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Impact of the WTO on Agricultural and Food Policies

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1. INTRODUCTION

THE struggle of the World Trade Organisation (WTO) to conclude the Doha round of multilateral trade negotiations brought again to the forefront the important role that agricultural policy continues to play in international trade relations. The sector is subject to heavy-handed governmental interventions throughout the world. Despite decades (even centuries) of economists' arguments against agricultural subsidies and tariffs, political factors continue to dominate agricultural policy setting (including trade policy) in both rich and poor countries. In poor countries moreover, where agriculture is a very important share of the economy and where food is a major consumption item, the importance of agricultural policy as a public policy issue is obvious. However, also in rich countries, agricultural policy remains disproportionately important compared to the relatively small share of agriculture in terms of economic output. For example in the EU, the Common Agricultural Policy (CAP) still absorbs more than 40% of the entire EU budget. Despite a strong decline of agriculture in terms of employment and output in rich countries, agriculture and agricultural policy remain so important for them in their trade negotiations that they are willing to let the WTO negotiations collapse over disputes on agricultural policy.

While there is a large literature on what determines government interventions in agriculture and food markets – the so-called political economy of agricultural and food policies – there is remarkably little attention paid to the impact of international agreements such as the WTO. Moreover, virtually all

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attention in this literature is focused on the level of support (or taxation) for farmers, and much less on the issue of which policy instruments are used.

This is surprising because the distortionary effects of government interventions equally depend on the choice of instrument as on the level of the intervention. The WTO explicitly recognises this by classifying agricultural support from different policy instruments in green, blue and amber 'boxes' according to their distortionary impact (Tangermann, 1999). The green box includes subsidies that do 'not distort trade, or at most cause minimal distortions' (Annex 2 of the URAA). WTO agreements limit the use of distorting measures while non-distorting measures are not regulated (Josling and Tangermann, 1999). This distinction between the level of support and the extent of market and trade distortions is at the core of some important policy reforms, such as those of the EU's CAP over the past two decades. It is generally acknowledged that the 1994 Uruguay Round Agreement on Agriculture (URAA) under the General Agreement on Tariffs and Trade (GATT) and the current Doha WTO negotiations played an important role in this (Swinnen, 2008).

There are many studies on the impact of the WTO on agriculture and food policies. However, the vast majority are either *ex ante* studies or qualitative analyses (e.g. Anderson et al., 2001, 2006; Diao et al., 2001; Hertel et al., 2004). There is also recent econometric work on the impact of WTO on trade flows (e.g. Rose, 2004; Subramanian and Wei, 2007; Grant and Boys, 2010; Chang and Lee, 2011). However, there are no *ex post* quantitative analysis of the impact of the WTO URAA on agricultural support and the choice of policy instruments.

This paper is the first to quantitatively estimate the impact of the WTO on agricultural and food policies, focusing both on the extent and the type of agricultural protection. For our model specification, we draw on the literature on the political economy of agricultural and food policies. For our key policy indicators, we use OECD data on support to agriculture which is disaggregated by policy instruments.

2. DATA AND POLICY INDICATORS

Since 1986, the OECD calculates policy support to agriculture (OECD PSE/CSE database, 2010). The total amount of support to agriculture is referred to as the producer support estimate (PSE). Initially, the PSE calculations were limited to OECD member states. Recently, some other countries, such as China and Brazil, are covered. The PSE data cover 28 countries. For OECD members, the period is 1986–2009; for non-members, the coverage starts around 1990. The OECD's calculation of policy support distinguishes between several instruments (Table 1). For the purpose of our analysis, it is convenient to combine the instruments into 'market price support' (*mps*), 'input

TABLE 1
Support by Policy Instrument in the OECD

	1986–88		*2007–09*	
	Value	*Share*	*Value*	*Share*
Market price support	195.8	0.82	125.2	0.49
Input subsidies	20.4	0.09	33.4	0.13
Direct payments	22.4	0.09	98.1	0.38
Total PSE (US$ billions)	238.7	1.00	256.8	1.00
Percentage PSE	37		22	

Notes:
(i) The values are averages for the periods for OECD countries listed in Table 2. (ii) The policy instruments considered are based on the following items of the PSE database: 'market price support' refers to support based on commodity outputs (items A1 and A2, of the PSE database); 'input subsidies' is the sum of payments based on input use and miscellaneous payments (items B and G); 'direct payments' refers to different payments decoupled or partially decoupled from production (items from C to F).
(iii) PSE: producer support estimate.

Source: Own computation based on OECD PSE/CSE database (2010).

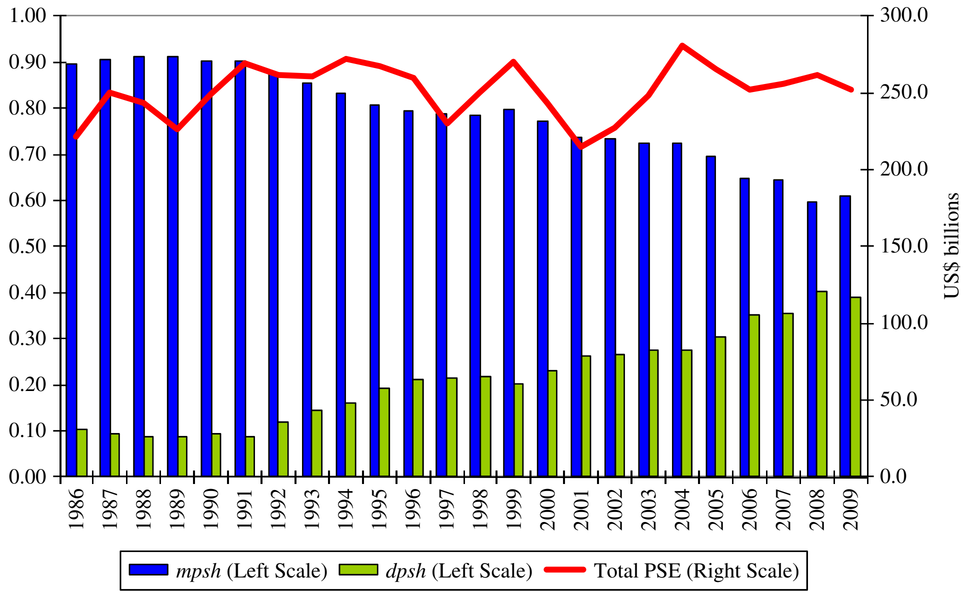
subsidies' (*is*) and 'direct payments' (*dp*). *mps* includes transfers through tariffs, price support and subsidies directly linked to agricultural production. These instruments are typically considered as being the most distortive. Input subsidies include investment aid, labour subsidies, land protection programmes, etc. The third category, *dp*, includes fully decoupled and partially decoupled agricultural payments. These instruments are the least distortive.

Figure 1 and Table 1 show that for the OECD country sample as a whole, there has been very little change in the total amount of support for agriculture (PSE) over time (around US$ 250 million), but the share of support in the total agricultural output (*pse*) has declined significantly, from 37% to 22%, on average.

Importantly, there has been a clear shift in policy instruments. In the late 1980s, the share of market price support (*mpsh*) in total support was more than 80%, whereas the share of direct payments (*dpsh*) and inputs subsidies (*ish*) made up less than 10%. In the next two decades, the share of market price support declined and that of direct payments increased substantially. By the late 2000s, the former had decreased to 49% and the latter increased to 61%. In contrast, the share of input subsidies remained almost constant. However, there are large variations among countries in their shares of the policy instruments in total support (Table 2). Considering the OECD sample, in 1986 *mpsh* varied from 19% in New Zealand to 99% in South Korea, and *dpsh* varied from 0% in several countries to 37% in the US. Also in recent years, there remain large differences across countries with, for example, *dpsh* varying from almost 0% in Poland, New Zealand, Korea and Japan to 60% in the EU.

The indicators in Figure 1 show that the shift from market price support to direct payments started in the early 1990s, which was the time of the conclusion

FIGURE 1
Evolution of Total Producer Support Estimate (PSE), the Share of Market Price Support (*mpsh*) and of Direct Payments (*dpsh*) in the OECD Countries



Source: Own Computation Based on OECD PSE/CSE Database (2010).

of the URAA. This suggests that the 1994 URAA may have had an impact on the instruments used but not on the total level of support. However, this figure is, of course, far from conclusive evidence. Other factors may have played a role. In the next section, we use an econometric model to get a more precise estimate on the impact of WTO.

3. ECONOMETRIC ANALYSIS

a. Data and Basic Specification

We use an econometric model to estimate whether the 1994 URAA GATT/WTO agreement had an impact on the total support given to agriculture and/or on instrument choice, while controlling for other factors.

Our key-dependent variables are the share of market price support in total support (*mpsh*)[1] and the total level of support measured as a percentage of the

[1] Similar results are obtained when using the share of direct payments in total support (*dpsh*) as dependent variable because both are strongly (inversely) correlated (see Figure 1). These results can be obtained from the authors upon request.

TABLE 2
Share of Market Price Support (*mpsh*), Input Subsidies (*ish*) and Direct Payments (*dpsh*) in Total Support (PSE)

	Period Coverage	*Initial Year*			*Final Year*		
		mpsh	*ish*	*dpsh*	*mpsh*	*ish*	*dpsh*
OECD countries							
European Union	1986–2009	0.92	0.05	0.03	0.25	0.14	0.60
United States	1986–2009	0.44	0.18	0.37	0.18	0.30	0.51
Australia	1986–2009	0.75	0.17	0.08	0.00	0.51	0.49
Switzerland	1986–2009	0.83	0.10	0.07	0.54	0.06	0.41
Norway	1986–2009	0.72	0.10	0.18	0.55	0.05	0.40
Canada	1986–2009	0.56	0.16	0.28	0.58	0.07	0.35
Slovakia	1986–2003	0.88	0.08	0.04	0.51	0.19	0.31
Iceland	1986–2009	0.93	0.07	0.00	0.65	0.08	0.27
Czech Republic	1986–2003	0.82	0.05	0.14	0.64	0.11	0.25
Mexico	1986–2009	n.a.	n.a.	n.a.	0.35	0.43	0.22
Hungary	1986–2003	0.80	0.06	0.14	0.54	0.30	0.16
Japan	1986–2009	0.93	0.04	0.03	0.88	0.03	0.09
Turkey	1986–2009	0.77	0.23	0.00	0.92	0.03	0.05
Korea	1986–2009	0.99	0.00	0.00	0.92	0.03	0.05
New Zealand	1986–2009	0.19	0.48	0.32	0.42	0.55	0.03
Poland	1986–2003	0.75	0.17	0.08	0.60	0.38	0.01
Non OECD countries							
Latvia	1986–2003	0.99	0.01	0.00	0.26	0.36	0.38
China	1993–2007	n.a.	n.a.	n.a.	0.21	0.48	0.31
Ukraine	1986–2007	0.81	0.19	0.00	0.39	0.37	0.24
Slovenia	1986–2003	0.88	0.09	0.03	0.73	0.05	0.22
Estonia	1986–2003	0.88	0.10	0.01	0.51	0.32	0.17
Lithuania	1986–2003	1.00	0.00	0.00	0.63	0.23	0.14
Romania	1986–2005	0.96	0.03	0.00	0.89	0.07	0.04
Russia	1986–2007	0.65	0.24	0.11	0.54	0.44	0.03
Brazil	1995–2007	n.a.	n.a.	n.a.	0.53	0.46	0.02
Chile	1990–2007	0.96	0.04	0.00	0.13	0.86	0.01
South Africa	1994–2007	0.97	0.03	0.01	0.69	0.31	0.00
Bulgaria	1986–2005	0.99	0.01	0.00	0.31	0.69	0.00

Source: Own computation based on OECD PSE/CSE database (2010).

production value (*pse*). Both variables are based on the 2010 OECD Producer and Consumer Support Estimates database.

The key explanatory variable, *WTO*, is a dummy variable which takes on the value of 1 if the countries were subject to WTO URAA constraints, and 0 if not. The URAA was signed in 1994 and implemented starting in 1995. For countries that joined the GATT before 1994, *WTO* takes the value of 1 since 1995, the first year of the implementation period, and 0 otherwise. For countries that joined the WTO after 1995, the WTO dummy equals 1 from the accession year onwards.

TABLE 3
Regression Results: Dependent Variable = *pse*

Dependent Variable	*pse*	*pse*	*pse*	*pse*
Estimator	*OLS*	*GMM-SYS Two Step*	*OLS*	*GMM-SYS Two Step*
	1	*2*	*3*	*4*
WTO	−1.735	−2.186	−1.133	−3.28
	1.961	1.664	1.16	2.317
6_years_before	1.194	0.881	−0.325	−1.127
	2.258	1.551	1.093	1.246
Lagged *pse*	0.644***	0.559***	0.878***	0.680***
	0.059	0.063	0.045	0.123
Lagged *exps*	−8.136***	−9.711***	−3.142**	−8.513**
	1.384	2.078	1.306	3.688
Lagged *gdppc*	0.138***	0.201**	−0.016	−0.014
	0.044	0.099	0.037	0.102
Constant	6.561***	7.620***	3.913**	10.120*
	2.205	2.346	1.69	5.295
Sample	All	All	OECD	OECD
No. of countries	28	28	16	16
No. of obs.	517	517	326	326
Adj. R^2	0.83		0.95	
No. of instr.		28		18
Hansen		0.43		0.37
AR(1)		0.07		0.01
AR(2)		0.12		0.29

Notes:
(i) Robust standard errors are reported under the coefficients. (ii) The system generalised method of moments (GMM) estimator is implemented in STATA using the xtabond2 command, with the option *collapse* to limit instruments proliferation (see Roodman, 2009). (iii) The last three rows of regressions 2 and 4 report *p-values* of the Hansen over-identification test, and the Arellano and Bond first and second order tests of autocorrelation, respectively. (iv) $^{*}p < 0.10$, $^{**}p < 0.05$, $^{***}p < 0.01$.

To test this WTO effect, we need to control for other effects. For the *pse* regression, we draw on the huge literature on the determinants of agricultural protection.[2] This literature suggests several covariates that can be used to explain the level of agricultural protection. However, as shown by Olper and Swinnen (2011), the level of GDP and the trade balance of a country are the two single most important factors affecting agricultural protection in a large panel of both developing and developed countries. Therefore, our basic model is a parsimonious specification for the *pse* regression using only these two covariates as control variables: real GDP *per capita* (*gdppc*) taken from the

[2] There is an extensive literature analysing the determinants of agricultural and food policies (e.g. Gardner, 1987; Swinnen et al., 2001; Olper, 2007; Anderson, 2010). See de Gorter and Swinnen (2002) and Swinnen (2009, 2010), for reviews of the literature.

World Development Indicators (World Bank) and the net export share in total production (*exsh*), based on FAO data.[3]

For the *mpsh* regression, there is much less literature to draw on. Political economy studies of agricultural policy have focused primarily on explaining the level of policy intervention and much less on the explanation of the instruments used for interventions. We base our choice of control variables on the hypotheses of Swinnen et al. (2011). They argue that instrument choice is also importantly influenced by a country's level of development and its trade status. First, less developed countries are typically characterised by less efficient institutions and tax systems (e.g. Acemoglu and Robinson, 2001). Hence, tariffs and other market interventions are relatively easier (i.e. with lower transaction costs) to implement (than e.g. direct income subsidies to farmers in remote rural areas) and provide a relatively more important source of government revenue. To control for the institutional development and administrative capacity of a country, we use real GDP *per capita* (*gdppc*). Second, because of government revenue motives, countries which import more benefit more from tariff revenues (or suffer less from export subsidies). Hence, they have an additional incentive to choose for tariffs (which are included in our measure of market price support, *mps*) as instruments to support farmers. As an indicator of the trade status, we use the net export share in total production (*exsh*).

There may be significant path dependency in total support and policy instrument choice. To account for this, we include as explanatory variables in both the *pse* and *mpsh* regressions the level of the dependent variable of the previous period.[4]

b. Identification Issues and Robustness Checks

An important concern is a potential endogeneity bias caused by omitted policy factors that are correlated with the WTO dummy and the error term, but which are difficult to observe. For example, the politics of the incumbent government might prefer free-market policies, which leads both to membership of the WTO and a reduction in agricultural policy. We address this issue in several distinct ways.

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[3] More specifically, *exsh* = (export value − import value)/production value.

[4] One may argue that the *mpsh* model should also include the level of support (*pse*). By including *pse* as an explanatory variable, one may analyse the relation between the policy level and instrument choice – and vice versa. However, there are two econometric reasons that render the inclusion of the level of support problematic. First, *pse* is endogenous as the level of support is likely to depend itself on the policy instrument choice. Second, as discussed above, our explanatory variables, *gdppc* and *exsh*, are also key determinants of the overall protection level. While the first problem could potentially be solved by using a simultaneous equation model, the second problem precludes finding good instruments for *pse* in the *mpsh* specifications. We therefore do not include the level of support in the regressions. (The same logic holds for including *mpsh* in the *pse* regression).

First, we run separate regressions using ordinary least squares (OLS) and dynamic panel estimations, that is, the generalised method of moments (GMM). The latter estimator, by first-differencing, controls for any (time-invariant) country-specific omitted variable bias. A potential problem with the OLS estimator is that the lagged dependent variable may be endogenous to the fixed effects in the error term, which results in the well-known dynamic panel bias (Roodman, 2009). To address this potential source of bias, we use the system GMM estimator proposed by Blundell and Bond (1998), given the high persistence of the dependent variable.[5]

Second, given the potentially strong persistence in our dependent variables, by using dynamic panel models we control additionally, at least partially, for omitted country-specific and time-varying factors which are subsumed in the lagged dependent variable.

Third, to properly identify the causality of the policy changes induced by the WTO agreement, we follow the approach of Persson (2005) by adding in every specification a 'pre-treatment' dummy (*6_years_before*), equal to 1 in the six years before 1995 or, for countries joining the WTO later, before the year of entry in the WTO (0 otherwise). This dummy variable allows to assess whether the causality effectively runs from the WTO to policy change and not the other way round because of, for example, a pre-treatment trend in the dependent variables.

Fourth, as a further robustness check, we control for the political orientation of the incumbent government, using the variable *government_orientation* which equals 1, 2 or 3 for, respectively, a right-, centre- or left-wing-oriented government. The variable is based on the Database on Political Institutions (DPI) of the World Bank (see Beck et al., 2001), following Dutt and Mitra (2005) and Olper (2007). The underlying idea is that, depending on its political orientation, an incumbent government may, for example, prefer free-market policies which leads both to membership of the WTO and a reduction in agricultural protection through market price support. If this is the case, then by adding the political orientation of the incumbent government, we are able, at least partially, to control for this estimation bias.

Fifth, because there is some evidence on asymmetric effects between old and new GATT/WTO members (Anderson and Swinnen, 2008; Grant and Boys, 2010), we control for the number of years that a country has been member of the GATT/WTO, *WTO_age*. This variable is proportional to the number of years a country has been member of the GATT/WTO and is normalised such that it equals 1 for countries that joined the GATT in 1948, and 0 for countries that are not yet member of the WTO.[6]

[5] In principle, an alternative estimator is the standard least squares with dummy variables (LSDV). However, this dynamic panel estimator may also be biased due to the endogeneity of the lagged dependent variable (Blundell and Bond, 1998). The statistical diagnostics reported in Tables 3, 4 and 5 confirm that the correct estimator is the system GMM.

[6] The variable is defined as: *WTO_age* = (2009 − year of membership)/61, where 61 = 2009−1948.

Finally, we test our empirical specifications on the overall sample of 28 countries, as well as on the subsample of the 16 OECD countries for which data are available from 1986 onwards.

4. RESULTS

Tables 3 and 4 present the main regression results. Columns 1 and 2 are regressions with all data, columns 3 and 4 with OECD countries only. Columns 1 and 3 are OLS estimations; columns 2 and 4 are system GMM estimations. The main results are consistent across the different specifications. The WTO variable has no significant effect on the total level of support (*pse*). While the estimated coefficients are negative, they are not significant. In contrast, there is a strongly significant negative effect on the share of market price support (*mpsh*). This suggests that the GATT/WTO rules have not reduced total subsidies to farmers, but do represent an effective constraint on the use of distortionary agricultural policies.

The estimated coefficients for WTO are higher for the OECD sample, which suggests that the WTO effect was stronger for OECD members, a result in line with the special and differentiated treatment reserved for developing countries in the GATT/WTO. Note that there is no evidence of a 'pre-treatment' effect, because the *6_years_before* variable is never significant.

The control variables have the expected signs; *pse* is negatively related to the net export share of a country, positively related to a country's level of development, and displays a strong persistence, that is, current protection is an important predictor of future protection. *mpsh* is negatively related to both the net export share and the level of economic development and also displays strong persistence.

The Arellano-Bond tests for first- and second-order autocorrelation, AR(1) and AR(2), respectively, indicate the presence of first-order serial correlation, suggesting that the model dynamics are correctly specified. The Hansen test, to check for the consistency of the system GMM estimator, confirms that our set of instruments is valid. The system GMM results are similar to the OLS results, although controlling for unobserved country effects increases somewhat the magnitude of the estimated effects.

Table 5 presents results of additional robustness tests for the *mpsh* regression. First, columns 1 and 3 display system GMM results, for the overall and OECD sample, respectively, including the variable that measures the orientation of the incumbent government, *gov_orientation*. Its estimated coefficient is not statistically significant.[7]

[7] Note that by including *gov_orientation* we lose two countries, Russia and Lithuania, and several observations from transition countries due to missing observations in the DPI data set.

TABLE 4
Regression Results: Dependent Variable = *mpsh*

Dependent Variable	*mpsh*	*mpsh*	*mpsh*	*mpsh*
Estimator	*OLS*	*GMM-SYS Two Step*	*OLS*	*GMM-SYS Two Step*
	1	*2*	*3*	*4*
WTO	−0.042***	−0.043**	−0.049***	−0.064***
	0.014	0.020	0.014	0.015
6_years before	0.007	0.021*	−0.002	0.010
	0.013	0.011	0.010	0.011
Lagged *mpsh*	0.777***	0.584***	0.738***	0.621***
	0.045	0.150	0.055	0.051
Lagged *exps*	−0.044***	−0.082**	−0.062***	−0.099***
	0.011	0.032	0.008	0.019
Lagged *gdppc*	−0.001**	−0.003*	−0.003***	−0.004***
	0.001	0.002	0.001	0.001
Constant	0.174***	0.323**	0.227***	0.331***
	0.034	0.119	0.037	0.054
Sample	All	All	OECD	OECD
No. of countries	28	28	16	16
No. of obs.	448	448	319	319
Adj. R^2	0.75		0.78	
No. of instr.		25		16
Hansen		0.43		0.73
AR(1)		0.02		0.05
AR(2)		0.70		0.70

Notes:
(i) Robust standard errors are reported under the coefficients. (ii) The system generalised method of moments (GMM) estimator is implemented in STATA using the xtabond2 command, with the option *collapse* to limit instruments proliferation (see Roodman, 2009). (iii) The last three rows of regressions 2 and 4 report *p-values* of the Hansen over-identification test, and the Arellano and Bond first- and second-order tests of autocorrelation, respectively. (iv) $*p < 0.10$, $**p < 0.05$, $***p < 0.01$.

In the regressions in columns 2 and 4, we add the variable *WTO_Age* to control for the years of GATT/WTO membership. Its estimated coefficient is positive and significant at the 10% level in the full sample, suggesting that old members tend to have more distorting agricultural policies. Not surprisingly, this effect is insignificant for the OECD subsample, because of insufficient variation in the years of membership in this subsample. Most importantly, the coefficient of the WTO variable remains strongly significant, which means that including these additional variables does not affect the key conclusions on the impact of the GATT/WTO on instrument choice.

In summary, these additional robustness checks provide further support for our conclusions. Controlling for both government orientation and the years of membership, the WTO effect is significantly negative, while the 'pre-treatment'

TABLE 5
Robustness Checks: Dependent Variable = *mpsh*

Dependent Variable	*mpsh*	*mpsh*	*mpsh*	*mpsh*
Estimator	*GMM-SYS Two Step*	*GMM-SYS Two Step*	*GMM-SYS Two Step*	*GMM-SYS Two Step*
	1	*2*	*3*	*4*
WTO	−0.050*	−0.057**	−0.069***	−0.065**
	0.025	0.024	0.021	0.030
6_years_before	0.024	0.025	0.016	0.021
	0.018	0.018	0.013	0.015
Lagged *mpsh*	0.596***	0.551***	0.530***	0.484**
	0.160	0.170	0.177	0.206
Lagged *exps*	−0.092**	−0.131***	−0.129***	−0.157***
	0.035	0.045	0.041	0.052
Lagged *gdppc*	−0.003*	−0.006**	−0.006**	−0.008**
	0.002	0.002	0.002	0.003
Government orientation	0.011	0.015	0.013	0.012
	0.013	0.013	0.013	0.015
WTO_ Age		0.139*		0.146
		0.077		0.090
Constant	0.299**	0.251*	0.387**	0.336*
	0.14	0.136	0.167	0.179
Sample	All	All	OECD	OECD
No. of countries	26	26	16	16
No. of obs.	392	392	296	296
No. of instr.	26	27	16	17
Hansen	0.22	0.23	0.50	0.50
AR(1)	0.04	0.04	0.09	0.10
AR(2)	0.25	0.25	0.28	0.29

Notes:
(i) Robust standard errors are reported under the coefficients. (ii) The system generalised method of moments (GMM) estimator is implemented in STATA using the xtabond2 command, with the option *collapse* to limit instruments proliferation (see Roodman, 2009). (iii) The last three rows of regressions 2 and 4 report *p-values* of the Hansen over-identification test, and the Arellano and Bond first- and second-order tests of autocorrelation, respectively. (iv) $*p < 0.10$, $**p < 0.05$, $***p < 0.01$.

dummy is always positive but insignificant. Together this indicates that this international agreement contributed to a shift towards direct income support away from market price support but did not significantly affect the total amount of support.

5. CONCLUSION

Agricultural and food policies continue to be a major issue in the WTO negotiations. The sector is subject to heavy-handed governmental interventions throughout the world. The literature on what determines government interventions in agriculture and food markets pays relatively little attention to the impact of international agreements such as the WTO. Moreover, virtually all attention is focused on the level of support (or taxation) for farmers, and much less on the issue of which policy instruments are used. Yet market and trade distortions depend more on the instrument used than on the level of support, a distinction explicitly recognised by the WTO. In addition, most studies on the impact of WTO agreements on agricultural policies are *ex ante* simulations.

We use OECD data to document the total amount of support and which instruments are used. The data show that there has not been a reduction in total support but that there has been a significant shift from market price support to direct payments over the past 25 years.

Over this period, several countries joined the WTO, while within the WTO/GATT framework, there was an agreement to reduce agricultural trade distortions under the Uruguay Round Agreement on Agriculture (URAA). We use OECD data on total support and instrument choice in agricultural policy. Our econometric analysis provides evidence that this WTO agreement (or joining the WTO) did not cause a significant reduction in the total amount of support to agriculture but that it caused a significant shift from distortionary to less distortionary instruments.

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