

9. POTENTIAL IMPACTS OF WTO AND EU ACCESSION ON THE AGRICULTURAL SECTOR IN BOSNIA AND HERZEGOVINA¹

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9.1 INTRODUCTION

The agricultural sector of Bosnia and Herzegovina (BH) is continuing to undergo significant changes. While ongoing integration into the European Union (EU) and global markets poses a threat to domestic production, it also provides opportunities to potential exporters. Agriculture is a sensitive sector in BH, accounting for a relatively high share of employment and also of people living below the poverty line. Therefore, the general objective of this paper is to provide detailed information about the potential impacts on the agricultural sector of greater integration into the EU and global markets. This information may help identify ways to overcome major constraints and boost development.

The specific objectives of this paper are to develop two scenarios, BH accession into the World Trade Organization (WTO) and BH accession into the EU, to assess impacts on sensitive agribusiness sub-sectors such as dairy, beef, pork, poultry meat, processed meat, fruit and vegetables, cereals, and wine. Our assessment focuses on impacts on trade, output, and employment and then on impacts on consumers and the economy more generally. To assess these impacts, first we describe recent political and institutional developments and trade patterns. Next, we examine the current BH policy framework, including applied agricultural tariffs that are calculated from the specific and ad valorem components. Next, we describe in detail a framework for quantitative assessment of the effects of accession on selected sensitive products.

The main part of the analysis compares current tariffs with two other options: the WTO initial offer and the EU regime. We assess the potential impacts on production and trade using a bilateral trade model that captures the differential tariff changes by BH's various trading partners. While the modelling is simple, in that it is based on output and trade and does not take into account cross-sectoral effects,

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at the same time it is transparent, and it throws light on which specific tariff changes are important and which are not. By doing so, the model identifies major issues that should be the centre of policy focus. The study assesses employment effects assuming fixed labour–output ratios for each sector. In the final part of the paper, we describe the results and main implications for policy-makers and the sector.

9.2 RECENT DEVELOPMENTS

The Balkans wars (1992–1995) led to the formation of BH as an independent nation along with other members of the former Yugoslavia. The 1995 Dayton peace agreement shaped its political and socio-economic structures. Reflecting the need for compromise, a major part of institutional responsibility and governance went to the entity (provincial) level, leaving the central government relatively powerless. Therefore, in reality BH is split into two economic entities (Republika Srpska (RS) and the Federation of Bosnia and Herzegovina (FBiH)) with different business environments. In addition, the division of responsibilities between state/national and entity levels is unclear, fuelling bureaucracy and slowing the reforms and development of key institutions at the national level. In spite of these difficulties, BH succeeded in establishing relatively stable macroeconomic conditions, at least until the global financial crisis and the recent political crisis (during which BH was without government for one year). In contrast to other south-eastern European (SEE)² countries, BH was able to maintain economic growth (gross domestic product (GDP) per capita increased from €1,278 in 1999 to €3,270 in 2010³), control inflation, and avoid an increase in the share of foreign debt in GDP. At 26 per cent in 2010,³ BH's foreign debt is quite low in comparison with that of other SEE countries (Croatia's was above 85 per cent, and Serbia's was 63 per cent in 2007³). The moderate share of foreign debt in GDP provides scope for BH to borrow for key investments (infrastructure) that will fuel economic growth and improve competitiveness. After a drop of the GDP in 2009, BH began a slow recovery, with estimated real GDP growth of 0.7 per cent in 2010 and 1.6 per cent in 2011, according to the Economist Intelligence Unit.

The requirements of integration into the EU have shaped all BH macroeconomic policies and the development of an institutional and regulatory framework. Entry into the EU had been proclaimed domestically as the ultimate goal of BH development. Trade liberalization and stronger economic integration of SEE markets are an integral, mandatory part of the EU accession process. Since its formation BH has signed bilateral free trade agreements with neighbouring Albania, Croatia, Macedonia, Moldova, Romania, Serbia-Montenegro, and Turkey to form a single regional trade

² According to the Regional Co-operation Council (established in February 2008), the countries included in the SEE region are Albania, Bosnia and Herzegovina, Bulgaria, Croatia, Macedonia, Moldova, Montenegro, Romania, and Serbia.

³ Data from Central Bank of Bosnia and Herzegovina.

Table 9.1: Annual growth in BH trade

Year	Growth of exports (%)	Growth of imports (%)
2006	36	1.8
2007	15	22
2008	13	17
2009	-17	-24
2010	28	10
2011	16	14

Source: Central Bank of Bosnia and Herzegovina.

agreement, the Central European Free Trade Agreement (CEFTA). In mid-2008 BH signed the Stabilization and Association Agreement with the EU and is planning to join the WTO. This three-pronged approach (bilateral, regional, and multilateral) to trade policy both widens and deepens BH's integration into the world economy. Currently, BH has the lowest average applied tariffs in the region (Čaušević, 2006). This includes zero applied tariffs for the CEFTA countries and a gradual lowering of tariffs on imports from EU countries. Likewise, BH faces almost no tariffs in exporting to the CEFTA countries, and more than 90 per cent of agricultural exports to the EU are duty-free.

Trade liberalization can significantly affect domestic competitiveness and, consequently, depending on comparative advantage, the patterns of production and trade as well as consumption. Trade liberalization also creates new relationships between countries at the multilateral and regional levels and in a wide range of economic sectors (Hallatt, 2005). The change in the value of total BH imports and exports over time illustrates this. After initial trade liberalization in 2004, exports and imports have increased each year, except in 2009 as a consequence of the global economic crisis (table 9.1).

In spite of a rapid growth in exports, in 2011 imports far exceeded exports – €7,938 million in imports compared with €4,209 million in exports. Although the trade deficit is significant as a share of GDP, it has been decreasing steadily, from about 36 per cent in 2007 to 26 per cent in 2011. At the same time trade is becoming more important. The share of trade in GDP has been steadily increasing, from 42.7 per cent in 2007 to about 53 per cent in 2011. This trend is expected to continue as BH integrates into the regional and global economies.

Following trade liberalization in BH, the contribution of tariffs to government revenues has fallen slightly, from 13 per cent in 2006 to 11 per cent in 2007 (BH Indirect Tax Authority, 2008). As a result of trade agreements with the EU, duty revenues in 2008 were 0.6 per cent less than those collected in 2007. However, full and more dramatic effects of the reduction in duty revenues were expected at the start of 2009, based on an additional reduction of duty rates, imports, and consumption (BH Directorate for Economic Planning, 2009). Thus, it is no surprise that duty

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Table 9.2: BH share of exports and imports by sector

Sector	Import share (%)			Sector	Export share (%)		
	2005	2007	2011		2005	2007	2011
Food and beverage	12.1	11.3	13.1	Base metals	22.0	21.7	15.9
Coke, refined petroleum products	9.3	10.2	7.5	Fabricated metal products, except machinery and equipment	5.9	8.4	6.5
Machinery and equipment	8.9	9.5	5.8	Wood and wood products, except furniture	9.2	7.9	4.6
Base metals	5.0	9.3	6.7	Furniture	5.8	7.3	8.5
Chemicals and chemical products	9.4	9.3	7.2	Motor vehicles, Trailers, and semitrailers	9.5	7.1	2.5
Motor vehicles, trailers, and semitrailers	8.9	8.3	5.5	Tanning and dressing of leather	2.9	6.5	6.4
				Food and beverage**	6.6	5.9	7.5
				Machinery**	5.2	3.9	6.2

**These two sectors increased their share significantly in 2011.

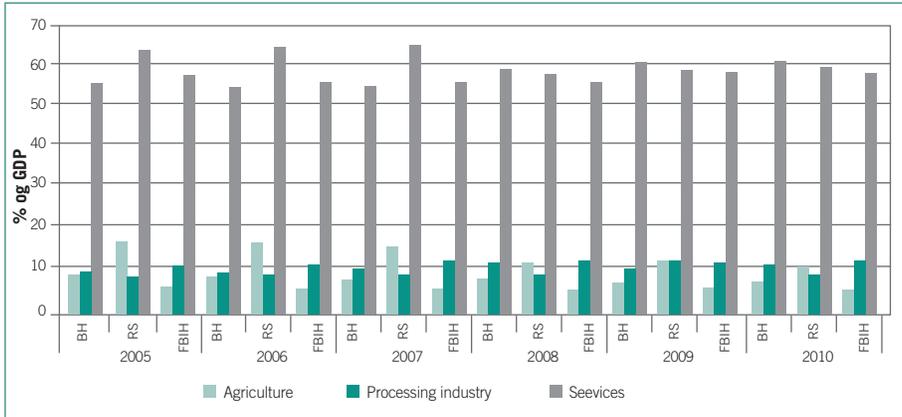
Source: BH Statistical Office.

revenues contributed only 4.8 per cent of government revenues in 2011 (BH Indirect Tax Authority, 2012).

Even a superficial look at the major export and import sectors indicates that BH exports are driven by primary industries such as base metals (table 9.2), with insignificant contribution from middle- or high-tech sectors (Silajdžić, 2007). The trade structure suggests that BH exports strongly depend on raw material imports such as chemicals and chemical products, fuel, and machinery and equipment. It also suggests that low levels of supply capacity and other problems connected with the size and scope of production, product quality, poor institutional framework, and high transaction costs of trade are behind the weak BH trade position.

The level of competitiveness (Ca'Zorzi and Schnatz, 2007; Esterhuizen and van Rooyen, 2006) helps to explain the achievements or failures of the economy (Adams et al., 2004; Kovačić, 2007; Nikolić, 2008) as well as patterns of sustainable development including rural development (Krom and Sagi, 2005). The fact that BH trade deficit is fuelled by high levels of food imports – the deficit in food trade accounts for 29 per cent of BH's overall trade deficit – confirms the limited ability of food producers to respond to new market conditions and trends. However, recent trade liberalization improved market access, which, in turn, induced growth in the food industry; from 2004 to 2009 growth amounted to 59 per cent. This made the food industry one of the most dynamic sectors.

Figure 9.1 The GDP share of agriculture, processing industry, and services at entities and state levels



Notes: BH=Bosnia Herzegovina, RS=Republika Srpska, and FBiH= Federation of Bosnia and Herzegovina

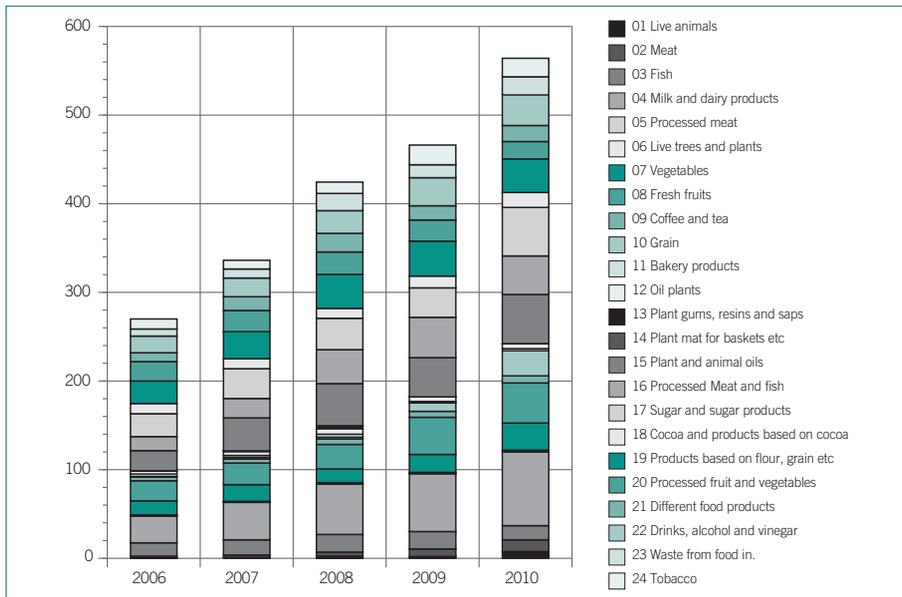
Agriculture remains an important source of employment in BH. Reliable data about employment in agriculture are not available, however. With the loss of non-agricultural jobs associated with the destruction of the war and associated economic declines, a large proportion of employees in industrial activities have been left obviously unemployed or else have moved into (hidden) agricultural and rural unemployment (Bojnec, S., 2005; cited from AgriPolicy, 2007). According to a study from AgriPolicy (2007), the share of agriculture in total employment in BH was 18.1 per cent in 2003. Along with high unemployment, there is a large informal sector in BH, of which 39 per cent or 50 per cent (according to different sources – AgriPolicy, 2007, and the World Bank, respectively) are active in agriculture. It is roughly estimated that in a population of 3.2 million, with 1.2 million economically active, about 500,000 people are employed in agriculture. In fact, this is probably an upper bound.

Agribusiness groups are concerned about further liberalization of sensitive sectors and are pointing to several factors as reasons for concern. These include the huge agri-food trade deficit (over €1 billion in 2008), the continuing growth in imports, and the sector’s economic importance (figure 9.1), especially for employment. Stakeholders argue that agriculture makes a significant contribution to GDP and poverty reduction. The public debate, however, fails to recognize either the sector’s poor performance or positive trade developments such as a significant increase in agricultural exports.

Agricultural exports have been growing steadily at high annual rates (figure 9.2). Agricultural exports grew even in 2009, when the whole economy, including exports overall, declined (GDP by –2.8 per cent and total exports by –17 per cent). The sector’s contribution to overall export value is slowly decreasing as other exports increase faster. However, it still remains significant (8.4 per cent in 2009, 8.0 per cent in 2010, and 7.4 per cent in 2011), even though its absolute value is modest (Bosnia and Herzegovina convertible mark (BAM) 612.2 million). At the same time, the value

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Figure 9.2: Structure of total BH agri-food exports (in BAM000)



of agricultural imports has increased (figure 9.3), but at significantly lower rates than exports – by 15 per cent in 2007, 17 per cent in 2008, –8 per cent in 2009, and only 4 per cent in 2010. The increase of BH agri-food import values in 2008 was driven partly by increases in global food and fuel prices (BH Directorate for Economic Planning, 2009). Export growth has continued, with the value of exports of agricultural goods increasing by 21 per cent in 2010 and 9 per cent in 2011. Aggregate agri-food trade data suggest that trade liberalization (especially with CEFTA members) opened up a “window of opportunity” for BH agribusiness.

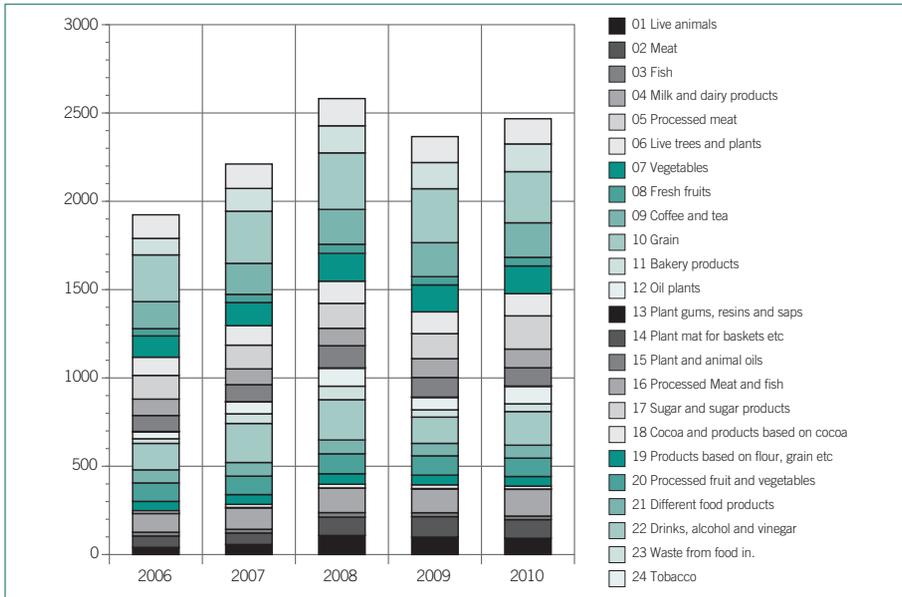
One of the most important factors behind the rapid increase in agricultural imports is the inability of BH agribusiness to increase production and productivity to satisfy market needs. BH agricultural imports are dominated by beverages, alcohol, and vinegar (11.7 per cent share in 2010), various food products (7.9 per cent), followed by cereals (7.7 per cent), sugar and sugar products (7.6 per cent), food industry remains and products based on flour, grain, etc. (6.4 per cent each 2010), dairy products (6.1 per cent), tobacco (5.8 per cent), and cocoa and processed food based on cocoa (5.1 per cent).

The major exporters to BH are the 25 EU members (EU-25)⁴ (about 48 per cent of total imports), closely followed by Croatia and by Serbia and Montenegro (together about 45 per cent of total imports). BH agricultural imports are driven by higher value goods (figure 9.3), which require higher innovative capacity and more

⁴ These are all the members of the EU in 2007. Trade with the 26th and 27th EU members, Bulgaria and Romania, is less than 1 per cent.

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Figure 9.3: Structure of total BH agri-food imports (in €000)



sophisticated marketing knowledge as well as facility at recognizing and following market trends. This suggests that the trade deficit could not be significantly decreased without local industry becoming more sophisticated, moving into greater levels of processing, and developing economies of scale and scope (greater quantities and a wider assortment of products).

Additionally, the main BH agri-food export markets are Croatia, Serbia, Macedonia, Kosovo,⁵ and Montenegro (about 70 per cent of total exports (Lalić et al., 2010)), followed by the EU-25 (about 23 per cent of total exports). This suggests that sanitary and phytosanitary (SPS) and technical barriers to trade (TBT) requirements, which are more stringent in EU markets than in CEFTA markets, constrain exports. An example is exports of meat and dairy products to the EU, which, according to Nikolić (2007, p. 112), accounted for less than 1 per cent of dairy product exports in 2007. This low share decreased to almost zero in 2010 (UNCTAD statistics). It is likely that cultural and historical ties as well as common consumption patterns partly explain the low share of dairy exports going to the EU. Still, the particularly low level exports of goods where standards are very important may reflect the low capacity of the sector to comply with sanitary requirements.⁶ This inability to meet SPS requirements reflects, in turn, the limited capability of the national institutional frame-

⁵ As defined in United Nations Security Council Resolution No. 1244 of 1999.

⁶ In 2006 only 10 of 53 BH dairies had a hazard analysis and critical control points system. An additional seven were introducing it. Eight dairies were certified by ISO 9001:2000; one, by ISO 22000; and 11 possessed export licenses (Nikolić et al., 2009).

work (involving testing, verification, inspection, and certification systems) to ensure that SPS measures and other standards and technical regulations are satisfied. These BH institutions are too weak (Bajramović et al. 2004; Efendić, 2004) to support valid international cooperation, as they might do by helping reassure trading partners that products conform to standards and by facilitating mutual recognition between trading partners. As Chena et al. point out (2008, p. 501), reaching Mutual Recognition Agreements (MRAs) can help firms to comply with standards and to benefit fully from trade liberalization. In short, adequate institutions and domestic policies are crucial to obtaining the full benefit from trade liberalization (Esterhuizen and van Rooyen, 2006; Mitra and Ural, 2008; Romano, 2006) and to realizing its potential to contribute to increasing global welfare and promote better employment (Jansen and Lee, 2007). Due to weak institutions and therefore inadequate food safety and quality assurance, BH exports could be seriously compromised when Croatia becomes a full EU member in 2013 and adopts EU standards. Currently, Croatia is BH's biggest agricultural trade partner, accounting for one-third of total agri-food trade.

Employment creation is important and needed. The unemployment rate in BH was 27 per cent in 2010 according to the World Bank and 43 per cent according to official statistics.⁷ The latest Labour Force Survey, in 2008, reported the youth unemployment rate at 51.9 per cent, double the overall rate and four times higher than the EU average (USAID, 2009). Since BH has a growing workforce, it is very important for policy to support job-creation. Economic prosperity and continuous improvement of living standards, which currently are still low, are important to stabilize the country. Recently, concerns have been raised that efforts to stabilize BH are failing (Woehrel, 2012).

Protectionist sentiments concerning agribusiness characterize the current public debate in BH over further integration into regional and global markets. The preceding overview of BH agri-food trade, previous research on BH's agricultural sector (Bajramović, 2006; Čaušević, 2006; Hadžiomerađić et al., 2007; Nikolić, 2008; Nikolić et al., 2011; Silajdžić, 2007), and other literature linking trade liberalization and productivity growth (Alfonso and Henrique Alves, 2008; Kucera and Sarna, 2006; Mitra and Ural, 2008), coupled with concerns about the effect of trade liberalization on employment, suggest that this debate could benefit from better information on the likely impact of closer integration.

9.3 CURRENT POLICY FRAMEWORK

9.3.1 Trade reform in Bosnia and Herzegovina

BH has preferential agreements with the European Union, which takes around 50 per cent of its agricultural exports. In mid-2008 BH signed the Stabilization and

⁷ Source: World Bank Development Indicators, 2012 and Woehrel (2012), respectively. Figures may differ because of inclusion of informal-sector work.

Association Agreement. The Interim Agreement entered into force on 1 July 2008, calling for gradual reduction of duties to zero for goods originating from the EU. This phasing-out of tariffs is scheduled for completion in 2013.

BH also has bilateral agreements with its neighbours Albania, Croatia, Macedonia, Moldova, Serbia and Montenegro (CEFTA agreement), and Turkey, with whom it is negotiating a free trade area with a common external tariff and zero tariffs on internal trade. These countries account for about 45 per cent of BH's trade. As of 2008 the greatest contribution to overall exports and imports came from the EU countries. This pattern is expected to continue, since the EU market is becoming more open for BH exports.

The remainder of the country's trade is mostly with other countries that are WTO members. It seems likely that liberalizing trade with WTO members outside Europe will have little impact on trade flows. According to WTO/ITC/UNCTAD estimates (WTO, 2011), the average applied agricultural tariff is 10.2 per cent, similar to that of its neighbours.

In preparation for accession to the WTO, BH has reduced the higher tariffs facing countries outside its preferential agreements. There are 2,077 tariff line items covered by the Agreement on Agriculture. The Most Favoured Nation (MFN) tariffs were set at zero, 5, 10, or 15 per cent in 2008; about one-half of the tariffs are less than or equal to 10 per cent. The simple average of ad valorem tariffs is 5.2 per cent. The highest tariffs are for alcohol (HS Chapter 22) and tobacco (HS Chapter 24). About one-third of tariffs in agriculture are specific tariffs, i.e. not in ad valorem terms. The ad valorem equivalent rates for these tariffs are considerably higher, giving an overall average of 10.2 per cent. Compared with the tariffs of other countries now negotiating accession to the WTO, as well as existing members, agricultural tariffs in BH are low.

The relatively high tariffs facing WTO members on processed agricultural goods exported to BH may pose concerns for negotiators. The top ten BH agricultural imports are shown in table 9.3. The list is dominated by processed products, including tobacco, beer, and chocolate. Unprocessed products in the top ten include wheat, maize, and animal feeds, but these have relatively low tariffs.

Outside the first ten, but important nonetheless, are tariffs on various meats. These are shown in table 9.4, which lists the ten highest agricultural tariffs facing non-preferential exporters. The significant items here are meat and processed meats, plus processed cereal products, as production and employment for these items are significant in BH, and tariff reform threatens a sizeable domestic industry.

Some of agricultural products (cereals, grain, oilseed, tobacco, sugar, raw meat, live animals, seeds, etc.) are intermediate inputs for the food production and processing industry. Currently, the tariff rate for new machinery and equipment is 10 per cent. Tariffs on inputs are, in effect, a tax on production and possibly on exports as well. Additionally, those tariffs could slow the growth of productivity in the primary production and processing sector.

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Table 9.3: Bosnia and Herzegovina's top ten agricultural imports and their MFN tariffs, 2008

HS code	Product description	Imports US\$m)	(Tariff (%)
1001	Wheat and meslin	100	5
2402	Cigars, cheroots, cigarillos, and cigarettes...	86	15
2203	Beer made from malt	78	15%+0.3 KM/L
1806	Chocolate and other food preparations ...	73	10%+1.0 KM/L
2202	Waters, including mineral waters and aerated water	59	10%+0.2 KM/L
1905	Bread, pastry, cakes, biscuits, and other bakers' ...	58	15%+0.2 KM/L
2106	Food preparations not elsewhere specified ...	54	5
1005	Maize (corn)	40	10
2309	Preparations of a kind used in animal feeding	39	5
1512	Sunflower-seed, safflower or cotton-seed oil ...	38	5

Source: UNCTAD TRAINS and Comtrade. Tariffs are applied MFN. These tariffs are not necessarily applied to all the imports, most of which enter under preferential arrangements. Trade data are for 2007.

Table 9.4: Bosnia and Herzegovina's highest tariffs, 2008

HS code	Product description	Imports US\$m)	(Tariff (%)
0201	Meat of bovine animals, fresh or chilled	2.127	10%+2.5 KM/kg
0202	Meat of bovine animals, frozen	17.329	10%+2.5 KM/kg
0204	Meat of sheep or goats, fresh, chilled, or frozen	1.234	10%+2.0 KM/kg
0207	Meat and edible offal of poultry, fresh, chilled or frozen	19.651	10%+2.0 KM/kg
0209	Pig and poultry fat, fresh, chilled, frozen, salted ... or smoked	0.960	10%+2.5 KM/kg
1101	Wheat or meslin flour	24.568	10%+0.2 KM/kg
1211	Plants and parts of plants, of a kind used in perfumery, pharmacy ...	4.014	0%+6.0 KM/kg
1601	Sausages and similar products; food preparations based on these products	28.001	10%+3.0 KM/kg
1602	Other prepared or preserved meat, meat offal, or blood	18.985	10%+2.5 KM/kg
1905	Bread, pastry, cakes, etc.; communion wafers, rice paper, etc.	81.049	15%+1.5 KM/kg
2201	Waters (including mineral waters and aerated waters); ice, and snow	13.846	15+0.2 KM/kg

Source: World Integrated Trade System (WITS). Tariffs are applied MFN.

9.3.2 *Non-tariff market access measures*

Non-tariff barriers include various quantitative restrictions, import licensing, customs valuation procedures, rules of origin, trade-related investment measures, standards (i.e. technical barriers to trade), and SPS regulations. In the BH agricultural and food sector, there are no quantitative restrictions (quotas) on imports of any products. Only products that are considered as a public health, environmental, or economic risk (pharmaceutical, chemical, and military products, antiques, etc.) require import and export licenses. Those rules are not important for the agricultural sector.

Rules of origin determine whether goods imported from specific countries have preferential or non-preferential status. BH Law on Custom Policy governs the implementation of preferential tariffs, which apply to imports from the nine countries with which BH has free trade agreements. Each of those agreements includes provisions in which contracting parties agreed to apply the harmonized European preferential rules of origin in their mutual trade (Efendić, 2004). This means that the countries are supposed to implement a sophisticated administrative system to issue certificates of origin and to verify them. According to Hadžiomerađić et al. (2007, p. 30), “Experts added that, without diagonal cumulation of origin, at least among the other SEE countries, fewer BH products can qualify as of BH origin. Therefore, origin requirements in the present form create a significant barrier for exports (CEFTA should improve the situation)...” However, implementing European standards is, in several aspects, beyond the administrative capacity of many countries, including BH.

Additionally, each business export/import entity has to be registered with the Ministry of Foreign Trade and within the Court of Entity where it is located and/or where goods are cleared. Consequently, the procedure for registration is long. Efforts are underway to simplify and shorten the process by using a common registration system.

Clearly, SPS and TBT measures are fields where the differing authorities between the State and the Entities, combined with an outdated approach based on compulsory standards, have created a serious obstacle to quick integration of BH into the modern international trading system (Efendić, 2004). The institutions established at the state level (Veterinary Office, Agency for Plant Health Protection, and Food Agency) are not capable of providing the necessary services to facilitate imports of food and food-stuffs while ensuring consumer protection.

BH’s cumbersome governing structure hampers customs control, although many improvements have been made in recent years. A further impediment to trade is the long waiting times at border crossings. On average, time for export is 16 days, with costs amounting to US\$1,125 per container. By comparison, in the EU the average wait is 12 days, with costs of \$1,039 per container. For perishable food items this longer delay causes difficulties. Also, foreign transporters need a CEMT⁸ certificate, which is not available at the border. (Transporters from countries with which BH has bilateral agreements are exempt from this rule.)

⁸ Conférence Européenne des Ministres des Transports/European Conference of Ministers of Transport.

9.3.3 *Barriers to exports*

Bosnia and Herzegovina enjoys the autonomous trade measures granted unilaterally by the European Union, BH's major trading partner. These measures, expanded in the interim agreements on trade and trade-related matters, ensure free access to the EU market for almost all products. The only exceptions are the tariff rate quotas for wine, some fisheries products, and sugar. For baby beef, only the specific element of the import duty has been eliminated, whilst the ad valorem element, set at 20 per cent, continues to apply. EU exports to BH have been granted trade preferences. BH also has signed bilateral free trade agreements with all countries in the region. That means BH enjoys preferential status in all major export markets.

Nonetheless, BH's poor trade performance reflects an inability to benefit fully from such a situation. The weakness of BH's administrative and managerial capacity to deal with food safety and quality issues as well as with the rules of origin is a major obstacle to an increase in agricultural BH exports. The largest barrier to exports of BH animal products to the EU is the inability of potential exporters to meet the SPS requirements (World Bank, 2005) or, more precisely, to provide an efficient institutional framework for food safety and quality assurance.

In addition, the lack of defined administrative structure and trained people constrain the efficient operation of international transport. The major part of international shipment has to be done by foreign companies because the TIR⁹ carnet system of international insurance is not fully operational. Consequently, the transaction costs of BH exporters are high, undermining the competitiveness of BH goods.

Additional barriers to BH exports include: (i) the significant reduction of marketed agricultural production in BH due to internal conflict in the 1990s; (ii) the paucity of stable trade links between exporters from the region and importers in the EU; and (iii) not enough produce of homogeneous quality to take advantage of economies of scale (Bajaramović et al., 2004).

9.3.4 *Domestic support*

Domestic support to agriculture is very low in BH (figure 9.4). According to the Ministry of Foreign Trade and Economic Relations (MOFTER), only three commodities receive product specific support in excess of the WTO de minimis limit of 5 per cent of the value of production.¹⁰ Support under this limit is exempt from reduction commitments.

In summary, it appears that BH has one of the lowest levels of tariffs on its agricultural products in the region and minimal domestic support. Through its various

⁹ Transport International (de Merchandises) par Route: customs transit document used for an international transit of goods.

¹⁰ Although BH is a lower middle income country, it is likely to be treated as a developed country following accession. This implies that a de minimis of 5 rather than 10 per cent would apply (see chapter 2 of this book).

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Figure 9.4: Domestic support to agriculture (in € million)

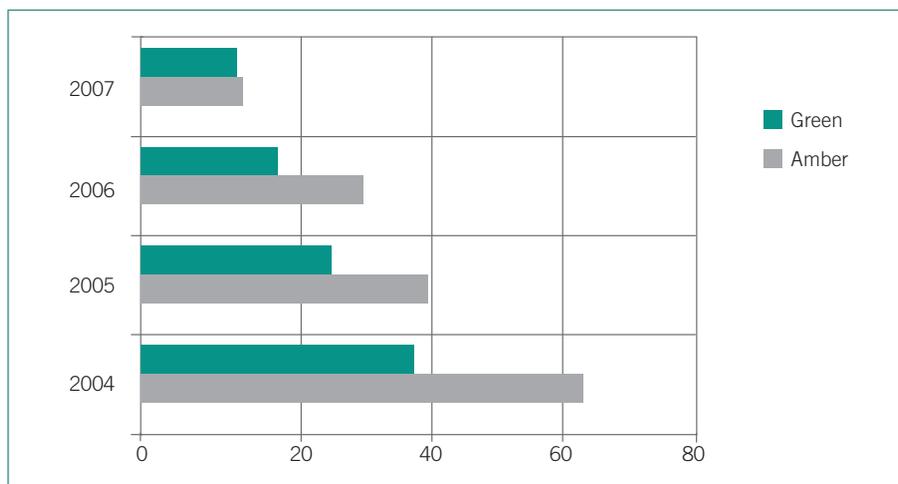


Table 9.5: Agricultural budget according to government level in Bosnia and Herzegovina

Agricultural budget in million BAM

	2006	2007	2008	2009	2010
FBiH	35.42	58.54	78.79	72.07	78.92
RS	45.47	80.91	80.21	81.56	80.34
Brcko District	3.08	5.01	4.72	6.06	6.43
BH	83.97	144.46	163.72	159.69	165.69

Share of agricultural budget in GDP

FBiH	6	9.07	11.59	10.45	11.37
RS	5.29	8.82	8.2	8.86	10.2
Brcko District	6.62	10.06	9.01	12.73	13.61
BH	5.62	8.96	9.58	9.63	10.84

Agricultural budget per utilized agricultural area (UAA) (in BAM/ha)

FBiH	38	63	82	76	82
RS	60	108	111	113	113
Brcko District	103	167	157	195	207
BH	49	84	95	94	98

Note: Two entities FBiH=Federation of Bosnia and Herzegovina, RS=Republika Srpska, and one district. "BH" stands for total agricultural budget in BH.

Source: Ministry of Foreign Trade and Economic Relations cited in Bajramovic et al. (2010).

bilateral and multilateral trade agreements, BH has preferential status in its major exporting markets. In spite of substantial non-tariff barriers to imports and exports, the tariff reductions, driven by these agreements, have had a positive impact on the growth of agricultural export: In the period 2004–2011 exports increased by 248 per cent. In the same period imports have grown but at lower annual rates: In the period 2004–2011 imports increased by 43 per cent.¹¹

Tariffs on imports from outside Europe are significantly higher, at 50 to 100 per cent or more on some sensitive goods such as meat and other processed foods. Accession to the WTO will most likely require reduction of these tariffs. Accession to the European Union will also require a realignment of tariffs to EU levels. The tariff reductions have the potential to increase trade and may have effects on employment in agriculture. However, with respect to WTO accession, the impacts are likely to be slight because a relatively small share of trade is with WTO members outside the region (about 7 per cent of total agri-food trade). The next section quantifies the likely impacts.

9.4 A QUANTITATIVE ASSESSMENT OF ACCESSION ON SELECTED SENSITIVE PRODUCTS

To assess the impacts of accession on selected products, we look at two scenarios:

1. EU accession: Removal of tariffs on BH–EU trade, and change in BH tariffs on Rest of World (RoW) imports to EU levels.
2. WTO accession: Reduction in BH tariffs on imports from RoW to 5 per cent.

Table 9.6: Initial tariffs on sensitive products, Bosnia and Herzegovina and European Union compared

Product	BH tariffs on imports from RoW (%)	EU tariffs on imports from RoW (%)
Beef	83	23
Pork	62	32
Poultry meat	0	34
Dairy products	10	35
Processed meat	64	14
Processed cereals	5	15
Processed fruit and vegetables	7	11
Wine	15	15

RoW=rest of world.
Source: UNCTAD TRAINS database.

¹¹ Data from the Central Bank of Bosnia and Herzegovina.

The analysis is limited to looking at tariff reductions for sensitive products such as meat, dairy products, wine, and some processed foods, as listed in table 9.6. The first scenario involves removing BH tariffs on imports from the EU and raising or lowering BH tariffs on imports from RoW levels to EU levels, given in the right column of table 9.6. All countries within the European Union must have a common external tariff. This implies, for example, that the BH tariff on beef would fall from 83 to 23 per cent. The scenario assumes that there is no change in domestic support or export subsidies. The second scenario assumes tariffs on imports from countries outside the preferential markets, labelled “RoW” in table 9.4, would be reduced to 5 per cent. This relatively low level is perhaps a lower limit, but it may be requested in accession negotiations for certain products. Tariffs on imports from the free trade areas and the European Union would remain unchanged.

9.4.1 *The model*

The quantitative analysis employs GSIM, a static, single-commodity, bilateral trade model that distinguishes between imports from different sources (Armington assumption). This capability is essential to capture the impacts on trade of the differing tariff changes in different countries, in this case due to the regional trade agreements.

GSIM is essentially a set of simultaneous equations in a spreadsheet in which export prices are varied to satisfy the requirement that global imports equal exports. As a static model it compares two situations at a point in time and does not attempt to show the transition from one state to another. In this particular case the effect on trade is assessed with and without the bilateral tariff reductions required to be implemented following accession. With lower tariffs imports become cheaper compared with domestically produced goods. This decrease in cost will reduce consumer prices and increase consumption, but there will be a decrease in demand for locally produced goods. The aim of this analysis is to estimate the resulting effects on output and employment. We also estimate the effects on government revenue, total returns to farming, and consumer expenditure (here called “net welfare”).

GSIM was designed as a single-commodity modelling framework (for example, for beef). For this application linkages on the production side have been incorporated with cross-price elasticity. This implies, for example, that the price of beef affects the production of pork. Potential substitution in consumption between goods (for example, beef and poultry) is ignored. A further simplifying assumption is no changes in stocks, nor is there growth in production or consumption over time. Thus, we are ignoring the phase-in period and merely assessing what the pattern of production and trade would have been had the tariff changes been applied to the economy as it was in 2007, the base period.

The model is simple, in that it does not include land, labour, and capital or other sectors of the economy. However, if it is assumed that inputs are used in fixed proportions, then changes in employment can be gauged from the change in output. This implies that there is no substitution between labour, on one hand, and capital and other inputs, on the other, when output changes. GSIM does not include con-

straints that may limit production, such as the availability of water for irrigation, or demand-side constraints such as SPS requirements. Nor does it take into account that labour forced out of agriculture by declining output may find employment in other sectors of the economy. Notwithstanding these limitations, the advantage of simplicity is that the model is transparent, and the factors determining changes in trade flows and employment can be readily identified. Furthermore, it allows setting the level of product aggregation according to the analytical requirement. Here, most products are at the 4-digit HS level.

9.4.2 Data

As with most models, the data available determine the quality of the output. In this case the data required include:

- Bilateral trade flows between the main countries involved in trade. These data, in values at world prices, are obtained from UN Comtrade via WITS, a World Bank/UNCTAD data integration package. The trade data originally come from national sources.
- Production. Estimates of production at world prices come from FAOSTAT and are supplemented by official state data.
- Employment. In the absence of census data or recent surveys, it is assumed that 500,000 people are employed in agriculture, and about 204,000 are employed in the eight sectors examined here. This assumption is based on the estimated value of production, from FAOSTAT. This number of workers is allocated to the sectors taking into account the labour–output ratios taken from the Global Trade Analysis Project (GTAP) Version 8 database. Because BH data are not in the database, BH is assumed to have labour–output ratios similar to those of Bulgaria, a neighbouring country at a similar stage of development.
- Bilateral tariffs. The model requires applied tariffs on an ad valorem equivalent basis. Many of the agricultural tariffs of the European Union and BH contain a specific element and therefore need to be converted. There are several methods for converting specific tariffs to ad valorem equivalents. These differ on the appropriate price to use and can generate markedly different results. The method used here is the so-called “WTO method”, to which WTO members agreed in May 2005.
- Export subsidies. These data are notified to the WTO. They are obtained from the Agricultural Market Access Database (AMAD). BH pays no export subsidies, but it imports subsidized exports from the European Union.
- Domestic support. BH pays limited domestic support, less than 5 per cent of the value of production for most products. This level of support would be allowed under the de minimis provisions. However, BH may have to change the nature of its support away from market-based measures to income support.

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- Responsiveness of production and consumption to changes in prices. There are three types of elasticity in the model: demand, supply and Armington elasticities. Where possible, demand and supply elasticities are obtained from UNCTAD's Agriculture Trade Policy Simulation Model. Where this is not possible, estimates are obtained from a similar country (Croatia) or based on a lower level of processing. For example, in the absence of estimates for processed meat, estimates for beef are used. The Armington elasticities, which measure the responsiveness of consumers to a change in relative prices of imports from alternative sources, come from the GTAP database. Because BH is not included as a separate country in the database, estimates for Bulgaria are used.

This analysis is applied to eight specific products, as listed in Table 9.7. These products are considered sensitive and of particular interest to policy-makers.

Bilateral trade flows for the four regions are shown in table 9.8. The diagonals in each matrix (that is, the figures at the intersections of a rows and columns with the same label) refer to domestic production that is consumed locally. The remaining elements in each row refer to exports. For example, the first row indicates that BH produces US\$23 million in beef that is consumed domestically plus exports of \$19,000 to the EU and \$2,000 to CEFTA members.

9.4.3 The results

The accession of BH to both the EU and the WTO will lead to falls in tariffs on BH's imports and exports for the products examined here. The resulting changes in trade in turn lead to changes in output and employment. The net effect on employment is negative but slight, with an estimated 2,000 agricultural workers displaced. Changes in BH's exports, imports, output, and employment are presented in this section. We also report, in less detail, changes in tariff revenue, returns to producers, and benefits to consumers. Because the changes in trade flows are driving the change in output, we present them first.

Table 9.7: Model coverage

Regions	Product	HS Code
Bosnia and Herzegovina European Union 25 CEFTA Rest of world	Beef	0201-0202
	Pork	0203
	Poultry meat	0207
	Dairy products	0402-0406
	Processed meat	1601-1602
	Processed cereals	1901-1905
	Processed fruit and vegetables	2001-2009
	Wine	2204-2205

Note: CEFTA includes Albania, Bulgaria, Croatia, Macedonia, Moldova, Serbia, Montenegro, and Turkey.

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Table 9.8: Initial bilateral trade flows, 2007

Product	Exporter	Importer			
		BH (US\$000)	EU25 (US\$000)	CEFTA (US\$000)	RoW (US\$000)
Beef	BH	23 001	19	2	0
	EU-25	1 811	15 837 290	11 737	382 156
	CEFTA	1 545	242	1 283 700	862
	RoW	1 214	85 384	105 220	105 789 831
Pork	BH	5 472	0	4	0
	EU-25	6 462	25 899 657	120 846	3 300 317
	CEFTA	659	51	1 089 291	59
	RoW	1 538	72 222	44 219	94 760 867
Poultry meat	BH	18 783	12	89	10
	EU-25	2 541	12 044 887	37 607	1 036 879
	CEFTA	7 514	4 383	1 471 979	5 029
	RoW	397	110 700	123 418	79 341 133
Dairy products	BH	141 809	23	4 808	988
	EU-25	7 561	34 866 177	53 042	797 276
	CEFTA	18 108	4 734	831 373	9 378
	RoW	13 686	51 868	21 171	36 347 174
Processed meat	BH	93 071	0	6 834	282
	EU-25	32 380	92 959 082	176 929	7 847 717
	CEFTA	22 704	6 692	6 415 299	91 930
	RoW	6 736	107 090	86 842	105 476 617
Processed cereals	BH	125 217	297	13 468	2 448
	EU-25	20 741	78 035 428	291 909	5 639 806
	CEFTA	30 786	41 459	9 760 491	240 325
	RoW	38 519	205 771	107 913	378 147 972
Processed fruit and vegetables	BH	75 942	1 623	7 218	3 022
	EU-25	12 160	39 178 851	209 776	3 854 903
	CEFTA	9 800	46 772	12 191 701	414 481
	RoW	22 114	611 762	120 646	288 850 800
Wine	BH	5 656	7	1 934	132
	EU-25	2 572	989 328	22 501	9 058 022
	CEFTA	7 740	44 402	77 333	217 938
	RoW	7 407	196 360	14 102	1 414 157

Source: Comtrade, FAOSTAT, BH government. Elements on the diagonal refer to own production consumed domestically.

Table 9.9: Change in BH exports

Product	Initial exports (US\$000)	EU accession		WTO accession	
		Change in value (US\$000)	Change in value (%)	Change in value (US\$000)	Change in value (%)
Beef	21	91	433.33	44	209.52
Pork	4	0	0.00	0	0.00
Poultry	111	-4	-3.58	0	-0.36
Meats	5 820	38	0.65	28	0.47
Dairy	7 116	9	0.12	2	0.02
Processed cereals	16 213	-5	-0.03	0	0.00
Processed fruit and vegetables	11 864	0	0.00	0	0.00
Wine	2 073	4	0.19	8	0.39

Source: GSIM simulations.

9.4.3.1 Exports

The changes in exports following accession are shown in table 9.9. The dominant effects are increases in exports of beef, processed meats, and dairy products, but these changes are modest because there is no additional opening of export markets in either the EU or CEFTA, with which BH currently has trade agreements, nor with the RoW countries that already impose MFN rates on imports from BH.

Under the EU accession scenario, the strongest positive change estimated is in beef exports. A modest decrease of poultry and cereals exports is expected as well. Other sectoral exports will grow by only very modest amounts.

The policies modelled under the WTO accession scenario also have modest impacts on export performances for the sectors in question. As in the first scenario, the greatest change is in beef exports. Exports of pork, cereals, and vegetables and fruit will remain virtually unchanged under this scenario, while a modest contraction of poultry export is anticipated.

9.4.3.2 Imports

The EU accession scenario involves a switch in imports from CEFTA and RoW to the EU. This is driven by a significant reduction in BH bilateral tariffs on beef, pork, and processed meat imports from the EU. Furthermore, tariffs on imports of poultry and dairy products from RoW would rise to match EU levels, contributing further to the trade diversion. Therefore, a significant fall of imports of pork, poultry, and dairy products from RoW is anticipated. Imports of processed cereals would fall as tariffs on imports from RoW are raised to EU levels. The fall reflects the significant share of imports of processed cereals in the base period. The total import values will increase by 37 percent for pork, 31 per cent for beef, 25 per cent for processed meats, and 13 per cent for dairy (table 9.10).

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The WTO accession scenario modelled here involves the reduction in bilateral tariffs on imports from RoW (that is, excluding CEFTA and EU-25 countries). Tariffs on imports of beef, pork, and processed meats from these countries are quite high (as shown earlier, in table 9.4). Therefore, reform of those policies leads to an increase in imports from RoW. At the same time, a reduction of imports from the CEFTA and EU-25 countries occurs as consumers switch to the relatively cheaper products. The overall import value for the selected products increases by 13 per cent for beef, 5 per cent for pork, and 17 per cent for processed meats. There is little change in imports of poultry, dairy products, processed cereals, vegetables, and wine, as tariffs on these items are relatively low.

9.4.3.3 Output and employment

The estimated changes in output and employment following implementation of the two scenarios are shown in table 9.11. The dominant effects are decreases in the output of processed meats and, to a lesser extent, dairy products, beef, and pork, and slight increases in production of poultry and cereals. However, these changes, at less than 10 per cent, are relatively modest because there is little additional trade generated, as noted above.

The WTO accession scenario leads to an increase in imports from RoW and a fall in domestic production for all products except poultry. The effect on production of an increase in imports from WTO countries is offset to some extent by a reduction of imports from the CEFTA and EU-25 countries. After accounting for the switch in source of imports, the changes in output are slight, less than 3 per cent, with meats being the most affected sector.

Because labour is assumed to be used in fixed proportions with other inputs, the changes in employment are proportional to the changes in output. Thus, a 3 per cent change in output for beef leads to a change in employment of 3 per cent, or 273 jobs.

Table 9.10: Change in BH imports

Products	Initial (\$m)	EU accession		WTO accession	
		Change in value (US\$m)			
EU-25 beef	1 811	1 731	96	-467	-26
CEFTA beef	1 545	-937	-61	-398	-26
RoW beef	1 214	632	52	1 471	121
Total	4 570	1 426	31	606	13
EU-25 pork	6 462	5 295	82	-3 209	-50
CEFTA pork	659	-659	-100	-327	-50
RoW pork	1 538	-1 410	-92	3 971	258
Total	8 658	3 227	37	435	5

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in Bosnia and Herzegovina

Table 9.10: Change in BH imports

(continued)

Products	Initial (\$m)	EU accession		WTO accession	
		Change in value (US\$m)	Change in value (US\$m)	Change in value (US\$m)	Change in value (US\$m)
EU-25 poultry	2 541	168	7	22	1
CEFTA poultry	7 514	489	7	63	1
RoW poultry	397	-397	-100	-171	-43
Total	10 452	260	2	-87	-1
EU-25 meats	7 561	9 599	127	-3 521	-47
CEFTA meats	18 108	-11 172	-62	-7 772	-43
RoW meats	13 686	11 421	83	18 102	132
Total	39 356	9 849	25	6 809	17
EU-25 dairy	32 380	17 367	54	-845	-3
CEFTA dairy	22 704	-2 798	-12	-577	-3
RoW dairy	6 736	-6 729	-100	2 059	31
Total	61 820	7 840	13	636	1
EU-25 cereals	20 741	4 710	23	-50	0
CEFTA cereals	30 786	2 336	8	-74	0
RoW cereals	38 519	-1 0731	-28	243	1
Total	90 046	-3 686	-4	118	0
EU-25 PFV	12 160	3 528	29	-297	-2
CEFTA PFV	9 800	-8	0	-239	-2
RoW PFV	22 114	-3 517	-16	1 259	6
Total	44 074	3	0	723	2
EU-25 wine	2572	1484	58	-404	-16
CEFTA wine	7740	-570	-7	-1 191	-15
RoW wine	7407	-697	-9	2 050	28
Total	17719	216	1	455	3

Note: PFV=processed fruit and vegetables
Source: GSIM simulations.

It is worth noting the impact of differing labour–output ratios in the different sectors. Processed meats, the most affected sector in terms of value, has a relatively low labour–output ratio at 0.12 (table 9.12). – half the labour content of pork and poultry, which are relatively labour-intensive sectors. This is because processed meats is a downstream sector, which relies on less processed inputs, including beef, pork, and poultry. While it may seem an advantage that processed meats is not a labour-intensive sector, the effects of a change in output are passed up and down the supply chain. A decrease in demand for processed meats leads to a decrease in demand for

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Table 9.11: Change in BH output and employment

Products	EU accession		WTO accession	
	Change in output (%)	Change in employment (number)	Change in output (%)	Change in employment (number)
Beef	-2.67	-273	-1.14	-117
Pork	-7.84	-408	-1.53	-80
Poultry	2.04	366	0.39	69
Meats	-3.67	-1 413	-2.54	-980
Dairy	-0.92	-466	-0.35	-178
Cereals	0.47	134	-0.02	-4
Processed fruit and vegetables	0.00	-2	-0.15	-69
Wine	-0.31	-21	-0.66	-44

Source: GSIM simulations.

unprocessed meats and ultimately for livestock. These interactions are not captured in this single-commodity analysis. Thus, both negative and positive employment effects may be understated. At the same time, there is no attempt to take into account the scope for displaced workers to find employment in other sectors. A general equilibrium model, with an up-to-date social accounting matrix, would be required for this. Most social accounting matrices have a high level of product aggregation and therefore could not analyse the effects on specific sectors such as processed meat.

Table 9.12: BH employment and labour–output ratios, by sector

Product	Employment	Labour–output ratio
Beef	10 226	0.15
Pork	5 202	0.33
Poultry meat	17 947	0.33
Dairy products	38 545	0.13
Processed meat	50 782	0.12
Processed cereals	28 328	0.07
Processed fruit and vegetables	47 089	0.19
Wine	6 719	0.30

Source: Authors' estimates derived from FAOSTAT and GTAP.

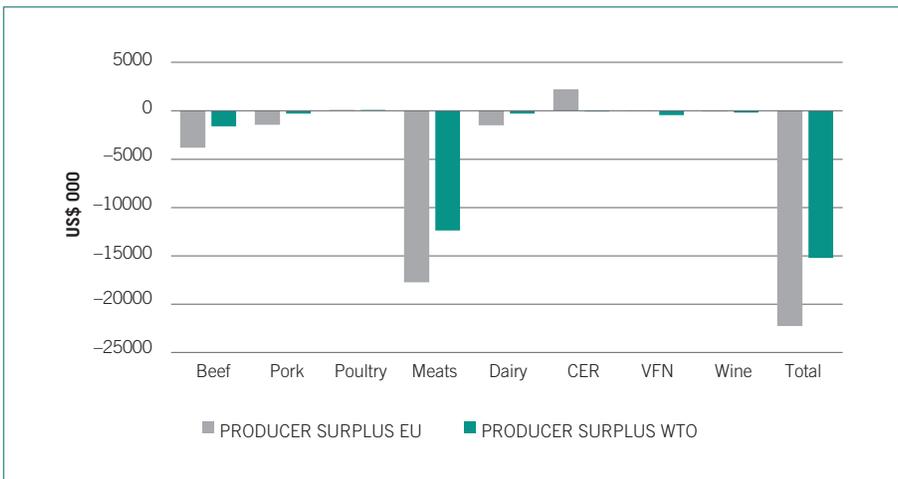
9.4.3.4 Government revenues

Custom tariffs contributed about 13 per cent to BH government revenue in 2006. This share has increased in recent years with the increase in imports. Under the WTO scenario, government revenues from agricultural tariffs for the listed products would fall by US\$14 million from an initial value (in 2007) of \$25 million. Under the EU accession scenario, tariff revenues would fall by \$20 million. The major difference between the scenarios is that in the dairy sector revenue would be lost under the EU scenario but there would be little change under the WTO scenario. Overall, both scenarios will have an adverse impact on government revenues, which would have to be offset by other tax policies. Since a relatively small share of government revenue comes from total tariff revenue, and in general the major share of that revenue comes from non-agricultural products, this contraction will not have a dramatic impact on fiscal stability. At the same time, under both scenarios modest increases of exports and consumption are likely, which would boost business activities within the sector and thus revenues from other tax sources.

9.4.3.5 Producer surplus

As outlined earlier, the agricultural sector can play an important role in providing the vulnerable rural population of BH with opportunities to generate income. This is why it is important to assess the impact of policy changes on agricultural producers. While the change in output gives some indication of the likely change in employment, it says little about changes in wages. Assuming that supply is inelastic (less than one), the change in output in response to a price change will be less than the change in returns to producers. To add the price (wage) change to the quantity (employment) change, it is helpful to look at producer surplus, which is a measure of the profits in the industry, that is, returns minus costs of production. For self-employed farmers the producer surplus is a measure of their income. It can be assumed that wages are

Figure 9.5: Change in BH producer surplus



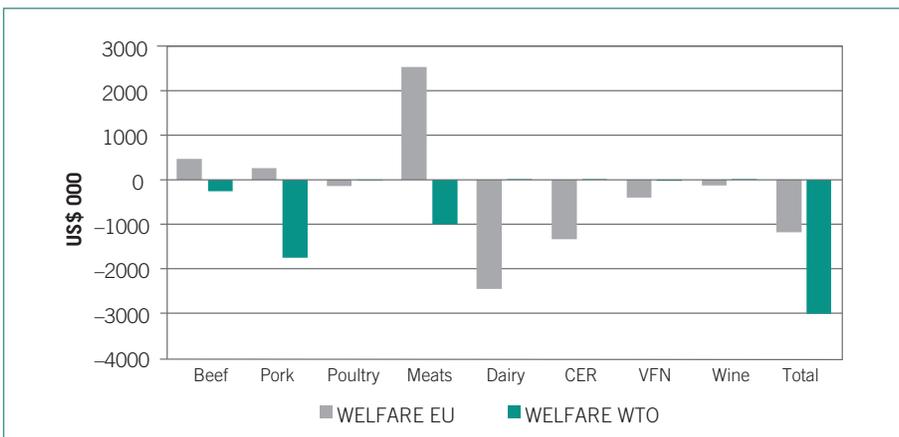
positively correlated with producer surplus. Reducing tariffs tends to reduce domestic prices and returns to producers. This happens across all sectors under both scenarios, as shown in figure 9.5. The greatest losses are in processed meats, where tariffs averaging 64 per cent are removed (EU) or reduced (RoW). Losses amount to US\$18 million under the EU scenario and \$12 million under the WTO scenarios. These losses reflect a fall in producer prices of 12 per cent. Losses to beef and pork producers would be less, but in fact the price changes are greater, 17 per cent for beef and 28 per cent for pork.

While the effects on producers are negative, they lead to lower prices for consumers. Indeed, consumers benefit despite losses in producer surplus and also in government revenue. Often, consumers are also producers, however. In this case the impact on them depends on whether they are net buyers or sellers. The distribution of gains and losses is an important issue for policy-makers to consider. In order to judge overall effects of implemented policies and benefits to the economy as a whole, it is important to aggregate those various effects; this is done in the next section.

9.4.3.6 Welfare

Any policy change generates winner and losers. The major effects of a tariff reduction are transfers from tax collectors and producers to consumers. Welfare measures the net effects in each sector. Most of the gains from removing deadweight losses are the results of increased efficiency of resource utilization. There may also be the terms of trade effects, such as the relative rise in prices of wheat that come from policy reform elsewhere. These effects may be positive or negative depending on whether the country is an importer or exporter of the product. BH is a net importer of almost all food products. The effects of WTO and EU accession scenarios on BH welfare are presented in figure 9.6. There are gains to the beef, pork, and processed meat sectors from EU accession, but losses when these sectors are open to competition from the rest of the world.

Figure 9.6: BH change in welfare



The welfare gains estimated here highlight the observation that policies with a negative impact on some producers and on employment could have a positive impact on the overall well-being of society. The assumption underlying this calculation of benefits and losses is that producers, consumers, and taxpayers are equally important. In reality, policy-makers may wish to take into account other considerations, such as downstream effects, the scope for employment elsewhere in a given industry or region or a range of equity, social, and environmental considerations.

9.5 IMPLICATIONS AND CONCLUSIONS

In spite of its agricultural base, BH is a net importer of food. In recent years it has reformed much of its trade through various free trade agreements with neighbouring countries and a bilateral agreement with the European Union. Consequently, almost all of its trade is covered by preferential agreements. On joining the WTO, BH may be required to reduce its tariffs to an average of about 5 or 10 per cent, as other new entrants have done. While there are relatively high tariffs on imports of certain products from WTO members not covered by these preferential agreements, liberalization following WTO accession is unlikely to generate significant trade flows. Furthermore, since WTO members already apply MFN rates on imports from BH, it is unlikely that access to other countries' markets will improve. BH has also applied to join the European Union and has already agreed to phase out tariffs on trade with EU members. If BH becomes an EU member, it will be required to set its tariffs at EU levels so that all EU members share a common tariff. This will require that some tariffs rise from their current levels. Agriculture is a sensitive sector, employing half of the BH workforce, and so the potential impacts of these two accession scenarios on the sector are worth analysing.

BH is disadvantaged by the inadequacy of institutional and managerial capacities to ensure the application of food safety and quality measures, rules of origin, and other administrative measures. WTO accession will draw attention to these inadequacies and should facilitate faster development and improvement.

Quantitative analysis of sensitive agricultural sectors suggests that the major impact of a fall in bilateral tariffs with non-SEE countries will be a switch in the source of imports. Overall, imports are estimated to increase, driven by the livestock products sector. Exports are affected only slightly. Overall customs revenue is expected to drop. This drop is significant in individual sectors but not significant for overall government revenue. The modelling undertaken here suggests that a rapid expansion in the current account deficit is not likely, but this depends on the changes in protection in individual sectors and the response of producers and consumers to these changes.

The modelling has its limitations. Apart from the usual caveats concerning data quality, especially where employment is concerned, the main drawback is the absence of intersectoral effects. For example, an increase in agricultural production will require an increase in fuel consumption. These additional costs are not taken into account here. Such analysis requires a general equilibrium model, with underlying input–

output tables. The modelling here has focused on a limited number of sensitive sectors. An advantage of the chosen model is that the products and the level of aggregation can be selected to assess implications in specific sectors.

Bosnia and Herzegovina is expected to experience a small reduction in agricultural sector welfare following accession to the EU and the WTO. The implications for poverty are likely to be negative, especially for meat producers. Many poor farmers depend on livestock production, and a drop in prices will make their situation more difficult. At the same time, further integration will have little or no impact on producer surplus in vegetable and fruit, wine, and cereals production, while poultry and processed cereal producers could expect small surpluses. Employment effects should be small, with about 2,000 jobs lost. Most of these are in the meat processing sector, which is not particularly labour-intensive compared with other agricultural industries. However, there will be flow-on effects up and down the supply chain, and a fall in output would most likely generate downward pressure on wages. This is a concern for policy-makers because many poor people work in the agricultural sector. Because of their ties to land, agricultural workers have limited scope for finding work in other sectors.

The main beneficiaries of trade liberalization will be consumers. This presumes that lower border prices are passed through to domestic consumers. Some recent research (Lubura and Apotekar, 2006) shows that, in fact, recent reductions in tariffs in BH were not passed on to consumers because of a weak trading sector that lacks competition. Consequently, improvement of trade sector performance and a decrease of transport costs are preconditions to a positive impact on consumers from tariff reductions.

Following substantial reforms, agricultural trade policies in BH are already quite liberal in comparison with those of its trading partners. Thus, joining the WTO will probably have little direct impact. However, there is much that the government can do to promote employment. The scale of unemployment and underemployment points to the need to reform the labour market and to create more jobs. Among the main constraints holding back the development of the BH's labour market are sizable skill gaps, the large size of the informal sector, which distorts the labour market, and the ineffectiveness of public services for labour mediation. One result is a low labour force participation rate, with workers discouraged from entering the labour force. The labour laws in the entities (Republika Srpska (RS) and the Federation of Bosnia and Herzegovina (FBiH)) provide the broad regulatory framework for employment. Both sets of laws are fairly modern and flexible (IMF 2010, p.18). The flexibility and efficiency of legislation has been hampered, however, by an extensive and generally rigid set of rules in collective bargaining agreements, many aspects of which are carried over from the old market socialism mode of labour relations. Furthermore, wage-setting relies on a system of coefficients – reflecting the complexity of the work performed and the worker's education – that is not compatible with the principles of a market economy (IMF, 2010). According to the International Monetary Fund (2010), the minimum net wages in BH (KM 308 in FBiH and KM 370 in RS) are among the highest in Eastern Europe when expressed as a share of the average wage

(World Bank, 2005). The effect of such provisions on labour relations is largely offset by widespread non-compliance, particularly in the private sector. However, the current status quo is sub-optimal, because “[n]on-enforcement of rigid regulations leads to informality, which creates rents for officials and uncertainty among employers and new investors, and leaves workers without protection (such as social insurance coverage)” (World Bank, 2005). Overall social security contribution rates, at 34 per cent, are higher than the OECD average of 29.5 per cent, but they are not excessive in the regional context (World Bank, 2005). However, when combined with the high level of wages in BH relative to its Balkan peers, the magnitude of the labour tax wedge undermines the competitiveness of the country and makes informal employment more attractive to businesses. Furthermore, due to lack of active job placement policies, sizable skill gaps have arisen, particularly among staff members with long tenure. The public employment mediation agencies in both entities are not able to face this issue because they are impeded by administrative mandates, and insufficient resources are allocated for active job placement policies.

In addition to revised labour market policies, other public policies and institutions need immediate strengthening through the following measures:

- strengthening of institutional and management capacities of the government in order to be able to implement food safety and quality standards, rules of origin, and other systems necessary to ensure a fair position for all market actors and to protect consumers’ rights;
- proceeding with macroeconomic reforms in order to ensure, first of all, a single economic space in BH;
- increasing the growth of productivity in all sectors;
- developing sound policies to generate jobs outside the agricultural sector in order to absorb poor rural workers who may be displaced by trade liberalization;
- decreasing transaction costs – especially costs of transport, distribution, and compliance with standards. Competition policy needs to be developed and implemented to ensure that markets work efficiently.

These changes have to be planned carefully, because proper timing and sequencing are crucial to realizing the benefits of integration into the EU and accession to the WTO.

REFERENCES

- Adams, F.G.; Gangnes, B.; Shachmurove, Y. 2004. *Why is China so competitive? Measuring and explaining China's competitiveness*, Working Paper, No. 07-2004 (Singapore, Singapore Management University).
- Afonso, O.; Henrique Alves, R. 2008. "Can the North-South trade regime explain intra- and inter-country productivity differences?", in *The Journal of International Trade & Economic Development*, Vol. 17, No. 4, pp. 561-595.
- AgriPolicy. 2007. "Rural employment in the context of rural development in Bosnia and Herzegovina", *Third 6-monthly report of agro economic policy analysis of the new member states, the candidate states and the countries of the western Balkan* (Paris).
- Bajramović, S.; Butković, J.; Ognjenović D.; Nikolić, A. 2010. *The budgetary support to agricultural producers in B&H and achieved level of adjustment with EU common agricultural policy*, paper presented at XXIst Scientific-Professional Conference of Agriculture and Food Sciences, Neum, Bosnia and Herzegovina.
- Bajramovic, S.; Rabinowicz, E.; Petterssen, M. 2004. *Competitiveness in the agricultural sector of Bosnia and Herzegovina – Part 1* (Lund, Sweden, Livsmedelsekonomiska Institute).
- Bosnia and Herzegovina Directorate for Economic Planning, Ministry Council. 2009. *Bosnia Herzegovina economic trends, annual report for 2008* (Sarajevo).
- Bosnia and Herzegovina Indirect Taxing Authority. 2007. OMA Bulletin No 18. (Sarajevo, Macroeconomic Unit of the Governing Board of the Indirect Tax Authority, Bosnia and Herzegovina).
- . 2012. *Monthly consolidated report 2012* (Sarajevo, Macroeconomic Unit of the Governing Board of the Indirect Tax Authority). Available at http://www.oma.uino.gov.ba/04_izvjestaji.asp?l=e [27 Sept. 2012].
- Ca'Zorzi, M.; Schnatz, B. 2007. *Explaining and forecasting EURO area exports – Which competitiveness indicator perform best?*, Working Paper Series, No 833 (Frankfurt, European Central Bank).
- Chena, M.X.; Wilsonb, J.S.; Otsuki, T. 2008. "Standards and export decisions: Firm-level evidence from developing countries", in *The Journal of International Trade & Economic Development*, Vol. 17, No. 4, pp. 501-523.
- Čaušević, F. 2006. *Foreign trade and trade balance of B&H* (Sarajevo, Ekonomski Institut).
- Efendić, A. 2004. *Protective structures in Bosnia and Herzegovina* (Vienna, The Vienna Institute for International Economic Studies).
- Esterhüizen, D.; van Rooyen, C.J. 2006. "An inquiry into factors impacting on the competitiveness of the South African wine industry", in *Agrecon*, Vol. 45, No. 4, 467-484.
- Hadziomeragic, A.; Jakubiak, M.; Oruc, N.; Paczynski, W. 2007. "BH in SEE trade arrangements, analysis and policy recommendations", in *BH Economic Studies*, No. 1.
- Hallat, J. 2005. *Relative competitiveness of the South African oilseed industry* (Bloemfonten, Department of Agriculture, Economics, Faculty of Natural Sciences, University Free State Bloemfonten).
- International Monetary Fund (IMF). 2010. *Bosnia and Herzegovina: Selected issues*, IMF Country Report, No. 10/347 (Washington, DC). Available at <http://www.imf.org/external/pubs/ft/scr/2010/cr10347.pdf> [27 Sept. 2012].
- Jansen, M.; Lee, E. 2007. *Trade and employment challenges for policy research* (Geneva, International Labour Office and World Trade Organization).

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- Kovačić, A. 2007. "Benchmarking the Slovenian competitiveness by system of indicators", in *Benchmarking: An International Journal*, Vol. 14, No. 5, pp. 553–574.
- Krom, E.; Sagi, J. 2005. "Measures of competitiveness in agriculture", in *Journal of Central European Agriculture*, Vol. 6, No. 3, pp. 375–380.
- Kucera, D.; Sarna, R. 2006. "Trade union rights, democracy, and exports: A gravity model approach", in *Review of International Economics*, Vol. 14, No. 5, pp. 859–882.
- Lalić, D.; Nikolić, A.; Uzunović, M.; Samardžić, T. 2010. *Effects of signed EFTA contract to development of BH agriculture and food sector*, presented at XX1st Scientific–Professional Conference of Agriculture and Food Sciences, Neum, Bosnia and Herzegovina.
- Lubura, T.; Apoteker, T. 2007. *Trgovinska politika u kontekstu smanjenja siromaštva u BH* [Trade policy in the context of poverty reduction in BH], EPPU/DEP Research Network conference about economic monitoring, foreign trade, DFI and competitiveness, Sarajevo, BH.
- Mitra, D.; Ural, B.P. 2008. "Indian manufacturing: A slow sector in a rapidly growing economy", in *The Journal of International Trade & Economic Development*, Vol. 17, No. 4, pp. 525–559.
- Nikolić, A. 2007. *Policy impacts on agribusiness performance: Case study B&H milk sector*, Working Paper (Sarajevo, EPPU).
- Nikolić, A. 2008. "Competitive capability of milk industry in Bosnia and Herzegovina", *PhD thesis*, Faculty of Agricultural and Food Sciences, University of Sarajevo.
- Nikolić, A.; Ognjenović, D.; Bajramović, S. 2009. *An assessment of the competitiveness of the dairy food chain in Bosnia and Herzegovina* (Enlargement Network for AgriPolicy Analysis).
- Nikolić, A.; Bajramović, S.; Ognjenović, D.; Lalić, D.; Uzunović, M. 2011. "SEE trade liberalisation – New opportunity for B&H agrobusiness?", in *British Food Journal*, Vol. 113, No. 1, pp. 78–95.
- Romano, D. 2006. *Agriculture in the age of globalization* (Australia, International Association of Agricultural Economists Conference).
- Silajdžić, S. 2007. "Patterns of reconstructing and competitiveness of B&H manufacturing industry and role of technological capabilities", in *B&H Economic Studies*, No. 1, pp. 45–63.
- United States Agency for International Development (USAID). 2009. *Employment and labour market* (Washington, DC). Available at https://communities.usaidallnet.gov/st/sites/st/file/BOSNIA%20&%20HERZEGOVINA%20Labor%20Market%20Profile_0.pdf [27 Sept. 2012].
- Woehrel, S. 2012. *Bosnia: Current issues and U.S. policy* (Washington, DC, Congressional Research Service).
- World Bank. 2005. *Country economic memorandum on Bosnia and Herzegovina* (Washington, DC). Available at <http://web.worldbank.org/WBSITE/EXTERNAL/COUNTRIES/ECAEXT/BOSNIA-HERZEXTN/0,,contentMDK:20788032~pagePK:141137~piPK:141127~theSitePK:362026,00.html>.
- . 2012. *World Bank Development Indicators, 2012* (Washington, DC).
- World Trade Organization (WTO). 2011. *Tariff profiles 2011*. (Geneva). Available at http://www.wto.org/english/res_e/booksp_e/anrep_e/trade_profiles11_e.pdf [29 Sept. 2012].

ANNEX 9.1: THE GSIM MODEL

GSIM is static, deterministic, single-commodity bilateral trade model driven by export supply and bilateral import demand equations.¹² Exports and imports are a function of the world price plus or minus the relevant bilateral trade tax or subsidy. Because tariffs are bilateral and possibly different from country to country, changes in tariffs lead to changes in relative prices that drive differential changes in imports from various sources. This feature of the model is essential where preferential trade agreements exist. An elasticity of substitution determines the extent to which changes in relative prices lead to a switch in the source of imports. The model solves numerically to a specified tolerance using Excel's Solver to find a market clearing price such that global imports equal global exports.

The crux of the model is the import demand equations. Import demand in country v for commodity i from country r is a function of prices and total expenditure on the commodity:

$$M_{(i,v),r} = f(P_{(i,v),r}, P_{(i,v),s}, r, Y_{(i,v)}) \quad (1)$$

where $M_{(i,v),r}$ is imports, $P_{(i,v),r}$ is internal prices, $P_{(i,v),s}$ is external prices, and $Y_{(i,v)}$ is expenditure on imports i in country v .

The response of imports to changes in relative prices depends on an expenditure share-weighted sum of the composite demand elasticity, E_m , and the supply elasticity, E_s :

$$N_{(i,v),r,s} = \vartheta_{(i,v),s} (E_m + E_s) \quad (2)$$

and

$$N_{(i,v),r,r} = \vartheta_{(i,v),r} E_m - \vartheta_{sr} (i,v),s E_s = \vartheta_{(i,v),r} E_m - (1 - \vartheta_{(i,v),r}) E_s \quad (3)$$

The price linkage equations relate internal prices to exports prices:

$$P_{(i,v),r} = (1 - t_{(i,v),r}) P_{i,r}^* = T_{(i,v),r} P_{i,r}^* \quad (4)$$

where $T = (1 + t)$, the power of the tariff. Quotas or outright bans can be expressed as a tariff equivalent. On the export side, exports are a function of world prices:

¹² GSIM was developed by Joseph Francois of the Tinbergen Institute and H. Keith Hall of the U.S. International Trade Commission. The model is more fully documented in a memo by these authors entitled "Global simulation analysis of industry-level trade policy", October 2002. See also Francois, J.F.; Hall, H.K. 1997. "Partial equilibrium modeling", in J.F. Francois and K. Reinert (eds.), *Applied methods for trade policy analysis: a handbook* (Cambridge, Cambridge University Press).

$$X_{(i,v),r} = f(r, P_{i,r}^*) \quad (5)$$

These equations are in levels. By differentiating the import, export, and price equations, it is possible to obtain expressions for the change in imports and exports according to changes in tariffs and world prices:

$$\begin{aligned} M'_{i,r} &= \sum_v M'_{(i,v),r} = \sum_v N_{(i,v),r,r} P'_{(i,v),r} + \sum_v \sum_{sr} N_{(i,v),r,s} P'_{(i,v),s} \quad (6) \\ &= \sum_v N_{(i,v),r,r} [P^*_r + T'_{(i,v),r}] + \sum_v \sum_{sr} N_{(i,v),r,s} [P^*_s + T'_{(i,v),s}] \end{aligned}$$

The model is solved numerically by finding a set of prices such that the change in global imports (equation 6) equals the change in global exports (the derivative of equation 5).

Once we have solved for world prices, it is possible to work backwards to solve for export quantities and import quantities. Changes in government revenues are simply determined by the trade flows times the tariff rates. Producer and consumer surplus effects can then be determined from changes in prices and quantities:

$$\Delta PS_{i,r} = R^0_{i,r} P'_{i,r} + 0.5 R^0_{i,r} P'_{i,r} X_{i,r} \quad (7)$$

where $R^0_{i,r}$ is the initial export revenue.

Consumer surplus is more complex because consumption is a composite of imports from different sources.

$$\Delta CS_{i,r} = (\sum_v R^0_{(i,v),r} T^0_{(i,v),r}) * (0.5 E_{m(i,v)} P'_{i,v}{}^2 * \text{sign}(P_{i,v} - P_{i,v}^*)) \quad (8)$$

$$\text{where } P'_{i,v} = \sum_r \vartheta_{(i,v),r} P^*_r + T'_{(i,v),r}$$

$P'_{i,v}$ represents the price for composite imports, and $R^0 T^0$ is the initial expenditure.

The change in total welfare is the sum of changes in producer and consumer surpluses and government revenue.

Data required for the model are bilateral trade flows (in values), bilateral trade taxes, and elasticities of supply, demand, and substitution between imports (the so-called Armington elasticities).

Limitations of the model include the (log) linear demand and supply relationship. Linearity implies that large shocks to the model may induce some errors in the size of the quantity changes. For example, it is reasonable to expect that, as prices rise, consumers become less responsive. A second limitation is the lack of substitution between products on the demand side, such as beef and sheep meat. Empirically, however, the cross-effects tend to be rather small, depending on how the commodities are defined. A further consideration is the absence of upstream and downstream link-

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ages, between beef and processed meats, for example. (This reflects an absence of data rather than limitations in the modelling framework.) There is no storage in the model nor time-related effects or uncertainty. These limitations need to be kept in mind when interpreting the results.