984 Cane and Sugar Act, both of which were designed in light of the South African system to curb the area planted with cane and the capacity of mills.

The 1997 Asian financial crisis, which had its origins in the overvaluation of the Thai Baht, resulted in floatation of the currency from the beginning of July that year. This resulted in de facto devaluation of the Baht from an exchange rate of about 25 baht to US\$1 to more than 50 baht per dollar. As a result, the global price of sugar (when converted into baht) tended to catch up with, and, occasionally stayed above, the controlled domestic price. Whenever this happened, sugar disappeared from the domestic market.

The growers began to be dissatisfied with the (rather stabilized) price of cane, which had been determined based on the weighted average of the export

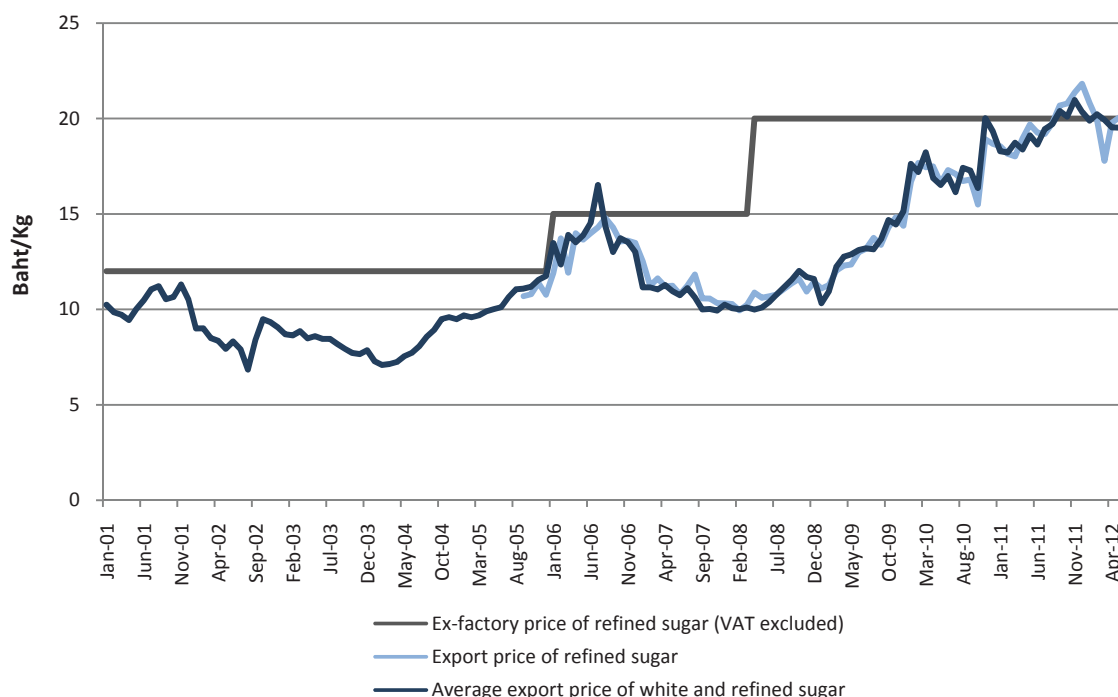


and domestic prices of sugar (the latter which has remained constant for more than 15 years), and started to apply pressure for a hike in domestic sugar prices. Most government administrations did not want to touch the controlled price of domestic sugar, which still remained higher than the export price most of the time (Figure 1), but often worked around it to satisfy growers’ demands by having the Cane and Sugar Fund (CSF) borrow extra money, most of the time from government banks, to top up the cane prices paid by the mills under the 70:30 scheme. On the surface, CSF’s debt was the industry’s own debt. However, the producers apparently had no plan — or intention to repay the debt, which reached a total of 25 billion baht in 2008, when the late former Prime Minister Samak Sundaravej decided to raise the domestic price of sugar by 5 baht/kg (an approximate 33% increase) and use the extra revenue solely for debt repayment.

While the core of the “70:30 revenue sharing system” was based on the South African model in the 1980s, our system implements only half of its stabilization system, i.e., CSF compensated both growers and mills (also based on the 70:30 ratio) in a bad year; however, it never collected a significant fee from them in a good year. The small stabilization fees, usually around 0.5 percent of the revenue, were often collected after CSF had already got into debt.

Under this system, cane prices are paid in two installments: the initial (pre-season) and the final prices.

* Dr. Viroj NaRanong is Research Director on Health Economics and Agriculture at Thailand Development Research Institute (TDRI). Correspondence: E-mail: virojtdri@yahoo.com or viroj@tdri.or.th; Fax: +66(0)2 718 5461-3; Mobile: +66(0)81 382 7846.

Figure 1 Controlled ex-factory price vs export price of sugar January 2001 to May 2012

Source: Compiled by the author based on data from the Office of the Cane and Sugar Board (OCSB) and the Office of Agricultural Economics (the latter is available from http://www.oae.go.th/oae_report/export_import/export.php).

At the beginning, millers fought for the low initial prices of cane, but later they tended to agree to high prices so that growers would have an incentive to expand. This practice also increased the chance that both parties would be compensated by CSF. In 2006/07, in spite of the 3-baht sugar price hike, CSF was liable to pay the mills 9.8 billion baht (70% of which was for the overpaid cane and 30% to compensate mills for their “low return”). The Cabinet during the Surayud Chulanont Administration decided to have CSF borrow from the Bank for Agriculture and Agricultural Cooperatives (BAAC, which is a government bank) to pay the mills. The government committed itself to allocate a specific annual budget of 450 million baht to CSF, which would use that fund to repay BAAC until the debt would be paid off in 2020.

As mentioned previously, in 2008, Prime Minister Samak decided to increase the domestic sugar price by 5 baht/kg, the revenue from which would be designated to repay the accumulated CSF debt, which had reached 25 billion baht by then.

Based on an initial study by the National Economic and Social Development Board (NESDB) and repeated requests from the Beverage Association to reduce the domestic price of sugar after CSF would supposedly complete its debt repayment in late 2011,¹ the Ministry of Industry (MOI), based on a Cabinet resolution of the Abhisit Vejjajiva Administration, had CSF commission the present research project to be carried out by the Thailand Development Research Institute (TDRI) in 2011.

In late 2011, as MOI proposed to the new government that CSF borrow an amount to top up the cane price for the year 2011/12 by 154 baht/ton, the Cabinet of the Yingluck Shinawatra Administration asked MOI to oversee our study to make sure that it would be finished by its September 2012 deadline in order to be able to implement our proposal in this cane-crushing season (2012/13). The final TDRI report was submitted in September, but was under scrutiny by the overseer committee for almost four months before it was approved, after only minor revisions were requested, at the end of January 2013.

2. MAIN OBJECTIVES

The main objectives of the proposed reform are as follows:

- To prevent occasional sugar shortages in, or disappearance from, the domestic market when the global price is higher than the controlled domestic price
- To work out a system that provides a fair price of sugar for the downstream industry
- To reform the cane pricing system (also known as “revenue sharing system”) to improve efficiency and flexibility as well as lessen controls



- To reform CSF so that it can provide stability for both the growers and the industry
- To conduct organizational reform, including drafting, or overhauling the Cane and Sugar Act

3. PROPOSED REFORMS

Based on our lengthy analysis (see the full report in Thai available from <http://tdri.or.th/research/structural-change-sugar-cane-industry/>), it is proposed in the study that structural reforms be instituted in all major aspects, mainly the domestic sugar market, the cane buying/pricing system, including the role of CSF as the price stabilizer, and organizational and legal reforms.

3.1 Domestic sugar market

Even with, or because of, the overly controlled system — a combination of domestic quota and price controls — it has been repeatedly the case that the existing system has failed to guarantee the availability of sugar when the export price is significantly higher than the controlled ex-factory price. Whenever that happens, sugar tends to disappear from the market to be sold at higher prices in the black market, as well as be smuggled across borders to neighboring countries.

The study proposes three — or rather one — actual measures to solve this problem, since the other two are in fact non-measures. The first one is to abolish the domestic price control of sugar. This “non-measure” alone will provide every stakeholder with an incentive to supply sugar to the domestic market *at all times*.² In order to ensure domestic availability and a reasonable price, and to provide small and independent mills with a level playing field in the domestic market, the domestic quota (Quota A) would remain in place, where the *annual quota* will be allocated to each mill according to its past share of cane crushing, but shorter-term allocations — such as the current weekly allocation — would be *strictly forbidden* since there are risks that this

cartel-like mechanism might be exploited to facilitate price collusion in the absence of price controls.

Once the price controls are lifted, the administration of the domestic quota should be much easier than in the past, since there would be no gain from selling sugar in the domestic black market. The current ASEAN Free Trade Area (AFTA) agreement — under which all neighboring countries now charge zero import tax on sugar — should also curb any incentives to smuggle sugar across the border, since the smugglers’ cost would not be significantly less than that of the importers.

Since it is possible that such reform could result in an increase in domestic consumption of sugar, and to ensure that there would be no shortage as people might change their buying behavior, it is proposed in the study — as a precaution — that the Sugar Committee increase the domestic quota by at least 10 percent in the first year of implementation, a rate which is significantly higher than the usual increase in annual consumption. If this proves to be too much — in the sense that millers cannot sell their whole allotted quota while the wholesale price is in line with the export price — the formal first year quota could be adjusted accordingly at the end of the year in order to honor reality.

For the subsequent years, it is proposed in the study that loose but binding rules for the Sugar Committee be followed: (a) if the average wholesale price is greater than the average export price by x percent, the domestic quota for the next year must be increased by at least $x/2$ percent; and (b) if the average wholesale price is less than the average export price by y percent, the domestic quota for the next year can be decreased by no more than $x/5$ percent, but the Committee is allowed to maintain or even increase the quota if it deems necessary. Moreover, the Committee can impose an extra quota during the year if it finds that the average wholesale price in the previous few months is significantly greater than the average export price. In such a case, the extra quota should be offered to all mills according to their initial share, but every mill should be allowed to decline such an offer.

The third non-measure is also a precautionary one that is designed simply to deter price collusion. In principle, it is proposed that the government abolish protection and allow the import of white sugar, including from non-ASEAN countries, at zero tax. As the world’s solid second-largest exporter of sugar, under normal circumstances, it is not expected that anyone in Thailand would find it profitable to import sugar to compete in the domestic market. However, this non-measure might be necessary to discourage any attempts to tacitly form a cartel aimed at establishing a monopolistic price in the domestic market.

Together, these measures should be sufficient to make the domestic sugar market resemble a competitive one. Their impacts on households — since the sugar price would occasionally be higher than the currently

controlled one — should be minimal, since the outlay for sugar in most households is rather small. There is also a good chance that the domestic price would fall below the current controlled price more often than not. As for the downstream industries, they will be likely to pay as much as the export price, which would still provide them with a slight advantage when compared with their competitors in countries that import sugar from Thailand.

3.2 Cane buying/pricing system

Instead of using the current revenue-sharing system in which the price that a farmer receives for sugarcane would vary somewhat with his/her counterpart mill's performance (e.g., the sugar extraction rate) and decisions (e.g., on the percentage of white sugar the mill chooses to produce), it is proposed in the study that, under a new pricing system, *all farmers would receive the same price for cane according to its sugar content (CCS)*, which would be computed from a formula based on a specified set of standard production efficiency parameters of the “representative mill.” The only unknown parameters in this formula are the reference prices for sugar, which also would depend on the exchange rate, and that would be drawn mainly from the most-quoted international futures markets.

The proposed cane price formula is based on 70 percent of revenue (as in the current 70:30 sharing system) from the standard mill with a 90 percent efficiency rate for sugar extraction (half in raw sugar at 96 polarization (sucrose content) and the other half in refined sugar) from each CCS of cane, plus molasses equivalent to 7 percent of the value of the sugar:³

$$\text{Cane price} = 0.0007 \times 90 \times \text{CCS} \times 1.07 \\ [50(P_{\text{raw}} + \text{Prem}_{\text{raw}}) + 50(P_{\text{white}} + \text{Prem}_{\text{white}})]$$

Where P_{raw} is the New York #11 price of raw sugar (baht/kg)

Prem_{raw} is the Thai (location) premium for raw sugar (baht/kg)

P_{white} is the London #5 price of refined sugar (baht/kg)

$\text{Prem}_{\text{white}}$ is the Thai (location) premium for refined sugar (baht/kg)

and CCS is commercial cane sugar content.

In return, sugar mills would be allowed to change their product mix or production processes as they see fit. For example, a mill might choose to use all of its cane juice to produce only white sugar, while paying a cane price according to the formula that is based on the assumption that each mill's sugar consists of only 50 percent of white sugar, or a mill can produce both sugar and ethanol from the same batch of cane



(e.g., using the first few of six extracts to produce sugar and the remaining extracts to produce ethanol), a process that should be more cost-effective than producing ethanol from molasses, which has also been in shortage since the government decided to abolish the sale of gasoline with 91 RON (Research Octane Number) earlier in 2013.

Compared with the current cane pricing mechanism, the proposed one would be likely to increase the cane price (see the comparison of the simulated price using our formula versus actual past prices shown in Figure 2). However, the study also contains a proposal for a four-year transition period that would enable the mills to improve their efficiency before the full-fledged formula is applied.

As in the current system, the cane price would be paid in two installments: the initial and the final prices.

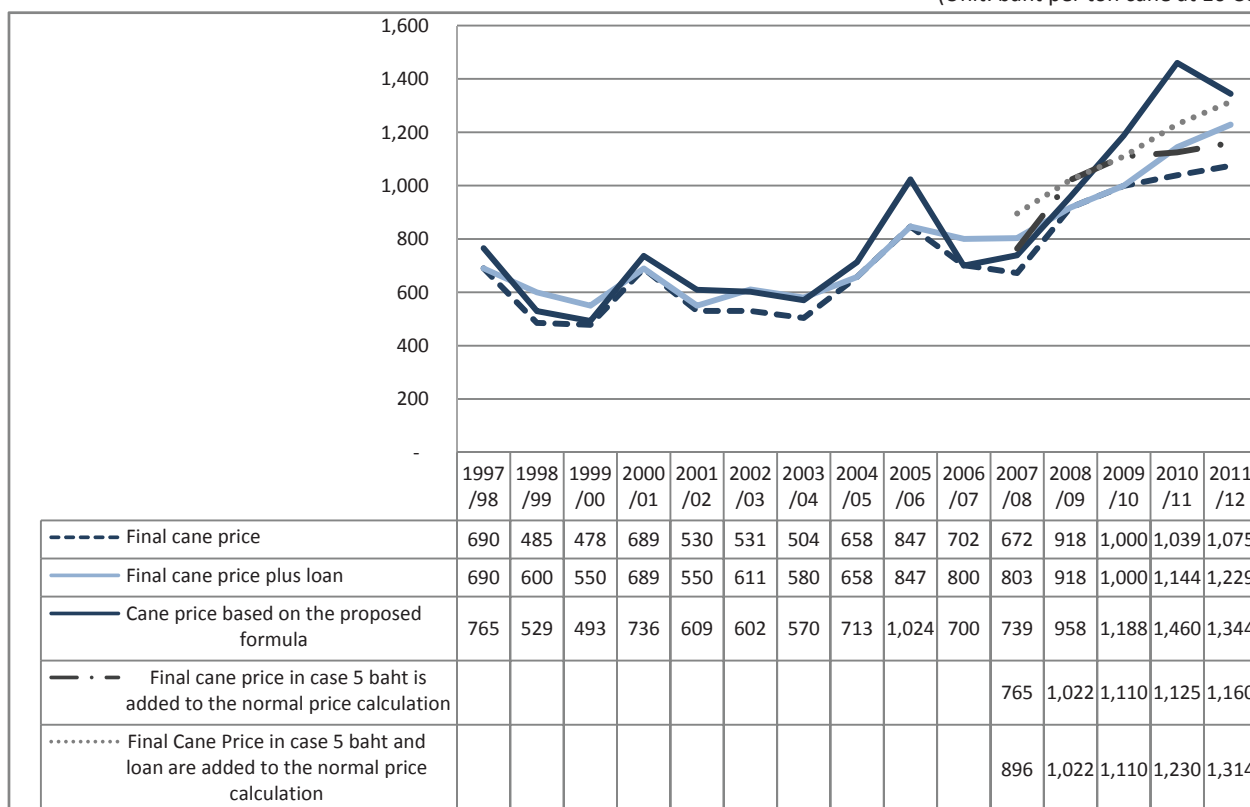
The initial price of cane, to be paid within a few weeks after cane delivery, would be the higher amount of: (a) the minimum price of 1,100 baht per ton of standard cane (at 12 CCS)⁴ or (b) 90 percent of the expected price computed from the formula based on the specified parameters and the average futures price of raw sugar (contract #11) and white sugar (contract #5), plus the committed or estimated Thai premium (using the pre-committed or the average exchange rate in the month of September prior to the new cane-crushing season that usually begins in November).

The realized price of cane would be recomputed immediately after the end of the production year (i.e., in early October) using the actual prices, premiums, and the exchange rate from the Thai Cane and Sugar Corporation's sale of the sample pool of export sugar (all 0.8 million tons of “Quota B,” half of which would be raw sugar at 96 IPS (International Pol Scale) and the other half would be refined sugar.⁵

The final price of cane would be either the initial price *or* the realized price minus the amount the mills deduct and deliver to the stabilization fund of CSF on behalf of the farmers. There are several possible scenarios:

Figure 2 Actual versus simulated cane prices based on the proposed formula

(Unit: baht per ton cane at 10 CCS)



Note: The final price that the growers receive might differ from that in our formula, depending on the compensation from CSF or the fee they have to pay CSF that year.

Source: Compiled and simulated by the author based on data from the Office of the Cane and Sugar Board and United States Department of Agriculture.

- If the realized price falls *below* the initial price, the final price would be the same as the initial price (i.e., the farmers would not receive any more payment than the amount they had already received as the initial price, and CSF would draw from its stabilization fund⁶ to compensate the mills for the over-paid price, plus 42.86 percent⁷ of that amount to compensate the mills for their unanticipated low revenue).⁸
- If, however, the realized price is *higher* than the initial price, but below the estimated price, the final price would be the same as the realized price, and the mill would be liable to pay the difference to the farmers.⁹
- The other case is that the realized price is *higher* than both the initial and the estimated prices (and the estimated price was also higher than the minimum price), the final price would be equal to the estimated price plus 80 percent of the difference between the realized and the estimated prices. The mill would pay the farmers the difference (between the final and initial prices), and deliver the 20 percent of the difference

between the realized and the estimated prices to CSF on behalf of the farmers plus 42.86 percent of that amount as its own contribution to the stabilization fund of CSF.

Under this set of rules (also spelled out in the proposed Cane and Sugar Act), CSF would act as the price stabilizer, a much more credible role than now exists (as well as in the past three decades) under which CSF is liable to compensate the mills in a bad year (according to Article 56 of the 1984 Cane and Sugar Act). However, there is no explicit rule to collect a significant stabilization fee from the industry in a good year; the combined practices have forced CSF to be in continuous debt with neither means to repay nor credibility to borrow, except from government banks under the government's guarantee.

3.3 Organizational and legal reforms

The current governing body of the industry consists of the Cane and Sugar Board (CSB) and its subordinate boards: the Executive Board, the Cane Board, the Sugar Board, and CSF, and two administrative offices: the Office of the Cane and Sugar Board

(OCSB) and the Office of the Cane and Sugar Fund (OCSF).

In the study, it is proposed that the Cane Board be abolished, as cane quantity control has never been enforced and is deemed rather undesirable to do so now. It is also proposed that the Sugar Board be reorganized in such a way that the members from the government would constitute half the board, with one of the members appointed by the Minister of Commerce to serve as the chairperson, since the board's role in allocating the domestic quota and preventing monopoly would become a more important issue after the abolishment of the domestic price control.

CSF (and OCSF) would have more important roles and would need to be more independent as well as have better financial and administrative measures in place. In the study, it is proposed that a designated stabilization fund be set up as an independent fund within CSF to ensure that the fund would be allowed to be used for price stabilization only and for no other purpose.¹⁰

The cane and sugar industry (and OCSF) should devise a long-term research and development plan as well as set up a research institute that would work within the industry and coordinate with other governmental funding and research agencies. CSB and CSF should also work together to determine research and operational fees accordingly, which in the study are proposed to be collected from farmers and millers on a 50:50 (rather than 70:30) basis.

OCSB would be relieved of most of its control work and should be geared toward being an information and strategic center, which should become a more important and compelling task as Thailand has continued to expand its cane and sugar production almost fivefold within only three decades, making more people's welfare dependent on the industry's long-term health and sustainability.

The Ministry of Commerce's role would be shifted from maintaining price controls to preventing collusion and protecting consumers through such means as product labels.

The 1984 Cane and Sugar Act

The 1984 Cane and Sugar Act was designed in such a way that it provides very extensive power to CSB. However, CSB and its subordinate boards and organizations have been selectively using their power or enforcing the law, which has resulted in a lack of implementation of some key articles, such as Article 57, which requires the mills to send their — as well as the growers' — surplus revenue to CSF, but in practice the calculation of the final cane price was done in such a way that there would never be any surpluses. Since this practice — that tends to leave CSF in constant debt — benefits both mills and growers, it has been allowed to be administered against the spirit of the law for almost 30 years.

The study, therefore, includes a draft of a new cane and sugar act in such a way that the stakeholders would have to follow and comply with the main system design and specified formula, and that the system would not be swayed or swung by political or bureaucratic judgments, or rely too much on results of negotiations by the main stakeholders.

However, if chosen by the government and agreed upon by CSB, all the proposed reforms could be undertaken even now under the current 1984 Act while the new draft is still being put through the legislature. In this respect, the current law itself, or the processes that are needed to enact the new law, is not the obstacle that would prevent the reform from being implemented in this coming season (2012/13), although the new law is still badly needed to ensure that the reforms that would be carried out in the future would not deviate from their essential designs, which are necessary to achieve all the objectives proposed in the study.

ENDNOTES

- ¹ The debt, however, had never been repaid in full because CSF was later forced by the growers to borrow again to top up the cane price for the year 2011/12.
- ² While the existing measures appear to provide an extra incentive for selling sugar in the domestic market as the controlled domestic price tends to be higher than the export price most of the time, they failed miserably when the relative prices were reversed.
- ³ The original formula proposed 7 percent, with a contingency clause that it would be upgraded to 8 percent in the following production year should the government follow its commitment to abolish the sale of 91 RON (Research Octane Number) gasoline. Since this actually happened in 2013, the multiplier 1.07 would be changed to 1.08 should this formula be used in the next production year (2013/14). Interestingly, India's Rangarajan Committee Report, which came out in October 2012 — just a few weeks after our submission — proposed a cane price that is equivalent to 70 percent of revenues from sugar and all byproducts, or 75 percent of revenues from sugar alone. It should be noted that the latter share of 75 percent is almost identical to the multiplication product of our 1.07 x 70 percent.
- ⁴ The Standard sugarcane at 12 CCS has been chosen because it is the closest representative to the average CCS of Thai cane in recent years. Even if one excludes the northeastern region of Thailand, the average CCS in each of other regions would still be higher than 11 *in normal years*. Therefore, on average, the proposed minimum price (1,100 baht per ton of cane of 12 CCS) would mean that the

farmers in every region still receive more than 1,000 baht per actual ton of cane.

- ⁵ At present, the formal Quota B is 0.8 million tons per annum, but the actual amount put up for bidding by the Thai Cane and Sugar Corporation is only one half of that (0.4 million tons of the raw sugar, at the average polarization of about 98).
- ⁶ The study also proposes that CSF open a specific stabilization fund/account whereby the fund cannot be used for other purposes (including its administrative costs, which should be drawn from the main CSF. This is to ensure credibility of the stabilization fund, especially if it would have to borrow from a financial institution.
- ⁷ 42.86 percent is equivalent to 30/70.
- ⁸ Except for the case where the minimum price kicked in as the initial price — which means that 90 percent

of the expected price fell below the minimum price. In such a case, while CSF would still compensate the mills fully for the price they overpaid the farmers, its designated compensation to the mills would be limited to 42.86 percent of the difference between the 90 percent of the expected price and the (lower) realized price.

- ⁹ If necessary, in these years the Cane and Sugar Board (CSB) may also vote to collect the stabilization fee from both farmers and millers up to 3 percent of the annual revenue of the industry. Normally, however, this would not happen since the farmers and millers combined constitute the majority of CSB, so it is unlikely that they would vote to tax themselves unless they agree that it is absolutely necessary.
- ¹⁰ Including its rather small administrative costs, which will have to be shouldered by the main CSF fund.

