THE WTO DISPUTE SETTLEMENT REPORTS

The *Dispute Settlement Reports* of the World Trade Organization (the "WTO") include panel and Appellate Body reports, as well as arbitration awards, in disputes concerning the rights and obligations of WTO Members under the provisions of the *Marrakesh Agreement Establishing the World Trade Organization*. The *Dispute Settlement Reports* are available in English. Volumes comprising one or more complete cases contain a cumulative list of published disputes. The cumulative list for cases that cover more than one volume is to be found in the first volume for that case.

This volume may be cited as DSR 2005:V

TABLE OF CONTENTS

ANNEX I

ANSWERS OF PARTIES TO THE PANEL'S QUESTIONS AND OTHER COMMENTS AND DOCUMENTS RECEIVED FROM PARTIES

ANNEX I-12

BRAZIL'S COMMENTS ON THE 22 DECEMBER US COMMENTS CONCERNING BRAZIL'S ECONOMETRIC MODEL

20 January 2004

TABLE OF CONTENTS

List of Exhibits

Agricultural Outlook Tables, USDA, November 2003, Table 19	Exhibit Bra- 394
"Trade Issues Facing the US Cotton Industry," Speech by Dr. Mark Lange, President and CEO, National Cotton Council, 6 January 2004.	Exhibit Bra- 395
"Farm Groups Shocked at UC Economist's Testimony in WTO Dispute," Western Farm Press, 2 September 2003.	Exhibit Bra- 396
"Report of the Commission on the Application of Payment Limitations for Agriculture," August 2003.	Exhibit Bra- 397
Western Farm Press, 7 January 2003	Exhibit Bra- 398
Acreage Discrepancies.xls	Exhibit Bra- 399
List of Publications of Professors Babcock and Beghin	Exhibit Bra- 400

I. BRAZIL'S INTRODUCTORY COMMENTS

1. Brazil's response to the US 22 December 2003 Comments Concerning Brazil's Econometric Model ("US Critique") is divided into two parts. First, Brazil provides some introductory comments setting the US Critique into perspective. And, second, Brazil offers Professor Sumner's detailed response to the US critique.

2. The United States Critique initially focuses on proving a point that has never been contested by Brazil, i.e., that the Sumner model is not exactly like the FAPRI model. As Professor Sumner points out, he never claimed that his model was identical to the FAPRI model. The United States points to no contradictions between what Professor Babcock has stated and what Professor Sumner stated in Annex I or his other statements concerning the links between his model and the FAPRI model. Nevertheless, while there are differences between the Sumner

model and the FAPRI model, the record is undisputed that the core elements of the FAPRI model – the hundreds of demand and supply equations – are identical. The differences in Professor Sumner's model are primarily the result of his use of the CARD international cotton model and additions to the FAPRI model made by Professor Sumner. The additions were necessary to enable the FAPRI/CARD modelling framework to respond to the questions before this Panel.

3. The United States Critique asserts that Professor Sumner's choice of baselines has prejudiced the outcome to such an extent that his results are not usable.[1] But the record shows that the significant acreage, production, export and price effects found in Professor Sumner's Annex I results using the CARD international cotton model and the amended FAPRI US crops model based off the (recalibrated) FAPRI preliminary November 2002 baseline are essentially the same even when used against other baselines.[2] The United States first argued that Professor Sumner should have used the FAPRI 2003 baseline.[3] Professor Sumner responded by running his model on that later baseline.[4] There were no significant changes between Annex I and those results for either the period from MY 1999-2002 or in the period from MY 2003-2007.[5] The United States Critique raises a new argument that Professor Sumner manipulated the FAPRI preliminary November 2002 baseline.[6] This allegation is wrong. Any differences are the result of a necessary recalibration of the model following the use of the CARD international cotton model rather than the FAPRI international crops models and some update incorporating more recent macroeconomic data.[7] As Professor Sumner demonstrates below, there are no significant differences with his Annex I result by using this slightly modified baseline.[8] Indeed, the fact that Professor Sumner's simulation model generates nearly identical results regardless of the baselines used demonstrates the robustness of the Sumner model.

4. In criticizing Professor Sumner's modelling of the four different types of contract payments, the United States repeats its baseless arguments that the contract payments have absolutely no effect on production decisions for upland cotton. The notion that an estimated[9] $4.7 billion[10] of amber box (presumptively

[1] US 22 December 2003 Comments on Brazil's Econometric Model, paras. 35-38, especially para. 38.

[2] These other baselines include the original FAPRI preliminary November 2002 baseline and the official FAPRI January 2003 baseline.

[3] US 7 October 2003 Oral Statement, paras. 36-39.

[4] Exhibit Bra-325 (Results of Professor Sumner's Modified Model Based on the January 2003 FAPRI baseline); Exhibit Bra-326 (Results of Professor Sumner's Modified Model) and Exhibit Bra-331 (Description of Methodology Comparing the Analysis of US Upland Cotton Subsidies Under the January 2003 Baseline to Analysis under the November 2002 Baseline, Daniel A. Sumner, November 2003).

[5] *See* Exhibit Bra-326 (Results of Professor Sumner's Modified Model).

[6] US 22 December 2003 Comments on Brazil's Econometric Model, para. 36.

[7] *See* Professor Sumner's discussions below, Response to Section III.

[8] *Ibid.*

[9] Brazil is still waiting the United States to provide the data that would permit the calculation of the exact amount of support to upland cotton from the contract payments. Brazil hopes that the United States will produce the data on 20 January 2004.

trade- and production-distorting) subsidies paid to current producers of upland cotton and allocated as support to upland cotton had no effect on upland cotton production has been, and remains today, incredible. The United States has never explained why upland cotton base acreage payments are so much higher than other programme crops (except rice). The obvious reason is that Congress and the NCC expected the bulk of acreage historically planted to upland cotton to continue to be planted to upland cotton, a high-cost crop. Nor has the United States been able to explain how there could be no production effects when US upland cotton producers would have lost $332.79 per acre over a six-year period if they had received no contract payments.[11] NCC representatives stated that these payments were "critically needed"[12] to "make ends meet"[13], i.e., to cover their cost of production.

5. In fact, Professor Sumner has been, in the view of Brazil, probably overly conservative in his estimation of the effects of these contract payments on US upland cotton production. Brazil notes that the nature of Professor Sumner's modelling does not permit an assessment of the cumulative losses such as the $332.79 per acre over a six-year period. Even Professor Sumner acknowledges that his use of only $0.25 of each direct payment dollar as having production effects is probably low in light of the obvious impact of this subsidy in supporting the continued survival of many US producers.[14] Similarly, Professor Sumner's use of only $0.40 of each counter-cyclical payment dollar as having production effects[15] is also low in light of the fact that $1 billion in payments in MY 2002 were crucial to the economic survival of many upland cotton producers. In light of the evidence produced by Brazil, the US Critique that Professor Sumner's analysis is fundamentally wrong for not concluding that these huge subsidies, filling almost half of the cost-revenue gap, have no effects is completely unjustified.

6. The United States Critique also expresses amazement that Professor Sumner could attempt to model the effects of export credit guarantees. The fact that FAPRI has not yet modelled this subsidy is completely irrelevant. Nor is Professor Sumner blazing new economic ground by modelling export credit guarantees. The NCC has a team of economists working with the United States on this dispute, headed by Gary Adams, a former FAPRI economist who worked on the FAPRI upland cotton model.[16] NCC economists concluded in 2001 that major changes to the GSM 102 programme would result in 500,000 fewer bales being exported from the United States and result in a 3 cent per pound increase

[10] This figure is based on Brazil's estimates at paragraph 8 of its 9 September 2003 Further Submission as updated by the table at paragraph 8 of its 22 December 2003 Answers to Questions.

[11] Brazil's 2 December 2003 Oral Statement, para. 27.

[12] Brazil's 22 July 2003 Oral Statement, paras. 52-54 and 58-60 and exhibits cited therein.

[13] Exhibit Bra-324 (NCC Chairman's Report by Kenneth Hood, 24 July 2002, p. 2).

[14] Brazil's 9 September 2003 Further Submission, Annex I (paras 48-51 setting out high and low estimates of production effects for the four contract payments).

[15] *Ibid.*

[16] *See* Exhibit Bra-395 ("Trade Issues Facing the US Cotton Industry," Speech by Dr. Mark Lange, President and CEO, National Cotton Council, San Antonio, 6 January 2004), Lange noted that Gary Adams had spent "countless hours" working with USTR on the Brazil upland cotton dispute.

in prices.[17] It is curious that the United States, assisted by NCC economists, now seeks to contradict the conclusions of the beneficiaries of this GSM 102 programme by asserting that there were no production, export or price effects from this subsidy. The NCC's 2001 findings, which Professor Sumner used conservatively to estimate the production, export and price effects of the export credit guarantee programmes, was supported by the fact that $1.6 billion in US upland cotton exports between MY 1998-2002 were covered by GSM 102 export credit guarantees.[18] Further support for the NCC's 2001 estimate comes from the US Congressional Research Service that concluded that guarantees have "mainly benefited exports of wheat, wheat flour, oilseeds, feed grains and cotton".[19] Andrew Macdonald has also testified to the export-enhancing effects of the US GSM 102 programme.[20] In its evaluation of the US Critique's claim that Professor Sumner – and the 2001 NCC economists – incorrectly estimated the effects of removing the GSM 102 subsidies, the Panel must consider this uncontested evidence.

7. The United States Critique also challenges Professor Sumner's modelling of the effects of removing crop insurance subsidies. The US Critique focuses primarily on the fact that FAPRI has not yet modelled these subsidies.[21] But this is irrelevant. What is relevant are the facts which show that $788 million in crop insurance subsidies were provided to upland cotton producers between MY 1999-2002.[22] And it is relevant that USDA's own economists found that lower pre-2000 ARP Act crop insurance subsidies had significant production and price effects for upland cotton (as opposed to other programme crops).[23] Current higher crop insurance benefits under the 2000 ARP Act would certainly have higher effects. Professor Sumner's crop insurance modelling is also consistent with USDA's own economists' conclusion that the "availability of subsidized crop insurance affects farmers' current crop production decisions by creating a direct incentive to expand production".[24] It is uncontested that the amount of crop insurance subsidies received by upland cotton producers is directly related to the amount of upland cotton they plant.[25] Given this evidence, it was reasonable for Professor Sumner to conclude that each dollar of crop insurance subsidies had direct effects on US production.

---

[17] Exhibit Bra-41 ("The Future of Federal Farm Commodity Programmes (Cotton)," Hearings before the House of Representatives Committee on Agriculture, 15 February 2001, p. 12).

[18] Brazil's 9 September 2003 Further Submission, para. 188.

[19] Brazil's 9 September 2003 Further Submission, para. 189.

[20] Brazil's 9 September 2003 Further Submission, Annex II (Statement of Andrew Macdonald, paras 49-50).

[21] US 22 December 2003 Comments on Brazil's Econometric Model, paras 25-30.

[22] Brazil's 9 September 2003 Further Submission, Table 1, para. 8.

[23] Brazil's 22 August 2003 Rebuttal Submission, paras. 62-66.

[24] Exhibit Bra-63 (C.Edwin Young, Randall D. Schnepf, Jerry R. Skees and William W. Lin: "Production and Price Impacts of US Crop Insurance Subsidies: Some Preliminary Results, p. 4).

[25] Brazil's 22 August 2003 Rebuttal Submission, para. 53.

8. With respect to Professor Sumner's modelling of marketing loan payments, the US Critique is essentially silent.[26] This silence is no doubt due to the fact that Professor Sumner's model uses exactly the same elasticities and estimates of effects as the FAPRI model, for which the United States has indicated it has no objection.[27] Further, Professor Sumner's findings regarding the effects of marketing loan payments between MY 1999-2002 are very much consistent with those of Westcott/Price who found that in MY 2001 that marketing loan payments caused 3 million additional acres to be planted to upland cotton with an implied price decline of 10 cents per pound (or 33 percent of the MY 2001 price).[28] Brazil has already addressed the various US critiques of the use of so-called "lagged prices" by noting that USDA, FAPRI, Professor Sumner and a host of other economists have used these prices in countless models and that any use of futures market prices in large-scale simulation models is impossible.[29] Further, the faulty and primitive US futures methodology for estimating the production effects of marketing loan programmes is no substitute for the comprehensive models used by USDA, FAPRI and Professor Sumner.[30] Most pointedly, the US futures methodology suffers from the fatal flaw that it does not even focus on the price that does get the attention of US producers who depend on marketing loan payments – the adjusted world price (AWP).[31]

9. Nor does the US Critique find any fault with Professor Sumner's analysis of the Step 2 subsidies.[32] Brazil notes that Professor Sumner models the effects of Step 2 domestic and export subsidies in exactly the same manner as FAPRI. Professor Sumner's Step 2 analysis is also completely consistent with the overwhelming evidence that Step 2 export and domestic subsidies have significant production, export, and world price effects. As with the GSM 102 subsidies, the NCC has been quite vocal in praising the production and export effects of the Step 2 subsidies.[33] There would simply be no basis for the United States to contradict these testimonies from the users and beneficiaries of the Step 2 programme.

10. The Panel must also assess the validity of the US critique in view of the overwhelming non-econometric evidence that the US subsidies had significant

---

[26] The United States points out a typo (US 22 December 2003 Comments on Brazil's Econometric Model, paras. 73-74) that did not affect the actual analysis undertaken by Professor Sumner (*see* below, Comments on Section VI).

[27] *See* below, Comments on Section VI.

[28] Brazil's 7 October 2003 Oral Statement, paras. 31-33 and the references contained therein.

[29] *See* Professor Sumner's 9 October 2003 Closing Statement attached as Annex II to Brazil's 9 October 2003 Closing Statement, his 2 December 2003 Oral Statement (Exhibit Bra-342, paras. 24-28), Exhibit Bra-345 (paras. 6-14) as well as Brazil's 22 December 2003 Answers to Questions, paras. 37-42).

[30] *See* Brazil's 2 December 2003 Oral Statement, paras. 42-55.

[31] *Ibid.*

[32] The United States points out a typo (US 22 December 2003 Comments on Brazil's Econometric Model, paras. 76) that did not affect the actual analysis undertaken by Professor Sumner (*see* below, Comments on Section VI).

[33] For an example of the extensive evidence supporting this fact, *see* Brazil's Further Submission, paras. 141, 178-180.

production, export and price effects.[34] For example, the Panel must ask whether it is reasonable to conclude, as the United States argues, that $12.9 billion dollars in amber box, presumed trade-distorting subsidies had no effect on US production, US exports, and world prices. It is further uncontested that USDA's own data shows that the average US upland cotton farm would have lost $872 per acre during MY 1997-2002 – but had a "profit" of $106 per acre when subsidies are included in their revenue.

11. Further, the Panel must also examine the US Critique of Professor Sumner's analysis in light of the evidence of other econometric studies examining the effects of removing US upland cotton subsidies. The United States has argued that all these studies – including USDA's studies – were wrong in finding significant production, export, and price effects. Would the United States also argue that all of these other economists analyzed the US upland cotton subsidies and their effects on the (world) upland cotton market "for the express purpose of achieving pre-conceived results"? [35]Brazil submits that a common sense analysis of these other studies, including USDA's own studies, shows that Professor Sumner's results are both valid as well as conservative. They are certainly within the ranges of the other econometric studies in the record and consistent with what would be expected given the non-econometric evidence in the record.

12. Finally, Brazil notes US suggestions that Professor Sumner made modelling choices "for the express purpose of achieving pre-conceived results"[36] and "in order to exaggerate acreage and ultimately price impacts".[37] These are offensive and inappropriate charges directed at one of the world's leading agricultural economists. Members of the NCC admitted that "Dr. Sumner is a brilliant economist" who is "well-respected" and a "widely recognized UC [University of California] economist" who is a "confidant to the administration on trade and other issues".[38] Personal attacks by the United States against Professor Sumner's integrity are ironic given the fact that only seven months ago he was one of only two private US economists to be asked by the Chairman of the US Commission on the Application of Payment Limitations for Agriculture, Chief USDA Economist Keith Collins, to testify before that Commission. In evaluating the effects of additional payment limitations, the Report of the Commission relies, inter alia, on the testimony and advice provided by Professor Sumner.[39]

13. While the US Government has attacked Professor Sumner's professional integrity, the leaders and members of the US National Cotton Council have gone

---

[34] *See inter alia* Brazil's 9 September 2003 Further Submission, Sections 3.3.4.1-3.3.4.6; Brazil's 7 October 2003 Oral Statement, Section 2; Brazil's 18 November 2003 Further Rebuttal Submission, Sections 3.1-3.4, 3.7; Brazil's 2 December 2003 Oral Statement, Section 5.

[35] US 22 December 2003 Comments on Brazil's Econometric Model, para. 9.

[36] *Ibid.*

[37] US 22 December 2003 Comments on Brazil's Econometric Model, para. 1. *See* also para. 38.

[38] Exhibit Bra-396 ("Farm Groups Shocked at UC Economist's Testimony in WTO Dispute," Western Farm Press, September 2, 2003)(quoting Earl Williams, President of California Cotton Ginners and Growers Association).

[39] Exhibit Bra-397 ("Report of the Commission on the Application of Payment Limitations for Agriculture," August 2003).

further during this long dispute. They have met with and pressured Professor Sumner to discontinue his work before the Panel.[40] Moreover, NCC members have and continue to seek to cut off research and scholarship funds for the University of California at Davis, in protest of Professor's Sumner's work in this dispute.[41] One NCC member representative even went so far as to be quoted as saying that "if this had been a military issue, what Dr. Sumner did would be called treason".[42] Recently, the President of the NCC threatened both Professors Sumner and Babcock with unspecified action following the end of the WTO proceedings, stating "[*i]n another time and venue there will be a full examination of the actions taken by these 2 economists*".[43] This threat was elaborated in a recent analysis in a leading Agricultural Newspaper, the Western Farm Press:

> In the trade issue with Brazil, NCC President and CEO Mark Lange remains incensed at [Brazil's] WTO action. *More specifically, he is angry because two US economists hired on to Brazil's payroll and prepared testimony against the United States in the WTO action.* University of California economist Dan Sumner, former assistant secretary of agriculture, was hired to assist in the case. Lange added that Sumner 'appears to have hired' Professor Bruce Babcock, an agricultural economist at Iowa State University and director of the Center for Agricultural and Rural Development to attempt to modify the Food and Agricultural Policy Research Institute baseline projections for use by the Brazilians." This action was taken without the knowledge of FAPRI," said Lange of the University of Missouri-based facility. Lange said Babcock receives federal funds for the CARD programme and *he pledged "a full examination of the actions of these two guys" once the WTO issue is settled.* California cotton industry leaders and others have protested Sumner's actions to the dean of U.C. Davis school of agriculture and have lobbied for private research and scholarship funds to be withdrawn from the University in protest of Sumner's actions.[44]

14. Over the past six months, NCC members have been instrumental in coordinating efforts to attempt to force officials of the University of California at

---

[40] Exhibit Bra-396 ("Farm Groups Shocked at UC Economist's Testimony in WTO Dispute", Western Farm Press, 2 September 2003)("group of representatives from cotton, wheat and rice met with Professor Sumner in mid-August to express their displeasure over his testimony before the Panel").

[41] Exhibit Bra-396 ("Farm Groups Shocked at UC Economist's Testimony in WTO Dispute", Western Farm Press, 2 September 2003)(Earl Williams, President of the California Cotton Ginners and Growers Associations was quoted as stating "And we are going to bring pressure to bear on the university that would allow someone from a public, taxpayer supported institution to have such latitude that can reap such harm on the supporters of the University".).

[42] Exhibit Bra-396 ("Farm Groups Shocked at UC Economist's Testimony in WTO Dispute", Western Farm Press, 2 September 2003) quoting Earl Williams.

[43] Exhibit Bra-395 ("Trade Issues Facing the US Cotton Industry," Speech by Dr. Mark Lange, President and CEO, National Cotton Council, San Antonio, January 6)(underlining added); *See* also Exhibit Bra- 398 (Western Farm Press, 7 January 2004 , p. 3).

[44] Exhibit Bra-398 (Western Farm Press, 7 January 2004, p. 2).

Davis to require Professor Sumner to stop his work in this dispute.[45] To their credit, these U.C. Davis officials have refused to bend to the pressure.

15. As Dr. Lange's statements quoted above indicates, the NCC now has focused on Professor Babcock for his very limited role in working with Professor Sumner in the application of parts of the FAPRI and CARD models. Professor Babcock's letter[46] is addressed to leading House and Senate staff members who have "relied on FAPRI and CARD to provide objective and high quality quantitative and qualitative assessment of US farm policy alternatives". Professor Babcock's letter states he is "prepared to do whatever it takes to mend this relationship, including disassociating myself from future official FAPRI analyses if so desired". The letter provides the Panel with insights into the type of pressure imposed by the NCC on the economists providing the Panel with assistance in this dispute.

16. These efforts by the representatives of the US upland cotton producers who are heavily dependent upon US subsidies and US Congressional support for their economic survival is perhaps understandable, but nonetheless deplorable. Professor Sumner has demonstrated considerable courage and fortitude in continuing his work to assist the Panel and ultimately all WTO Members in this dispute. Brazil has no doubts that the United States is also appalled at the prospect that either of these two distinguished economists would suffer any adverse professional consequences from their assistance to the Panel and the Parties in this dispute. Given the obligation of all WTO Members to cooperate and assist the Panel in making an objective assessment of the facts of a dispute, Brazil is certain the United States will unequivocally condemn any such threats, including those now being made by the US National Cotton Council.

17. With these introductory remarks in mind, Brazil presents below Professor Sumner's response to the US 22 December 2003 Comments Concerning Brazil's Econometric Model.

II. PROFESSOR SUMNER'S COMMENTS CONCERNING THE US CRITIQUE OF HIS MODEL

Response to "Comments from the United States of America
Concerning Brazil's Econometric Model" dated December 22, 2003
Daniel A. Sumner
20 January 2004

18. This response to the US critique of the modelling work on US cotton subsidies conducted by myself and my colleagues addresses each of the US comments in the order in which they appear in the US critique submitted on 22 De-

---

[45] Exhibit Bra-396 ("Farm Groups Shocked at UC Economist's Testimony in WTO Dispute," Western Farm Press, 2 September 2003).
[46] Exhibit US-114.

cember 2003. However, let me start with some general comments I feel are in order.

19. Much of the US critique repeats the description of my adaptations to the FAPRI model, as provided in Annex I and subsequent documents.[47] The model I developed was based on the core domestic crops model of FAPRI with several additions and modifications to fit the questions before this Panel. I stated in detail where my model made those additions and modifications.[48] Thus, these US comments add nothing by reasserting that my model was not identical to the FAPRI model. Since I never claimed that my model was the FAPRI model, I frankly do not understand the point of these repeated assertions that are written as though they were exposing some revelation.

20. Second, the United States at least three times asserts claims about my motivations for modelling choices. Twice in the very first paragraph the United States asserts that my modelling choices were made "in order to exaggerate" acreage and price impacts. Then in paragraph 9, the United States asserts that my modelling choices were made, "for the express purpose of achieving preconceived results". I am puzzled how the United States would claim to have any evidence about my motivation. But more important, these statements suggest seriously immoral and unprofessional behaviour on my part. This is a very serious charge that I do not take lightly. I submit that besides being simply wrong, such attacks have no place in these proceedings.[49]

21. Most of the substantive issues raised in the US critique are simply restatements of assertions that the United States disagrees with the modelling choices made in Annex I.[50] My arguments for why I modelled the policies as I did have been provided to the Panel on several previous occasions and there is no reason to repeat those arguments in this document. I will refer to those arguments as necessary in footnotes.

Section II

22. Paragraphs 5 to 11 of the US critique are devoted to reasserting what I stressed in Annex I that was submitted many months ago, namely that I made adaptations to the FAPRI modelling framework. As I have explained, the FAPRI framework alone was not appropriate for the analysis of the questions before this

---

[47] *See* my Closing Statement on 9 October 2003, attached as Annex II to Brazil's 9 October 2003 Closing Statement, and my statements in Exhibits Bra-313 to 315, my 2 December 2003 Statement to the Panel in Exhibit Bra-342, as well as the detailed reactions to US criticism of my model in Exhibits Bra-343-345.

[48] *See* Annex I to Brazil's 9 September 2003 Further Submission and Exhibit Bra-313.

[49] Some of the economic material presented by the United States in this case has been authored directly by Dr. Glauber. I note that the 22 December 2003 "Comments" are not attributed to anyone by name, therefore I am unable to respond directly to any individual person with respect to these personal charges.

[50] However, the United States does not propose other methods for modelling the subsidy programmes in case they disagree with my model choices. They simply state that these programmes should not cause any effects – a position that is clearly untenable given the other economic evidence about the effects of the programs, including statements by the users and beneficiaries of the programmes.

Panel and therefore I modified and supplemented the framework. However, let us put these modifications and additions in perspective. Of the hundreds of equations used to compute the results, almost all are directly taken from the FAPRI domestic crops model. The basic behavioural supply and demand equations are taken directly from the FAPRI model as are the elasticities used to quantify those equations. In Annex I, and in subsequent documentation[51], I tried to avoid taking credit for work that was not mine. At the same time, I tried to be clear about the distinctions between my work and that of FAPRI and CARD.

23. Professor Bruce Babcock from CARD – with whom I worked together in his private capacity – provided a letter to Congressional staff economists[52] who are familiar with "official" FAPRI analysis of US policy questions, but who have not followed these proceeding closely. In that letter, Professor Babcock explained to them what he and I have always been clear about and had already stated to this Panel. My analysis used part of the FAPRI modelling system, but was not conducted by the full FAPRI team and was not "official" FAPRI analysis. These Congressional staff members had not had access to Annex I or other material submitted to this Panel and Professor Babcock felt a need to clarify these facts. There was no new information in the letter that he sent these staff members that was not already included in Annex I and in the subsequent material provided to the Panel.

24. For example, Professor Babcock points out that the baseline was the November 2002 preliminary FAPRI baseline not the official 2003 FAPRI baseline that became available after I undertook my analysis. He also points out that I used the CARD international cotton model rather than the FAPRI full international model in my analysis.[53] This is not new to those of us who have participated in this Panel proceeding, but Professor Babcock decided to make these clarifications to the Congressional staff members.[54]

25. One point made in the Babcock letter – and emphasized in the US critique – is the obvious fact that if a different team of analysts with a different model had conducted the analysis the results would have been different. That is always true. Different analysts to whom the same question is posed would come up with at least a somewhat different model. Obviously a FAPRI team conducting an official "FAPRI" analysis would have developed a model that is at least somewhat different from my adaptations. In part this occurs because, with complex issues involved, the questions themselves may be interpreted slightly differently, and because, in many cases, there are a range of equally acceptable approaches to an economic modelling choice. It is much less clear how the direction of the results would have changed if different teams with different models conducted

[51] *See* in particular Exhibit Bra-313.

[52] Exhibit US-114.

[53] I will discuss the latter issue in greater detail in my comment on Section VII.

[54] The letter responds a perception of concern among some in the United States about the participation of US economists and US based models providing evidence on behalf of Brazil. In particular, Professor Babcock clarified that his FAPRI colleagues at the University of Missouri had not participated in the analysis and that this work was done in a private capacity not at a part of an "official" FAPRI project.

analyses. As the review of the independent literature and the independent models in this case suggests, most analyses of US cotton subsidies have found larger impacts than I found in my research.[55] It is not clear whether an "official" FAPRI analysis would have found larger or smaller impacts if FAPRI would have been posed the same questions as those posed in Annex I, and if the FAPRI team analyzing these questions had considered all the evidence presented to this Panel.

Section II. A.

26. The heading of this section is oddly contradicted by its content. The heading says the "Brazil Model Not Comparable to the FAPRI System", yet the next three paragraphs proceed to compare these two models. Several incorrect assertions are included here, but these are repeated in more detail in later sections and so are dealt with below. However, one clarification is important to make both here and below. Whereas the FAPRI system does not include separate explicit provisions for crop insurance and export credit guarantee programmes, this does not imply that the FAPRI system assumes that there are zero supply impacts of these programmes. Rather, effects of these programmes are imbedded in the baseline of the FAPRI framework.

27. If the FAPRI system had been posed questions about the impacts of crop insurance or export credit guarantee programmes, the natural approach would be to proceed as described in Annex I and in subsequent submissions: to ask how a new scenario with these programmes removed would differ from the baseline that includes these programmes. This procedure was precisely what FAPRI analysts did when they analyzed payment limit rules for the Commission on Payment Limitation in analysis presented in June 2003.[56] The FAPRI framework also does not contain any explicit provisions on payment limitations. These were added to the system for the analysis of the effect of payment limitations, much as I added equations on crop insurance and export credit guarantees for purposes of my Annex I analysis.

28. It is simply wrong to assert that, because a programme is not identified separately in the FAPRI framework, its effects must be assumed to be zero. Furthermore, as discussed further below, in some cases the best evidence on the impact of a programme is from the users of that programme. This was my judgment about the impacts of the export credit guarantee programmes. It certainly makes no sense whatsoever to assume that a programme has zero effect, simply because its impacts, which are known to be positive, are difficult to quantify precisely.

Section II. B.1

29. I explained in great detail the basis for my approach to PFC, DP, MLA and CCP payment programmes.[57] Clearly I disagree with the assertion made in

---

[55] *See* for example the review of independent studies in Exhibit Bra-344.

[56] *See* for example, FAPRI analysis FAPRI-UMC Report #05-03 and #06-03 to be found at http://www.fapri.missouri.edu/FAPRI_Publications.htm and partly reproduced in Exhibit Bra-228.

[57] Annex I, paras. 37-51; and my oral statements on 22 July (Exhibit Bra-105, paras 20-33), 2 December (Exhibit Bra-342, paras 31-37) and my closing statement on 9 October (Part 4); Exhibits Bra-

paragraph 16 and 17. There is no new content here and there is no reason to repeat my argument and evidence. I note, however, that no "official" FAPRI analysis of these payment programmes has asked the question how acreage would respond if cotton programmes were removed while the payments for the other programme crops remained in place. The FAPRI analysis is concerned with the very different question of what would be the impact for all crops if the payment programmes were removed for all crops simultaneously. Therefore, I had to make some adjustments to the treatment of these programmes, as the question that faces this Panel could not be answered by the traditional FAPRI framework. In addition, as footnote 57 highlights, my judgment is that the programmes all have some commodity-specific acreage impact for cotton.

30. The table referred to in paragraphs 21 through 24 simply shows that when the planting impact of these payment programmes for cotton are assumed to have no specific impact on cotton acreage, but only a broad and diffuse effect on all programme crops,then the resulting acreage impact will indeed be nearly zero.

Section II. B.2

31. Annex I as well as subsequent submissions and oral discussions with the Panel have explained in detail my approach to the production impacts of crop insurance and why my approach, for example by leaving out risk reduction impacts, is conservative.[58] The approach is straightforward. The crop insurance subsidy lowers costs to cotton growers and the acreage impact of lower costs in percentage terms may be calculated by multiplying the lower per acre costs by the elasticity of supply. The FAPRI framework has not been used to assess the production impacts of crop insurance. But the impacts of crop insurance subsidies are implicit in the FAPRI baseline.[59] My approach made the impacts explicit so that I could assess the acreage effects of removing the subsidy. This is discussed in somewhat more detail below.

32. Paragraphs 25 through 30 and the table referred to there simply repeat the US claim that hundreds of millions of dollars of crop insurance subsidies for cotton producers has had zero effect on farmers' choices to grow cotton. I dis-

---

280, Bra-313, and Bra-345 (paras 18-34). Some of the key arguments I made can be summarized as follows:

- none of the studies in the literature analyzes the amount of payments made in connection with a specific crop that are received by current producers of that crop,
- none of the studies in the literature focuses on the specific effects of these payments for cotton due to
  - the high per-acre payments for cotton reflecting higher costs of production,
  - the restrictions on planting fruits and vegetables affect particularly cotton production,
- direct and counter-cyclical payments give farmers an incentive to produce the crop for which they have base acreage,
- future updates of base induce farmers to plant their base acreage to the programme crop or even expand the area planted to the programme crop.

[58] *See* also Exhibit Bra-313.

[59] While there is no specific equation modelling the effects of crop insurance, its effects are part of the baseline that projects a level of planted acreage against the background of the continuation of the crop insurance programme.