Support to Agriculture in India in 1995-2013 and the Rules of the WTO

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Abstract: India has submitted notifications to the World Trade Organization (WTO) on domestic support to agricultural producers in 1995-2003. This paper reviews India's notifications and summarizes the related discussion in the WTO Committee on Agriculture of some key issues relating to the rules of the Agreement on Agriculture on domestic support. It calculates price gaps for rice, wheat, cotton and sugarcane in 1995 to 2013 under four scenarios regarding the external reference price and calculates the resulting market price support using total production and procurement quantities. It compares the associated Aggregate Measurements of Support (AMSs) to their limits based on value of production. The AMSs show large excesses above their limits over many years until 2013 for several crops under some readings of the Agreement but much less so if certain adjustments are made. This highlights the differences among alternative interpretations of the Agreement in determining compliance with a country's obligations, in particular the understanding of the fixed external reference price and the production eligible to receive the applied administered price. The paper puts India's administered pricing in the context of the 2013 decision of WTO ministers regarding protection under some conditions against challenge under the WTO dispute settlement mechanism.

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Executive summary

Domestic support rules and key data

The Agreement on Agriculture of the World Trade Organization (WTO) requires a country like India – without a Bound Total AMS (Aggregate Measurement of Support) – to provide AMS support only in amounts that do not exceed the year's *de minimis* limits of 10 percent of the value of production. Like other developing countries, India may exempt from the AMS calculations support provided through policies that meet the criteria of the green box and the development box. The green box provisions include the exemption of expenditures under certain programs under which stocks are acquired and released at administered prices if a price gap is accounted for in the AMS.

India documented its data and methodology in domestic support for 1986-88 at the conclusion of the Uruguay Round negotiations in its "AGST" document, referred to in India's WTO schedule. In calculating current AMSs India, like other countries, is required to take into account the constituent data and methodology of AGST and to calculate AMSs in accordance with Annex 3 of the Agreement. Annex 3 requires the calculation of market price support as a component of a product's AMS if an administered price is applied. The gap between that applied administered price and the fixed external reference price (FERP) is to be multiplied by the quantity of production eligible to receive the applied administered price. India's methodology in AGST laid down the use of total production as the eligible production.

Notifications and the Committee on Agriculture

India has notified its domestic support for 1995 to 2003 to the WTO Committee on Agriculture but notifications for later years are still outstanding (March 2014). India's AMSs do not use the FERPs from AGST – the AGST reference price in INR/tonne is effectively increased *pari passu* with the decline in value of the INR in relation to the USD. The repeated increases in the reference prices result in price gaps that are vastly smaller than the price gaps using the FERPs. Moreover the price gaps, such as they are, are multiplied only by the procured quantity

of production, also deviating from the constituent data and methodology in AGST of using total production.

Consequently India notifies market price support and AMSs only for very few products, in spite of the support policies not having been changed from 1986-88. The calculated AMSs for these few products or years are much smaller than they would have been if AMSs had been calculated taking into account the constituent data and methodology and in accordance with Annex 3. Regarding the non-product-specific AMS India makes an allocation that deviates from the rules of the Agreement.

While the deviations of India's calculations from the rules of the Agreement are identified in this paper in relation to a literal reading of the Agreement, WTO member countries have raised several similar issues when reviewing India's notifications in the Committee on Agriculture. India's answers to many questions in the Committee appear to provide only in few cases the illumination sought by the inquiring country.

India's 1995-2013 AMSs

The analysis calculates product-specific AMSs for rice, wheat, cotton and sugarcane for the years 1995 to 2013. It uses public data available on Indian government websites. The market price support component of AMS is measured using the FERP from AGST to calculate the price gap and, without endorsing them, under three alternative price-gap scenarios that deviate from the base scenario. They comprise deflating the price gap that is calculated with the FERP, inflating the external reference price, and increasing the external reference price by currency depreciation. The latter scenario corresponds effectively to the method adopted by India in its notifications, although there it is masked by the expression of all prices and support in USD/tonne or USD, contrary to the use of INR/tonne or INR in AGST. Each of the four price gaps is multiplied by two production quantities: total production and procurement quantity (only total production of sugarcane since sugarcane is not procured).

For products and years where the price gap is positive, the analysis calculates the product's AMS, including in some years for rice and wheat also certain non-exempt payment. The non-product-specific AMS is also calculated. Each AMS is compared to its *de minimis* limit, indicating in what year, for which crop and in which price gap scenario the AMS exceeds its *de*

minimis limit and by how much. The results are shown graphically, with underlying data in an appendix.

Excessive AMSs and the 2013 ministerial decision

The product-specific AMSs indicate large excesses for several crops above their *de minimis* limits over many years until 2013 under some readings of the Agreement but much less so if certain adjustments are made to the reference prices or the price gaps. The results highlight the difference that alternative interpretations of the rules of the Agreement make in determining compliance or not with a country's obligations. This involves in particular the understanding of the FERP and the production eligible to receive the applied administered price. Both issues hinge on the contents of the document that gives India's 1986-88 data and methodology, incorporated by reference in its schedule, and the way in which the Agreement connects the current year's AMS calculations to that data and methodology and to the rules of the Agreement itself.

A decision taken at the WTO ministerial conference in December 2013 gives a certain shelter for countries in India's position of having exceeded its *de minimis* limits on AMSs. The protection against challenge under the WTO dispute settlement mechanism is circumscribed in several ways and is conditional on a number of actions and considerations. Developing countries contemplating the introduction of producer price support schemes such as India's would not enjoy the same protection as India against challenge. This difference in entitlement among developing countries may colour future international policy deliberations in agriculture.

Support to agriculture in India in 1995-2013 and the rules of the WTO

Introduction

Background

As befits an agricultural economy of the size and with the complexity of India's, a large number of studies contribute to our understanding of it. Some studies in particular develop estimates of policy support to agricultural producers in India by taking into account support provided both through budgetary measures and through market and border regulations that affect producers' prices of inputs and outputs. Based on the pioneering of work of Josling (1973), the notion of accounting for both types of support has been applied for a large and growing number of countries by the OECD (Organization for Economic Cooperation and Development) since 1986. While the OECD's Producer Support Estimates do not include estimates for India, estimation procedures similar to those developed by the OECD but differing in several ways have been used by, for example, Orden et al. (2007), Pursell et al. (2009), and Raju (2013) to generate estimates of support to agricultural producers in India. Because of the methodological differences those estimates are not always directly comparable with the estimates that might have resulted from standard OECD estimation procedures.

The notion of adding budgetary support and price support as a measurement of support to agricultural producers was embraced in the Agreement on Agriculture (the "Agreement") reached in the Uruguay Round of trade negotiations (WTO 1994). The Agreement lays down rules and limits in the area of domestic support in agriculture with which members of the WTO (World Trade Organization) are required to comply. Domestic support is support that is provided through domestic measures only, such as payments and price regulations, and does not include support provided through border measures only, such as import duties and export subsidies. However, the provision of support through some domestic measures depends on the concurrent use of border measures. Support provided through domestic measures that are not exempt under the rules of the Agreement is subject to upper limits.

Motivation and purpose

International discussions of domestic support in the context of establishing a fair and market-oriented trading system, such as implementing the rules and commitments of the Agreement and negotiating new ones, could benefit from a clearer understanding of these rules and commitments. The paucity of up-to-date domestic support calculations for many countries, including India, makes it difficult to form a picture of how the WTO rules and commitments are being implemented. Differences in the interpretation of the rules applying to the classification and measurement of domestic support give rise to different views about the compatibility of countries' domestic support with their obligations under the Agreement. For India, such differences are evident from its base data on domestic support at the conclusion of the Uruguay Round (WTO no date, hereinafter referred to as AGST), the subsequent domestic support notifications (WTO 1998, 2002, 2011), and the work of several analysts, including DTB (2011), Hoda and Gulati (2007, 2013), Gopinath (2011, 2012), and Narayanan (2013).[1]

The purposes of this paper are (1) to review the major issues arising in the interpretation of the domestic support rules in the Agreement with regard to the classification of policies and measurement of support in India and (2) to calculate the measurements for the period 1995 to 2013 in India resulting from alternative readings of the Agreement. The paper puts the alternative interpretations and the measurements in the context of India's obligations under the Agreement. A comprehensive set of data underlying the support measurements is provided. The paper discusses briefly the consequences of the WTO ministerial decision of 7 December 2013 relating to domestic support compliance.

Domestic support in the Agreement on Agriculture

Classifying measures and measuring and exempting support

The Agreement's rules for and limits on domestic support are essentially as follows (this section draws on Brink (2009, 2011) and Orden et al. (2011)). Support is measured by Aggregate Measurements of Support (AMSs), defined in Article 1(a). Support in favour of the producers of

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[1] For reviews and assessments of agricultural policies in India, see, for example, Gopinath (2011, 2012), Hoda and Gulati (2007, 2013), Jha et al. (2007), OECD (2007), Orden et al. (2007), Pursell et al. (2009), Raju (2013), and USDA (2012).

basic agricultural products is measured through a number of product-specific AMSs. Support in favour of agricultural producers in general is measured through a non-product-specific AMS. Support provided through certain kinds of measures is excluded from the AMSs, *viz.* support under measures that meet the requirements and criteria of Annex 2 of the Agreement, often called the green box. While the definition of AMSs refers to support being provided in favour of "producers", AMSs are commonly discussed in terms of the support being provided to or for the products or the agricultural sector. The aggregate nature of an AMS refers to the aggregation of support across several types of policies, such as different kinds of payments to the producers of the product or a combination of payments and price support provided to the producers of the product.

While the definition of an AMS does not exempt any other support than green box support, in practice support through policies that meet two additional sets of criteria is also exempted from the AMS calculations. One is support through certain payments under production-limiting programs (Article 6.5), or the blue box. The other set of criteria is in Article 6.2, sometimes referred to as the development box.[2] While any country may use policies meeting the criteria of Article 6.2, only developing countries (except China) may exempt the support so provided from its AMS calculations.

Calculating AMSs

The rules for calculating an AMS are laid down in Annex 3 of the Agreement. The rules require an AMS to include both budgetary outlays and revenue forgone, both by national and sub-national level governments. Certain levies or fees paid by producers shall be excluded. Non-exempt direct payments shall be calculated in one of two prescribed ways. Likewise, for other non-exempt measures, including input subsidies, the value of the measures shall be measured in one of two prescribed ways. Market price support shall be calculated using a price-gap method, and budgetary payments to maintain the price gap shall be excluded. The AMS is calculated as close as possible to the point of first sale of the basic agricultural product, and measures directed at agricultural processors are included to the extent they benefit the agricultural producers.

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[2] Larger concepts of a development box include, e.g., all the special and differential treatment for developing countries found in the Agreement's domestic support provisions, in the whole Agreement, or in the whole set of WTO agreements. This paper uses development box only in the sense of Article 6.2.

The market price support component of a product-specific AMS is calculated when an administered price is applied. The gap between the applied administered price and the fixed external reference price (FERP) is multiplied by the production eligible to receive the applied administered price. The FERP shall be based on the years 1986 to 1988. For an exporting country it is generally the average free-on-board unit value and for an importing country it is generally the average cost-insurance-freight unit value.

De minimis levels, Current Total AMS and Bound Total AMS

All the product-specific AMSs and the non-product-specific AMS measured for a given year are summed to form a Current Total AMS for that given year (Article 1(h)). However, an AMS may be exempted from the summation if it is no larger than a level that varies by year and by product (Article 6.4). This is the *de minimis* level, calculated as 10 percent of the product's value of production in the given year. For the non-product-specific AMS, the *de minimis* level is 10 percent of the value of total agricultural production in the country in the given year. Developed countries use 5 percent to calculate their *de minimis* levels, and China uses 8.5 percent. The Current Total AMS is thus a partial measurement of the support provided through certain kinds of policies (policies that do not meet the criteria of the green box, blue box or development box), and the measurement of support uses a method that deviates from what is used in economic measurements of support.

Numerous countries have a Bound Total AMS inscribed in their WTO schedules of concessions and commitments.[3] The presence and size of a country's Bound Total AMS depend on many factors, including the amounts of support under certain kinds of measures that the country provided in the base period for concluding the Uruguay Round negotiations or for the country's later accession to the WTO. The Bound Total AMS is the upper limit or ceiling on each year's Current Total AMS (Article 6.3). Countries without a Bound Total AMS, *i.e.*, the relevant part of their schedules shows zero, nil or blank, are subject to the limits laid down in Article 7.2(b), under which no single AMS may exceed its *de minimis* level for the given year.

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[3] In a country's Schedule, any Bound Total AMS is found in Part IV, Section I. This paper refers to all WTO members as countries.

India's support measurements

India's 1986-88 calculations

India participated in the Uruguay Round negotiations as a contracting party of the General Agreement on Tariffs and Trade. India's resulting schedule (Schedule XII) shows a blank for Bound Total AMS. India's AMSs are therefore subject to the *de minimis* levels as ceilings.

As required for all WTO countries India's schedule refers to the set of "supporting tables" in domestic support, in which India classified policies and measured support in its 1986-88 base period.[4] This is India's "AGST" document, serving the same function as other countries' AGST documents (WTO no date). The currency units used for all support and for the underlying data for measuring support are Indian rupees or Rs.[5] India listed a number of policy measures under the green box headings but, while providing some explanatory comments, it did not indicate any amounts of green box support either by measure or in total. India's placement of its crop insurance scheme in the green box under a heading "Income insurance" was not explained. India's heading Income insurance in AGST is more similar in wording to the Annex 2 heading "Government financial participation in income insurance and income safety-net programs" (paragraph 7) than the heading under which many countries claim that their crop insurance schemes meet the policy-specific criteria, *viz.*, "Payments … for relief from natural disasters" (paragraph 8). Regarding Article 6.2, India listed several measures as exempt, with some comments, but it did not actually calculate the associated support that could have been exempted and which was thus included in the non-product-specific AMS for 1986-88. Since the non-product-specific AMS was less than its *de minimis* level even without exempting from it any Article 6.2 support, this made no difference to India's nil (or blank) commitment in domestic support.

India calculated 1986-88 AMSs for 19 of the 22 products for which it operated market price support schemes and indicated that the omitted crops were relatively minor and the data

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[4] This paper generally indicates India's broken year (financial, crop, marketing, etc.) spanning parts of two calendar years as the calendar year in which the broken year begins. 1988 thus refers to 1988-89, and 2003 refers to 2003-04, etc. Some writings express the 1986-88 period as 1986-89, since it ends in 1989.
[5] This paper uses INR for the Indian rupee and USD for the United States dollar according to ISO 4217.

were inadequate.[6] The only component of each product-specific AMS was market price support, *i.e.*, there were no product-specific payments. To calculate market price support, India used the minimum support price as the applied administered price. The 1986-88 FERPs were unit prices sourced in the Monthly Trade Statistics of Foreign Trade of India, which reports import values and export values in INR. The price gap was negative for most products because the FERP was higher than the applied administered price. However, for tobacco and sugarcane the price gaps, and hence the market price support components and the AMSs, were positive. The tobacco AMS was quite small (INR 11 million, or less than USD 1 million at the time), while the sugarcane AMS was INR 2,485 million (some USD 185 million at the time). This amount for sugarcane was treated as *de minimis* (less than the *de minimis* level of 10 percent of the value of sugarcane production) and did not give rise to an eventual Bound Total AMS for India.[7]

India's non-product-specific AMS in AGST had as its largest item an irrigation subsidy, followed by large amounts for an electricity subsidy in the agricultural sector and a fertilizer subsidy. Smaller amounts were recorded for a credit subsidy and a subsidy on the supply of seeds. As mentioned above, in spite of India not accounting for any such subsidies separately under Article 6.2, the non-product-specific AMS was *de minimis* at 4.05 percent of the sector's value of production.

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[6] The products for which India calculated product-specific AMSs were only crops, no livestock. The omitted crops were ragi, safflower and sunflower seed. For the remaining 19 crops, India calculated 17 separate AMSs, referring to rice, wheat, bajra, jawar, barley, maize, gram, groundnut, rapeseed&mustard (incl. toria), cotton, soyabean yellow (incl. black), urad, moong, tur, tobacco, jute, and sugarcane. Bajra is a type of sorghum, jawar (or jowar) a type of millet, gram, urad and moong are types of bean, and tur a type of pea.

[7] While the AGST does not show any values of production for individual products, a value of production of sugarcane can be estimated by multiplying the applied administered price by the eligible production in AGST. Eligible production appears to correspond to total production of sugarcane used for the production of sugar. The applied administered price is the minimum support price for sugarcane. The multiplication yields values of production of sugarcane of INR 14,481 million, 17,373 million, and 16,707 million in 1986, 1987 and 1988, respectively. The corresponding *de minimis* levels are INR 1,448 million, 1,737 million, and 1,671 million. The respective sugarcane AMSs are INR 1,178 million, 2,709 million and 3,328 million. Thus, the 1987 and 1988 sugarcane AMSs are larger than these *de minimis* levels. The same is also true for the average 1986-88 sugarcane AMS in relation to the average 1986-88 *de minimis* level. The average 1986-88 sugarcane AMS of INR 2,485 million could have generated a final Bound Total AMS of about INR 2,150 million (USD 36 million at 2013 INR/USD exchange rates). AGST does not explain why India did not use these larger-than-*de-minimis* AMSs in 1987 and 1988 to generate a Bound Total AMS. However, producers may have received a significantly higher price than the minimum support price, such as the so-called state advised price, which would have made the value of production and *de minimis* levels larger than calculated here.

India's domestic support notifications

The WTO Committee on Agriculture has the mandate to review progress in countries' implementation of their commitments (Article 18.1). The review process is undertaken on the basis of notifications submitted by countries as well as certain other information (Article 18.2). In line with that article's expectation that the contents and timing of notifications would be determined, the Committee on Agriculture in 1995 adopted notification requirements and formats (WTO 1995). In domestic support two kinds of notifications are required. A Table DS:1 notification is required annually for most countries, showing in the required format the classification of domestic support measures (such as green box or development box, product-specific AMS or non-product-specific AMS) and the amount of support provided under the measure, including calculation details for such components as market price support. A Table DS;2 notification is required not only under WTO (1995) but also as an obligation under Article 18.3. It is required when a country introduces or modifies a support measure that it claims is exempt from the AMS calculation, *i.e.*, policies in the green box, development box and blue box. This notification must give a detailed description of the measure with reference to the criteria and the cost of the measure, among other things.

Most countries submit their annual notifications later than within the deadline of roughly three months after the end of each year (calendar, fiscal, marketing, as the case may be), set by the Committee. Some countries are late even by a year or more. India is (March 2014) one the few countries whose latest annual Table DS:1 notification, submitted in 2011, refers to a year as long ago as 2003 (India's year 2003-04). India has submitted no Table DS:2 notification about modifications of the policies for which it claims exemption.

India's notification for 1995

India's notification for 1995 (WTO 1998) shows green box policies and support amounts. This provides more information than just the policy listing and classification that was given in AGST and is more in line with the notification requirements. The largest single support item is *Buffer stock operations*, which is large enough to swamp the two next larger items of *Research* and *Scarcity relief and natural calamities*. The item *Buffer stock operations* is placed under the measure type "Public stockholding for food security purposes", i.e., paragraph 3 of Annex 2.

India gives a policy listing and some support amounts also for four policies exempted in the development box, i.e., a change from AGST and more in line with the notification requirements. The policies are: *On farm development work* (with support amount), *Small farmer development assistance* (with support amount), *Subsidies for asset formation*, and *Assistance to smallholders for easy access to inputs*. There is no explanation of the absence of data on support under two of those policies. Since no Table DS:2 notification was submitted, it is not clear whether the notified policies were newly introduced after 1988 or modifications of pre-existing policies.[8]

The 1995 notification shows market price support for the same 17 crops as in AGST, but several of those crops are grouped together, such that only eleven calculations are shown. The group Coarse cereals comprises bajra, jawar, maize, and barley, and the group Pulses comprises gram, urad, moong, and tur. There is no explanation for this change, which may have been motivated by very similar policies applying within these groups of crops. As in AGST the AMS for sugarcane is positive and the others, including now also tobacco, are negative. The non-product-specific AMS lists the same five kinds of input subsidies as in AGST, along with their support amounts.

The 1995 notification calculates the price gap in market price support from an applied administered price converted from INR/tonne to USD/tonne with the current 1995 exchange rate and an external reference price converted from the FERP in AGST with the 1986-88 exchange rate. Support is reported in USD. Further discussion of the classification and measurement of support in the 1995 notification follows in the section "Annex 3, paragraph 9: fixed external reference price" below.

India's notifications for 1996 and 1997

India's notifications for 1996 and 1997 (WTO 2002) show green box policies along with associated support amounts, as in 1995. The largest single support item remains *Buffer stock operations*, followed by *Research* and *Scarcity relief and natural calamities*. In a change from no specification in 1995, the item *Buffer stock operations* is now specified as applying to food grain and sugar. This is also the item that increased the most between 1995 and 1996.

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[8] The notification requirements in WTO (1995) apply from 1995. It is possible that policy changes in the intervening period between the base period of 1986-88 and the 1995 entry into force of the Agreement did not need to be notified to the Committee.

India's claim for development box exemptions in 1996 encompasses eight measures, as opposed to the four measures in 1995, and in 1997 exemptions are claimed for eleven measures. The two largest measures in 1996 and 1997 are *On farm development work*, where the support amount increases from about USD 100 million in 1995 to USD 1.1 billion in 1997, and the additional item *Other input subsidies*, which aggregates support for "fertilisers, irrigation, electricity, seeds, etc.". It amounts to more than USD 4 billion in 1997, without any indication of how much each kind of input is supported. This contrasts against the detail provided for the USD 0.001 million *Scheme for vanilla development*. Although the notifications do not say so, there is a conceptual connection between the *Other input subsidies* claimed in the development box and the four types of input subsides reported as non-product-specific AMS, namely for fertilizers, irrigation, electricity and seeds. (As will be seen below, the support amounts reported in the development box and as non-product-specific AMS result from a particular allocation of the full amounts of input subsidies).

The 1996 and 1997 notifications continue to show market price support for some crops, but now only in three calculations: rice, wheat and coarse cereals, comprising bajra, jowar, maize and barley. The absence, compared to 1995, of calculations for pulses, groundnut, rapeseed, cotton, soyabean, tobacco, jute and sugarcane is not explained. Because the price gaps in the 1996 and 1997 calculations are negative and no product-specific AMS payments are reported, the product-specific AMSs are shown as negative for rice, wheat, and coarse cereals. The notifications continue to calculate the price gap in market price support from an applied administered price converted from INR/tonne to USD/tonne with the current exchange rate and an external reference price converted from the FERP in AGST with the 1986-88 exchange rate. Support is reported in USD.

The non-product-specific AMS lists four of the five kinds of input subsidies shown in 1995, along with their support amounts. A credit subsidy is no longer reported. However, the amounts reported for each of the four subsidies are only a fraction of what was reported in 1995. For example, the sum of the four items amounts to USD 5.7 billion in 1995 but only to USD 0.9 billion and USD 1.0 billion in 1996 and 1997, respectively. On the other hand, the amounts exempted as *Other input subsidies* in the development box are as large as USD 3.7 billion and USD 4.0 billion. Thus, between 1995 and 1996 India undertook a major change in its reporting practice for input subsidies: large amounts were shifted from the non-product-specific AMS to

the development box without any explanation of the change. Even without this change, India's non-product-specific AMS would have been below the *de minimis* limit in 1996 and 1997 (value of production in agriculture was around USD 90 billion). The change in reporting practice is discussed further in the section "Article 6.2: input subsidies").

India's notifications for 1998 to 2003

India's green box notifications for 1998 to 2003 (WTO 2011) show that the largest single support item remains *Buffer stock operations*, which increased in most years to the extent that by 2003 the expenditure of USD 5.5 billion under this single item accounts for 93 percent of all green box support. In a change from the specification of food grain and sugar in 1997, the item *Buffer stock operations* is now specified as applying only to food grain. There is no explanation for the change.

The number of measures claimed in the development box is by 2003 only five, among which *Other input subsidies* (still only described as including "fertilisers, irrigation, electricity, seeds, etc.") at more than USD 9 billion accounts for 99.93 percent of all development box support. India notes that the agricultural census for 2000-01 found that 98.97 percent of farm holdings were those of "low-income, resource-poor" farmers.

The 1998 to 2003 notifications continue to show market price support for a set of crops that in all years includes rice, wheat, cotton and jute and in addition includes mustard seed in 2000-2002 and pulses in 2001-03 but no longer includes coarse cereals. The inclusion or exclusion of any crop is not explained. Because the price gaps in all these calculations are negative and no product-specific AMS payments are reported, the product-specific AMSs are shown as negative for the respective crops in the years they are reported. The notifications continue to calculate the price gap in market price support from an applied administered price converted from INR/tonne to USD/tonne with the current exchange rate and an external reference price converted from the FERP in AGST with the 1986-88 exchange rate. Support is reported in USD.

From 1998 India undertook a further change in reporting practice in that no non-product-specific AMS support is reported. This may be related to the development-box-related note about "low-income, resource-poor" farmers having almost all of India's farm holdings.

Review in the Committee on Agriculture

Overview

India's three submissions of domestic support notifications that cover the years 1995 to 2003 have resulted in about one hundred questions to India in the Committee on Agriculture, counting questions both on specific notifications and the more general so-called Article 18.6 provision (but not counting individual sub-questions in a larger question). This is a relatively large number of questions, particularly in view of the relatively few years covered by India's notifications, but the number also incorporates numerous repeat or follow-up questions, where the inquiring country did not consider India's answers to be informative enough. The questions and answers are reviewed below, particularly in terms of how they may shed more light than the notifications on India's domestic support in relation the rules of the Agreement. The review also refers to some of the contributions by analysts to the understanding of India's domestic support. The discussion here relates to the main issues that have been addressed in the Committee and is thus not an exhaustive review of all questions and answers.

The questions for India in the Committee on Agriculture fall into five major groups. Group 1 concerns the establishment and use of India's minimum support prices, the procurement and production of particular crops, how these factors affect the calculated market price support, and the accounting of support under the prescribed headings of the notification. Group 2 concerns India's reporting of support in USD instead of INR and the effects of applying two different exchange rates in converting the prices used to calculate market price support in a given year. Group 3 concerns input subsidies, how they work, and the accounting for such support under the prescribed headings of the notification. Group 4 concerns crop insurance and its conformance with the criteria for green box exemption, and the eligibility for green box exemption of a variety of other programs. Group 5 concerns a diverse set of issues having to do with the process of notification and presentation of information in notifications. The following discussion concentrates on India's choice of crops for which to report support, the switch to reporting in USD and the effect of using different exchange rates to convert FERPs and administered prices, issues in choosing administered prices and measuring price gaps, the choice of eligible production, the reporting of input subsidies and non-product-specific AMS, the

compatibility of crop insurance and other programs with the green box criteria, and the completeness of the notified information.

Choice of crops

Several questions sought an explanation for the varying sets of crops for which India notified market price support calculations. For example, market price support was not calculated in 1996 or 1997 for pulses, groundnuts, rapeseed and mustard taria, cotton, soybean, tobacco, jute and sugar cane. Table 1 summarizes the pattern of these choices. India's answers indicate that market price support was calculated only for crops that were procured by government agencies in a particular year or for which market prices were below the minimum support prices. This bears out the reasoning of Hoda and Gulati (2007), with reference to AGST and the 1995 notification, that market price support was reported only when government agencies purchased commodities. It does not, however, match the observation that hundreds of thousands of tonnes of coarse grains were procured by the government in 2001, 2002, and 2003 without any market price support calculations being reported in those years' notifications.[9]

A similar issue arises with respect to sugarcane. While the government acquires and maintains buffer stocks of sugar and regulates the price sugar mills must pay to producers of sugarcane, the government does not procure sugarcane. However, India reported market price support for sugarcane in AGST and in 1995 in spite of government agencies not procuring sugarcane. There is thus an inconsistency in India's reporting of market price support for sugarcane in AGST (and 1995) but not in 1996 to 2003. Altogether the absence of market price support calculations for coarse grains in 2001 to 2003 and for sugarcane in 1996 to 2003 does not line up with the Agreement's stipulation that AMS be calculated by taking into account the constituent data and methodology of AGST.

External reference prices and using US dollars

India's reporting of all support in USD and the conversion of its external reference prices from their 1986-88 fixed levels in INR/tonne are in most questions treated as one and the same

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[9] Procurement of coarse grains was 314,745 tonnes, 59,813 tonnes, and 650,753 tonnes in 2001, 2002, and 2003, respectively (Table 9.1(b), Department of Economics and Statistics, 2013). It is assumed that coarse cereals in the notifications means the same as coarse grains in the government's statistical data.

issue, in spite of the different implications for India's measurement of support. The present analysis sees the reporting of amounts of support, such as green box expenditures or AMSs, as one issue and the conversion of the external reference prices for calculating market price support, i.e., the price-based AMS component, as a separate issue. The complexity of this matter motivates the following background.

Background

India's AGST showed support and prices only in INR and INR/tonne. The notifications from 1995 onwards show support and prices only in USD and USD/tonne. India's use of one exchange rate to convert reference prices and a different exchange rate to convert administered prices and support raises questions about what is reported in the notifications.

Specifically, India reports all items in the green box and the development box and all AMSs and the amounts of market price support in USD. There is no indication of the corresponding amounts in INR, although India gives the year's INR/USD exchange rate, which allows a backwards calculation of an approximate INR amount. The notification requirements (WTO 1995) are not explicit about what currency to use for reporting support. For a country with a Bound Total AMS it is obvious that the notified support must be in the same currency as the Bound Total AMS in order to allow a comparison. For a country without a Bound Total AMS, it is not equally clear. It might be possible for such a country to notify support in the currency of its choice as long as the values of production on which any *de minimis* claims are based are reported in the same currency as the AMSs. However, when the calculation of market price support is involved, as in India's case, the situation is different. That calculation relies on the FERP, which was fixed as the product's average export or import unit value in 1986 to 1988. It is thus denominated in a particular currency, in India's case the INR/tonne shown in AGST.

India's notifications for all years convert the FERP from INR/tonne to USD/tonne by dividing by the 1986-88 INR/USD exchange rate. However, India converts the current year's applied administered price from INR/tonne to USD/tonne with a different exchange rate, namely the current year's rate it uses to convert the green box and development box items (the corresponding INR/tonne prices can be found by backwards calculations). By using two different exchange rates to convert the external reference price from AGST and the current year's applied

administered price, India treats the external reference price as if it had been fixed in USD/tonne, not in INR/tonne.

Committee discussion

In response to questions about the switch from using INR in AGST to using USD in its notifications from 1995 onwards, India gave no indication of seeing AGST as a model to be followed. To justify the switch India argued that notifying in USD reflected the actual domestic support provided after comparing international prices and domestic prices in the same currency.[10] This answer ignores the fact that India in AGST did compare international and domestic prices in the same currency, the INR, and prices in INR/tonne.

When faced with repeated questions about not having used the currency of AGST, India argued that notifying in USD since 1995 provides comparable estimates, but offered no further information to demonstrate what this means. Since AGST compared prices in INR/tonne and reported support in INR, a desire for comparability, whether in prices or over time, would argue against switching from INR to USD. Switching from the fixed INR/tonne external reference price to a USD/tonne external reference price does not provide comparable estimates.

With regard to not using its INR/tonne FERP in calculating market price support, India asserted that its practice follows paragraph 9 of Annex 3 (paragraph 19, WTO 2012a).[11] However, paragraph 9 of Annex 3 is silent about converting the currency of the FERP of AGST and about not using a <u>fixed</u> external reference price. India also states that its external reference prices are the average cif or fob prices during the 1986-88 period, with details listed in AGST (paragraph 18, WTO 2012a).[12] This does not support India's argument for adopting a USD/tonne reference price and treating it as fixed: all the external reference prices in AGST for 1986-88 are

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[10] Item 34031. India's answer: "… the notification in US dollars reflects the actual domestic support provided after comparing international prices and domestic prices in the same currency." ("Item xxxxx" in this and other footnotes refers to the item number in the WTO Agriculture Information Management System.)

[11] Item 63021. India's answer: "This is as per paragraph 9 of Annex 3 of the Agreement on Agriculture."

[12] Item 63022. India's answer: "As per paragraph 9 of Annex 3 of the Agreement on Agriculture and as indicated in G/AG/AGST/IND, the external reference prices are the average c.i.f./f.o.b. prices of the product in question during the 1986-1988 period."

shown in INR/tonne only, not in USD/tonne, and the source of the AGST reference prices shows export and import values only in INR.[13]

The contents of AGST therefore does not match India's assertions or support claims that the external reference price for "1986-88 has been fixed in U.S dollar terms" (paragraph 63, WTO 2012b).[14] Moreover, AGST does not support the claim that the notified external reference prices for cotton in USD/tonne are averages of the "prices of the product in question during the 1986-88 period" (paragraph 64, WTO 2012b).[15] Thus, India's AMSs appear not to be calculated in accordance with the provisions of Annex 3 nor taking into account the constituent data and methodology of AGST.

Administered prices and price gaps

Cotton

Among the issues arising in the Committee on Agriculture concerning minimum support price is the one identified already by Hoda and Gulati (2007) regarding the price difference for cotton: the external reference price for cotton in AGST is the price of the processed and more highly valued product called cotton lint, i.e., cotton fibre separated from seed cotton, while the administered price or minimum support price is the price of seed cotton (*kapas)* or raw cotton. The price of cotton lint was as much as three times higher than the price of seed cotton in 1986-88. The price gap in the market price support calculation for cotton in AGST was therefore at least much smaller than it would have been using prices at the same level of processing and it was in fact negative when it might even have been positive.

Indeed, Hoda and Gulati (2007) show that, instead of the price gap for cotton being negative and large, as in AGST, the price gap would have been positive albeit small if prices at the same level of processing had been compared. While it is obviously a step towards transparency that such an issue is raised in the Committee, it appears that India had not by March 2014 completed the collection of information to arrive at a conversion factor for seed cotton to

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[13] The INR/tonne external reference prices in AGST are shown as being derived from "Monthly Trade Statistics of Foreign Trade in India".

[14] Item 65058. India's answer: "The external reference price for various commodities for the base period 1986-1988 has been fixed in U.S. dollar terms."

[15] Item 65059. India's answers: "The external reference prices are the averages of the c.i.f./f.o.b. prices of the product in question during the 1986-1988 period. The details are listed in G/AG/AGST/IND."

cotton lint for which it held out the prospect in the March 2012 Committee meeting. Calculating the price gap for cotton at the same processing level would not be to India's advantage, since the price gap would become larger. Moreover, changing the calculation of the price gap to the same processing level would depart from using the constituent data and methodology of AGST, even if incorrect at the time. It is therefore not obvious that India would be in a position to change its price gap calculations for cotton without also modifying its schedule under the applicable WTO rules.

Sugarcane

The minimum support price for sugarcane has not been examined explicitly in the Committee on Agriculture but is discussed briefly here as being germane to the issues of administered prices and price gaps. The producer price of sugarcane is maintained without government procurement but using government regulation. Hoda and Gulati (2007, p. 50) describe the policy as sugar mills being "enjoined to make payments to the farmers" on the basis of the minimum support price for sugarcane. Landes (2010) indicates that sugar mills are required to pay sugarcane growers a "state advised price" (SAP) which is higher than the "statutory minimum price" (SMP) recommended by the Commission on Agricultural Costs and Prices. Landes (2010) also reports, without giving details, that the central government financed the cost of supporting the SMP, but sugar mills were required to pay the difference between the SMP and the higher SAP.

From the 2009-10 marketing year the sugarcane SMP was replaced by a "fair and remunerative price" (FRP) under a system that shifts more of the cost of supporting the SMP to the central government (Landes 2010). CACP (2012) indicates that the government fixes the FRP of sugarcane to be paid by producers of sugar or their agents for the sugarcane purchased by them. Prices actually received by farmers as a result of state level intervention in the form of state advised prices are far higher statutorily than the SMP or FRP fixed by the central government (CACP 2012). This raises a question whether the applied administered price to be used to calculate market price support for sugarcane reamins the SMP or FRP of the central government as used in AGST, or whether it is the higher SAP of some state governments in major sugarcane producing states.

Price gaps

The large expenditures on buffer stock operations exempted as green box support for food grains (and sugar in 1995) gave rise to questions about the underlying policy measures and under what headings support would be notified. India explained the relationships between the government purchasing stocks and disposing of them through the targeted public distribution system and other welfare schemes at so-called central issue prices. India reports the difference between the expenditures on purchases and the revenue on sales as expenditures on buffer stock operations. Since the expenditures on this combined scheme would be eligible for green box exemption only if a certain price gap is accounted for in the product's AMS, India explained that it reports the gap between the acquisition price and the external reference price as AMS support and that this would be in compliance with the rules of footnote 3, paragraph 5, of Annex 2 (the green box).

In this regard, it may be commented, a price gap is undoubtedly reported, although India's treatment of its reference prices for these price gaps and market price support calculations results in negative market price support for most commodities and years.

Eligible production

Several members in the Committee have sought an explanation for India's use of only the procured quantity as the eligible production when calculating a product's market price support. AGST used the total production of each of the 22 commodities with minimum support prices, while the notifications from 1995 onwards, for those commodities notified, use the procured quantity. India's explanation is that procurement takes place only when the market price is below the minimum support price announced by the government. Consequently, India argues, only the quantities procured "actually receive support" (paragraph 40, WTO 2012a) or "only those farmers are benefited whose produce is procured" (paragraph 38, WTO 2012c).[16]

This rather limited view of the effects in economic terms of the government's procurement operations may be debated in view of the activities of a couple of the major procurement agencies. One objective of the Food Corporation of India is to provide farmers remunerative prices and it procures wheat, paddy and coarse grains without any quantity limitation: "Whatever stocks which are brought to the Purchase centres … are purchased at the

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[16] Items 63058 and 67028 in the WTO Agriculture Information Management System.

fixed support price".[17] The Cotton Corporation of India "makes purchases of *kapas* at MSP [minimum support prices] without any quantitative limits".[18] This absence of limits on the quantity that may be purchased corresponds to the situation for which a WTO Panel reasoned that eligible production comprises total production and not just the production actually purchased by the government (WTO 2000a, para. 827).[19]

Hoda and Gulati (2007, p. 54) see some rationale for using only the procured quantity in cases where purchases are limited geographically or otherwise. They also consider the possibility of using marketable surplus of the product as the production eligible to receive the applied administered price. Marketable surplus is essentially what is available for sale after the consumption and other requirements of the farmers are met. The marketable surplus ratio in 2010-11 was 81 percent for rice, 73 percent for wheat, 100 percent for cotton and 79 percent for sugarcane (Table 8.4, Agricultural Statistics at a Glance 2012). However, the Agreement makes no mention of marketable surplus or any concept similar to it.

Arguments like those of India in the Committee on Agriculture and of Hoda and Gulati (2007) were obviously not used in choosing total production in India's calculation of market price support in AGST for all products with minimum support prices. The later introduction of the argument could explain the absence of market price support calculations for sugarcane in the 1996 to 2003 notifications. While administered price are applied for sugarcane, whether called minimum support price or in more recent years called something else, they are maintained by regulation and not by government procurement. It is not clear how India reasons that, in switching from using total production to using procurement quantities to determine eligible production in its notifications, it takes into account the constituent data and methodology of AGST.

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[17] http://fciweb.nic.in/procurements/view/20 (viewed 6 January 2014)

[18] http://cotcorp.gov.in/procurement.aspx (viewed 6 January 2014). Kapas is seed cotton.

[19] The Panel held that "eligible production for the purposes of calculating the market price support component of current support should comprise the total marketable production of all producers which is eligible to benefit from the market price support, even though the proportion of production which is actually purchased by a governmental agency may be relatively small or even nil."

Input subsidies

The reporting of India's farm input subsidies has raised many points of discussion in the Committee. These points concern not so much the measurement of such support but rather the classification of the support measures and the reporting of the support as exempt or not from the AMS calculations. In both AGST and its 1995 notification India accounted for the full amount of the input subsidies (fertilizer, credit, electricity, irrigation, and seeds) as part of the non-product-specific AMS. In the 1995 notification India commented that almost 80 percent of these subsidies would qualify for exemption from non-product-specific AMS on grounds of being not only generally available input subsidies but that these subsidies went to low-income and resource-poor farmers, i.e., in conformity with Article 6.2 (the article actually mentions low-income or resource-poor producers, i.e., possibly a slighter larger set than low-income and resource-poor producers).

The 1996 to 2003 notifications show, as mentioned above, large amounts of input subsidies (fertilizer, electricity, irrigation, seeds, but not credit) being exempted in the development box, while smaller amounts of the same input subsidies are reported as part of the non-product-specific AMS. The absence of an explanation for this apportioning was the reason for many questions on the topic of input subsidies – this could easily have been avoided by simply indicating the basis for the allocation in the notification, which would have saved time and resources on the part of committee members extending over several meetings.

India first explained in 2003 that it defined low-income or resource-poor farmers for the purpose of the development box as those with land holdings of 10 hectares or less. In the subsequent 1998 to 2003 notifications India indicated that 98.97 percent of farm holdings are those of low-income, resource-poor farmers, based on the 2000-01 agricultural census. In those notifications no input subsidies were reported as part of the non-product-specific AMS. The 1.03 percent share of *Other input subsidies* that might have been reported as non-product-specific AMS support not claimed in the development box would amount to about USD 94 million in 2003.[20] This amount appears not to be accounted for at all in India's notifications. The absence of this amount of course does not change anything for India with regard to its compliance with

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[20] Hoda and Gulati (2013) account for part of the input subsidies as non-product-specific AMS, based on the share of total area operated by farmers holding more than 10 hectares. This part is of the order of USD 3 billion, which is also small in relation to 10 percent of value of production.

the limits on AMS support, since USD 94 million is very small in relation to 10 percent of India's value of production in agriculture. However, the non-reporting sidesteps the notification requirements established by the Committee and reduces the transparency that the Committee might find useful in carrying out its mandate.

In response to further questions India clarified that its agricultural census categorized land holdings as marginal, small, semi-medium, medium, and large, with large holdings being those of 10 hectares and above. India explained that it treated all farmers owning less than 10 hectares of land as low-income and resource-poor farmers. Further questions sought more detail on the measurement of support through input subsidies and how support would accrue to different types of producers, and India provided some of this information.

Crop insurance and other green box claims

The criteria for crop insurance in the green box (paragraph 8 under the heading "Payments (made either directly or by way of government financial participation in crop insurance schemes) for relief from natural disasters") include, *inter alia,* the requirement that the eligibility for payments shall be determined by a production loss which exceeds 30 percent of the average production in the preceding three years (or a five year Olympic average).[21] Many of the questions focused on this trigger for payments, on which India did not provide direct answers but referred to the website of the Agriculture Insurance Company of India Ltd (AIC). Neither India's answers nor the information on the website about so-called threshold yields give any assurance that the three-year averaging period applies to any other crops than rice and wheat – a five-year but non-Olympic averaging period may apply to other crops.

The AIC website does not appear to mention payments being made only if the yield loss is greater than 30 percent of the historical average yield, however calculated. On the other hand, India asserts that the threshold yield is on average no more than 70 percent of the actual yield. While this statement may be intended to demonstrate conformity with the 30 percent loss trigger, it is difficult to see, without a clearer and more complete explanation, how certain payments or perhaps even any payments under the insurance scheme meet the eligibility criteria of the green box. Although the amounts for which this green box exemption is claimed are small enough to

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[21] An Olympic average is the average over five years, dropping the highest value and the lowest value.

be dwarfed by the amount under buffer stock operations, by 2003 the reported amount had reached USD 224 million.

Apart from questions on the green box compliance of the crop insurance scheme, India faced requests for information on other programs claimed as meeting the green box criteria: three measures claimed under the heading "Payments under environmental programs", and a program named *Command area development program*, claimed under "General services" in 1995 to 1997. All of these programs had been listed in AGST without amounts of support. India's answers in the Committee provide little if any information that helps to see how the programs meet the specific criteria under the respective headings of the green box. A program named *Control of shifting cultivation* attracted attention because it aims at increasing coffee production. India's answer does not provide the information needed to assess the program's conformity with the few criteria under the heading "Payments under environmental programs" under which it is claimed.

Process

Several questions concerned the absence of certain tables in India's notifications. The notification requirements in WTO (1995) are not entirely clear on what tables are required from countries without a Bound Total AMS, such as India. As is its right, India seems to interpret those requirements in the most minimal way, to the detriment of the amount and pertinence of the information that it makes available to the Committee and ultimately the public.

While the Agreement allows the exemption of AMSs that are no larger than 10 percent of the value of production, the WTO (1995) decision does not explicitly require such *de minimis* claims to be supported by data on the value of production. In the absence of data on value of production, a *de minimis* claim is a claim by assertion only, which, especially when other information provided is only the minimum required, invites scepticism. Some countries, including Brazil and Korea, submitted notifications without value of production data to support their *de minimis* claims during the first few years after 1995. Following numerous requests for such data in the Committee these countries, perhaps seeing value in making their claims credible, started to accompany their *de minimis* claims with value of production data.

Almost all of India's reported product-specific AMSs are negative (the one exception is for sugarcane in 1995, although the AMS is strictly speaking not reported, only positive market price support). For years when India reports a non-product-specific AMS (1995 to 1997), it also

reports value of production. While reporting AMSs as being negative instead of nil is questionable under a literal reading of the Agreement (see below), it is clear that such AMSs are not larger than the value-of-production-based *de minimis* limits. From this perspective the absence of values of production in India's notifications is effectively inconsequential.

A literal reading of domestic support provisions in the Agreement on Agriculture

General

This section explores what a literal reading of the Agreement may say about the classification of support measures and the measurement of support, and what may result from applying that literal reading when assessing India's compliance with its obligations under the Agreement. This literal reading should not be confused with a legal analysis or interpretation of the Agreement, which could involve additional dimensions such as context and purpose. One literal reading is not necessarily the same as another, since a word can have different meanings. The purpose of introducing a literal reading here is to help to establish a guidepost against which other readings might be compared. For example, some of the provisions of the Agreement are based on economic analysis of trade issues at the time when the Agreement was negotiated. Although economic analysis might influence also today's interpretations, it would likely not, however, be the only basis for interpreting the Agreement.

The particular provisions of the Agreement selected for discussion include Article 1(a)(ii) regarding the calculation of an AMS, Article 1(b) regarding basic agricultural products, Article 6.2 regarding the exemption of certain support in developing countries from the Current Total AMS, Article 18.4 regarding the influence of excessive rates of inflation, and paragraphs 8 and 9 of Annex 3 of the Agreement regarding the calculation of market price support. These elements of the Agreement are selected because of their potential relevance in addressing issues that India or analysts have addressed by particular readings of the Agreement. This includes the very thorough and illuminating work of Hoda and Gulati (2007, 2013) and Gopinath (2011, 2012), on which some of the following discussion draws.

Article 1(a): AMS and support in favour of producers

Article 1(a) of the Agreement defines the Aggregate Measurement of Support and the AMS.[22] An AMS is an annual level of support that excludes support provided under programs that qualify as exempt from reduction under Annex 2 to the Agreement, i.e., the green box. What is called product-specific AMS elsewhere, such as WTO (1995), is support provided in favour of the producers of the basic agricultural product (basic agricultural product is defined in Article 1(b)), and what is called non-product-specific AMS is support provided in favour of agricultural producers in general. The "in favour of" phrase is also used in Article 6.1 about domestic support commitments, where it serves to specify domestic support measures in favour of agricultural producers. The "in favour of" wording excludes the possibility of an AMS being negative: since AMS is a measurement of support, a negative AMS would not measure support provided in favour of producers. This deviates from economic measurements of support, such as the OECD's Producer Support Estimate and the Nominal Rate of Assistance, which are not constrained to being "in favour" of producers but rather are indicators of transfers that can be either positive or negative.

The "in favour of" restriction does not apply, however, to the components that are aggregated to form the AMS: market price support, non-exempt payments and certain fees and levies. Thus, market price support, for example, may be negative, which happens when the applied administered price is less than the FERP. If such negative market price support is the only support component accounted for in the AMS, the resulting AMS would also be negative. Since the AMS definition does not allow this to be the case, such a negative measurement needs to be set to and recognized as zero. India's AGST and its notifications report numerous negative AMSs without setting any of them equal to zero. The consequences of this practice are not great, other than India adding to the common perception that AMSs can well be negative. For a country with a Bound Total AMS the consequences could be different: in the summation of AMSs to form the Current Total AMS, negative AMSs might be used to offset positive AMSs, resulting in a lower Current Total AMS than from summing positive AMSs only.

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[22] Article 1(a) reads: "Aggregate Measurement of Support" and "AMS" mean the annual level of support, expressed in monetary terms, provided for an agricultural product in favour of the producers of the basic agricultural product or non-product-specific support provided in favour of agricultural producers in general, other than support provided under programs that qualify as exempt from reduction under Annex 2 to this Agreement, which is: ….

Article 1(a)(ii): calculating AMS

Article 1(a)(ii) specifies how the AMS is to be calculated.[23] The "tables of supporting material" are in AGST, which is referenced in India's schedule as G/AG/AGST/IND. The implementation period is defined elsewhere in the Agreement (Article 1(f)) and ended in the year 2000. The applicable time indication for the calculation of AMSs is thus the "thereafter". The paragraph requires the AMS to be calculated "in accordance with" the provisions of Annex 3 and "taking into account" the constituent data and methodology in AGST.

Annex 3 lays down rules for the calculation of an AMS, including paragraphs 8 and 9 dealing with market price support. These rules apply equally to all countries. The AGST data and methodology, on the other hand, are specific to each country and are formalized in a certain way by being referenced in the country's Schedule. While each country must follow paragraphs 8 and 9 of Annex 3, a tailoring of the calculations in a particular way for each country is imposed by the requirement that the country's constituent data and methodology be taken into account. The formalization of AGST gives it a different status than any other set of data and methodology that might be considered in calculating AMSs for notifications, such as data and methodology that better correspond to economic measurements of support.

The two expressions "in accordance with", which refers to Annex 3, and "taking into account", which refers to the constituent data and methodology in AGST, carry different strength. The WTO Appellate Body has reasoned as follows with regard to these expressions in Article 1(a)(ii) of the Agreement, a reasoning occasioned by the *Korea-Beef* dispute (WTO 2000b).[24] While the Appellate Body attributed to "in accordance with" a higher priority and a more rigorous standard than to "taking into account", it also explained that the constituent data and methodology must be "taken into account", that is, it must be "considered", in calculating Current AMS.

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[23] Article 1(a)(ii) reads, after the "which is" of Article 1(a): with respect to support provided during any year of the implementation period and thereafter, calculated in accordance with the provisions of Annex 3 of this Agreement and taking into account the constituent data and methodology used in the tables of supporting material incorporated by reference in Part IV of the Member's Schedule; …

[24] The Appellate Body is part of the system established to settle trade disputes under the WTO. As the "most important organ of WTO dispute settlement", panels and parties in WTO dispute settlement show "much deference to the case law of the Appellate Body" (van der Bossche 2005). In other words, what the WTO Appellate Body says matters.

The interface between the provisions of paragraphs 8 and 9 of Annex 3 and those of Article 1(a)(ii) is relevant to several aspects of India's calculation of AMSs since 1995. They include the classification of policy measures and the choices of data for eligible production, the administered price, and the FERP for calculating market price support for each product, as well as the currency in which the underlying data and the measured AMSs are expressed. India's AGST observed and expressed all price data and all measurements in INR or INR/tonne.

India's practice of not only expressing price data and support measurements in USD/tonne and USD in notifications from 1995 onwards but also to calculating market price support with a reference price that corresponds to a generally increasing reference price in INR/tonne may thus contravene the requirement to take into account the data and methodology of AGST. The crucial question could be whether India took into account the fact that AGST used INR/tonne and INR. India may have taken that fact into account in planning its notifications but nevertheless decided, for example, that it would be more convenient or would make it easier to comply with its *de minimis* limits on AMSs by using USD/tonne and USD and by not using the FERP from AGST. It is difficult to see how this would be a case of taking into account the constituent data and methodology.

It is easier to see that deviating to some extent from AGST data and methodology still meets the "taking into account" requirement when the data series that was used in AGST no longer exists. This makes it impossible to calculate AMS using the AGST data, and there is no alternative to deviating from it. India has not invoked this argument for switching from INR to USD in its notifications.

A different situation again is where the AGST data or methodology was incorrect. Hoda and Gulati (2007) identify numerous "discrepancies" in the market price support calculations in AGST. They include a lack of correspondence between the year for which minimum support prices were announced and the right year for measuring market price support, imprecision in calculating import and export unit values, an unclear basis for determining for what crops and what years market price support systems existed, and the different processing stages of the FERP and the minimum support price for cotton. While any one of these discrepancies might have prompted a call by India or by other countries for correction in India's notifications, only the cotton price issue has been raised in the Committee on Agriculture (i.e., price observations at

different processing stages). As of January 2014 it was still awaiting the results of India's review of this issue.

The formal nature of the AGST information would seem to be a hurdle against simply invoking an error in AGST and measuring AMSs differently in notifications. After all, in the Uruguay Round negotiations countries had the opportunity in a process of clarification and verification to review several versions of each other's draft AGST submissions before they were finalized as AGST.[25] If an error was not caught then, it might be considered too late for the notifying country to start correcting its error or for another country to request that the error be corrected in notifications. The nature of the error may play a role in determining whether or not a correction would meet the "taking into account" requirement.

Article 1(b): basic agricultural product

The definition of "basic agricultural product" in Article 1(b) may be relevant in discussing the cotton price issue.[26] Article 1(b) defines a basic agricultural product only in relation to domestic support commitments, not to market access or export subsidy commitments. The wording "as close as practicable to the point of first sale" is the same as in paragraph 7 of Annex 3 regarding the calculation of the AMS. The wording about "specified in a Member's Schedule" is curious, since each member's schedule, if it has anything specified at all, shows a Total AMS commitment level without any specification of individual products.[27] "[T]he related supporting material" may be the same as the "tables of supporting material incorporated by reference in Part IV" of the schedule mentioned in Article 1(a)(ii) about AMS, but the somewhat different wording and specificity could lead to different readings. It is thus not entirely clear what, if anything, a literal reading of Article 1(b) would say about the cotton price issue.

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[25] India's Uruguay Round submissions of January 1993, November 1993 and February 1994 show the same data for cotton as the later AGST.

[26] Article 1(b) reads: "basic agricultural product" in relation to domestic support commitments is defined as the product as close as practicable to the point of first sale as specified in a Member's Schedule and in the related supporting material; …

[27] Until a late stage, the Uruguay Round negotiations considered individual commitments on each product's AMS. The Total AMS commitment was introduced in the negotiations only in November 1992.

Annex 3, paragraph 9: fixed external reference price

Annex 3 (paragraph 9) requires the FERP to be the unit value in exports or imports of the basic agricultural product, and it "may be adjusted for quality differences as necessary". Regarding cotton prices, where India used the unit value of exports as the FERP of milled cotton and the administered price of seed cotton, a quality adjustment would have seemed necessary, since milled cotton is at least one step removed from "the point of first sale" mentioned in Article 1(b)'s definition of a basic agricultural product. If seed cotton and cotton lint are one single basic agricultural product, a quality adjustment of the FERP could have, or perhaps should have, been made but in any case was not made in AGST. Annex 3 does not mention any quality adjustment of the applied administered price. Since no quality adjustment of the reference price was enshrined in AGST, the argument for starting to use a quality-adjusted price could face the counter-argument that doing so would not meet the requirement to take into account the constituent data and methodology of AGST.

Leaving the cotton price issue aside, while Hoda and Gulati (2007) do not bring up the issue of switching currency in the notifications, they do consider the case of using an external reference price in USD/tonne to calculate market price support. Hoda and Gulati (2013) make a much clearer case for calculating and presenting India's AMSs in INR, a case they support by invoking the constituent data and methodology stipulation.[28] Gopinath (2011) draws attention to India's switch from using INR in AGST to using USD in notifications, but since his purpose was to seek to replicate India's notifications and extend them into years not yet notified when he carried out his work, there was no reason to deviate from India's choice of currency in its notifications.

If India had not had the minimum price support scheme in place, there would be no administered prices and no requirement to calculate market price support. In that situation the choice of notification currency would be of no consequence. All expenditures and payments could be converted from INR to, say, USD for presentation in the notifications, as would the

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[28] Hoda and Gulati (2013, section 2.1.2.3) reinforce their case by quoting the phrase "*with* the constituent data and methodology" of Article 1(h)(ii) and not the "*taking into account* the constituent data and methodology" of Article 1(a)(ii). The latter refers to the calculation of an AMS. The former refers to the calculation of Current Total AMS and seems less applicable to India, where there is no Bound Total AMS and Article 7.2(b) thus prohibits an AMS from exceeding its *de minimis* level and contributing to Current Total AMS. In a case where an AMS nevertheless does exceed its *de minimis* level and a Current Total AMS is calculated, Article 1(h)(ii) might in fact apply. (emphasis added)

values of production used to calculate *de minimis* limits. It would be an open question whether this would take into account the AGST data and methodology, since the "taking into account" wording gives some flexibility. However, the outcome with regard to complying or not with the *de minimis* limits would be the same regardless of which currency was used.

However, with India's application of administered prices the FERP comes into play. Annex 3 (paragraph 9) states that it "shall be based on the years 1986 to 1988". Also, it "shall generally be the average [export or import unit value] in the base period". There is thus no choice - the FERP must be based on the years 1986 to 1988. The fact that the paragraph in one single sentence mentions both the years 1986 to 1988 and the base period appears to be the key to understanding the significance of the words "based on". While the FERP shall be based on the individual years 1986, 1987 and 1988, it shall be the average unit value in the 1986 to 1988 period. Being "based on" on the years 1986 to 1988 thus refers to being calculated as the average of the unit values in those three years. A broader reading of "based on" could result in FERPs that are adjusted in any way whatsoever as long as the starting point in some way includes the unit values in the years 1986, 1987, and 1988.[29]

India's AGST based its FERP for a product on the unit values in the base period, i.e., it calculated the average unit value for the years 1986, 1987 and 1988. These unit values and hence the FERP are denominated in INR/tonne. India could calculate the payment support and the market price support in INR and present the calculations in INR in its notifications. Alternatively it might convert the underlying data to USD and USD/tonne at the current year's exchange rate and calculate and present the support components in USD, although the legitimacy of this under the Agreement is not clear. This would convert the FERP from its fixed value in INR/tonne to its corresponding value in USD/tonne at the current year's exchange rate.

However, India's external reference price in all years' notifications is a USD/tonne price derived by dividing the 1986-88 INR/tonne FERP in AGST by the 1986-88 INR/USD exchange rate. The value of the INR against the USD has dropped greatly since 1986-88.[30] The derived USD/tonne reference price used in the current year is thus much higher than if the 1986-88 INR/tonne FERP had been divided by the current year INR/USD exchange rate. By converting its INR/tonne FERP in AGST into a USD/tonne external reference price with one exchange rate

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[29] One example of such a broader reading is the increase of the reference price that some countries undertake by multiplying it by an inflation index from 1986-88 to the year notified.

[30] The exchange rate was about 13 INR/USD in 1986-88 and about 60 INR/USD in 2013.

(1986-88) and then using this reference price along with an administered price converted at a different exchange rate (current year), India obtains a much smaller price gap than if the prices had been converted at the same exchange rate. India's conversion of its FERP into USD/tonne and its use of this converted price in conjunction with data converted at different exchange rates appear to deviate from the mandatory use of the FERP required under paragraphs 8 and 9 of Annex 3.

The legitimacy of switching from the INR/tonne FERP in AGST to a USD/tonne external reference price in calculating market price in notifications hinges on the role of AGST. One view is that the documentation of the INR/tonne external reference price in AGST, which is referred to in India's schedule, makes that price the current year's FERP in INR/tonne (if this price were to be converted to USD/tonne, the current year's exchange rate would be used). Another view is that converting the AGST price to a USD/tonne price with the 1986-88 exchange rate makes this latter price the current year's FERP in USD/tonne.[31]

Converting the external reference price with one exchange rate or another has a disproportionately large effect on the calculated market price support. This is because the difference in exchange rates operates on one of the two prices used to calculate the price gap, not on the price gap itself. Phrases such as "notifying in USD instead of INR" are thus unfortunate and possibly misleading when used by themselves, since they describe the presentation of the calculated support, not the step of using a particular currency conversion to divorce the current year's external reference price from the FERP in INR/tonne in AGST.

Article 18.4: influence of excessive rates of inflation

Some countries have invoked the Agreement's Article 18.4 to justify and underpin various adjustments in the external reference price. India has not done so, and Article 18.4 has not been mentioned in the questions and answers regarding India's notifications in the Committee on Agriculture. However, Article 18.4 has been introduced in analysis of India's AMS support. For example, the analyses of Hoda and Gulati (2013) and Narayanan (2013) adjust the external reference price by the full amount of inflation.[32]

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[31] The first view informs the analysis in this paper. The second view is discussed in the above section "Review in the Committee on Agriculture".

[32] Section 2.1.2.3 of Hoda and Gulati (2013) indicates that the applied administered price is adjusted for inflation but the referenced tables indicate adjustment of the external reference price.

Article 18.1 gives the Committee the charge of reviewing the implementation of countries' commitments. Article 18.2 mandates that the review process be undertaken on the basis of notifications. As per Article 18.2 the Committee has decided on notification requirements, formats and contents, some of which are specified also in Article 18.3 (WTO 1995). Article 18.4 states that "In the review process Members shall give due consideration to the influence of excessive rates of inflation on the ability of any Member to abide by its domestic support commitments".

Article 18.4 is sometimes interpreted as giving a country the right to unilaterally adjust some element of its support calculation in order to offset the effect of any inflation on its ability to stay within its commitments. For countries with only expenditure and payment support and no Bound Total AMS, the question of inflation adjustment is moot, since the values of production and the *de minimis* limits increase *pari passu* with inflation and accommodate inflation-related increases in nominal expenditures and payments. Countries with only expenditure and payment support and with a Bound Total AMS, on the other hand, may be tempted to see Article 18.4 as conferring the right to reduce the amount of calculated support from its nominal level to a lower level by deflating it by some or all of the inflation from a particular year, such as 1986. The deflation would take place either at the AMS level or at the level of Current Total AMS. Some countries (e.g., Ukraine) have proposed increasing the external reference price in market price support calculations by indexing it by the full cumulative inflation between the base period and the notification year. The increase in the external reference price has a disproportionate effect on the calculated market price support, similar to the effect of converting the external reference price and the applied administered price at different exchange rates.

Article 18.4 is about the review process, which is the purview of the Committee on Agriculture, not that of individual countries. In that process the members of the Committee shall give due consideration to the influence of excessive rates of inflation. Article 18.4 does not in any way qualify the definitions of a country's AMS and Current Total AMS nor its calculation of AMS under Annex 3, which includes the requirement to use the FERP in market price support calculations. The country's notifications must therefore include AMS calculations in accordance with Annex 3 and taking into account the constituent data and methodology of AGST. If these calculations result in AMSs that exceed the *de minimis* limits for a country without a Bound Total AMS (Article 7.2(b)) or a Current Total AMS that exceeds the Bound Total AMS (Article

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6.3), the Committee – not the individual country - shall give due consideration to the influence of excessive rates of inflation on the country's ability to abide by its commitments. It would appear that, in order for members of the Committee to give due consideration to this influence, they would need evidence on at least the size of the influence, such as calculations of support with and without adjusting for excessive inflation.

Only the influence of excessive rates of inflation are to be given due consideration, not any rate of inflation. It is not clear what constitutes an excessive rate for this purpose. Nor is it clear what the obligation on members in the Committee to "give due consideration" entails. The Committee reviews progress in the implementation of commitments, but it does not establish whether or not a country has violated its commitments. When faced with a situation of a country experiencing excessive rates of inflation, members in the Committee must give due consideration to the influence of those rates, but it is not clear how it becomes manifest that members in the Committee have done so. The Committee might in such cases express a view as to the influence of excessive rates of inflation on the country's ability to abide by its commitments, but this would not eliminate the country's obligation to abide by its commitments. In the resolution of a dispute, the legal authorities involved might be moved one way or the other by the existence of such an expression on the part of the Committee. However, there is no record of the Committee on Agriculture having expressed any such view.

Article 6.2: input subsidies

Article 6.2, the development box, allows developing countries to exempt certain support from their Current Total AMS. It is in practice used also to exempt such support from individual AMSs, which matters for countries without a Bound Total AMS. The exemptible support includes support through "investment subsidies which are generally available to agriculture" and support through "agricultural input subsidies generally available to low-income or resource-poor producers". The exemptible support also includes support to encourage diversification from growing illicit narcotic crops. The "subsidies" to which Article 6.2 refers appear to be the policy measures through which support is provided, not the amount of support provided through or in the form of subsidies: Article 6.2 sees the subsidies as "government measures of assistance".[33]

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[33] Article 6.2 states that it is the investment subsidies and input subsidies that "shall be exempt from domestic support reduction commitments". This wording parallels the wording the Agreement uses with

There is a clear distinction between the investment subsidies, on the one hand, and the input subsidies, on the other, as to the set of recipients to whom the measures must make support generally available in order for the support to be exempt. In the case of investment subsidies it is agriculture, and in the case of input subsidies it is low-income or resource-poor producers. Under this distinction, the input subsidies need to be targeted to low-income or resource-poor producers, not to be generally available to agriculture as a whole.

India's AGST does not show the amount of input subsidies allocated under Article 6.2 but indicates that certain of the listed schemes were available only to small landholders. It also argued that 79.5 percent of the total landholdings would qualify under the exemption, presumably meaning that 79.5 percent of the input subsidies not targeted at low-income or resource-poor producers would nevertheless be accounted for as exemptible under Article 6.2. This was under the assumption that landholders with less than 10 hectares of land were taken as low-income or resource-poor producers. In other words, India's estimation of the amount of support it might have exempted under Article 6.2 was not based on the need for the input subsidies to be targeted to low-income or resource-poor producers. Instead it estimated the share of non-targeted input subsidies it considered should be exemptible since that share was enjoyed by low-income or resource-poor producers, according to a certain definition.

India's 1995 notification stated that four measures were exempt from reduction commitments. These were the same four measures as shown in AGST. India then explained that in showing the estimation of generally available input subsidies, no account had been taken of the exemption of input subsidies to low income and (*sic*) resource poor farmers under Article 6.2. India thus ignored the criterion in Article 6.2 that the exemptible input subsidies are those that are generally available to low-income or resource-poor producers. India instead substituted its own criteria, namely that, under a set of generally available subsidies (not generally available only to low-income or resource-poor producers), a certain share of support would be exemptible. This share was the same 79.5 percent as in AGST.

It may of course be argued that input subsidies that are generally available to agriculture are generally available also to low-income or resource-poor producers. However, Article 6.2 clearly articulates the exemptible investment subsidies to be those that are generally available to

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regard to those domestic support measures, i.e., not support, that are identified as not being subject to reduction in Articles 6.1 and 7.1 and Annex 2, paragraph 1.

agriculture, while equally clearly articulating the exemptible input subsidies to be those that are generally available to low-income or resource-poor producers. It does not say that the exemptible input subsidies are those that are generally available to agriculture. Nor does it say that the exemptible input subsidies are those that are generally available to agriculture, and out of the amount of subsidy support provided under those measures, a certain share could be exempted – the share accruing to low-income or resource-poor producers. The exemptible investment subsidy measures are circumscribed in a certain way – generally available to agriculture – and the exemptible input subsidy measures are circumscribed more tightly – generally available to low-income or resource-poor producers.

India continued its particular reading of Article 6.2 in its notifications for the period 1996 to 2003. As reported from the discussion in the Committee on Agriculture, the share of support through "Other input subsidies" that India allocated as support to low-income or resource-poor producers increased from 79.5 percent to 98.97, or 99, percent (paragraphs 30-31, WTO 2012a). No information was given about any particular targeting of these subsidy measures to low-income or resource-poor producers.

Consistent with the purpose of his analysis, i.e., to replicate the information in India's notifications and project such notification into years not yet notified at the time, Gopinath (2011) does not assess India's notified Article 6.2 support against the wording of that article. Hoda and Gulati (2007) calculate India's non-product-specific AMS without exempting any input subsidies under Article 6.2 because these input subsidies do not target poor farmers (page 61). However, they allow that it could be argued that the exemption claimed by India could apply, apparently on the basis of characterizing a share of all farmers as low-income or resource-poor.[34] It is not clear how this characterization would help to address the issue of the input subsidy measures not being targeted to such farmers. Hoda and Gulati (2013) have less doubt about the legitimacy of exempting a share of the input subsidies from the non-product-specific AMS. They present alternative calculations of the non-product-specific AMS, exempting about 89, 68 or 44 percent

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[34] Hoda and Gulati (2007, p. 253) observe that, given the manner in which the input subsidy exemption in Article 6.2 is formulated and the restrictive way that exemptions are generally interpreted by dispute settlement panels, a clarification of the article might be proposed. They suggest that, when all farmers are eligible for input subsidies, the subsidies enjoyed by low-income or resource-poor farmers would not be part of the non-product-specific AMS.

of the value of input subsidies, on the basis of the share of total holdings operated by farmers with holdings less than a given number of hectares.[35]

AMS calculations for India for 1995 to 2013

Introduction

This section first presents the price gap element of the market price support component of the AMS calculations for rice, wheat, cotton and sugarcane under a literal reading of key provisions of the Agreement and under some alternative readings of the Agreement. The time frame starts with AGST and then covers the years 1995 to 2013, with more uncertainty of course attaching to the latest years because of data scarcity. The section then presents the yearly AMSs for the four crops and compares them to their yearly *de minimis* limits. Yearly non-product-specific AMSs along with their *de minimis* limits are also shown.

Hoda and Gulati (2007) provide percentage AMS calculations for India for the years 1989 to 1999, with product-specific AMSs for 16 products and the non-product-specific AMS showing four kinds of input subsidies. They correct the data for many of the "discrepancies" the authors detected in AGST. They offer three calculations: in nominal terms, considering the effects of inflation, and considering the exchange rate. Gopinath (2011) presents green box, development box and AMS calculations in USD for the years 1995 to 2008, with the years 1995-1997 replicating India's notifications. He shows market price support calculations for three products, using continuations of the data series in India's notifications. The non-product-specific AMS accounts for four input subsidies. He also projects some aggregates to 2015.

Gopinath (2012) reviews the earlier calculations in the light of India's more recent notifications for 1998 to 2003 and confirms the forecasts about rice and wheat AMSs likely becoming positive in 2008 and 2009, respectively. The forecast for input subsidies is updated and extended to 2009, with the sum of all input subsidies exceeding the *de minimis* limit for the non-product-specific AMS in 2008. Hoda and Gulati (2013) present input subsidy and product-specific AMS calculations in USD for rice and wheat for the years 2007 to 2010. They include calculations under alternative assumptions about the exemptible share of input subsidies. They

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[35] The shares are 89.08. 67.90 and 44.31 percent, respectively, for holdings less than 10 hectares, less than 4 hectares, and less than 2 hectares, using census data.

identify the non-product-specific AMS in 2008-09 as being in excess of its *de minimis* limit. Narayanan (2013) calculates support to rice and wheat for 1995 to 2012 under different methodologies and finds no instance of rice and wheat AMSs exceeding their *de minimis* limits.

Product-specific AMSs

Price gap scenarios

Rice, wheat, sugarcane, and cotton are selected for the following reasons. Rice (or paddy) is the major crop in India's agriculture, accounting by itself for about 12 percent of the value of production of crops and livestock. Wheat is the second largest-valued crop, with a share of 8 percent in the value of production. Both rice and wheat are also prominent crops in the operations of government agencies. Cotton (or *kapas*) at 4 percent is not a staple food crop and is therefore outside the reach of the decision by WTO ministers in December 2013 in Bali concerning compliance with a country's *de minimis* limits under Article 7.2(b). Sugarcane at 4 percent is a relatively important crop and it also has a policy regime that differs from those of some other major crops. Although livestock accounts for a large share of the value of production of crops and livestock (milk by itself accounts for 20 percent), price gaps are not calculated for livestock products since it appears administered prices are not applied.

As a first step the price gaps are calculated, starting with the AGST data and followed by yearly calculations for 1995 to 2013. The price gap is calculated in INR/tonne under four different scenarios, corresponding to different readings of what the Agreement allows:

I. Subtract the 1986-88 fixed external reference price - the FERP - from each year's applied administered price (AAP) in INR/tonne.

    a. Scenario I follows a literal reading of the Agreement with regard to the fixity of the external reference price.

    b. Example: Assume FERP is 3,000 INR/tonne and the 1995 AAP is 4,000 INR/tonne. The 1995 price gap is thus 1,000 INR/tonne.

    c. This type of scenario appears to be explored by Narayanan (2013).

II. Deflate the price gap under scenario I by dividing the gap in INR/tonne by each year's cumulative inflation since 1986-88, i.e., the price gap using FERP is expressed in terms of constant 1986-88 prices.

a. Scenario II captures the influence of inflation on a country's ability to abide by its domestic support commitments. The *de minimis* limit by which the country needs to abide applies to the product's AMS, a measurement of support calculated with the price gap, and not to the reference price or the administered price.[36]

b. Example: Assume the inflation index is 100 in 1986-88 and 250 in 1995. The price gap from scenario I is deflated by dividing by 250 and multiplying by 100 to become 400 INR/tonne in 1995.

c. Deflating the price gap links it to inflation in inverse proportion.

III. Adjust the 1986-88 external reference price upward by multiplying it by each year's cumulative inflation from 1986-88, and subtract the so adjusted external reference price from each year's applied administered price.

a. Example: Multiply the 1986-88 FERP of 3,000 INR/tonne by 250 and divide by 100 to give an adjusted 1995 external reference price of 7,500 INR/tonne. The price gap is thus negative 3,500 INR/tonne.

b. Increasing the external reference price by inflation reduces the price gap by more than in the inverse proportion to inflation seen in scenario II. Some countries have proposed this in their notifications to the Committee, and this type of scenario is explored by Hoda and Gulati (2013) and Narayanan (2013).

IV. Adjust the 1986-88 external reference price upward by converting it from INR/tonne to USD/tonne at the 1986-88 exchange rate and then converting this back to INR/tonne at each year's current exchange rate.

a. Example: Divide the FERP of 3,000 INR/tonne by the 1986-88 exchange rate of 13.409 INR/USD, which yields 223.73 USD/tonne. Multiply this by the 1995

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[36] The rationale for scenario II is as follows. The domestic support limits in the Agreement apply to support, such as AMSs under Article 7.2(b) or Current Total AMS under Article 6.3. The limits do not apply to the instruments generating the support, such as administered prices. The Agreement has rules for using administered prices, fixed external reference prices, eligible production and budgetary outlays to calculate AMSs, but the limits do not apply to these variables themselves. Scenario II of deflating the price gap corresponds to deflating the AMSs as support measurements, since the AMS is directly proportional to the price gap (ignoring the small amounts of payment support). Eligible production is the proportionality factor. The deflated scenario II price gaps can conveniently be discussed along with the price gaps resulting from the other scenarios and shown in the figures below. The difference between the Scenario I and II price gaps could help members gauge the influence of inflation (not excessive inflation) on the ability of India to abide by its domestic support commitments, along the lines of Article 18.4.

exchange rate of 33.447 INR/USD, which yields 7,483 INR/tonne as the 1995 reference price. The price gap is thus negative 3,483 INR/tonne.

b. Scenario IV corresponds to India's way of effectively increasing the external reference prices in INR/tonne, when converting at 1995 and later years' exchange rates. The currency conversion raises the external reference price in INR/tonne at the same rate as the depreciation of the INR against the USD.

c. However, India's notifications show only the USD/tonne reference price without converting to INR/tonne and all notified price gaps are calculated in USD/tonne without converting to INR/tonne.

d. This type of scenario appears to be explored by Narayanan (2013).

The present calculations show the evolution over time of the price gaps in INR/tonne under the four different scenarios, starting with the negative price gap observed for three of the crops in 1986-88 and the positive one for sugarcane. They indicate at what point in time, if any, the price gap turns from negative to positive.

Market price support scenarios

As a second step, some of the price gaps from the four scenarios are multiplied by two alternative production quantities: total production and procurement. This generates the corresponding amounts of market price support in millions of INR, i.e., the major or only component of each product's AMS. The price gaps multiplied by a production quantity are only those gaps that are greater than zero for at least some of the years 1995 to 2013.

If a price gap is negative in all years in 1995-2013, the resulting negative AMSs would be set to zero in all years. This is the case for the whole 1995-2013 period under two of the reference price scenarios when applied to certain crops: for rice, wheat and cotton under Scenario III (increase the external reference price by inflation), and for wheat and cotton under Scenario IV (increase the external reference price by the depreciation of the INR against the USD). Thus no price gap is calculated for rice, wheat or cotton under Scenario III nor for wheat or cotton under Scenario IV. As no procurement applies to sugarcane, its price gaps are multiplied only by the total production of sugarcane used for sugar production, as in AGST.

The combinations of crops, production quantities and reference price scenarios for which market price support is calculated are summarized in Table 2. Six yearly market price support

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amounts are calculated for rice, four for each of wheat and cotton, and also four for sugarcane but under two more reference price scenarios than for wheat and cotton.

AMS scenarios and de minimis

As a third step, AMSs are calculated for those products and years for which the price gaps are positive. The calculation is done for each of the four price gap scenarios I, II, III, and IV, as applicable, and uses two alternative production quantities: total production and procurement, if any.

Hoda and Gulati (2013) calculate the product-specific input and investment support enjoyed by producers of rice and wheat in the years 2007 to 2010 and add this as non-exempt payments to market price support to arrive at the product's AMS. The present calculations assume, for simplicity, that there were no non-exempt payments to the producers of any of the four crops prior to 2007, and that there were no such payments to the producers of cotton and sugarcane from 2007 onwards. The present calculations use the Hoda and Gulati (2013) estimates for such payments to the producers of rice and wheat in 2007, 2008, 2009 and 2010, and for later years the calculations use the average of the 2009 and 2010 payments. These payments are small in relation to market price support, in fact small enough not to change the relationship between a negative market price support and an AMS set to zero that is implicit in Table 2.

The yearly *de minimis* limits are estimated for the AMSs of the four crops as 10 percent of their values of production.[37] This allows an assessment of when any AMS would have exceeded its *de minimis* limit and by how much.

The results of the calculations are shown in two figures for each of the four products. Thus, Figure 1.a for rice shows the sequence of price gaps in INR/tonne from 1995 to 2013 and the AGST gap under scenarios I, II, III, and IV. This reveals the years when the price gap is negative. Figure 1.b for rice shows the sequence of calculated AMSs in INR billion from 1995 to 2013.

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[37] Hoda and Gulati (2013) estimate the values of production of rice and wheat as the product of the minimum support price and total production. The present calculations use the values of production of the Central Statistics Organisation (2006, 2008) and the Central Statistics Office (2013).

Price gaps for four crops

Rice

- Scenario I. For rice the price gap in AGST was negative 1,240 INR/tonne (Figure 1.a). Using the FERP, this gap had turned positive already by 1995 and then increased slowly until 2007, when a period of much more rapid increases started. By 2013 this price gap thus reached 16,130 INR/tonne.

- Scenario II. If the FERP-based price gap had been deflated by inflation since 1986-88, it would have stayed on a much more moderate path of increases to 2,780 INR/tonne in 2013.

- Scenario III. The price gap using an external reference price inflated by inflation, on the other hand, would have stayed negative throughout the 1995 to 2013 period, touching a low of negative 3,986 INR/tonne in 2006 and increasing to negative 772 INR/tonne by 2013.

- Scenario IV. The increase (price gap less negative) from 2007 onwards, resulting from the larger increases in the minimum support price, is also evident in the price gap using an external reference price raised by the depreciation of the INR against the USD. In spite of the large increase from AGST in this adjusted external reference price, the corresponding price gap increased so much that it turned positive already in 2007, and it then continued growing until dipping slightly to 3,899 INR/tonne in 2013.

- Thus, for rice, only the gap using the inflation-adjusted reference price remains negative throughout the period, while the other three gaps are positive for at least part of the period and therefore give rise to an AMS for some or all years.

Wheat

- Scenario I. The FERP-based price gap for wheat went from a negative 1,800 INR/tonne in AGST to slightly positive already in 1995 and then increased slowly until 2006 (Figure 2.a). Increases in some of the following years were rapid, while in other years the increases were more moderate, resulting in a gap of 10,460 INR/tonne in 2013.

- Scenario II. If the FERP-based price gap had been deflated by inflation, it would have peaked in 2011 before declining to 1,803 INR/tonne in 2013.

- III. If the price gap had been calculated with an inflated external reference price, the predominance of negative year-to-year changes would have generated a negative price gap as large as 6,538 INR/tonne by 2013. In other words, the increases in the inflated external reference price were large enough to more than offset the increases in the minimum support price for wheat.

- Scenario IV. Using the depreciation of the INR to the USD to increase the external reference price would have generated a price gap that came close to nil in some years from 2007 onwards, even turning slightly positive at 198 INR/tonne in 2011. However, the gap then would have declined to 1,840 INR/tonne in 2013, indicating that the exchange-rate adjustment of the external reference price more than offset the increases in the minimum support price for wheat in the later years.

- Altogether for wheat, the FERP price gap results in a calculated AMS in all years, as of course would using the same price gap when deflated. The other two price gaps would have been negative in almost all years and would thus not have led to a wheat AMS.

Cotton

- Scenario I. The FERP-based price gap for cotton (apparently milled cotton), which was negative 11,700 INR/tonne in AGST, remained negative through the year 2000 (Figure 3.a). Thus, the increases in the minimum support price (of seed cotton or kapas) were slow enough or the initial price gap was large enough that it took until 2001, several years after 1995, for the cotton price gap to become positive, whereas for rice and wheat this had occurred already by 1995. The subsequent increases in the minimum support price were relatively slow, such that the price gap had increased only moderately by 2007. However, a couple of large increases in the minimum support price in 2008 and 2012 contributed to raising the price gap to 21,167 INR/tonne in 2013.

- Scenario II. The FERP-based price gap when deflated of course shows the same pattern of turning positive in 2001, followed by the corresponding increases to reach 3,648 INR/tonne in 2013. In contrast to the non-deflated price gap, the deflated price gap declines slightly between 2012 and 2013.

- Scenario III. The price gap using an inflated external reference price shows an almost uninterrupted series of declines from AGST to negative 62,059 INR/tonne in 2013. The

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increases in the minimum support price for cotton thus were more moderate than the rate of inflation.

- Scenario IV. The price gap using an external reference price increased by currency depreciation shows a steep drop between AGST and 1995 to a much more negative value. This was followed by a slow downward trend over some ten years and then a fairly flat trend until 2013.

- Thus, for cotton the absence of a positive price gap even using the FERP in the years 1995 to 2000 means that no AMS would result for those years. The apparent mis-match of the processing stage for which the minimum support price and the FERP are observed may have played a role in that outcome. However, even with that mis-match being continued, a positive price gap is generated from 2001 onwards, both when using the FERP and using the deflated price gap. The price gaps that would have resulted if raising the external reference price by inflation or currency depreciation would have remained clearly negative throughout the period.

Sugarcane

- Scenario I. The FERP-based price gap was the only positive price gap in AGST, calculated as 27 INR/tonne (Figure 4.a).[38] This price gap increased slowly through 2008, followed by a sharp increase in 2009. A series of moderate increases followed, and then a larger increase in 2013 brought the gap to 1,944 INR/tonne.

- Scenario II. If the FERP-based price gap had been deflated, it would have reached 335 INR/tonne in 2013.

- Scenario III. In contrast to the price gaps for rice, wheat and cotton, the price gap for sugarcane would have stayed positive even if it were calculated with an inflated external reference price. In 2013 it would have risen to 1,194 INR/tonne.

- Scenario IV. Also under the adjustment of the external reference price by currency depreciation, the price gap for sugarcane would have remained positive throughout the period 1995 to 2013, ending at 1,401 INR/tonne.

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[38] AGST made an arithmetical error in averaging the applied administered price that is shown but appears to have used a correctly averaged applied administered price to actually calculate the price gap.

- Thus, the price gap for sugarcane is the only one that stays positive for all years not only using the FERP but also in the three scenarios embodying various adjustments. Consequently an AMS would be calculated for sugarcane in every year in the 1995 to 2013 period, as in AGST, regardless of whether the FERP-based price gap is used, or the FERP-based price gap is deflated, or a price gap is calculated using an external reference price adjusted by inflation or by currency depreciation.

Product-specific AMSs for four crops

The market price support component of AMS is calculated for each of the four crops for each year in the 1995 to 2013 period. As outlined in Table 2, for rice, wheat and cotton each positive price gap is multiplied by the total production quantity and by the procurement quantity, and for sugarcane the positive price gaps are multiplied by the total production used for sugar production.

Rice

The rice AMS, when calculated with total production as in AGST and using the FERP-based price gap, grossly exceeds the 10 percent *de minimis* limit: the AMS is as much as eight times larger than the limit in recent years (Figure 1.b). The extent of the excess is of course smaller if the AMS is calculated using only the procurement quantity, but the AMS would still be several times larger than the *de minimis* limit. If the AMS is calculated using the FERP-based price gap and this price gap is deflated, the AMS would also be larger than the *de minimis* limit when using total production. However, if this deflated price gap is multiplied only by procurement as the eligible production, the AMS would be well below the limit. A similar situation arises if the AMS is calculated using an external reference price adjusted by currency depreciation. In this scenario the price gap turns positive from 2007, and the AMS exceeds the limit from 2010 when using total production as the eligible production. However, if the AMS is calculated using only procurement, the AMS remains below the 10 percent *de minimis* limit the whole time between 2007 and 2013.

Wheat

Also the wheat AMS exceeds the 10 percent *de minimis* limit manifold in all years when calculated using the FERP-based price gap and total production (Figure 2.b). If only procurement is used, the AMS is below the limit in some years, but from 2008 onwards it has been larger than the limit, with a growing amount of excess. If the AMS is calculated with the FERP-based price gap deflated by inflation, multiplied by total production, the AMS would consistently (except in 1995) be larger than the *de minimis* limit, but the excess would not be large. On the other hand, if that same deflated price gap is used in combination with only the procurement quantity, the AMS would consistently have remained below the *de minimis* limit throughout the period.

Cotton

The pattern for cotton differs considerably from that for rice and wheat (Figure 3.b). From the time the price gap turns positive in 2001 and generates a positive AMS, under the FERP-based price gap the AMS is less than the *de minimis* limit in most years, even when using total production. One exception is in 2008, when the minimum support price was raised by 44 percent. The value of production increased drastically in 2010, generating a much larger *de minimis* limit in that year, such that even the rapidly rising AMS was below the limit. Without value of production data for later years, it is not possible to estimate the *de minimis* limit (Figure 3.b just keeps the limit unchanged from 2010). However, it would take continued large increases in the value of production of cotton for the AMS to remain below the limit. The large increase in the minimum support price in 2008 was accompanied by a very large spike in the quantity of procurement, which contributes to the 2008 peak in AMS when using procurement instead of total production. If the FERP-based price gap is deflated by inflation, the resulting AMS would remain well below the limit in all years.

Sugarcane

Regarding sugarcane, the AMS is consistently larger than the 10 percent *de minimis* limit not only with the FERP-based price gap but also under any of the three adjustments (Figure 4.b). The only exception is for the years 1995-2002 if the external reference price is raised by currency depreciation. The AMS is in all cases calculated using the total production of sugarcane used for sugar production, i.e., a quantity corresponding to that used in AGST and which

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represents in round numbers about half of total production of sugarcane (the rest is used mainly to produce gur, which is not produced by sugar mills). Thus, if the total production of all sugarcane is used to calculate the sugarcane AMS, the AMS would be perhaps twice as large in all four price-gap scenarios. However, the value of production and the *de minimis* limit would be correspondingly larger. The dip in AMS in 2008, and in the *de minimis* limit, coincides with return to more normal levels of production of sugarcane after two years of very large production in 2006 and 2007.

Non-product-specific AMS

As a final step, a non-product-specific AMS is estimated under the literal reading of Article 6.2 that precludes exempting support through input subsidies from the AMS calculations if the subsidies are not generally available only to low-income or resource-poor producers. This concerns the subsidies for fertilizer, electricity, irrigation and seeds, which are thus fully included in the non-product-specific AMS. The estimation uses the data available in India's notifications from 1995 to 2003, the estimates of Gopinath (2012) for 2004 to 2006, and the estimates of Hoda and Gulati (2013) for 2007 to 2010. No attempt is made to extend the Hoda and Gulati estimates beyond 2010.[39]

The non-product-specific AMS is below the 10 percent *de minimis* limit in all years except 2008 (Figure 5). The 2008 spike, identified by Gopinath (2012) and explained more fully by Hoda and Gulati (2013), resulted from very large fertilizer subsidies in that year. Absent any data on the value of production and estimates of the non-product-specific AMS in 2011, 2012 and 2013, little can be said about that AMS in relation to the *de minimis* limit. If it is assumed that the value of production in agriculture continued to increase along the trend, it would have taken a very large increase in input subsidies to bring the non-product-specific AMS up above the limit in those years.

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[39] Non-product-specific AMS support data in notifications, Gopinath (2012) and Hoda and Gulati (2013) are expressed in USD. The conversion back to INR uses the yearly Reserve Bank of India exchange rate.

Discussion

Interpreting the AMS calculations

The calculation of product-specific AMSs for rice, wheat, cotton and sugarcane and the non-product-specific AMS for the period 1995 to 2013 reveals several continuing instances where the AMS exceeded its *de minimis* limit of 10 percent of the value of production (Table 3 and Figures 1.b – 4.b). This is the case for rice, wheat and sugarcane through the whole period (except 1995 for wheat) when using the data and methodology of the 1986-88 AGST, which includes using the FERP (scenario I). The excess in the most recent years is very large. If only procurement is used as the quantity of production eligible to receive the applied administered price, i.e., a method that deviates from AGST, the AMSs exceed the *de minimis* limits only from the year 2000 for rice and in most years from 2001 for wheat. While the amounts of excess are smaller than when using total production, they are still large. The cotton AMS did not start to exceed its *de minimis* limit until 2008, even when using the total production quantity, and it was just below the limit in 2010 and perhaps even in some later year. The sugarcane AMS is in the absence of procurement calculated only with total sugarcane production used for sugar.

Deviating from the rules of the Agreement and adjusting the external reference price or the price gap changes the picture somewhat. Scenario II calculates the price gap with the FERP but this price gap itself is deflated. The positive price gaps otherwise observed in all years for rice, wheat and sugarcane and in later years also for cotton are reduced in size. This reduction is not large enough to bring the AMSs for rice, wheat and sugarcane below the *de minimis* limit when calculated with total production. However, if only procurement is used in the calculation, the AMS falls below the limit in all years.

In Scenario III the external reference price are increased by inflation. This has large consequences: the price gap is negative in the whole 1995-2013 period for rice, wheat, and cotton. Therefore no AMSs result. However, for sugarcane the price gap remains positive and it is large enough that, when multiplied by total production used for sugar production, the resulting sugarcane AMS exceeds its *de minimis* limit in all years.

Scenario IV increases the external reference price by currency depreciation. The price gap for rice becomes positive in 2007 and then grows rapidly. This generates, using total production, an AMS that already by 2009 exceeds its *de minimis* limit and continues to do so

until 2013. However, if only procurement is used, this AMS remains less than *de minimis* from 2007 onwards.

If under the same Scenario IV the external reference prices for wheat and cotton are increased by currency depreciation, the resulting price gaps are negative for both products in all years (very small positive for wheat in 2011), and no AMSs result. In contrast, the price gap for sugarcane is positive in all years. Increasing the external reference price by the currency depreciation against the USD corresponds to the results of the method adopted by India in its notifications for 1995 to 2003, paired with the use of only procurement as the eligible production. If India were to continue using this combination of methods in its forthcoming notifications from 2004 onwards, it would thus show a rice AMS from 2007 onwards that is below its *de minimis* limit. If the notification uses total production, a rice AMS exceeding its *de minimis* limit would be shown from 2009 onwards.

Economic measurements of support

The calculations of AMS for rice, wheat, cotton and sugarcane for 1995 to 2013 follow a literal reading of the rules of the Agreement or deviate from those rules in three ways. None of these calculations introduce any consideration of such issues as comparability with economic measurement of support or the potential effects of particular policy settings on production and trade. Hoda and Gulati (2007, 2013) and Gopinath (2011, 2012) discuss many of these issues. Hoda and Gulati (2013) show, e.g., that the minimum support prices for rice and wheat are not divorced from international prices, and the same holds for the domestic price of milled cotton. A similar picture emerges for several other crops, where domestic wholesale prices generally track the corresponding international prices. CACP (2013a, 2013b) present a series of illustrative charts.

Economic measurements of support use the gap between a domestic price and a current international reference price, a gap that for many products and in many years has been negative in India (see, e.g., Orden et al. (2007), Pursell et al. (2009) and Raju (2013)). To the extent that the minimum support prices in India were raised more slowly than the run-ups in the international prices of many agricultural commodities around 2008 and 2011, the existing negative price gaps would have been made more negative and positive price gaps could have become negative. On the other hand, the continued increases in India's minimum support prices

for rice, wheat, cotton and sugarcane up through 2013 could lead to the emergence of positive price gaps against the corresponding international price, although both the likelihood of this occurring and the size of any positive gaps would be reduced by the concurrent drop in value of the INR against the USD.

Two key variables in calculating market price support for crops in India under the rules of the Agreement are the existence of an applied administered price, i.e., the minimum support price, and its level. The level of economic support plays no role. The reason for this has to do with some Uruguay Round participants' desire to take commitments only on variables that the government controls. There are numerous examples of countries providing sizeable economic support through price gaps without applying an administered price and thus not facing the need to calculate and report market price support under the rules of the Agreement.[40] These situations arise when a country maintains a domestic price only with the help of border measures, without applying an administered price. In order to generate large economic support via this route, the country's tariff binding for the product concerned would need to be large enough to maintain the desired gap between domestic and international prices. For many developing countries this would not be an obstacle, since their tariff bindings are relatively high.

WTO Ministerial Decision in Bali 2013

An examination of the AMSs of India in relation to the *de minimis* limits has links to one of the decisions of the Ninth Ministerial Conference of WTO ministers in Bali in December 2013 (WTO 2013). This decision concerns what is called "the issue of public stockholding for food security purposes". In spite of its label, this is an issue mainly of some developing countries wanting to apply administered prices without being limited by the rules and commitments of the Agreement. The label coincides with the heading of paragraph 3 of Annex 2. Under a footnote attached to that heading, a developing country is entitled to exempt from the AMS calculations its expenditures under certain governmental stockholding programs for food security purposes, in some cases subject to a condition. The condition applies to certain programs under which stocks

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[40] The OECD calculates economic market price support in many cases where the WTO notifications or accession documents show no positive market price support of the WTO kind. This is the case in some years for, e.g., livestock commodities in Russia, beef in the European Union, rice in Japan, poultry and eggs in Canada, milk and poultry in Mexico, milk and pork in Brazil, and wheat, sugar and milk in Chile.

are acquired and released at administered prices and requires the difference between the acquisition price and the external reference price to be accounted for in the AMS.

The decision does not change any of the rules of the Agreement regarding the calculation of AMS or the obligation not to exceed the *de minimis* limits. However, it has implications for situations where the AMS for a product does exceed its *de minimis* limit, i.e., the country is not in compliance with its obligations under Article 7.2(b) (or under Article 6.3 for a country with a Bound Total AMS). Specifically, the decision concerns the AMSs for certain traditional staple food crops when they are acquired and released at administered prices under programs that are consistent with paragraph 3, footnote 5 and footnote 5&6 of Annex 2 of the Agreement. In other words, the decision would concern India's acquisition of rice and wheat at the minimum support price, but not cotton, since it is not a food crop. It is not clear whether it would concern sugarcane, since sugarcane as such is not a food crop, and no acquisition of sugarcane takes place. However, sugar could be seen as a staple food and the government acquires sugar from sugar mills.

Under the decision, a developing country like India can, under certain conditions, exceed its *de minimis* limit of 10 percent of the product's value of production in the knowledge that WTO members shall refrain from challenging that non-compliance with Article 7.2(b) through the WTO Dispute Settlement Mechanism.[41] While the decision requires members only to refrain from, i.e., to keep themselves from, challenging an alleged non-compliance, as opposed to members being legally prohibited from challenging such non-compliance, the decision does provide a shelter from challenge for developing countries whose AMSs exceed their *de minimis* limits. India has not notified any such excess, but the present calculations under the rules of the Agreement indicate the occurrence of such excesses for rice, wheat, cotton and sugarcane in the 1995 to 2013 period. Such excesses could continue to be registered in the future, in the absence of changes in the policies giving rise to AMS calculations.

The ministerial decision, which applies only to support under programs that existed on 7 December 2013, is in place until a permanent solution is found. The program needs to have existed on that date, for example by the necessary authorities being in place, but it seems that the program does not need to have been in operation. While the decision appears to retroactively

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[41] The legal status of this decision, relative to that of the Agreement itself and other WTO agreements, may be the subject of debate by legal scholars.

shelter excesses under those pre-existing programs in earlier years if all of the decision's conditions are met, it may be particularly relevant for India in case of continued AMS excesses in the years following 2013 under those programs. The conditions to be met for a country benefitting from the shelter include actions concerning notifications and transparency and meeting rules regarding anti-circumvention/safeguards and consultations.

Conclusions

India's minimum support prices for crops can generate large price gaps under the rules of the Agreement. Making adjustments that deviate from a literal reading of the Agreement would generally generate much smaller price gaps for rice, wheat, cotton and sugarcane. One such adjustment (adjustment for currency depreciation) corresponds effectively to India's practice in its notifications to the Committee on Agriculture.

- The price gap for rice is positive only under the two FERP scenarios, while adjusting the external reference price by inflation or by currency depreciation makes the price gap negative. However, from 2007 onwards the increases in the administered price of rice are large enough that even the price gap using the currency-adjusted reference price becomes positive. The rice AMS in recent years is considerably larger than its *de minimis* limit when calculated with the FERP, whether using total production or only procurement.

- The price gap for wheat is positive only when using the FERP. The wheat AMS, whether calculated with total production or procurement, is larger than the *de minimis* limit in recent years – using total production it is very much larger.

- For cotton, the price gap was negative until 2001, even when using the FERP. The corresponding cotton AMS increased very rapidly from 2007 and may have exceeded its *de minimis* limit in some recent years.

- The price gap for sugarcane is positive in all years since 1995 under all four price gap scenarios. The sugarcane AMS is large enough to consistently exceed its *de minimis* limit, except in some early years using the currency-adjusted external reference price.

The product-specific AMSs thus indicate large excesses for several crops above their *de minimis* limits over many years until 2013 under some readings of the Agreement but much less

so if certain adjustments are made. The non-product-specific AMS, even without the allocations shown in India's notifications, has been below its *de minimis* limit in all years except 2008.

The results highlight the difference that alternative interpretations of the rules of the Agreement make in determining compliance or not with a country's obligations. This involves in particular the understanding of the FERP and the production eligible to receive the applied administered price. Both issues hinge on the contents of the document that gives India's 1986-88 data and methodology, incorporated by reference in its schedule, and the way in which the Agreement connects the current year's AMS calculations to that data and methodology and to the rules of the Agreement itself.

Although economic measurements of support are important in understanding the evolution of agricultural policy support in India, the present calculations ignore such measurements since they are not explicitly within the scope of the Agreement. Economic measurements calculate the price gap using a domestic producer price, whose level may be the result of using an administered price or border measures or both. The reference price is a current price. India's administered prices have generally been set at levels that generate small or negative price gaps in relation to a current external reference price. However, the use of administered prices has the consequence under WTO rules of having to calculate a price gap with a FERP. Maintaining domestic producer prices through other means than administered prices would obviate the need to calculate FERP-based price gaps.

One of the decisions taken at the WTO ministerial conference in December 2013 gives a certain shelter for countries in India's position of having exceeded its *de minimis* limits on AMSs. The protection against challenge under the WTO dispute settlement mechanism is circumscribed in several ways and is conditional on a number of actions being taken by the country in question. They include ensuring that the procured stocks do not distort trade or adversely affect the food security of other countries. The decision nonetheless greatly reduces or even renders inoperative the role of the Agreement in curbing some developing countries' use of administered prices to generate price gaps large enough that their AMSs exceed the *de minimis* limits. The decision applies only to pre-existing programs. Developing countries contemplating the introduction of producer price support schemes such as India's would therefore not enjoy the same protection as India against challenge. This difference in entitlement among developing countries may colour future international policy deliberations in agriculture.

The rules of the Agreement for the calculation of market price support were designed to rein in the large economic market price support being provided in some countries with the help of administered prices at the time of the Uruguay Round. Since then the use of high administered prices has with great effort been scaled back or eliminated in some developed countries, not necessarily because of constraints imposed by WTO rules but by the realization that other instruments, often more market-oriented than administered prices, would more effectively achieve the desired policy objectives. Against that experience, countries in India's situation could be seen as having given up, in December 2013, the opportunity to invoke the WTO rules in domestic support to drive domestic change towards less reliance on administered producer prices and having gained the ability only to further entrench complex price support schemes from which they may find it increasingly difficult to extricate themselves. Other countries, including many developing countries, may need to evaluate the consequences for themselves of a more wide-spread future use of administered prices in agriculture around the world, including the possibility of such prices being raised as part of ambitions to increase the economic support to producers in developing countries as their economies grow.

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Tables

Table 1. Products for which India reports market price support, by year

AGST	1995	1996	1997	1998	1999	2000	2001	2002	2003
Rice	Rice	Rice	Rice	Rice	Rice	Rice	Rice	Rice	Rice
Wheat	Wheat	Wheat	Wheat	Wheat	Wheat	Wheat	Wheat	Wheat	Wheat
Four individual crops	Coarse cereals	Coarse cereals	Coarse cereals						
Cotton	Cotton			Cotton	Cotton	Cotton	Cotton	Cotton	Cotton
Jute	Jute			Jute	Jute	Jute	Jute	Jute	Jute
Rapeseed and mustard	Rapeseed and mustard toria					Mustard seed	Mustard seed	Mustard seed	
Four individual crops	Pulses						Pulses	Pulses	Pulses
Sugar cane	Sugar cane								
Groundnut	Groundnut								
Soyabean	Soyabean								
Tobacco	Tobacco								

Source: WTO (1998, 2002, 2011)

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Table 2. Price gap scenarios and quantities for calculating market price support

	Price gap scenario			
	I	II	III	IV
	Fixed external reference price	Price gap under I deflated by inflation	External reference price adjusted by inflation	External reference price adjusted by INR depreciation against USD
	"FERP"	"Deflated FERP gap"	"Inflation-adjusted ERP"	"INR/USD-adjusted ERP"
Rice				
• Production	Calculate MPS	Calculate MPS	-	Calculate MPS
• Procurement	Calculate MPS	Calculate MPS	-	Calculate MPS
Wheat				
• Production	Calculate MPS	Calculate MPS	-	-
• Procurement	Calculate MPS	Calculate MPS	-	-
Cotton				
• Production	Calculate MPS	Calculate MPS	-	-
• Procurement	Calculate MPS	Calculate MPS	-	-
Sugarcane				
• Production	Calculate MPS	Calculate MPS	Calculate MPS	Calculate MPS
• Procurement	-	-	-	

Note: MPS stands for market price support. MPS is not calculated when a product's price gap is negative in all of 1995-2013 or no procurement is undertaken.

Table 3. Years in which an AMS exceeds *de minimis*, by product and by eligible production

| | Price gap scenario | | | |
AMS	I Fixed external reference price "FERP"	II Price gap under I deflated by inflation "Deflated FERP gap"	III External reference price adjusted by inflation "Inflation-adjusted ERP"	IV External reference price adjusted by INR depreciation against USD "INR/USD-adjusted ERP"
Rice				
•Production	1995-2013	1995-2013	-	2009-2013
•Procurement	2000-2013	-	-	-
Wheat				
•Production	1996-2013	1996-2013	-	-
•Procurement	2001-2002, 2008-2013	-	-	-
Cotton				
•Production	2008-2009, 2011-2013?	-	-	-
•Procurement	-	-	-	-
Sugarcane				
•Production	1995-2013	1995-2013	1995-2013	2002-2013
•Procurement	-	-	-	-
Non-product-specific AMS	2008			

Figures

Figure 1.a. Price gap: rice

Figure 1.b. AMS: rice

AMS: rice

INR billion

Legend:
- I: FERP; production
- I: FERP; procurement
- II: Deflated FERP gap; production
- II: Deflated FERP gap; procurement
- IV: INR/USD adjusted ERP; production
- IV: INR/USD adjusted ERP; procurement
- 10% of VOP
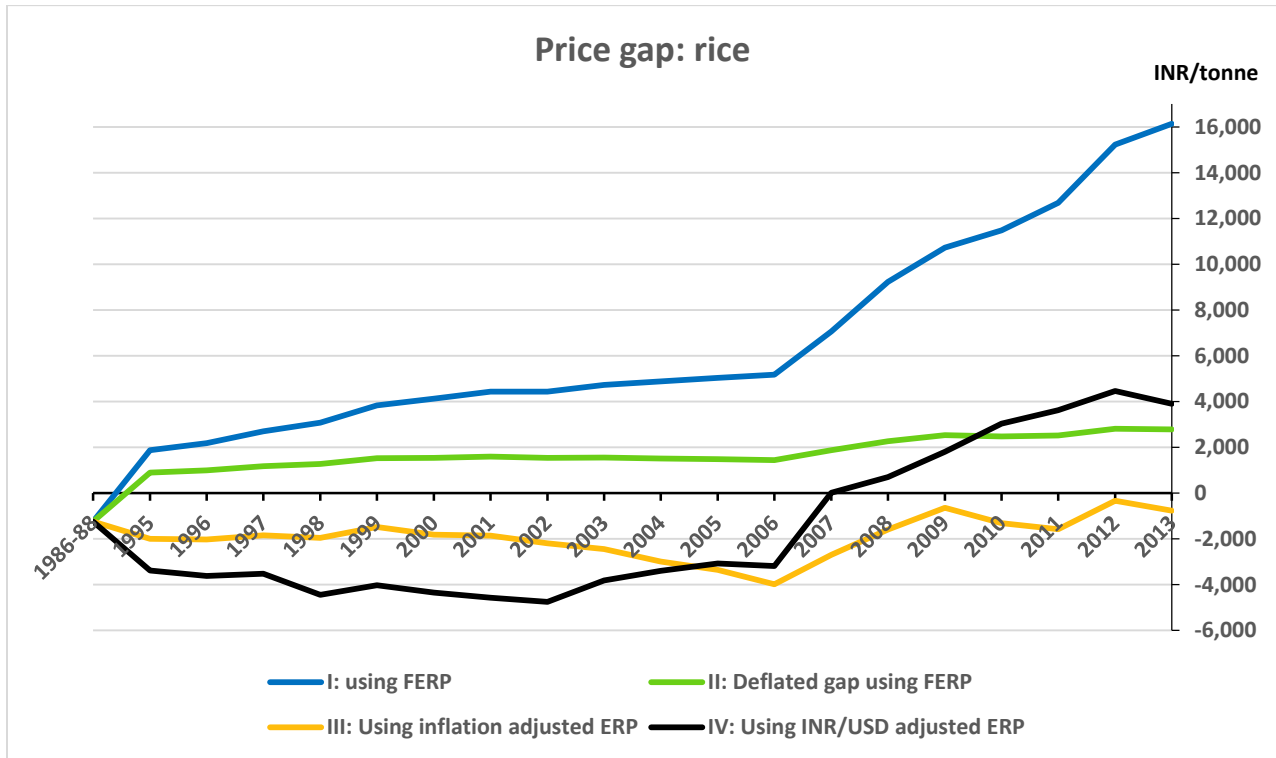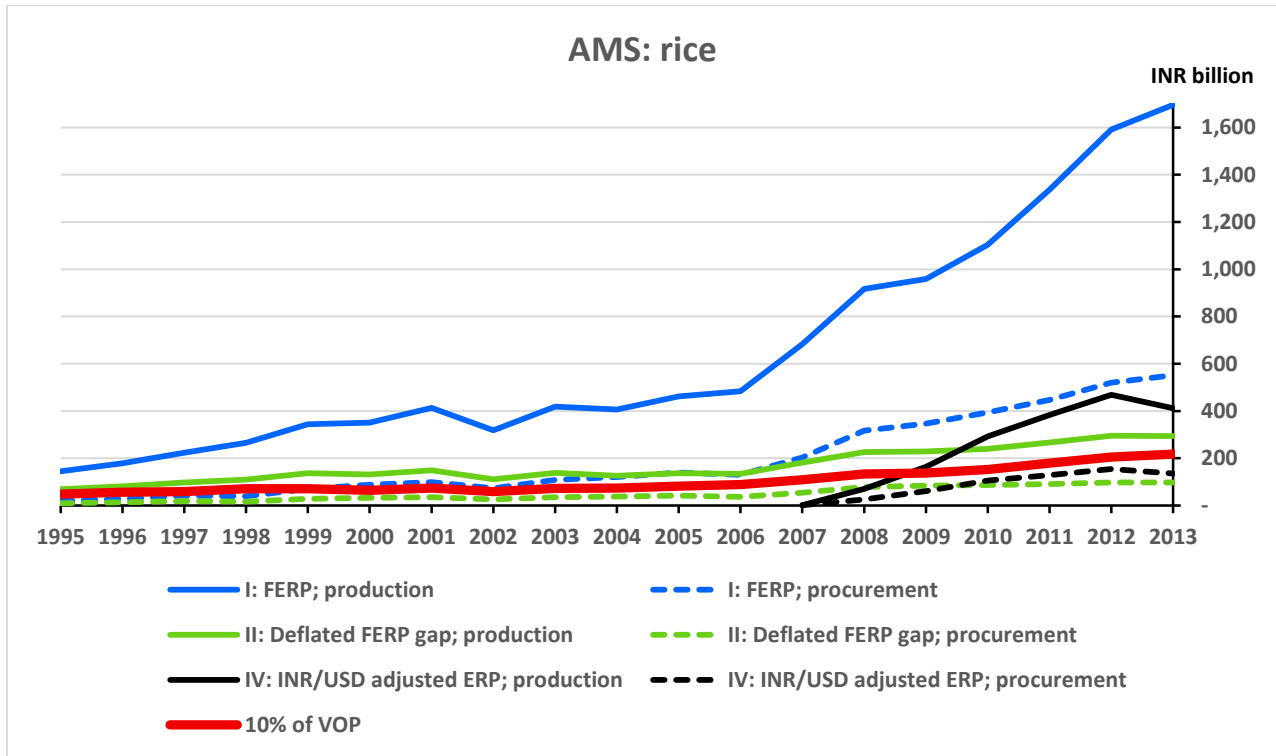
Figure 2.a. Price gap: wheat

Price gap: wheat

INR/tonne

Legend:
- I: using FERP
- II: Deflated gap using FERP
- III: Using inflation adjusted ERP
- IV: Using INR/USD adjusted ERP

Figure 2.b. AMS: wheat

AMS: wheat

INR billion

Legend:
- I: FERP; production (solid blue)
- I: FERP; procurement (dashed blue)
- II: Deflated FERP gap; production (solid green)
- II: Deflated FERP gap; procurement (dashed green)
- 10% of VOP (red)
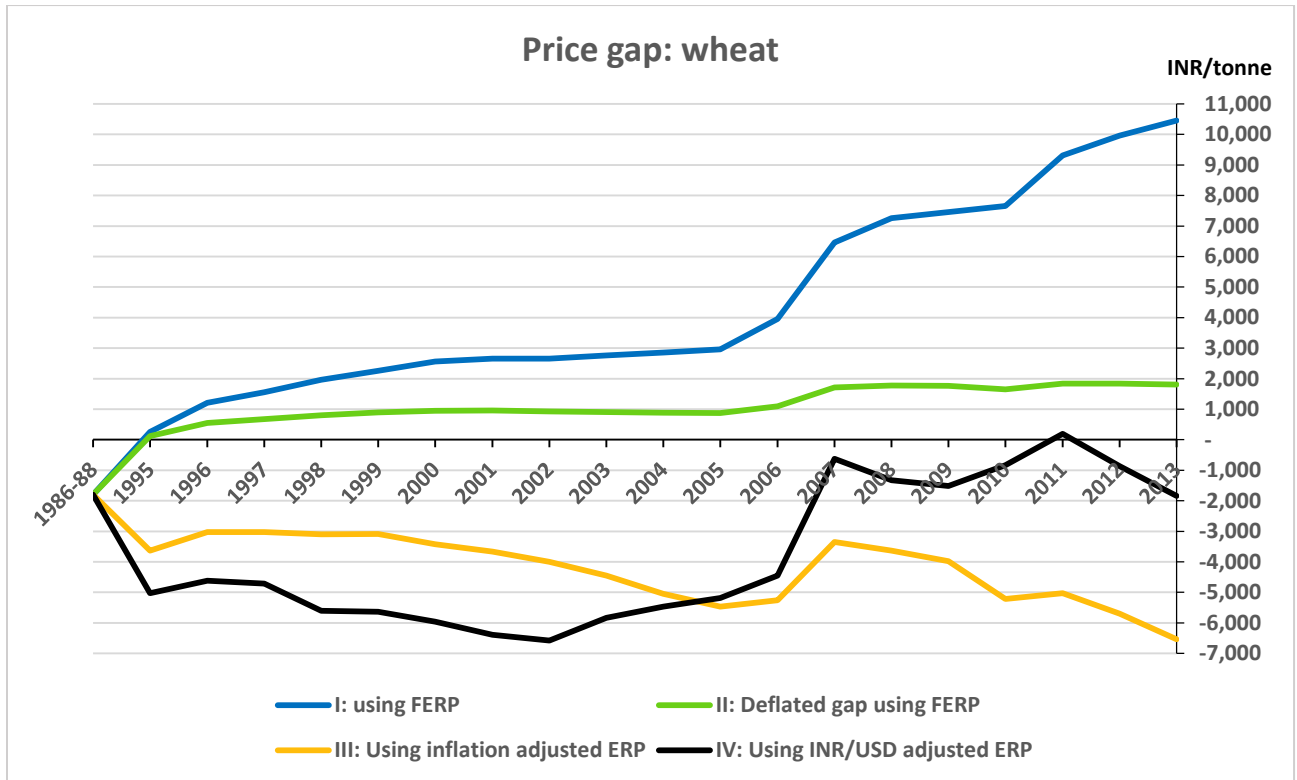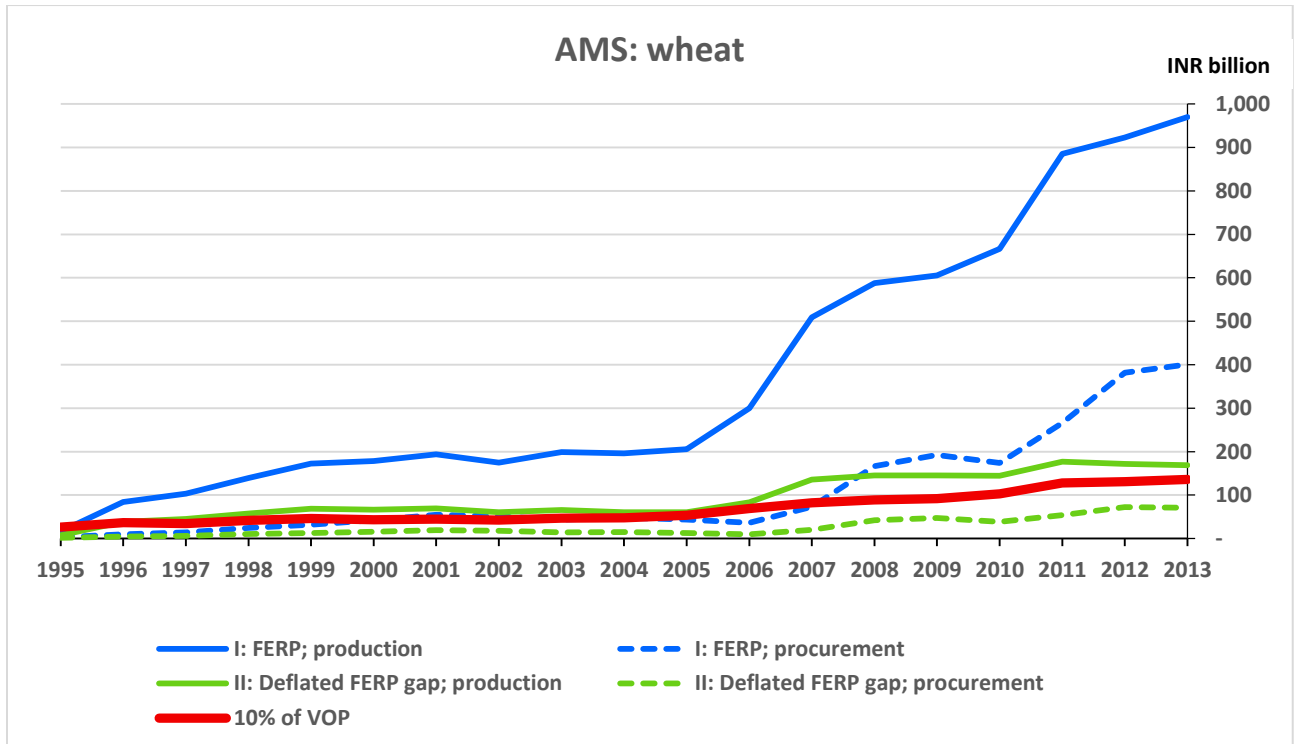
Figure 3.a. Price gap: cotton
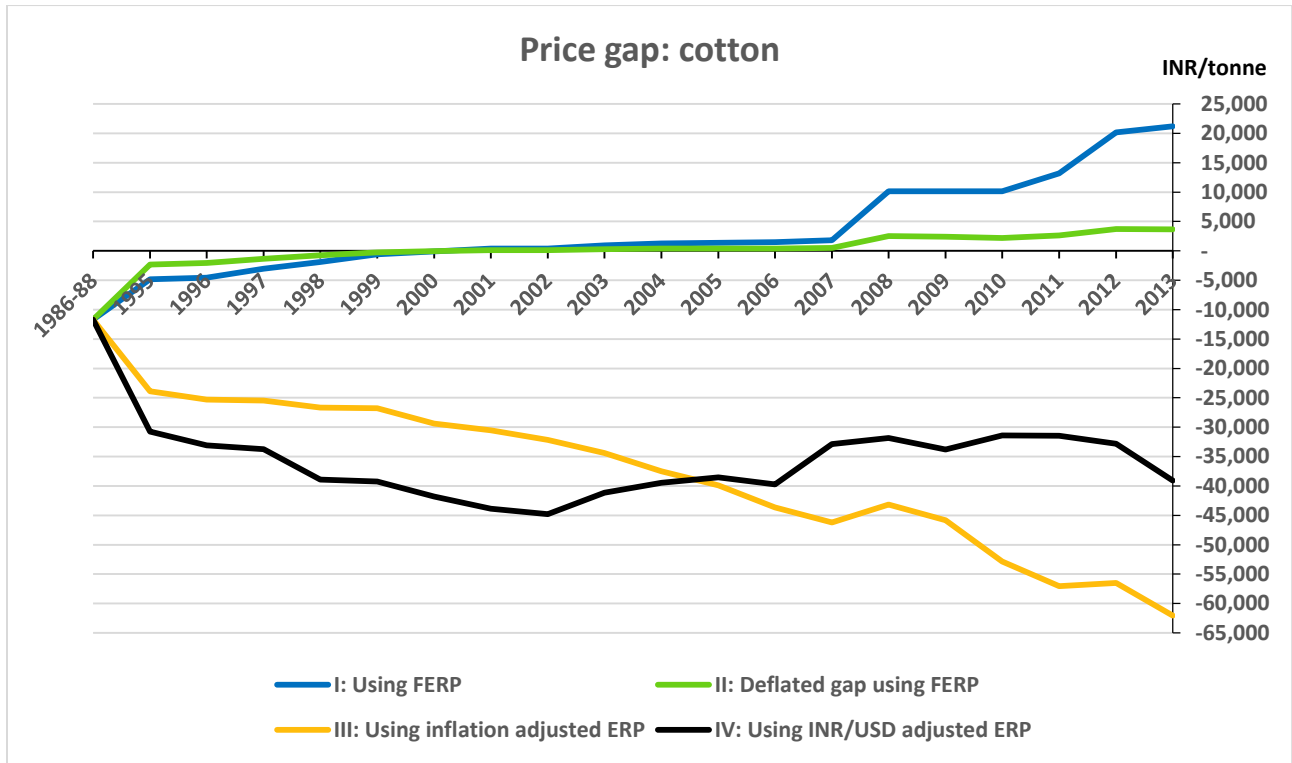
Figure 3.b. AMS: cotton
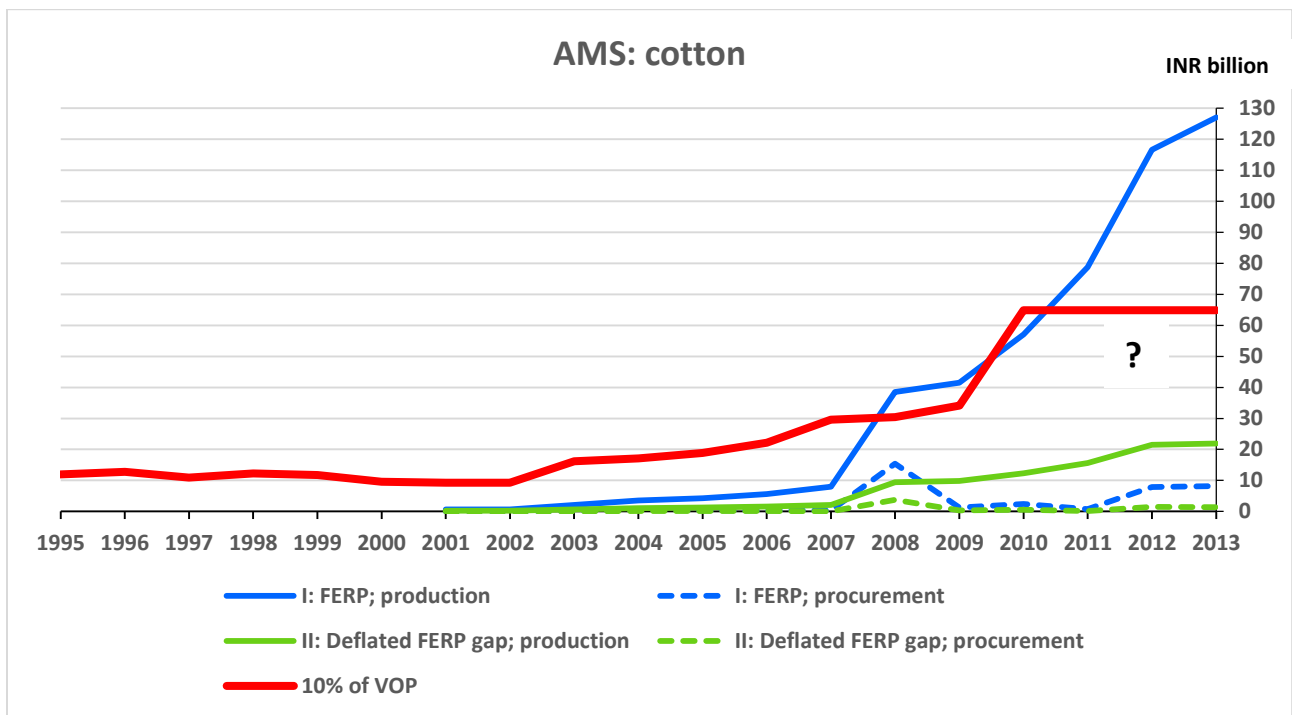
Figure 4.a. Price gap: sugarcane

Price gap: sugarcane

INR/tonne

Legend:
- I: Using FERP
- II: Deflated gap using FERP
- III: Using inflation adjusted ERP
- IV: Using INR/USD adjusted ERP

Figure 4.b. AMS: sugarcane

AMS: sugarcane

INR billion

Legend:
- I: FERP; production
- II: Deflated FERP gap; production
- III: Inflation adjusted ERP; production
- IV: INR/USD adjusted ERP; production
- 10% of VOP
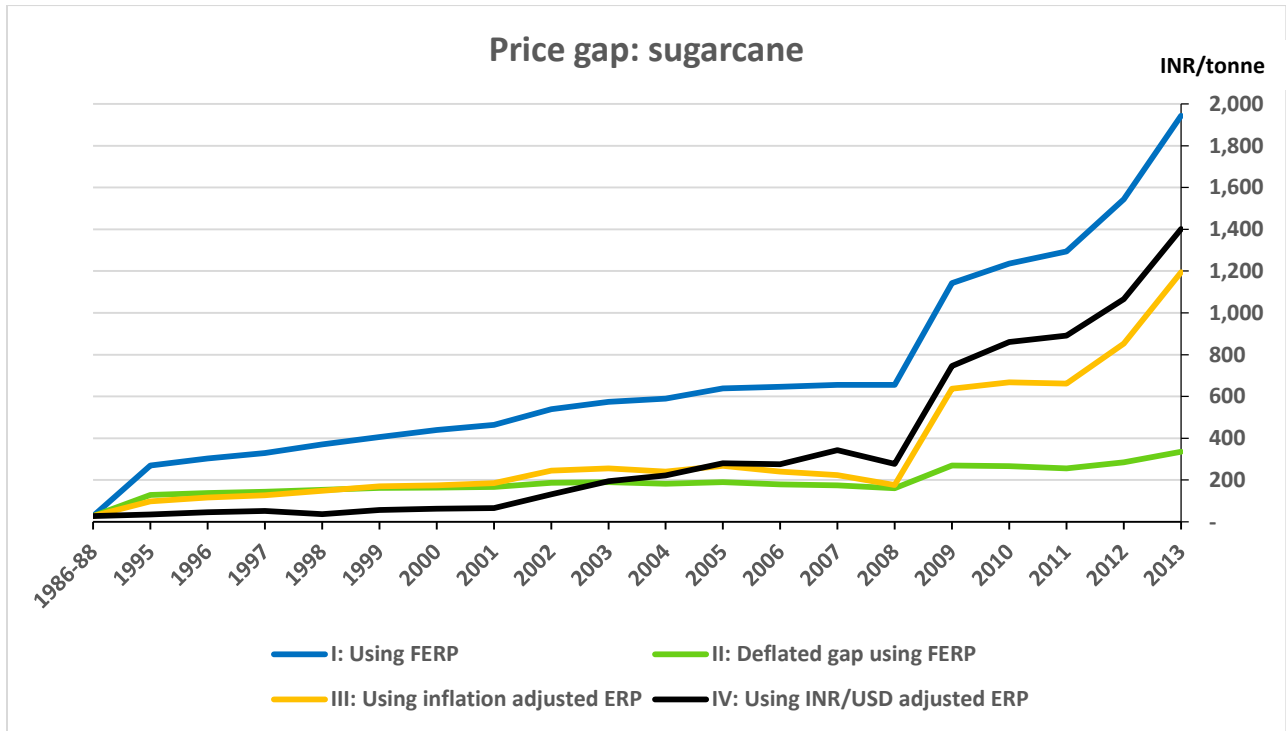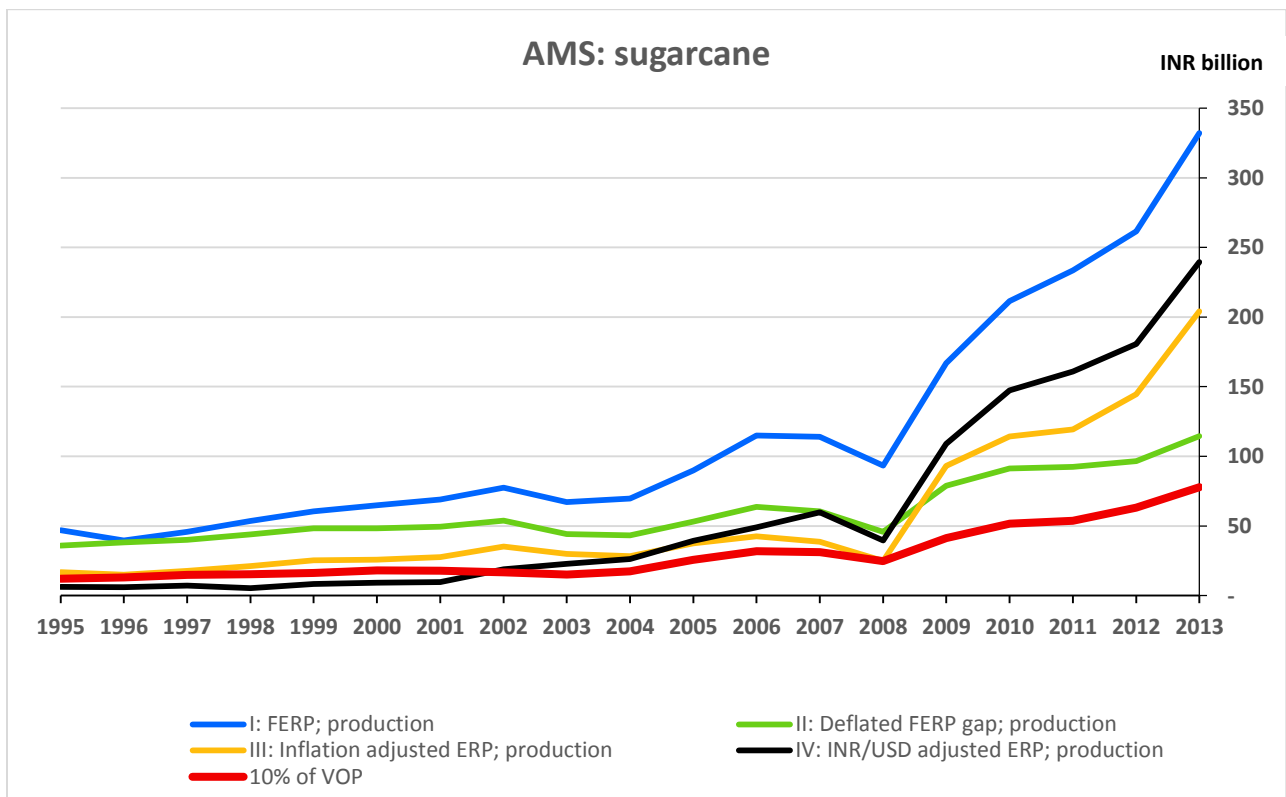
Figure 5. Non-product-specific AMS
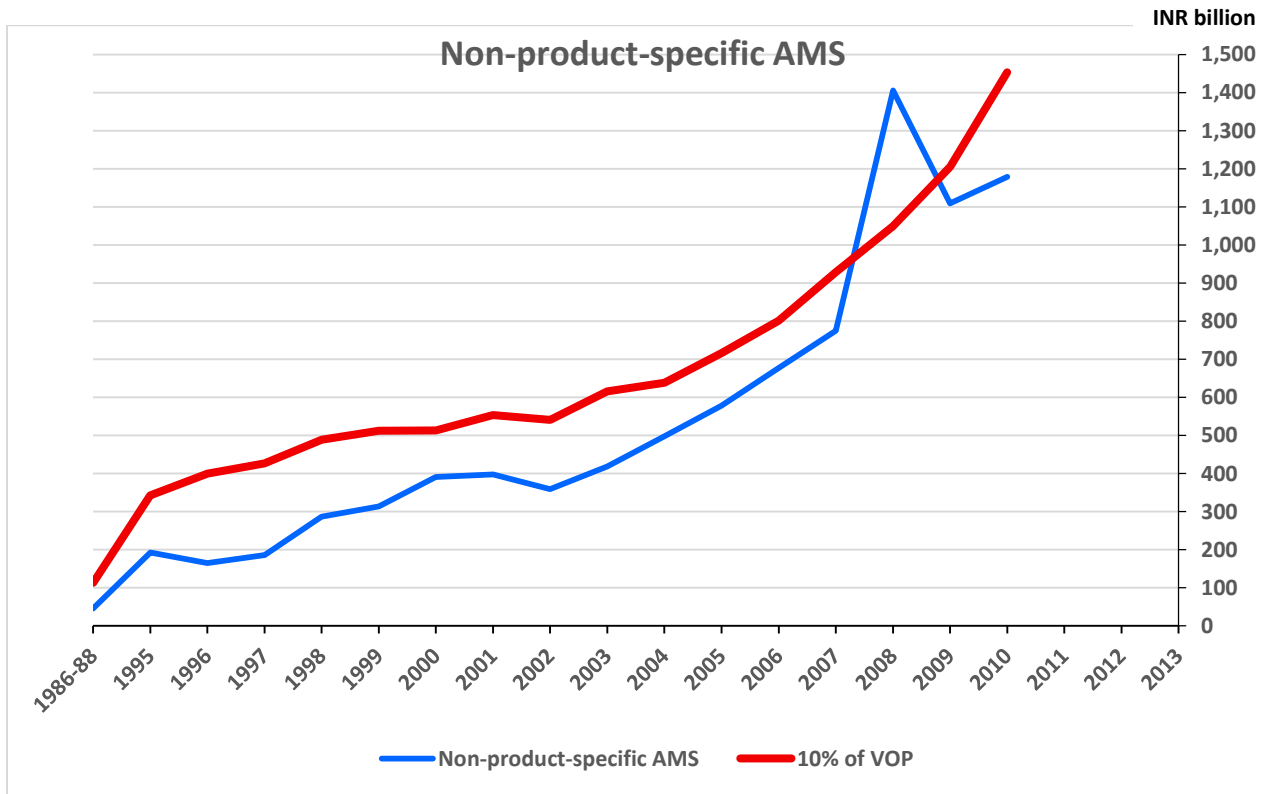
Data appendix

Introduction

The data appendix has two parts.
- The "Data sources" part lists the sources of the data used in the calculations for rice, wheat, cotton, and sugarcane AMSs and the non-product-specific AMS.
- As a second part, the listing of the data sources is followed by a set of tables, occupying four pages for each of the rice, wheat, cotton and sugarcane AMSs and two pages for the non-product-specific AMS. The first page shows data for AGST and for 1995-2003, with a continuation with more rows for the same years on the second page. The third and fourth pages show the corresponding rows for 2004-2013.
- These tables show the data in bold and the codes for the data sources and calculations in the shaded rows. In the shaded rows, codes in capitals refer to the source code in "Data sources", and codes in lower case refer to calculation formula in the table itself.

Data sources

Source code	Source

Exchange rates, fixed external reference prices, and some other variables, e.g., parts of NPS AMS

A1 WTO. No date. Supporting tables relating to commitments on agricultural products in Part IV of the Schedules. G/AG/AGST/IND, World Trade Organization.

A2 WTO. 1998. Notification. G/AG/N/IND/1, Committee on Agriculture, World Trade Organization, 17 June.

A3 WTO. 2002. Notification. G/AG/N/IND/2, Committee on Agriculture, World Trade Organization, 11 June.

A4 WTO. 2011. Notification. G/AG/N/IND/7, Committee on Agriculture, World Trade Organization, 9 June.

A5 Average for financial year. Reserve Bank of India. http://www.rbi.org.in/scripts/AnnualPublications.aspx?head=Handbook%20of%20Statistics%20on%20Indian%20Economy

A6 Assumed exchange rate for financial year 2013-14

Inflation

B1 Wholesale price index, all commodities, Reserve Bank of India. Rebased to average 1986-88 = 100.

http://www.rbi.org.in/SCRIPTs/PublicationsView.aspx?id=14395

B2   As in B1, using 2012-13 index from Wholesale Price Index (WPI) Data 2004-05=100).

http://www.eaindustry.nic.in/wpi_data_display/display_data.asp

B3   As in B2, assuming 2013-14 index 7% higher than 2012-13

Applied administered prices, mainly minimum support prices

D1   Minimum support price, paddy (multiplied by 1.5) or wheat.
http://webcache.googleusercontent.com/search?q=cache:http://agricoop.nic.in/farmprices/price2.htm

D2   Minimum support price, paddy, common (multiplied by 1.5) or wheat.
http://eands.dacnet.nic.in/MSP/msp-11-08-2004.htm

D3   Minimum support price, paddy, common (multiplied by 1.5) or wheat.
http://eands.dacnet.nic.in/msp/msp_5sept08.pdf

D4   Minimum support price, paddy, common (multiplied by 1.5) or wheat. Minimum Support Price (MSP) 17 October 2013.
http://eands.dacnet.nic.in/msp/MSP(17-102013).pdf

D5   Minimum support price, wheat. Table 25. Minimum Support Price for Foodgrains According to Crop Year (Fair Average Quality). http://www.rbi.org.in/scripts/PublicationsView.aspx?id=15146

D6   Minimum support price, cotton. Simple average of F-414 etc. and H-4.
http://webcache.googleusercontent.com/search?q=cache:http://agricoop.nic.in/farmprices/price2.htm

D7   Minimum support price, cotton. Simple average of F-414 etc. and H-4.
http://eands.dacnet.nic.in/MSP/msp-11-08-2004.htm

D8   Minimum support price, cotton. Simple average of F-414 etc. and H-4.
http://eands.dacnet.nic.in/msp/msp_5sept08.pdf

D9   Minimum support price, cotton. Simple average of medium staple and long staple.
http://eands.dacnet.nic.in/msp/MSP(17-102013).pdf

D10   Minimum support price, sugarcane.
http://webcache.googleusercontent.com/search?q=cache:http://agricoop.nic.in/farmprices/price2.htm

D11   Statutory minimum price, sugarcane.
http://eands.dacnet.nic.in/MSP/msp-11-08-2004.htm

D12   Statutory minimum price, sugarcane.
http://eands.dacnet.nic.in/msp/msp_5sept08.pdf

D13   Fair and remunerative price, sugarcane.
http://eands.dacnet.nic.in/msp/MSP(17-102013).pdf

Production

E1   Table 4.6(a), "All-India Area, Production and Yield of Rice along with coverage under
      Irrigation",http://eands.dacnet.nic.in/Publication12-12-012/Agriculture_at_a_Glance%202012/Pages38-84.pdf

E2   Rice, total, "As on 24 September2013" http://eands.dacnet.nic.in/Advance_Estimate/1stadv2013-14_Eng.pdf

E3   Table 4.7(a) "All-India Area, Production and Yield of Wheat along with coverage under Irrigation",
      http://eands.dacnet.nic.in/Publication12-12-2012/Agriculture_at_a_Glance%202012/Pages38-84.pdf

E4   Wheat, "As on 24 September2013" http://eands.dacnet.nic.in/Advance_Estimate/1stadv2013-14_Eng.pdf

E5   Calculated from Table 4.21(a) "All-India Area, Production and Yield of Cotton along with coverage under Irrigation",
      Agricultural Statistics at a Glance 2012
      http://eands.dacnet.nic.in/Publication12-12-2012/Agriculture_at_a_Glance%202012/Pages85-136.pdf

E6   Calculated from Table "As on 24.09.2013", Agricultural Statistics at a Glance 2012
      http://eands.dacnet.nic.in/Advance_Estimate/1stadv2013-14_Eng.pdf

E7   Sugarcane used for sugar production. Table 6 (page 20), Reports of the Commission for Agricultural Costs and Prices for
      the Crops Sown during 1999-2000 Season, Ministry of Agriculture, Government of India, 2000.

E8   Calculated from Production, Table 4.23(a)" All-India Area, Production and Yield of Sugarcane (Cane) from 1950-51 to
      2007-08 along with percentage coverage under Irrigation". Agricultural Statistics at a Glance 2008. Sugarcane used for
      production of sugar is assumed here to be 50 percent of production of sugarcane (has at times exceeded 60 percent; is
      generally increasing). Other sugarcane is used for seed, feed, chewing, gur and khandsari.
      http://eands.dacnet.nic.in/At_A_Glance-2008/pcrops.html

E9   Calculated (as per E8) from Table "As on 24.09.2013", Agricultural Statistics at a Glance 2012.
      http://eands.dacnet.nic.in/Advance_Estimate/1stadv2013-14_Eng.pdf

Procurement

F1   Table 2.5, Procurement of Kharif Cereals, "Total in terms of rice", Report of the Commission for Agricultural Costs and
      Prices on Price Policy for Crops Sown in 1990-91 Season, Commission for Agricultural Costs and Prices, Government of
      India, no date. Compendium reports at http://cacp.dacnet.nic.in/

F2   Table 9.1, "State-wise Procurement of Rice and Wheat in Major Rice/Wheat Producing States During 1991-92 to 2002-
      2003 (According to Marketing Year)". http://agricoop.nic.in/statistics2003/chap9.htm#chap91

F3   Table 9.1, "State-wise Procurement of Rice and Wheat in Major Rice and Wheat Producing States from 1996-97".
      http://eands.dacnet.nic.in/At_Glance_2008/agencies_new.htm

F4   Table 9.1(a), "State-wise Procurement of Rice and Wheat in Major Rice and Wheat Producing States (According to

Marketing Year)". http://eands.dacnet.nic.in/Publication12-12-2012/Agriculture_at_a_Glance%202012/Pages173-241.pdf

F5   Grain and Feed Update, GAIN IN3124, November 2013, Foreign Agricultural Service, U.S. Department of Agriculture. (2013-14 is "target")

F6   Table 1.1, page 124, "Food Grains: Procurement and Stocks", Report of the Commission for Agricultural Costs and Prices on Price Policy for Crops Sown in 1989-90 Season, Commission for Agricultural Costs and Prices, Government of India, no date. Compendium reports at http://cacp.dacnet.nic.in/

F7   Annex 2. India Cotton and Textile Industries Reforming to Compete. Allied Publishers and the World Bank. 2000. http://books.google.ca/books?id=wJqAlcbS9TwC&pg=PA59&lpg=PA59&dq=1986+cotton+procurement&source=bl&ots=lUK-V_HKrY&sig=9roy8v8aZ4YSDvmZ3cXgVZiXttc&hl=en&sa=X&ei=9rfIUpviLaWZ2QXYhIC4CQ&ved=0CCwQ6AEwAA#v=onepage&q=1986%20cotton%20procurement&f=false

F8   Calculated from Table 9.2 "State-wise Purchases of Cotton from 1995-96 to 2006-07 (October to September)". http://eands.dacnet.nic.in/At_A_Glance-2007/Agencies.htm

F9   Calculated from Table 9.2 "State-wise Purchases of Cotton from 1998-99 to 2007-08 (October to September)". http://eands.dacnet.nic.in/At_Glance_2008/agencies_new.htm

F10   Calculated from Table 9.2(a) "Statewise Cotton Purchases by Cotton Corporation of India from 2004-05 to 2009-2010". http://eands.dacnet.nic.in/At_Glance_2010/agencies_new.htm

F11   Calculated from Table 9.2(a) "Statewise Cotton Purchases by Cotton Corporation of India from 2006-07 to 2011-2012". http://eands.dacnet.nic.in/Publication12-12-2012/Agriculture_at_a_Glance%202012/Pages173-241.pdf

F12   Calculated from table "Statewise MSP operations". http://cotcorp.gov.in/msp.aspx

F13   Assume same as in 2012-13

F14   No procurement of sugarcane

Product-specific AMS components other than market price support (rice and wheat only)

G1   Assumed nil

G2   Table A.8. Hoda and Gulati (2013)

G3   Average of 2008-10 estimates as per G2

G4   Table A.9. Hoda and Gulati (2013)

G5   Average of 2008-10 estimates as per G4

Value of production

H1 Statement 1: Paddy. "Statewise estimates of value of output from agriculture and livestock (1990-91 to 2002-03)".
2006. Central Statistical Organisation. Ministry of Statistics and Programme Implementation, Government of India.
http://mospi.nic.in/Mospi_New/upload/ftest11.htm

H2 Statement 1 "Statewise Value of Output (At Current Prices)". 2008. Statewise estimates of value of output from
agriculture and allied activities with new base-year 1999-2000 (1999-2000 to 2005-06). Central Statistical Organisation.
Ministry of Statistics and Programme Implementation, Government of India.
http://164.100.34.62:8080/dwh/pdf/NAD/Value%20of%20Output%20of%20Agriculture.pdf

H3 Page 300, "Statewise estimates of value of output from agriculture and allied activities with new base year 2004-2005 (2004-05 to
2010-11)". 2013. Central Statistics Office. Ministry of Statistics and Programme Implementation, Government of India.
http://mospi.nic.in/mospi_new/upload/Statewise_Estimates_of_Value_Output.pdf

H4 Estimated as minimum support price * total production * 1.05 (factor 1.05 because the minimum support price times
total production historically underestimates value of production by several percentage points)

H5 Statement 2: Wheat. Statewise estimates of value of output from agriculture and livestock (1990-91 to 2002-03).
Central Statistical Organisation. 2006. Ministry of Statistics and Programme Implementation, Government of India.
http://mospi.nic.in/Mospi_New/upload/ftest11.htm

H6 Statement 29: Kapas. Statewise estimates of value of output from agriculture and livestock (1990-91 to 2002-03).
Central Statistical Organisation. 2006. Ministry of Statistics and Programme Implementation, Government of India.
http://mospi.nic.in/Mospi_New/upload/ftest11.htm

H7 Statement 29: Statewise Value of Output (At Current Prices). Statewise estimates of value of output from agriculture
and allied activities with new base-year 1999-2000 (1999-2000 to 2005-06). Central Statistical Organisation. 2008.
Ministry of Statistics and Programme Implementation, Government of India.
http://164.100.34.62:8080/dwh/pdf/NAD/Value%20of%20Output%20of%20Agriculture.pdf

H8 No data. Assume same value of production as in 2010-11

H9 Calculated from Statement 27 "Sugarcane and gur". Assume that value of production of sugarcane equals 2/3 of value
of production of sugarcane and gur. Statewise estimates of value of output from agriculture and livestock (1990-91 to
2002-03). Central Statistical Organisation. 2006. Ministry of Statistics and Programme Implementation, Government of
India. http://mospi.nic.in/Mospi_New/upload/ftest11.htm

H10 Calculated (as per H9) from Statement 27: "Statewise Value of Output (At Current Prices)". Statewise estimates of value
of output from agriculture and allied activities with new base-year 1999-2000 (1999-2000 to 2005-06). Central
Statistical Organisation. 2008. Ministry of Statistics and Programme Implementation, Government of India.
http://164.100.34.62:8080/dwh/pdf/NAD/Value%20of%20Output%20of%20Agriculture.pdf

H11 Statement 32: "Statewise Value of Output (At Current Prices) Sugarcane". (Note: value of production of gur is reported

separately). Statewise estimates of value of output from agriculture and allied activities with new base-year 2004-2005 (2004-05 to 2010-11). 2013. Ministry of Statistics and Programme Implementation, Government of India. http://mospi.nic.in/mospi_new/upload/Statewise_Estimates_of_Value_Output.pdf

H12 Calculated by multiplying the 2010 value of production of sugarcane by the ratio of the 2011 (or 2012 or 2013) fair and remunerative price to the 2010 fair and remunerative price (assumes quantity of production is constant from 2010).

H13 Calculated from Table 2 in A1. Non-product-specific AMS of INR 45,814 million equals 4.05 % of value of production.

H14 Sum of "All agricultural crops" and "Total livestock products", page 302. "Itemwise Value of Output From Agriculture & Allied Sectors (At Current Prices)". Statewise estimates of value of output from agriculture and allied activities with new base-year 2004-2005 (2004-05 to 2010-11). 2013. Ministry of Statistics and Programme Implementation, Government of India. http://mospi.nic.in/mospi_new/upload/Statewise_Estimates_of_Value_Output.pdf

Non-product-specific AMS

K1 Gopinath (2012)

K2 Hoda and Gulati (2013)

Data

Rice: 1986-88 to 2003

			1986-88	1995	1996	1997	1998	1999	2000	2001	2002	2003
a	Exchange rate	INR/USD	13.409	33.447	35.5	37.16	42.07	43.33	45.68	47.69	48.39	45.95
			A1	A2	A3	A3	A4	A4	A4	A4	A4	A4
b	Inflation	index	100.0	210.0	219.7	229.4	243.0	251.0	268.9	278.6	288.1	303.8
			B1	B1	B1	B1	B1	B1	B1	B1	B1	B1
c	Fixed external reference price	INR/tonne	3,520	3,520	3,520	3,520	3,520	3,520	3,520	3,520	3,520	3,520
			A1	A1	A1	A1	A1	A1	A1	A1	A1	A1
d	Inflation adjusted ERP	INR/tonne	3,520	7,393	7,734	8,074	8,554	8,834	9,466	9,807	10,141	10,694
			c*b/100	c*b/100	c*b/100	c*b/100	c*b/100	c*b/100	c*b/100	c*b/100	c*b/100	c*b/100
e	INR/USD adjusted ERP	INR/tonne	3,520	8,780	9,319	9,755	11,044	11,375	11,991	12,519	12,703	12,062
			c*a/13.41	c*a/13.41	c*a/13.41	c*a/13.41	c*a/13.41	c*a/13.41	c*a/13.41	c*a/13.41	c*a/13.41	c*a/13.41
f	Applied administered price	INR/tonne	2,280	5,400	5,700	6,225	6,600	7,350	7,650	7,950	7,950	8,250
			A1	D1	D1	D1	D2	D2	D2	D2	D2	D3
g	Gap using FERP	INR/tonne	-1,240	1,880	2,180	2,705	3,080	3,830	4,130	4,430	4,430	4,730
			f-c	f-c	f-c	f-c	f-c	f-c	f-c	f-c	f-c	f-c
h	Deflated gap using FERP	INR/tonne	-1,240	895	992	1,179	1,267	1,526	1,536	1,590	1,538	1,557
			g/b*100	g/b*100	g/b*100	g/b*100	g/b*100	g/b*100	g/b*100	g/b*100	g/b*100	g/b*100
i	Gap using inflation adjusted ERP	INR/tonne	-1,240	-1,993	-2,034	-1,849	-1,954	-1,484	-1,816	-1,857	-2,191	-2,444
			f-d	f-d	f-d	f-d	f-d	f-d	f-d	f-d	f-d	f-d
j	Gap using INR/USD adjusted ERP	INR/tonne	-1,240	-3,380	-3,619	-3,530	-4,444	-4,025	-4,341	-4,569	-4,753	-3,812
			f-e	f-e	f-e	f-e	f-e	f-e	f-e	f-e	f-e	f-e
k	Production	million tonnes	62.64	76.98	81.73	82.54	86.08	89.68	84.98	93.34	71.82	88.53
			E1 (=A1)	E1	E1	E1	E1	E1	E1	E1	E1	E1
l	Procurement	million tonnes	7.92	10.05	12.96	15.49	12.60	18.23	21.28	22.13	16.42	22.83
			F1	F2	F2	F2	F3	F3	F3	F4	F4	F4

(Rice table continues with rows m to u)

Rice: 1986-88 to 2003 (continued)

			1986-88	1995	1996	1997	1998	1999	2000	2001	2002	2003
m	Product-spec. AMS support; not MPS	INR million	0	0	0	0	0	0	0	0	0	0
			G1	G1	G1	G1	G1	G1	G1	G1	G1	G1
n	AMS: gap using FERP; production	INR million	-77,669	144,722	178,171	223,271	265,126	343,474	350,967	413,496	318,163	418,747
			g*k + m	g*k + m	g*k + m	g*k + m	g*k + m	g*k + m	g*k + m	g*k + m	g*k + m	g*k + m
o	AMS: gap using FERP; procurement	INR million	-9,825	18,888	28,253	41,890	38,805	69,813	87,891	98,027	72,749	107,976
			g*l + m	g*l + m	g*l + m	g*l + m	g*l + m	g*l + m	g*l + m	g*l + m	g*l + m	g*l + m
p	AMS: deflated gap using FERP; production	INR million	-77,669	68,905	81,096	97,338	109,096	136,861	130,505	148,418	110,434	137,827
			h*k + m	h*k + m	h*k + m	h*k + m	h*k + m	h*k + m	h*k + m	h*k + m	h*k + m	h*k + m
q	AMS: deflated gap using FERP; procurement	INR million	-9,825	8,993	12,860	18,262	15,968	27,818	32,682	35,185	25,251	35,540
			h*l + m	h*l + m	h*l + m	h*l + m	h*l + m	h*l + m	h*l + m	h*l + m	h*l + m	h*l + m
r	AMS: gap using INR/USD adjusted ERP; production	INR million	-77,669	-260,206	-295,790	-291,356	-382,523	-360,923	-368,938	-426,481	-341,351	-337,507
			j*k + m	j*k + m	j*k + m	j*k + m	j*k + m	j*k + m	j*k + m	j*k + m	j*k + m	j*k + m
s	AMS: gap using INR/USD adjusted ERP; procurement	INR million	-9,825	-33,961	-46,904	-54,664	-55,988	-73,360	-92,391	-101,105	-78,052	-87,028
			j*l + m	j*l + m	j*l + m	j*l + m	j*l + m	j*l + m	j*l + m	j*l + m	j*l + m	j*l + m
t	Value of production	INR million		479,316	552,916	586,946	704,993	704,160	646,024	736,720	588,127	726,360
			No data	H1	H1	H1	H1	H2	H2	H2	H2	H2
u	10% of value of production	INR million		47,932	55,292	58,695	70,499	70,416	64,602	73,672	58,813	72,636
			No data	t*0.1	t*0.1	t*0.1	t*0.1	t*0.1	t*0.1	t*0.1	t*0.1	t*0.1

(Rice table continues with years 2004 to 2013 on next page)

Rice: 2004 to 2013

			2004	2005	2006	2007	2008	2009	2010	2011	2012	2013
a	Exchange rate	INR/USD	44.93	44.27	45.28	40.24	45.92	47.42	45.58	47.92	54.41	60.00
			A5	A5	A5	A5	A5	A5	A5	A5	A5	A6
b	Inflation		323.5	338.1	360.4	377.2	407.6	423.2	463.6	505.0	542.2	580.2
			B1	B1	B1	B1	B1	B1	B1	B1	B2	B3
c	Fixed external reference price	INR/tonne	3,520	3,520	3,520	3,520	3,520	3,520	3,520	3,520	3,520	3,520
			A1	A1	A1	A1	A1	A1	A1	A1	A1	A1
d	Inflation adjusted ERP	INR/tonne	11,388	11,900	12,686	13,278	14,348	14,895	16,318	17,776	19,086	20,422
			c*b/100	c*b/100	c*b/100	c*b/100	c*b/100	c*b/100	c*b/100	c*b/100	c*b/100	c*b/100
e	INR/USD adjusted ERP	INR/tonne	11,795	11,622	11,888	10,564	12,054	12,447	11,964	12,580	14,283	15,751
			c*a/13.409	c*a/13.409	c*a/13.409	c*a/13.409	c*a/13.409	c*a/13.409	c*a/13.409	c*a/13.409	c*a/13.409	c*a/13.409
f	Applied administered price	INR/tonne	8,400	8,550	8,700	10,575	12,750	14,250	15,000	16,200	18,750	19,650
			D3	D3	D3	D3	D3	D4	D4	D4	D4	D4
g	Gap using FERP	INR/tonne	4,880	5,030	5,180	7,055	9,230	10,730	11,480	12,680	15,230	16,130
			f-c	f-c	f-c	f-c	f-c	f-c	f-c	f-c	f-c	f-c
h	Deflated gap using FERP	INR/tonne	1,508	1,488	1,437	1,870	2,264	2,536	2,476	2,511	2,809	2,780
			g/b*100	g/b*100	g/b*100	g/b*100	g/b*100	g/b*100	g/b*100	g/b*100	g/b*100	g/b*100
i	Gap using inflation adjusted ERP	INR/tonne	-2,988	-3,350	-3,986	-2,703	-1,598	-645	-1,318	-1,576	-336	-772
			f-d	f-d	f-d	f-d	f-d	f-d	f-d	f-d	f-d	f-d
j	Gap using INR/USD adjusted ERP	INR/tonne	-3,395	-3,072	-3,188	11	696	1,803	3,036	3,620	4,467	3,899
			f-e	f-e	f-e	f-e	f-e	f-e	f-e	f-e	f-e	f-e
k	Production	million tonnes	83.13	91.79	93.36	96.69	99.18	89.09	95.98	105.30	104.40	105.00
			E1	E1	E1	E1	E1	E1	E1	E2	E2	E2
l	Procurement	million tonnes	24.68	27.66	25.11	28.74	34.10	32.03	34.20	35.03	34.02	34.02
			F4	F4	F4	F4	F4	F4	F4	F4	F5	F5

(Rice table continues with rows m to u)

Rice: 2004 to 2013 (continued)

			2004	2005	2006	2007	2008	2009	2010	2011	2012	2013
m	Product-spec. AMS support; not MPS	INR million	0	0	0	100	1,480	2,940	1,630	2,285	2,285	2,285
			G1	G1	G1	G2	G2	G2	G2	G3	G3	G3
n	AMS: gap using FERP; production	INR million	405,674	461,704	483,605	682,248	916,911	958,876	1,103,480	1,337,489	1,592,297	1,695,935
			g*k + m	g*k + m	g*k + m	g*k + m	g*k + m	g*k + m	g*k + m	g*k + m	g*k + m	g*k + m
o	AMS: gap using FERP; procurement	INR million	120,458	139,110	130,054	202,832	316,260	346,665	394,223	446,415	520,410	551,028
			g*l + m	g*l + m	g*l + m	g*l + m	g*l + m	g*l + m	g*l + m	g*l + m	g*l + m	g*l + m
p	AMS: deflated gap using FERP; production	INR million	125,398	136,571	134,189	180,939	226,058	228,849	239,308	266,682	295,535	294,214
			h*k + m	h*k + m	h*k + m	h*k + m	h*k + m	h*k + m	h*k + m	h*k + m	h*k + m	h*k + m
q	AMS: deflated gap using FERP; procurement	INR million	37,235	41,148	36,087	53,845	78,703	84,170	86,315	90,232	97,844	96,870
			h*l + m	h*l + m	h*l + m	h*l + m	h*l + m	h*l + m	h*l + m	h*l + m	h*l + m	h*l + m
r	AMS: gap using INR/USD adjusted ERP; production	INR million	-282,225	-282,002	-297,608	1,195	70,541	163,539	292,989	383,444	468,645	411,720
			j*k + m	j*k + m	j*k + m	j*k + m	j*k + m	j*k + m	j*k + m	j*k + m	j*k + m	j*k + m
s	AMS: gap using INR/USD adjusted ERP; procurement	INR million	-83,802	-84,966	-80,035	425	25,227	60,686	105,442	129,070	154,254	134,942
			j*l + m	j*l + m	j*l + m	j*l + m	j*l + m	j*l + m	j*l + m	j*l + m	j*l + m	j*l + m
t	Value of production	INR million	731,619	811,383	880,959	1,083,235	1,325,109	1,368,480	1,522,984	1,791,153	2,055,375	2,166,413
			H3	H3	H3	H3	H3	H3	H3	H4	H4	H4
u	10% of value of production	INR million	73,162	81,138	88,096	108,324	132,511	136,848	152,298	179,115	205,538	216,641
			t*0.1	t*0.1	t*0.1	t*0.1	t*0.1	t*0.1	t*0.1	t*0.1	t*0.1	t*0.1

(End of rice table)

Wheat: 1986-88 to 2003

			1986-88	1995	1996	1997	1998	1999	2000	2001	2002	2003
a	Exchange rate	INR/USD	13.409	33.447	35.5	37.16	42.07	43.33	45.68	47.69	48.39	45.95
			A1	A2	A3	A3	A4	A4	A4	A4	A4	A4
b	Inflation	Index	100.0	210.0	219.7	229.4	243.0	251.0	268.9	278.6	288.1	303.8
			B1	B1	B1	B1	B1	B1	B1	B1	B1	B1
c	Fixed external reference price	INR/tonne	3,540	3,540	3,540	3,540	3,540	3,540	3,540	3,540	3,540	3,540
			A1	A1	A1	A1	A1	A1	A1	A1	A1	A1
d	Inflation adjusted ERP	INR/tonne	3,540	7,435	7,778	8,120	8,603	8,884	9,520	9,863	10,199	10,755
			c*b/100	c*b/100	c*b/100	c*b/100	c*b/100	c*b/100	c*b/100	c*b/100	c*b/100	c*b/100
e	INR/USD adjusted ERP	INR/tonne	3,540	8,830	9,372	9,810	11,107	11,439	12,060	12,590	12,775	12,131
			c*a/13.41	c*a/13.41	c*a/13.41	c*a/13.41	c*a/13.41	c*a/13.41	c*a/13.41	c*a/13.41	c*a/13.41	c*a/13.41
f	Applied administered price	INR/tonne	1,740	3,800	4,750	5,100	5,500	5,800	6,100	6,200	6,200	6,300
			A1	D1	D1	D1	D2	D2	D2	D2	D2	D3
g	Gap using FERP	INR/tonne	-1,800	260	1,210	1,560	1,960	2,260	2,560	2,660	2,660	2,760
			f-c	f-c	f-c	f-c	f-c	f-c	f-c	f-c	f-c	f-c
h	Deflated gap using FERP	INR/tonne	-1,800	124	551	680	807	901	952	955	923	908
			g/b*100	g/b*100	g/b*100	g/b*100	g/b*100	g/b*100	g/b*100	g/b*100	g/b*100	g/b*100
i	Gap using inflation adjusted ERP	INR/tonne	-1,800	-3,635	-3,028	-3,020	-3,103	-3,084	-3,420	-3,663	-3,999	-4,455
			f-d	f-d	f-d	f-d	f-d	f-d	f-d	f-d	f-d	f-d
j	Gap using INR/USD adjusted ERP	INR/tonne	-1,800	-5,030	-4,622	-4,710	-5,607	-5,639	-5,960	-6,390	-6,575	-5,831
			f-e	f-e	f-e	f-e	f-e	f-e	f-e	f-e	f-e	f-e
k	Production	million tonnes	48.20	62.10	69.35	66.35	71.29	76.37	69.68	72.77	65.76	72.16
			E1 (=A1)	E3	E3	E3	E3	E3	E3	E4	E4	E4
l	Procurement	million tonnes	8.32	12.33	8.16	9.30	12.65	14.14	16.36	20.63	19.05	15.80
			F6	F2	F2	F2	F3	F3	F3	F4	F4	F4

(Wheat table continues with rows m to u)

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Wheat 1986-88 to 2003 (continued)

			1986-88	1995	1996	1997	1998	1999	2000	2001	2002	2003
m	Product-spec. AMS support; not MPS	INR million	0	0	0	0	0	0	0	0	0	0
			G1	G1	G1	G1	G1	G1	G1	G1	G1	G1
n	AMS: gap using FERP; production	INR million	-86,760	16,146	83,914	103,506	139,728	172,596	178,381	193,568	174,922	199,162
			g*k + m	g*k + m	g*k + m	g*k + m	g*k + m	g*k + m	g*k + m	g*k + m	g*k + m	g*k + m
o	AMS: gap using FERP; procurement	INR million	-14,970	3,205	9,870	14,505	24,798	31,963	41,871	54,876	50,684	43,611
			g*l + m	g*l + m	g*l + m	g*l + m	g*l + m	g*l + m	g*l + m	g*l + m	g*l + m	g*l + m
p	AMS: deflated gap using FERP; production	INR million	-86,760	7,687	38,194	45,125	57,496	68,773	66,330	69,478	60,715	65,553
			h*k + m	h*k + m	h*k + m	h*k + m	h*k + m	h*k + m	h*k + m	h*k + m	h*k + m	h*k + m
q	AMS: deflated gap using FERP; procurement	INR million	-14,970	1,526	4,492	6,324	10,204	12,736	15,570	19,697	17,592	14,354
			h*l + m	h*l + m	h*l + m	h*l + m	h*l + m	h*l + m	h*l + m	h*l + m	h*l + m	h*l + m
r	AMS: gap using INR/USD adjusted ERP; production	INR million	Not calculated	Not calculated	Not calculated	Not calculated	Not calculated	Not calculated	Not calculated	Not calculated	Not calculated	Not calculated
			j*k + m	j*k + m	j*k + m	j*k + m	j*k + m	j*k + m	j*k + m	j*k + m	j*k + m	j*k + m
s	AMS: gap using INR/USD adjusted ERP; procurement	INR million	Not calculated	Not calculated	Not calculated	Not calculated	Not calculated	Not calculated	Not calculated	Not calculated	Not calculated	Not calculated
			j*l + m	j*l + m	j*l + m	j*l + m	j*l + m	j*l + m	j*l + m	j*l + m	j*l + m	j*l + m
t	Value of production	INR million		264,727	367,353	344,359	417,162	462,241	429,969	445,074	426,405	472,666
			No data	H1	H5	H5	H5	H2	H2	H2	H2	H2
u	10% of value of production	INR million		26,473	36,735	34,436	41,716	46,224	42,997	44,507	42,640	47,267
			No data	t*0.1	t*0.1	t*0.1	t*0.1	t*0.1	t*0.1	t*0.1	t*0.1	t*0.1

(Wheat table continues with years 2004 to 2013 on next page)

Wheat: 2004 to 2013

			2004	2005	2006	2007	2008	2009	2010	2011	2012	2013
a	Exchange rate	INR/USD	44.93	44.27	45.28	40.24	45.92	47.42	45.58	47.92	54.41	60.00
			A5	A5	A5	A5	A5	A5	A5	A5	A5	A6
b	Inflation		323.5	338.1	360.4	377.2	407.6	423.2	463.6	505.0	542.2	580.2
			B1	B1	B1	B1	B1	B1	B1	B1	B2	B3
c	Fixed external reference price	INR/tonne	3,540	3,540	3,540	3,540	3,540	3,540	3,540	3,540	3,540	3,540
			A1	A1	A1	A1	A1	A1	A1	A1	A1	A1
d	Inflation adjusted ERP	INR/tonne	11,452	11,968	12,758	13,353	14,430	14,980	16,411	17,877	19,194	20,538
			c*b/100	c*b/100	c*b/100	c*b/100	c*b/100	c*b/100	c*b/100	c*b/100	c*b/100	c*b/100
e	INR/USD adjusted ERP	INR/tonne	11,862	11,688	11,955	10,624	12,122	12,518	12,032	12,652	14,364	15,840
			c*a/13.409	c*a/13.409	c*a/13.409	c*a/13.409	c*a/13.409	c*a/13.409	c*a/13.409	c*a/13.409	c*a/13.409	c*a/13.409
f	Applied administered price	INR/tonne	6,400	6,500	7,500	10,000	10,800	11,000	11,200	12,850	13,500	14,000
			D3	D3	D3	D3	D5	D4	D4	D4	D4	D4
g	Gap using FERP	INR/tonne	2,860	2,960	3,960	6,460	7,260	7,460	7,660	9,310	9,960	10,460
			f-c	f-c	f-c	f-c	f-c	f-c	f-c	f-c	f-c	f-c
h	Deflated gap using FERP	INR/tonne	884	876	1,099	1,713	1,781	1,763	1,652	1,844	1,837	1,803
			g/b*100	g/b*100	g/b*100	g/b*100	g/b*100	g/b*100	g/b*100	g/b*100	g/b*100	g/b*100
i	Gap using inflation adjusted ERP	INR/tonne	-5,052	-5,468	-5,258	-3,353	-3,630	-3,980	-5,211	-5,027	-5,694	-6,538
			f-d	f-d	f-d	f-d	f-d	f-d	f-d	f-d	f-d	f-d
j	Gap using INR/USD adjusted ERP	INR/tonne	-5,462	-5,188	-4,455	-624	-1,322	-1,518	-832	198	-864	-1,840
			f-e	f-e	f-e	f-e	f-e	f-e	f-e	f-e	f-e	f-e
k	Production	million tonnes	68.64	69.35	75.81	78.57	80.68	80.80	86.87	94.88	92.46	92.50
			E4	E4	E4	E4	E4	E4	E4	E4	E4	E4
l	Procurement	million tonnes	16.80	14.79	9.23	11.13	22.69	25.38	22.51	28.34	38.15	38.15
			F4	F4	F4	F4	F4	F4	F4	F4	F4	F13

(Wheat table continues with rows m to u)

Wheat: 2004 to 2013 (continued)

			2004	2005	2006	2007	2008	2009	2010	2011	2012	2013
m	Product-spec. AMS support; not MPS	INR million	0	0	0	1,070	1,900	2,750	1,270	2,010	2,010	2,010
			G1	G1	G1	G4	G4	G4	G4	G5	G5	G5
n	AMS: gap using FERP; production	INR million	196,310	205,276	300,208	508,632	587,637	605,518	666,694	885,343	922,912	969,560
			g*k + m	g*k + m	g*k + m	g*k + m	g*k + m	g*k + m	g*k + m	g*k + m	g*k + m	g*k + m
o	AMS: gap using FERP; procurement	INR million	48,034	43,770	36,535	72,957	166,622	192,100	173,727	265,809	381,964	401,038
			g*l + m	g*l + m	g*l + m	g*l + m	g*l + m	g*l + m	g*l + m	g*l + m	g*l + m	g*l + m
p	AMS: deflated gap using FERP; production	INR million	60,681	60,720	83,301	135,626	145,596	145,197	144,807	176,928	171,854	168,784
			h*k + m	h*k + m	h*k + m	h*k + m	h*k + m	h*k + m	h*k + m	h*k + m	h*k + m	h*k + m
q	AMS: deflated gap using FERP; procurement	INR million	14,848	12,947	10,138	20,127	42,310	47,498	38,470	54,247	72,086	70,789
			h*l + m	h*l + m	h*l + m	h*l + m	h*l + m	h*l + m	h*l + m	h*l + m	h*l + m	h*l + m
r	AMS: gap using INR/USD adjusted ERP; production	INR million	Not calculated	Not calculated	Not calculated	Not calculated	Not calculated	Not calculated	Not calculated	Not calculated	Not calculated	Not calculated
			j*k + m	j*k + m	j*k + m	j*k + m	j*k + m	j*k + m	j*k + m	j*k + m	j*k + m	j*k + m
s	AMS: gap using INR/USD adjusted ERP; procurement	INR million	Not calculated	Not calculated	Not calculated	Not calculated	Not calculated	Not calculated	Not calculated	Not calculated	Not calculated	Not calculated
			j*l + m	j*l + m	j*l + m	j*l + m	j*l + m	j*l + m	j*l + m	j*l + m	j*l + m	j*l + m
t	Value of production	INR million	477,879	536,933	690,074	820,627	892,649	920,784	1,027,587	1,280,168	1,310,621	1,359,750
			H3	H3	H3	H3	H3	H3	H3	H4	H4	H4
u	10% of value of production	INR million	47,788	53,693	69,007	82,063	89,265	92,078	102,759	128,017	131,062	135,975
			t*0.1	t*0.1	t*0.1	t*0.1	t*0.1	t*0.1	t*0.1	t*0.1	t*0.1	t*0.1

(End of wheat table)

Cotton: 1986-88 to 2003

			1986-88	1995	1996	1997	1998	1999	2000	2001	2002	2003
a	Exchange rate	INR/USD	13.409	33.447	35.5	37.16	42.07	43.33	45.68	47.69	48.39	45.95
			A1	A2	A3	A3	A4	A4	A4	A4	A4	A4
b	Inflation	Index	100.0	210.0	219.7	229.4	243.0	251.0	268.9	278.6	288.1	303.8
			B1	B1	B1	B1	B1	B1	B1	B1	B1	B1
c	Fixed external reference price	INR/tonne	17,333	17,333	17,333	17,333	17,333	17,333	17,333	17,333	17,333	17,333
			A1	A1	A1	A1	A1	A1	A1	A1	A1	A1
d	Inflation adjusted ERP	INR/tonne	17,333	36,405	38,081	39,758	42,123	43,500	46,614	48,290	49,937	52,661
			c*b/100	c*b/100	c*b/100	c*b/100	c*b/100	c*b/100	c*b/100	c*b/100	c*b/100	c*b/100
e	INR/USD adjusted ERP	INR/tonne	17,333	43,235	45,889	48,034	54,381	56,010	59,048	61,646	62,551	59,397
			c*a/13.41	c*a/13.41	c*a/13.41	c*a/13.41	c*a/13.41	c*a/13.41	c*a/13.41	c*a/13.41	c*a/13.41	c*a/13.41
f	Applied administered price	INR/tonne	5,633	12,500	12,800	14,300	15,450	16,750	17,250	17,750	17,750	18,250
			A1	D6	D6	D6	D7	D7	D7	D7	D7	D8
g	Gap using FERP	INR/tonne	-11,700	-4,833	-4,533	-3,033	-1,883	-583	-83	417	417	917
			f-c	f-c	f-c	f-c	f-c	f-c	f-c	f-c	f-c	f-c
h	Deflated gap using FERP	INR/tonne	-1,700	-2,301	-2,063	-1,322	-775	-232	-31	150	145	302
			g/b*100	g/b*100	g/b*100	g/b*100	g/b*100	g/b*100	g/b*100	g/b*100	g/b*100	g/b*100
i	Gap using inflation adjusted ERP	INR/tonne	-11,700	-23,905	-25,281	-25,458	-26,673	-26,750	-29,364	-30,540	-32,187	-34,411
			f-d	f-d	f-d	f-d	f-d	f-d	f-d	f-d	f-d	f-d
j	Gap using INR/USD adjusted ERP	INR/tonne	-11,700	-30,735	-33,089	-33,734	-38,931	-39,260	-41,798	-43,896	-44,801	-41,147
			f-e	f-e	f-e	f-e	f-e	f-e	f-e	f-e	f-e	f-e
k	Production	million tonnes	1.25	2.1862	3.0243	2.686	2.805	2.652	2.38	1.69949	1.46608	2.33393
			A1	E5	E5	E5	E5	E5	E5	E5	E5	E5
l	Procurement	million tonnes	0.028	0.173	0.190	0.138	0.073	0.086	0.103	0.164	0.102	0.157
			F7	F8	F8	F8	F9	F9	F9	F9	F9	F9

(Cotton table continues with rows m to u)

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Cotton 1986-88 to 2003 (continued)

			1986-88	1995	1996	1997	1998	1999	2000	2001	2002	2003
m	Product-spec. AMS support; not MPS	INR million	0	0	0	0	0	0	0	0	0	0
			G1	G1	G1	G1	G1	G1	G1	G1	G1	G1
n	AMS: gap using FERP; production	INR million	-14,605	-10,566	-13,709	-8,147	-5,282	-1,546	-198	709	611	2,140
			g*k + m	g*k + m	g*k + m	g*k + m	g*k + m	g*k + m	g*k + m	g*k + m	g*k + m	g*k + m
o	AMS: gap using FERP; procurement	INR million	-331	-836	-863	-419	-138	-50	-9	69	43	144
			g*l + m	g*l + m	g*l + m	g*l + m	g*l + m	g*l + m	g*l + m	g*l + m	g*l + m	g*l + m
p	AMS: deflated gap using FERP; production	INR million	-14,605	-5,031	-6,240	-3,552	-2,173	-616	-73	254	212	704
			h*k + m	h*k + m	h*k + m	h*k + m	h*k + m	h*k + m	h*k + m	h*k + m	h*k + m	h*k + m
q	AMS: deflated gap using FERP; procurement	INR million	-331	-398	-393	-183	-57	-20	-3	25	15	47
			h*l + m	h*l + m	h*l + m	h*l + m	h*l + m	h*l + m	h*l + m	h*l + m	h*l + m	h*l + m
r	AMS: gap using INR/USD adjusted ERP; production	INR million	Not calculated	Not calculated	Not calculated	Not calculated	Not calculated	Not calculated	Not calculated	Not calculated	Not calculated	Not calculated
			j*k + m	j*k + m	j*k + m	j*k + m	j*k + m	j*k + m	j*k + m	j*k + m	j*k + m	j*k + m
s	AMS: gap using INR/USD adjusted ERP; procurement	INR million	Not calculated	Not calculated	Not calculated	Not calculated	Not calculated	Not calculated	Not calculated	Not calculated	Not calculated	Not calculated
			j*l + m	j*l + m	j*l + m	j*l + m	j*l + m	j*l + m	j*l + m	j*l + m	j*l + m	j*l + m
t	Value of production	INR million		119,796	128,250	108,805	123,089	117,521	96,260	92,824	92,883	162,083
			No data	H6	H6	H6	H6	H7	H7	H7	H7	H7
u	10% of value of production	INR million		11,980	12,825	10,880	12,309	11,752	9,626	9,282	9,288	16,208
			No data	t*0.1	t*0.1	t*0.1	t*0.1	t*0.1	t*0.1	t*0.1	t*0.1	t*0.1

(Cotton table continues with years 2004 to 2013 on next page)

Cotton: 2004 to 2013

			2004	2005	2006	2007	2008	2009	2010	2011	2012	2013
a	Exchange rate	INR/USD	44.93	44.27	45.28	40.24	45.92	47.42	45.58	47.92	54.41	60.00
			A5	A5	A5	A5	A5	A5	A5	A5	A5	A6
b	Inflation	Index	323.5	338.1	360.4	377.2	407.6	423.2	463.6	505.0	542.2	580.2
			B1	B1	B1	B1	B1	B1	B1	B1	B2	B3
c	Fixed external reference price	INR/tonne	17,333	17,333	17,333	17,333	17,333	17,333	17,333	17,333	17,333	17,333
			A1	A1	A1	A1	A1	A1	A1	A1	A1	A1
d	Inflation adjusted ERP	INR/tonne	56,074	58,597	62,466	65,382	70,653	73,345	80,354	87,532	93,980	100,559
			c*b/100	c*b/100	c*b/100	c*b/100	c*b/100	c*b/100	c*b/100	c*b/100	c*b/100	c*b/100
e	INR/USD adjusted ERP	INR/tonne	58,080	57,230	58,537	52,017	59,354	61,293	58,914	61,947	70,331	77,558
			c*a/13.409	c*a/13.409	c*a/13.409	c*a/13.409	c*a/13.409	c*a/13.409	c*a/13.409	c*a/13.409	c*a/13.409	c*a/13.409
f	Applied administered price	INR/tonne	18,600	18,700	18,800	19,150	27,500	27,500	27,500	30,500	37,500	38,500
			D8	D8	D8	D8	D8	D9	D9	D9	D9	D9
g	Gap using FERP	INR/tonne	1,267	1,367	1,467	1,817	10,167	10,167	10,167	13,167	20,167	21,167
			f-c	f-c	f-c	f-c	f-c	f-c	f-c	f-c	f-c	f-c
h	Deflated gap using FERP	INR/tonne	392	404	407	482	2,494	2,403	2,193	2,607	3,719	3,648
			g/b*100	g/b*100	g/b*100	g/b*100	g/b*100	g/b*100	g/b*100	g/b*100	g/b*100	g/b*100
i	Gap using inflation adjusted ERP	INR/tonne	-37,474	-39,897	-43,666	-46,232	-43,153	-45,845	-52,854	-57,032	-56,480	-62,059
			f-d	f-d	f-d	f-d	f-d	f-d	f-d	f-d	f-d	f-d
j	Gap using INR/USD adjusted ERP	INR/tonne	-39,480	-38,530	-39,737	-32,867	-31,854	-33,793	-31,414	-31,447	-32,831	-39,058
			f-e	f-e	f-e	f-e	f-e	f-e	f-e	f-e	f-e	f-e
k	Production	million tonnes	2.793	3.145	3.847	4.400	3.787	4.084	5.61	5.984	5.78	6.001
			E5	E5	E5	E5	E5	E5	E5	E6	E6	E6
l	Procurement	million tonnes	0.475	0.230	0.247	0.169	1.520	0.129	0.232	0.059	0.389	0.389
			F10	F10	F11	F11	F11	F11	F11	F11	F12	F13

(Cotton table continues with rows m to u)

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Cotton: 2004 to 2013 (continued)

			2004	2005	2006	2007	2008	2009	2010	2011	2012	2013
m	Product-spec. AMS support; not MPS	INR million	0	0	0	0	0	0	0	0	0	0
			G1	G1	G1	G1	G1	G1	G1	G1	G1	G1
n	AMS: gap using FERP; production	INR million	3,539	4,299	5,644	7,995	38,502	41,519	57,037	78,791	116,565	127,023
			g*k + m	g*k + m	g*k + m	g*k + m	g*k + m	g*k + m	g*k + m	g*k + m	g*k + m	g*k + m
o	AMS: gap using FERP; procurement	INR million	602	314	363	307	15,451	1,313	2,361	776	7,839	8,227
			g*l + m	g*l + m	g*l + m	g*l + m	g*l + m	g*l + m	g*l + m	g*l + m	g*l + m	g*l + m
p	AMS: deflated gap using FERP; production	INR million	1,094	1,272	1,566	2,120	9,445	9,812	12,303	15,602	21,498	21,895
			h*k + m	h*k + m	h*k + m	h*k + m	h*k + m	h*k + m	h*k + m	h*k + m	h*k + m	h*k + m
q	AMS: deflated gap using FERP; procurement	INR million	186	93	101	81	3,790	310	509	154	1,446	1,418
			h*l + m	h*l + m	h*l + m	h*l + m	h*l + m	h*l + m	h*l + m	h*l + m	h*l + m	h*l + m
r	AMS: gap using INR/USD adjusted ERP; production	INR million	Not calculated	Not calculated	Not calculated	Not calculated	Not calculated	Not calculated	Not calculated	Not calculated	Not calculated	Not calculated
			j*k + m	j*k + m	j*k + m	j*k + m	j*k + m	j*k + m	j*k + m	j*k + m	j*k + m	j*k + m
s	AMS: gap using INR/USD adjusted ERP; procurement	INR million	Not calculated	Not calculated	Not calculated	Not calculated	Not calculated	Not calculated	Not calculated	Not calculated	Not calculated	Not calculated
			j*l + m	j*l + m	j*l + m	j*l + m	j*l + m	j*l + m	j*l + m	j*l + m	j*l + m	j*l + m
t	Value of production	INR million	170,622	188,891	221,149	295,916	303,853	340,958	648,689	648,689	648,689	648,689
			H3	H3	H3	H3	H3	H3	H3	H8	H8	H8
u	10% of value of production	INR million	17,062	18,889	22,115	29,592	30,385	34,096	64,869	64,869	64,869	64,869
			t*0.1	t*0.1	t*0.1	t*0.1	t*0.1	t*0.1	t*0.1	t*0.1	t*0.1	t*0.1

(End of cotton table)

Sugarcane: 1986-88 to 2003

			1986-88	1995	1996	1997	1998	1999	2000	2001	2002	2003
a	Exchange rate	INR/ USD	13.409	33.447	35.5	37.16	42.07	43.33	45.68	47.69	48.39	45.95
			A1	A2	A3	A3	A4	A4	A4	A4	A4	A4
b	Inflation	Index	100.0	210.0	219.7	229.4	243.0	251.0	268.9	278.6	288.1	303.8
			B1	B1	B1	B1	B1	B1	B1	B1	B1	B1
c	Fixed external reference price	INR/ tonne	156	156	156	156	156	156	156	156	156	156
			A1	A1	A1	A1	A1	A1	A1	A1	A1	A1
d	Inflation adjusted ERP	INR/ tonne	156	328	343	358	380	392	420	435	450	474
			c*b/100	c*b/100	c*b/100	c*b/100	c*b/100	c*b/100	c*b/100	c*b/100	c*b/100	c*b/100
e	INR/USD adjusted ERP	INR/ tonne	156	390	413	433	490	505	532	555	564	535
			c*a/13.41	c*a/13.41	c*a/13.41	c*a/13.41	c*a/13.41	c*a/13.41	c*a/13.41	c*a/13.41	c*a/13.41	c*a/13.41
f	Applied administered price	INR/ tonne	183	425	459	484.5	527	561	595	620.5	695	730
			A1	D10	D10	D10	D11	D11	D11	D11	D11	D12
g	Gap using FERP	INR/ tonne	27	269	303	328	371	405	439	464	539	574
			f-c	f-c	f-c	f-c	f-c	f-c	f-c	f-c	f-c	f-c
h	Deflated gap using FERP	INR/ tonne	27	128	138	143	153	161	163	167	187	189
			g/b*100	g/b*100	g/b*100	g/b*100	g/b*100	g/b*100	g/b*100	g/b*100	g/b*100	g/b*100
i	Gap using inflation adjusted ERP	INR/ tonne	27	97	116	126	147	169	175	185	245	256
			f-d	f-d	f-d	f-d	f-d	f-d	f-d	f-d	f-d	f-d
j	Gap using INR/USD adjusted ERP	INR/ tonne	27	35	46	52	37	56	63	65	131	195
			f-e	f-e	f-e	f-e	f-e	f-e	f-e	f-e	f-e	f-e
k	Production	million tonnes	88.25	174.245	130.354	139.77	144.36	149.66	147.98	148.604	143.692	116.931
			A1	E7	E7	E8	E8	E8	E8	E9	E9	E9
l	Procurement	million tonnes	0	0	0	0	0	0	0	0	0	0
			F14	F14	F14	F14	F14	F14	F14	F14	F14	F14

(Sugarcane table continues with rows m to u)

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Sugarcane 1986-88 to 2003 (continued)

			1986-88	1995	1996	1997	1998	1999	2000	2001	2002	2003
m	Product-spec. AMS support; not MPS	INR million	0	0	0	0	0	0	0	0	0	0
			G1	G1	G1	G1	G1	G1	G1	G1	G1	G1
n	AMS: gap using FERP; production	INR million	2,398	46,844	39,476	45,892	53,534	60,588	64,940	69,003	77,427	67,100
			g*k + m	g*k + m	g*k + m	g*k + m	g*k + m	g*k + m	g*k + m	g*k + m	g*k + m	g*k + m
o	AMS: gap using FERP; procurement	INR million	Not calculated	Not calculated	Not calculated	Not calculated	Not calculated	Not calculated	Not calculated	Not calculated	Not calculated	Not calculated
			g*l + m	g*l + m	g*l + m	g*l + m	g*l + m	g*l + m	g*l + m	g*l + m	g*l + m	g*l + m
p	AMS: deflated gap using FERP; production	INR million	5,307	35,981	38,259	40,015	44,057	48,284	48,295	49,535	53,750	44,171
			h*k + m	h*k + m	h*k + m	h*k + m	h*k + m	h*k + m	h*k + m	h*k + m	h*k + m	h*k + m
q	AMS: deflated gap using FERP; procurement	INR million	Not calculated	Not calculated	Not calculated	Not calculated	Not calculated	Not calculated	Not calculated	Not calculated	Not calculated	Not calculated
			h*l + m	h*l + m	h*l + m	h*l + m	h*l + m	h*l + m	h*l + m	h*l + m	h*l + m	h*l + m
x	AMS: gap using inflation adjusted ERP; production	INR million	2,398	16,904	15,109	17,654	21,293	25,306	25,902	27,556	35,219	29,882
			l*k + m	l*k + m	l*k + m	l*k + m	l*k + m	l*k + m	l*k + m	l*k + m	l*k + m	l*k + m
r	AMS: gap using INR/USD adjusted ERP; production	INR million	2,398	6,182	5,940	7,231	5,349	8,438	9,325	9,675	18,889	22,786
			j*k + m	j*k + m	j*k + m	j*k + m	j*k + m	j*k + m	j*k + m	j*k + m	j*k + m	j*k + m
s	AMS: gap using INR/USD adjusted ERP; procurement	INR million	Not calculated	Not calculated	Not calculated	Not calculated	Not calculated	Not calculated	Not calculated	Not calculated	Not calculated	Not calculated
			j*l + m	j*l + m	j*l + m	j*l + m	j*l + m	j*l + m	j*l + m	j*l + m	j*l + m	j*l + m
t	Value of production	INR million		121,753	129,693	148,766	153,105	163,291	180,203	179,499	167,744	151,696
			No data	H9	H9	H9	H9	H10	H10	H10	H10	H10
u	10% of value of production	INR million		12,175	12,969	14,877	15,311	16,329	18,020	17,950	16,774	15,170
			No data	t*0.1	t*0.1	t*0.1	t*0.1	t*0.1	t*0.1	t*0.1	t*0.1	t*0.1

(Sugarcane table continues with years 2004 to 2013 on next page)

Sugarcane: 2004 to 2013

			2004	2005	2006	2007	2008	2009	2010	2011	2012	2013
a	Exchange rate	INR/USD	44.93	44.27	45.28	40.24	45.92	47.42	45.58	47.92	54.41	60.00
			A5	A5	A5	A5	A5	A5	A5	A5	A5	A6
b	Inflation	Index	323.5	338.1	360.4	377.2	407.6	423.2	463.6	505.0	542.2	580.2
			B1	B1	B1	B1	B1	B1	B1	B1	B2	B3
c	Fixed external reference price	INR/tonne	156	156	156	156	156	156	156	156	156	156
			A1	A1	A1	A1	A1	A1	A1	A1	A1	A1
d	Inflation adjusted ERP	INR/tonne	505	528	563	589	637	661	724	789	847	906
			c*b/100	c*b/100	c*b/100	c*b/100	c*b/100	c*b/100	c*b/100	c*b/100	c*b/100	c*b/100
e	INR/USD adjusted ERP	INR/tonne	523	516	527	469	535	552	531	558	634	699
			c*a/13.409	c*a/13.409	c*a/13.409	c*a/13.409	c*a/13.409	c*a/13.409	c*a/13.409	c*a/13.409	c*a/13.409	c*a/13.409
f	Applied administered price	INR/tonne	745	795	802.5	811.8	811.8	1,298.4	1,391.2	1,450	1,700	2,100
			D12	D12	D12	D12	D12	D13	D13	D13	D13	D13
g	Gap using FERP	INR/tonne	589	639	646	656	656	1,142	1,235	1,294	1,544	1,944
			f-c	f-c	f-c	f-c	f-c	f-c	f-c	f-c	f-c	f-c
h	Deflated gap using FERP	INR/tonne	182	189	179	174	161	270	266	256	285	335
			g/b*100	g/b*100	g/b*100	g/b*100	g/b*100	g/b*100	g/b*100	g/b*100	g/b*100	g/b*100
i	Gap using inflation adjusted ERP	INR/tonne	240	267	240	223	175	638	667	661	853	1,194
			f-d	f-d	f-d	f-d	f-d	f-d	f-d	f-d	f-d	f-d
j	Gap using INR/USD adjusted ERP	INR/tonne	222	279	275	343	277	746	860	892	1,066	1,401
			f-e	f-e	f-e	f-e	f-e	f-e	f-e	f-e	f-e	f-e
k	Production	million tonnes	118.544	140.586	177.76	174.094	142.515	146.151	171.191	180.519	169.482	170.887
			E9	E9	E9	E9	E9	E9	E9	E9	E9	E9
l	Procurement	million tonnes	0	0	0	0	0	0	0	0	0	0
			F14	F14	F14	F14	F14	F14	F14	F14	F14	F14

(Sugarcane table continues with rows m to u)

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Sugarcane: 2004 to 2013 (continued)

			2004	2005	2006	2007	2008	2009	2010	2011	2012	2013
m	Product-spec. AMS support; not MPS	INR million	0	0	0	0	0	0	0	0	0	0
			G1	G1	G1	G1	G1	G1	G1	G1	G1	G1
n	AMS: gap using FERP; production	INR million	69,803	89,812	114,893	114,143	93,438	166,940	211,428	233,562	261,652	332,176
			g*k + m	g*k + m	g*k + m	g*k + m	g*k + m	g*k + m	g*k + m	g*k + m	g*k + m	g*k + m
o	AMS: gap using FERP; procurement	INR million	Not calculated	Not calculated	Not calculated	Not calculated	Not calculated	Not calculated	Not calculated	Not calculated	Not calculated	Not calculated
			g*l + m	g*l + m	g*l + m	g*l + m	g*l + m	g*l + m	g*l + m	g*l + m	g*l + m	g*l + m
p	AMS: deflated gap using FERP; production	INR million	43,154	53,132	63,761	60,519	45,845	78,903	91,213	92,500	96,514	114,512
			h*k + m	h*k + m	h*k + m	h*k + m	h*k + m	h*k + m	h*k + m	h*k + m	h*k + m	h*k + m
q	AMS: deflated gap using FERP; procurement	INR million	Not calculated	Not calculated	Not calculated	Not calculated	Not calculated	Not calculated	Not calculated	Not calculated	Not calculated	Not calculated
			h*l + m	h*l + m	h*l + m	h*l + m	h*l + m	h*l + m	h*l + m	h*l + m	h*l + m	h*l + m
x	AMS: gap using inflation adjusted ERP; production	INR/ tonne	28,428	37,547	42,612	38,778	24,977	93,187	114,228	119,394	144,618	204,043
			l*k + m	l*k + m	l*k + m	l*k + m	l*k + m	l*k + m	l*k + m	l*k + m	l*k + m	l*k + m
r	AMS: gap using INR/USD adjusted ERP; production	INR million	26,285	39,279	48,905	59,742	39,484	109,056	147,296	161,003	180,728	239,454
			j*k + m	j*k + m	j*k + m	j*k + m	j*k + m	j*k + m	j*k + m	j*k + m	j*k + m	j*k + m
s	AMS: gap using INR/USD adjusted ERP; procurement	INR million	Not calculated	Not calculated	Not calculated	Not calculated	Not calculated	Not calculated	Not calculated	Not calculated	Not calculated	Not calculated
			j*l + m	j*l + m	j*l + m	j*l + m	j*l + m	j*l + m	j*l + m	j*l + m	j*l + m	j*l + m
t	Value of production	INR million	173,785	256,594	317,827	312,263	248,735	412,816	516,014	537,824	630,552	778,917
			H11	H11	H11	H11	H11	H11	H11	H12	H12	H12
u	10% of value of production	INR million	17,379	25,659	31,783	31,226	24,874	41,282	51,601	53,782	63,055	77,892
			t*0.1	t*0.1	t*0.1	t*0.1	t*0.1	t*0.1	t*0.1	t*0.1	t*0.1	t*0.1

(End of sugarcane table)

Non-product-specific AMS: 1986-88 to 2003

			1986-88	1995	1996	1997	1998	1999	2000	2001	2002	2003
a	Exchange rate	INR/ USD	13.409	33.447	35.5	37.16	42.07	43.33	45.68	47.69	48.39	45.95
			A1	A2	A3	A3	A4	A4	A4	A4	A4	A4
b	Inflation		100.0	210.0	219.7	229.4	243.0	251.0	268.9	278.6	288.1	303.8
			B1	B1	B1	B1	B1	B1	B1	B1	B1	B1
v	Input subsidies reported in STDS:2	USD million	Nil	Nil	3,721.79	4,013.92	6,756.36	7,162.70	8,476.75	8,250.79	7,336.99	9,019.54
			-	–	A3	A3	A4	A4	A4	A4	A4	A4
w	Share of NPS AMS reported in STDS:2	%	-	-	-	-	98.97	98.97	98.97	98.97	98.97	98.97
			-	-	-	-	A4	A4	A4	A4	A4	A4
y	NPS AMS reported in STDS:9	USD million	-	-	930.34	1,003.48	-	-	-	-	-	-
			-	-	A3	A3	-	-	-	-	-	-
z	NPS AMS reported or estimated	USD million	-	5,772.06	4,652.1	5,017.4	6,826.7	7,237.2	8,565.0	8,336.7	7,413.3	9,113.4
			-	A2	v + y	v + y	v/ w*100	v/ w*100	v/ w*100	v/ w*100	v/ w*100	v/ w*100
α	Non-product-specific AMS	INR million	45,814	193,058	165,151	186,447	287,198	313,590	391,248	397,575	358,732	418,761
			A1	z*a	z*a	z*a	z*a	z*a	z*a	z*a	z*a	z*a
	Non-product-specific AMS	INR billion	45.8	193.1	165.2	186.4	287.2	313.6	391.2	397.6	358.7	418.8
			α/1,000	α/1,000	α/1,000	α/1,000	α/1,000	α/1,000	α/1,000	α/1,000	α/1,000	α/1,000
β	Value of production	INR billion	1,131	3,425	3,999	4,268	4,887	5,124	5,128	5,534	5,406	6,155
			H13	H14	H14	H14	H14	H14	H14	H14	H14	H14
	10% of value of production	INR billion	113	343	400	427	489	512	513	553	541	616
			β*.1	β*.1	β*.1	β*.1	β*.1	β*.1	β*.1	β*.1	β*.1	β*.1

(Non-product-specific AMS table continues with years 2004 to 2013 on next page)

Non-product-specific AMS: 2004 to 2013

			2004	2005	2006	2007	2008	2009	2010	2011	2012	2013
a	Exchange rate	INR/ USD	44.93	44.27	45.28	40.24	45.92	47.42	45.58	47.92	54.41	60.00
			A5	A5	A5	A5	A5	A5	A5	A5	A5	A6
b	Inflation		323.5	338.1	360.4	377.2	407.6	423.2	463.6	505.0	542.2	580.2
			B1	B1	B1	B1	B1	B1	B1	B1	B2	B3
v	Input subsidies reported in STDS:2	USD million	No data	No data	No data	No data	No data	No data	No data	No data	No data	No data
			-	-	-	-	-	-	-	-	-	-
w	Share of NPS AMS reported in STDS:2	%	-	-	-	-	-	-	-	-	-	-
			-	-	-	-	-	-	-	-	-	-
y	NPS AMS reported in STDS:9	USD million	-	-	-	-	-	-	-	-	-	-
			-	-	-	-	-	-	-	-	-	-
z	NPS AMS reported or estimated	USD million	11,080.0	13,060.0	14,950.0	19,260.0	30,610.0	23,390.0	25,860.0	No data	No data	No data
			K1	K1	K1	K2	K2	K2	K2	-	-	-
α	Non-product-specific AMS	INR million	497,841	578,212	677,009	775,042	1,405,519	1,109,074	1,178,616	No data	No data	No data
			z*a	z*a	z*a	z*a	z*a	z*a	z*a	-	-	-
	Non-product-specific AMS	INR billion	497.8	578.2	677.0	775.0	1,405.5	1,109.1	1,178.6	No data	No data	No data
			α/1,000	α/1,000	α/1,000	α/1,000	α/1,000	α/1,000	α/1,000	-	-	-
β	Value of production	INR billion	6,385	7,168	8,015	9,288	10,491	12,050	14,531	No data	No data	No data
			H14	H14	H14	H14	H14	H14	H14	-	-	-
	10% of value of production	INR billion	639	717	801	929	1,049	1,205	1,453	No data	No data	No data
			β*.1	β*.1	β*.1	β*.1	β*.1	β*.1	β*.1	-	-	-

(End of non-product-specific AMS table)