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Unexpected Issues for Produce Markets: WTO Decoupling and Domestic Farm Program Design

Suzanne Thornsby, David Schweikhardt, and Mollie Woods

Nonprogram crops such as produce are typically considered peripheral to U.S. farm policy discussions, yet impacts of the World Trade Organization decoupling requirement on the fruit and vegetable planting restriction was a major issue in the 2007/08 farm bill. Evolution of planting flexibility in U.S. farm programs has not extended to most specialty crops and Brazil's challenge of cotton support programs highlighted the exception. Despite research results indicating limited diversions of program crop acreage with elimination of the restriction, the political stakes and potential gains from farm policy outcomes were raised considerably for nonprogram crop sectors.

Key words: fruit and vegetable planting restriction, planting flexibility, political economy, supply response

The ability to anticipate and adjust to changes in public policy becomes an important resource in supply chain management (Morash and Lynch, 2002) even when those policies may be considered peripheral to a given market. Nonprogram crops such as produce are typically considered outside of U.S. farm policy discussions. Yet impacts of the World Trade Organization decoupling requirement on planting U.S. fruits and vegetables was a major issue in the 2007/08 farm bill.

During the past twenty-five years, decoupling of domestic farm program payments has become a central element in international agricultural trade liberalization. Negotiations often assume that planting flexibility is necessary if domestic programs are to perform in a non-distorting manner. The centrality of decoupling to the trade liberalization process began with efforts to bring agriculture into the GATT during the Uruguay Round (Blandford, 1989; Blandford, DeGorter, and Harvey, 1989). Empirical issues are the impact of program payments on planting decisions, and therefore, on international markets (Abler and Blandford, 2005).

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U.S. farm bills began to provide greater planting flexibility for farmers in 1990, made major steps towards increased flexibility in 1996, and retained most flexibility in 2002 and 2008. An exception to this trend was the 1990 introduction of a restriction—at that time little noticed—that prevented the planting of a specified list of crops on program crop acreage base [CAB]. Participating producers could not exercise flexibility by planting fruit and vegetable crops (including potatoes and dry beans)¹ without suffering a loss in payments.

International scrutiny of this Fruit/Vegetable and Wild Rice planting restriction [FAVR] increased in response to United States decoupling commitments to the World Trade Organization (WTO). Brazil initially challenged whether FAVR is Green Box compliant² in a dispute over U.S. cotton subsidies. Though the case directly addressed only cotton programs, the ruling has become a legal precedent for action against other U.S. program crops. Feasibility of retaining FAVR is in question and decoupling with respect to specialty crops was a major issue in debates over the 2008 U.S. farm bill. Specialty crop growers, program crop growers, and other participants throughout the food supply chain took positions on whether specialty crop planting restrictions should be retained, relaxed, or eliminated entirely. Thin markets and tight margins raise economic risks in those specialty crop markets where plantings are most likely to expand. Although most research results show little potential for large shifts in planting patterns, the political stakes of farm policy outcomes were raised considerably across produce sectors.

This paper will 1) outline the evolution of planting flexibility in U.S. farm programs; 2) document the interaction between WTO rulings regarding domestic farm programs and the U.S. fruit and vegetable planting restriction; 3) discuss research results focused on potential supply response as an indicator of economic impacts; and 4) evaluate political outcomes from the 2008 legislation that arose largely from equity concerns of U.S. program and nonprogram crop producers.

The Evolution of Planting Flexibility in U.S. Commodity Programs

The 1990 U.S. Farm Bill (i.e., Food, Agriculture, Conservation, and Trade Act of 1990 or FACT) began an evolutionary trend toward greater planting flexibility in U.S. farm programs and was seen as a step toward decoupling farm program payments. Beginning

¹ The crops covered by this restriction are often referred to as “fruit and vegetable crops” even though not all of the crops covered by the restriction are, strictly speaking, a fruit or vegetable. In all, 175 crops had been declared to be “fruits and vegetables” by 2005, including crops as varied as wild rice, chickpeas/garbanzo beans, coffee, and nuts (except peanuts).

² In language of the WTO Agreement on Agriculture, permitted domestic support policies are considered to be in the “Green box”; analogous to the colors associated with a traffic light.

with the 1991 crop, producers of wheat, feed grains, upland cotton and rice were permitted to exercise planting flexibility on a portion of their crop acreage base.³ At the same time, farmers were required to plant their original program (i.e., direct and counter cyclical program or DCP) crops to be eligible for deficiency payments. An exception was the introduction of a restriction on planting program crop acreage to fruit or vegetables. The exclusion was introduced to offset concern over impacts of more planting flexibility on those U.S. growers not eligible for program participation (i.e., nonprogram crops). In debates leading up to the 1990 legislation, specialty crop producers, particularly in the dry bean sector, were worried that increased flexibility in the farm bill would result in a glut of production with significant price depression (Sinclair, 1986).

The 1996 Farm Bill (i.e., 1996 Federal Agricultural Improvement and Reform Act or FAIR) further increased flexibility as a move toward a “fully decoupled” payment system that represented “a coherent extension of the pattern of previous reforms” in U.S. farm policy (Harvey, 1998, pp. 111 and 116). Analysts viewed the change as a shift towards much more decoupled payments that would “likely be classified as green box measures” in compliance with WTO commitments (Guyomard et al., 2000, p. 26). Beginning in 1996, program crop farmers were permitted to exercise planting flexibility on their entire crop acreage base and were no longer required to plant their original program crop to be eligible for payment. At the same time, the 1996 farm bill retained the provision that producers who planted fruit and vegetable crops would be penalized through a reduction in payments.⁴

While some observers questioned subsequent recoupling of U.S. payments to prices in the 2002 Farm Bill (i.e., Farm Security and Rural Investment Act of 2002 or FSRI) (Harvey, 2003), retaining the planting flexibility provisions was largely viewed as affirming movement toward WTO compliance. Commodities eligible for program participation (i.e., DCP crops) were barley, corn, grain sorghum (including dual purpose varieties that can be harvested as grain), oats, canola, crambe, flax, mustard, rapeseed, safflower, sesame and sunflower (including oil and nonoil varieties), peanuts, rice (excluding wild rice), soybeans, upland cotton, and wheat. Planting restrictions were applied to all vegetables, (including dry edible beans except lima beans, potatoes, sweet

³ Crop acreage base is “a farm’s crop-specific acreage eligible to enroll in commodity programs.” (Young et al., 2005, p. 38)

⁴ The FAVR establishes penalties for producers when they harvest a restricted crop on base acres (or when they plant a perennial crop). Penalties can include *payment reduction* or *contract violation*, and are assessed according to specific criteria. The legislation also establishes exceptions for double-cropping regions, or when there was a producer or farm history of production in the restricted crops. Under the designated exceptions *payment reductions* still occur but, in most cases, the direct and countercyclical payments are reduced by only an equivalent number of acres without additional penalties. (Thornsbury, Martinez, and Schweikhardt, 2007).

potatoes, and sweet corn), fruits (including all berries) and wild rice (i.e., FAVR crops) (USDA FSA, 2003).

A major change in the 2002 legislation was that soybeans and minor oilseeds were added to the list of program eligible crops, effectively increasing acreage in farm programs with two offsetting effects relative to potential impacts on produce markets. First, acreage available to plant fruit and vegetables (i.e., nonbase acres) was reduced. Second, adding oilseed acreage greatly expanded the amount of program acreage with a history of planting fruit and vegetables and thus eligible for exception to the FAVR. In addition, producers now enrolled annually in the DCP program, thereby reducing the penalty for violating planting restrictions from seven years to one year of lost payments. Three minor modifications were made directly to the planting flexibility provisions: wild rice was added to the list of fruits and vegetables as a prohibited crop on base acres; in most cases, a violation of the planting flexibility provision occurred when the crop was harvested (previously, violations occurred when the crop was planted); and the planting of a perennial crop also constituted a violation, even if producers destroyed production before harvest and got no benefit from the crop (U.S. House of Representatives, 2002; USDA ERS, 2002).

Whether the fruit and vegetable planting restriction should be retained, and in what form, was a contentious issue in the 2008 U.S. Farm Bill (i.e., Food, Conservation and Energy Act of 2008 or FCE) debates. During deliberations, several stakeholder groups argued for FAVR elimination on the basis that a planting restriction unfairly hampered competition. Other groups favored continuation, citing on-going concerns that allowing program crop producers to convert acreage without penalty would result in increased supplies and decreased prices in fruit and vegetable markets. As a compromise, the final bill authorized the Planting Transferability Pilot Program (PTPP) as a test case which allowed the planting of certain vegetables for processing in only seven upper Midwest states (Illinois, Indiana, Iowa, Michigan, Minnesota, Ohio and Wisconsin). With this exception, the 2008 legislation retained the planting restriction in a form nearly identical to that in the 2002 legislation.

FAVR and the WTO

The question of whether the FAVR should be retained arose largely in the context of U.S. international trade obligations. Compliance of the FAVR under WTO rules was challenged in a dispute between the United States and Brazil over U.S. cotton subsidies. In 2002, Brazil filed a complaint claiming that aspects of the U.S. cotton program violated provisions of the Uruguay Round Agreement on Agriculture [URAA]. In the initial request for consultation, Brazil claimed U.S. farm policy provisions resulted in

over-production of high-cost U.S. upland cotton, thereby distorting trade and resulting in significant price suppression in the cotton market (WTO, 2002).

The final WTO Panel ruling examined several aspects of the U.S. cotton program, including the use of Production Flexibility Contracts [PFC] under the 1996 FAIR and the use of DCP in the 2002 FSRI. The WTO panel characterized the FAVR in the following manner for the 1996 FAIR:

Producers were permitted to plant any commodity or crop on base acres, subject to certain limitations and exceptions concerning the planting of fruits and vegetables. PFC payments were either eliminated or reduced if producers planted fruits and vegetables on base acres, unless they satisfied a special eligibility criterion. Additionally, producers had to use the land for an agricultural or related activity and not for a non-agricultural commercial or industrial use and comply with certain conservation requirements. Otherwise, PFC payments were not affected by what was planted on base acreage nor by whether anything was produced on it at all (WTO, 2004b Section 7.215 p.73).

In examining the 2002 FSRI, the WTO panel identified a similar restriction on the eligibility of cotton producers for DCP payments:

Producers are permitted to plant any commodity or crop on base acres, subject to certain limitations concerning the planting of fruits and vegetables. DCP payments are either eliminated or reduced if producers plant these crops on base acres, unless they are destroyed before harvest, subject to certain exceptions. Additionally, producers must use the land for an agricultural or conserving use and not for a non-agricultural, commercial, or industrial use and abide by conservation compliance requirements. Otherwise, DCP payments are not affected by what is produced on base acreage nor by whether anything is produced on it at all (WTO, 2004b Section 7.222-223 pp. 74-75).

In both cases, producers were subject to the provisions that prevented planting FAVR crops on cotton base acreage and the WTO panel concluded that DCP payments and the legislative and regulatory provisions regarding planting flexibility limitations (i.e., the FAVR) failed to conform with paragraph 6(b) of Annex 2 of the Agreement on Agriculture. As a result, the Panel deemed the DCP payments in cotton were “non-green

box” payments.⁵ The WTO Panel then found that the U.S. cotton program caused significant price suppression in the world cotton market, thereby damaging the interests of Brazil. Consequently, the Panel concluded that the United States was obligated to withdraw the subsidy or remove its adverse effects (WTO, 2004a).

On appeal, the United States contended that the language of paragraph 6(b) of Annex 2 applied only to a *positive* relationship between payments and production (i.e., on payments received in connection with the production of a specific crop) and not to a *negative* relationship in which a producer is not eligible to receive payments if a specific crop is produced.⁶ The Appellate Body found:

The ordinary meaning of the term “related to” in paragraph 6(b) of Annex 2 denotes some degree of *relationship* or *connection* between two things Nothing in the ordinary meaning of the term “related to” suggests that the connections covered by this expression may not encompass connections of either a “positive” nature (including directions or requirements to do something) or a “negative” nature (including prohibitions or requirements not to do something) or a combination of both.... We agree with the Panel that a partial exclusion of some crops from payments has the potential to channel production towards the production of crops that remain eligible for payments.... In the light of these findings by the Panel, we are unable to agree with the United States’ argument that the planting flexibility limitations only negatively affect the production of crops that are excluded (WTO, 2005 Paragraphs 324-29).

Finally, the United States argued that the Panel’s interpretation would require members of WTO to make decoupled income support payments even if a crop producer’s production is illegal in the producing country (e.g. production of opium poppies, production of unapproved biotechnology varieties, environmentally-damaging production) since growers would also be prohibited from growing those crops. The Appellate Body ruled:

⁵ Paragraph 6(b) of the Annex to the Agreement on Agriculture requires that “the amount of payments in any given year shall not be related to, or based on, the type or volume of production (including livestock units) undertaken by the producer in any year after the base period.” (WTO, 2004a).

⁶ In a similar argument, the United States claimed that in the language “production ... undertaken by producers” also did not apply to the FAVR because the word “undertaken” meant “attempt” and in the case of FAVR crops not placed under the restriction, the producer was paid to *not attempt* to plant the FAVR crop. This argument was also rejected by the Appellate Body (WTO, 2005 Paragraph 330).

According to the United States, this is a logical consequence of a finding that, to comply with paragraph 6(b) of Annex 2, a measure may not condition payments upon the non-production of certain products, while permitting production of others. In our view, questions regarding the problem of illegal production contrast starkly with the situation addressed in the present case. It remains perfectly *legal* for a holder of upland cotton base acres to grow fruits, vegetables or wild rice in the United States....Our interpretation of paragraph 6(b) would not prevent a WTO Member from making illegal the production of certain crops. Nor would it prevent a Member from providing decoupled income support while at the same time making the production of certain crops illegal. As Brazil states, there is nothing in the *Agreement on Agriculture* to suggest that the term "production" in paragraph 6 of Annex 2 refers to anything other than *lawful* production. In addition, we observe that specific provisions of the *Agreement on Agriculture* recognize, and exempt from reduction commitments, domestic support programs that address the problem of production of illicit narcotic crops in developing countries or payments under certain environmental programs (WTO, 2005, Paragraph 339-40).

Having lost before the Dispute Panel and the Appellate Body, the United States made revisions in U.S. cotton programs, but no changes were made in the fruit and vegetable planting restriction. In August 2006, Brazil requested the formation of a Compliance Panel on the cotton decision. In December 2007, the Compliance Panel ruled that the United States had failed to conform with its Agreement on Agriculture obligations. Following an additional round of arbitration which produced no results, in November 2009 Brazil requested authorization to suspend the application to the United States of concessions or other obligations made by Brazil under the GATT 1994 agreement. In March 2010, Brazil notified the WTO that this suspension of concessions would result in an increase in import duties on products from the United States, but in April 2010 Brazil then notified the WTO that the imposition of such duties had been postponed pending the negotiation of a settlement with the United States (WTO, 2010).

In August 2010, Brazil and the United States notified the WTO that a negotiated settlement had been reached in the cotton case. This agreement included a commitment by Brazil to forego the imposition of duties on U.S. products, a commitment by the U.S. to pay \$147.3 million per year to Brazil to provide technical assistance and capacity building for the Brazilian cotton industry, and a variety of other provisions unrelated to the cotton industry (Office of the U.S. Trade Representative, 2010).

Potential Market Outcomes

The supply response for FAVR crops and its impact on market prices is a critical economic issue for produce sectors in discussions about elimination of the planting restriction. In assessing such impacts it is necessary to examine the ability and willingness of individual producers to adjust existing cropping patterns to a change in policy. Ultimately, it is necessary to determine (a) acreage available for fruit and vegetable production that was previously restricted; (b) whether producers now growing program crops would begin to plant FAVR crops on existing base acres if the FAVR were to be eliminated; (c) whether that change in plantings would result in significant changes in total supply of FAVR crops; and (d) whether that change in supply would result in a significant change in market prices for FAVR crops, adversely affecting the incomes of existing FAVR crop producers. Several studies of the planting restriction elimination, using a variety of research methods, have been conducted for a wide variety of U.S. production regions and for a wide range of FAVR crops. To the extent that these studies reach similar conclusions, they provide more robust evidence about the impact of FAVR elimination.

In 2002 total program crop acreage base, which represents the actual area facing a change in incentives for conversion to FAVR crops if the restriction were to be eliminated, totaled 108.3 million hectares.⁷ Out of this area, corn accounted for approximately 35.5 million hectares, wheat 30.8 million hectares, soybeans 21.6 million hectares, barley 3.5 million hectares, and oats 1.3 million hectares (USDA ERS, 2006). In the same year, the area harvested for all FAVR crops totaled less than 14.9 million hectares. Out of this area, orchards represented 5.3 million hectares, vegetables 3.6 million hectares, dry beans 1.7 million hectares, and potatoes 1.3 million hectares (USDA NASS, 2002).⁸ Given the size of program crop acreage relative to FAVR crop acreage, even a relatively small shift in plantings could have a significant effect on volume and prices in produce markets.

Alteration in planting patterns would be determined by whether FAVR elimination would provide a sufficiently large increase in profit to induce entry into fruit and vegetable markets by program crop producers who had not already done so under current economic conditions. Unique characteristics in production and marketing processes for many specialty crops could act as barriers to entry. Assuming a frictionless (i.e., costless) reallocation of resources from program crops to FAVR crops, a relatively large supply

⁷ A small percentage of these acres may already be planted to FAVR crops if producers are eligible for exceptions to the existing FAVR and/or willing to incur the associated penalties.

⁸ Remaining acreage is in hay, sweet potatoes, dry peas, and beans.

response (relative to the size of most FAVR markets) could be expected from a policy change eliminating the restriction. In such cases, producers may enter and exit markets in response to profit opportunities in a “hit and run” fashion that can drive down prices and profitability of the industry (Carlton and Perloff, 1990). On the other hand, if production resources cannot be reallocated without cost, a smaller aggregate supply response in the FAVR crop market would be expected. The set of barriers to entry is highly variable among FAVR alternatives and ranges along a continuum from near zero to near prohibitive, given the specific combination of crops and producer/farm resources. For example, a soybean producer will face different challenges if the alternative crop is corn, dry beans, cucumbers, or blueberries. Thus supply response would be expected to vary across these markets.

At the national level very few FAVR crops were identified that appear to have the potential for entry of a significant number of new producers (Johnson et al., 2006). Studies within selected states with substantial acreage of both FAVR and program crop acreage⁹ found similar results: elimination of the FAVR does not offer significant incentives to change in most cases. For the Lower Rio Grande Valley of Texas, Fumasi, Richardson, and Outlaw (2006) estimated probability distributions of net income and ranked different cropping patterns by producer risk preferences. The group of planting alternatives was limited to three program crops and five FAVR crops. Results suggest that watermelon and cabbage acreage would be the crops most likely to replace program crop acres across all levels of risk preference and that cotton base acres would be most likely to be replaced should the FAVR be eliminated. In a series of FAVR crop case studies in Michigan, researchers found that, in most cases, a change in the FAVR would provide a small (or no) incentive for program crop producers to enter the production of FAVR crops (Thornsbury, Martinez, and Schweikhardt, 2007). Barriers to entry would, in many cases, be high enough to significantly limit, or even prohibit, movement (Table 1).

A notable exception is dry beans. Given low barriers to entry, the most likely outcome should the FAVR be eliminated with favorable price and marketing conditions, would be an expansion of dry bean plantings in or near states where they are presently planted

⁹ The mix of program and FAVR crop acreage is highly variable between states. There is a clear distinction between those states where FAVR crops are predominant, states where program crops are predominant, and states where FAVR and program crops contribute more equally in terms of total area harvested and average cash receipts. For example, in 2002 FAVR crops represented only 0.4% of the total cropland harvested in Illinois and Indiana. In contrast, FAVR crops accounted for almost 50% of cropland area harvested in California and Florida. Michigan and Texas are states at the intersection of program and FAVR plantings with 8% of cropland in Michigan and 2% of cropland in Texas being harvested for FAVR crops in 2002.

Table 1. Likelihood of Conversion of Michigan DCP Crop Acreage to Specified FAVR Crops^a

Crop	Factor Influencing Conversion					Likelihood of Conversion
	Capital Investment	Rotation Restriction	Market Access	Labor & Mgmt Needs	Financial Incentive	
<i>Dry Beans</i>	Low	Low	Low to Med	Low	Med	High
<i>Pickling Cucumbers</i>	High	Med to High	High	Med to High	Low	Low
<i>Processed Tomatoes</i>	Med	Med to High	Med	Low to Med	Low	Med
<i>Fresh Market Tomatoes</i>	High	Med to High	High	High	Low	Low
<i>Squash</i>	Low to Med	Med to High	Med to High	Med	Low	Med to High
<i>Blueberries</i>	High	High	Med	High	Low	Low

Source: Thornsby, Martinez, and Schweikhardt (2007)

^a Does not include limited volume sales through outlets such as farmers markets or roadside stands.

(Woods, Thornsby, and Schweikhardt, 2008). In interviews with dry bean processors and farmers, there was general consensus that with or without farm program payments, dry beans are often not competitive with corn and soybean prices. Specialized factors of production for dry beans generally did not affect farmer decisions to enter or exit the market. Instead the most important factor was whether or not the beans could be sold once they were harvested. Interviewees indicated that should dry bean prices become competitive with program crops, they would consider planting more only if markets were

available. Processors stated that they would consider expanding facilities to states where dry beans are not currently grown if market conditions were favorable.

Where products are specialized and markets thin, even a small change in acreage could result in substantial impacts on quantity and pricing. Consolidation in the dry bean industry in the United States, particularly since 1988, has resulted in a regionally centralized industry located in limited states in the upper Midwest, Northern Plains, and California. Considering dry beans as a homogenous market is deceiving when the amount of product and regional specialization by bean class is considered (Table 2). In a study simulating the effects of an elimination of the FAVR on market prices and income in dry bean markets, (a) the variation in revenue per acre for dry bean production was higher than the variation in program payments in dry bean producing states, (b) the probability of per acre net returns falling within a given range was higher for dry beans with no payment reduction (i.e., the FAVR elimination scenario) than for dry beans planted with a planting history (i.e., the FAVR continuation scenario), thereby suggesting that the elimination of FAVR would provide an incentive for program crop producers to shift acreage toward dry bean production; and (c) the elimination of FAVR would decrease the market revenue of dry bean producers not participating in farm program by \$10 to 29 million while the market revenue of program participants who switched to dry bean production increased up to \$19 million (Johnson et al., 2006).

A separate study of 205 counties that had a significant portion of both program and FAVR crop production employed two scenarios (shifts of 1% and 5% program crop acreage into FAVR crops) to analyze the impact of eliminating the restriction (Patterson and Richards, 2007). With these shifts in acreage as an exogenous shock to the market, changes in production and price were simulated from 2008 to 2015 for eight fresh produce crops. In most markets, the largest decrease in the value of production relative to the baseline scenario occurred in the first year after elimination of the planting restriction and then losses stabilized at levels nearly equal to the baseline scenario. In year one, the total decrease in the value of production for incumbent producers (those who produced FAVR crops before elimination of the regulation) equaled \$1.6 billion for the 1% acreage shift scenario and \$2.3 billion for the 5% acreage shift scenario. A large share of the first year losses were concentrated in relatively few crops – potatoes (\$767 million) and watermelons (\$222 million). Losses for incumbent producers of all products after the first year ranged from \$123 to \$274 million and \$204 to \$658 million annually in the 1% and 5% scenarios, respectively.

Table 2. State Shares of Production by Class for all Dry Beans

Class	Leading State	% of Total Class Production	Class as % of National Production
<i>Pinto</i>	North Dakota	65	29.98
<i>Black</i>	Michigan	56	6.07
<i>Navy</i>	North Dakota	42	6.35
<i>Great Northern</i>	Nebraska	84	3.91
<i>Dark Red Kidney</i>	Minnesota	72	1.88
<i>Large Chickpeas</i>	Washington	38	2.05
<i>Small Red</i>	Michigan	47	1.00
<i>Blackeye Pea</i>	California	54	1.06
<i>Baby Lima</i>	California	100	1.49
<i>Pink</i>	North Dakota	40	0.92
<i>Large Lima</i>	California	100	1.19
<i>Light Red Kidney</i>	Nebraska	30	0.96
<i>Other</i>	California	17	0.38
<i>Cranberry</i>	Michigan	71	0.35
<i>Small Chickpeas</i>	North Dakota	48	0.24
<i>Small White</i>	Idaho	100	0.04

Source: USDA NASS (2007)

Actual impacts in the pickling cucumber market were found to be limited based on first year outcomes of the pilot program (PTPP) (Krissoff et al., 2011). Only four of the largest producing states are eligible for enrollment in PTPP (Michigan, Ohio, Wisconsin, Indiana). In 2009 there were 323 farms with 143,500 acres of arable land potentially available for pickling cucumber production. When a producer signs up for PTPP, base acres allocated are reduced and added to nonbase acres. Results showed that under the rules of PTPP fruit and vegetable production exceeded the nonbase acreage by approximately 15,300 acres. If the restriction had been maintained, exceeding the nonbase acreage would have resulted in a \$196,600 reduction in payments for an average of approximately \$950 per farm.

Taken together, results from these studies, conducted over a wide range of products and regions, using a wide variety of research methods, suggest some relatively robust conclusions about the economic consequences of the elimination of FAVR. First,

although significant program crop acreage would be available for fruit and vegetable production, most producers would have relatively little incentive to alter their planting patterns given the barriers to entry that exist for many FAVR crops. Therefore aggregated supply response would likely be small overall, although certain fruit and vegetables would see a greater response than others. Second, given this relatively small change in supply, the decrease in FAVR crop prices would, in many cases, be relatively small. Finally, impacts that do occur would likely be short-lived as markets adjust to a new set of rules and a new set of prices in the first few years after the elimination of FAVR.

Policy Outcomes

Much of the farm bill debate in 2007/08 centered on whether FAVR crop producers should receive some form of compensation if the planting restrictions were to be eliminated. Regardless of economic evidence about the likelihood of an expansion in FAVR crop production by program crop producers, the political question remained: if a change in the FAVR to benefit one group of producers (program crop producers who will be protected from WTO challenge) might be detrimental to FAVR crop producers, should the FAVR crop producers be compensated for such a change? The equity of political and economic outcomes was paramount in discussions of whether program crop producers would begin to compete with FAVR crop producers (e.g. existing dry bean producers) in the same markets while retaining the added benefit of continued program payments regardless of the crops produced.¹⁰

The varying approaches of interest groups representing FAVR crop producers demonstrated both the inevitable nature of this policy question and the difficulty of providing acceptable compensation to a wide variety of industry stakeholders. Some specialty crop sectors strongly preferred to receive direct payments similar to program crop producers. For example, the U.S. Dry Bean Council [USDBC] initially took a position that advocated the planting restriction remain in place. If the FAVR was eliminated, however, the USDBC preferred that FAVR producers receive a direct payment per acre equivalent to the payment received by program crop producers. Such a payment would “provide offsetting direct economic compensation” for such a change and “would only be fair and equitable to...unsubsidized dry bean growers in an effort to equalize competition with [program crop] producers who will otherwise receive a program crop subsidy for growing dry beans on program crop acres” (U.S. House of Representatives, 2006, p. 141).

¹⁰ One potential policy alternative debated prior to the 2008 legislation was that existing program participants retain payments on their DCP acreage.

Other FAVR crop producers were willing to consider more indirect forms of compensation. The Specialty Crop Farm Bill Alliance [SCFBA], representing over 100 specialty crop grower and processor associations, also preferred that the FAVR remain in place but rejected the notion of direct payments, contending that “the [FAVR crop] industry would not be well served by direct program payments to growers.” Instead they advocated “building the long-term competitiveness and sustainability of U.S. [FAVR] crop production” through additional funding for nutrition research, conservation and trade promotion programs (SCFBA, 2007, i). The SCFBA developed a position paper and a bill introduced into Congress by legislators from Michigan and Idaho that supported increasing funds for demand enhancement and crop improvement research.

A number of other stakeholder groups sponsored research and/or position papers as part of the debate. For example, thirteen specialty crop groups, including Sunkist Growers, potato councils and commissions from six states and United Fresh Produce Association supported a study on the potential impacts of eliminating planting restrictions on specialty crops to demonstrate the need to retain a restriction (Informa, 2007). The American Farm Bureau, took a position in favor of elimination of the fruit and vegetable planting restriction (AFB, 2007). With variability in anticipated economic impacts between program and nonprogram crop sectors and between specialty crop industries, there was little early consensus in stakeholder positions about retention of the program, equity issues, or potential compensation.

Ultimately while the 2008 Farm Bill did not change the status of the FAVR, provisions of the bill did provide additional support for FAVR crop producers. Funding for specialty crop research programs, programs to support the use of specialty crop products in school lunch and other feeding programs, and funding for conservation programs aimed at specialty crop producers were all increased. It is noteworthy that these programs were added to the farm bill even though the FAVR was not changed or eliminated. Consequently, the status of U.S. compliance with WTO commitments in this area did not change and the debate over FAVR is likely to continue during the writing of the 2012 farm bill. Such an outcome is consistent with the view that U.S. agricultural policy can be extremely slow to change because transaction costs (including demands for compensation by the negatively affected parties) are high (Bonnen and Browne, 1989; Bonnen, Browne, and Schweikhardt, 1996; Browne, Allen, and Schweikhardt, 1997).

Resolution of the equity issue—perhaps more than any other—has been central to the FAVR debate. Requests for compensation, and the political assumption that such compensation must be forthcoming if the FAVR were to be eliminated, reveal a fundamental lesson about the policymaking process. Whether such compensation should or should not be paid in the political process is neither self-evident nor can it be answered by any model of strictly positive economics. The answer to the compensation issue can only be found through appeals to normative (value-laden) standards of equity (fairness).

If FAVR crop producers are correct that a policy change will result in an increase in FAVR crop production by program crop producers, then the existing FAVR crop producers could expect a reduction in their income and value of their productive assets (however small or unevenly distributed that reduction might be). As a result, the issue of the Fruit, Vegetable, and Wild Rice Planting restriction presents an example of the potential impact of unanticipated public policy decisions on supply chains and their management.

Conclusions

The ability to identify and adapt to policy issues is as central a resource in supply chain performance as such “traditional” skills as finance, marketing, or human resource management. Nonprogram crops such as produce are typically considered peripheral to U.S. farm policy discussions, but a restriction on planting flexibility for fruit and vegetables was a major issue in debates surrounding the 2008 Farm Bill.

Policy decoupling is held as a central tenant in most international trade negotiations including the WTO Agreement on Agriculture. Although U.S. farm policy had been moving towards increased planting flexibility since the 1990s, a 2002 WTO complaint filed by Brazil against the U.S. cotton program increased international visibility of the restriction that remained on planting fruit and vegetable crops. While some revisions to U.S. cotton programs have been undertaken in response, the fruit and vegetable planting restriction has not yet been altered. Though the initial dispute addressed only U.S. cotton programs, the case has wider legal implications for action against other U.S. program crops as well as continuing implications for fruit and vegetable sectors; both Brazil and Canada filed additional complaints.

A comparison of the barriers and incentives for change in planting decisions suggests that the entry of program crop producers into FAVR crop production is likely to be limited in most cases and results of the 2008 pilot program substantiate this outcome for pickling cucumbers. For a small number of FAVR crops barriers to entry are quite low. Supply and market response to a change in the planting restriction is likely to be greater in these cases. Such a result suggests that compensation received by FAVR crop producers, if such compensation was forthcoming, would be highly targeted to specific crops and relatively small in aggregate magnitude. To date, political outcomes have been very different. FAVR crop producers, despite being relatively small in number and despite research results suggesting that an elimination of the planting restriction would have a limited economic impact, have been successful at retaining the policy while still gaining additional support.

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