ECONOMIC IMPACT ASSESSMENT OF A SUCCESSFULLY IMPLEMENTED POTENTIAL FREE TRADE AGREEMENT BETWEEN UKRAINE AND TURKEY

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We construct a modern Computable General Equilibrium (CGE) Model and Dataset to assess the Ukraine-Turkey Free Trade Agreement (FTA)

- The model contains Ukraine and seven external regions: Turkey; European Union; United States; Russia; China; Regions where Ukraine has a FTA; and an aggregate Rest of the World.

- The model contains 45 sectors with three types of sectors

  (i) perfectly competitive goods and services sectors

  (ii) imperfectly competitive goods sectors;

  (iii) imperfectly competitive business services sectors with foreign direct investment (FDI)

Non-tariff trade costs are a greater trade barrier than tariffs in most countries

- **Time in trade costs** are a greater barrier to trade than tariffs in most countries. Estimates by Hummels and Schauer (AER, 2013), Hummels et al (2007)

- **Non-tariff barriers** are usually a greater barrier to trade than tariffs in most countries—Estimates by Kee et al. (Economic Journal, 2009). Today this is product regulations and standards mostly.

- **Barriers to foreign direct investment (FDI) in business services** are usually a greater barrier to trade than tariffs. Estimates by Jafari and Tarr (World Economy, 2015)

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Ukraine and Turkey are Negotiating a Modern "Deep" Free Trade Agreement

- Deep Free Trade Agreements negotiate reductions in trade costs beyond only tariffs.

- All US and EU agreements, including the EU-Ukraine DCFTA include:

    (1) Trade facilitation measures to reduce time in trade costs;

    (2) Reduction of non-tariff barriers, especially in product standards and regulations; and

    (3) Reduction in barriers against services provided through both foreign direct investment and cross-border services

- We assess preferential liberalization of all three of these in addition to preferential tariff liberalization

Research team has produced three studies of the ad valorem equivalents (AVEs)of the trade barriers

These studies are important inputs into the modeling and should be available for other researchers in Ukraine for trade policy analysis.

1. Olekseyuk, Tarr and Movchan (2020) for AVEs of time in trade costs.

2. Movchan and Tarr (2020) for AVEs of non-tariff barriers in Ukraine.

Movchan and Tarr estimate low AVEs of the non-tariff barriers, reflecting very substantial reform of product standards and regulations in Ukraine—transforming from the Soviet style GOST system to harmonization with the European Union.

- *Olekseyuk, Zoryana, David G. Tarr and Veronika Movchan (2020), "Estimates of the Ad Valorem Equivalents of Time in Trade Costs," Appendix A of Movchan et al. (2020).*
- *Movchan, Veronika and David G. Tarr (2020), "Estimates of the Ad Valorem Equivalents of Non-Tariff Measures (NTMs) for Imports of Ukrainian Goods." Appendix B of Movchan et al. (2020a)*

Research team has produced three studies of the ad valorem equivalents (AVEs)of the trade barriers

3. Kosse and Kravchuk (2020a) for AVEs of both discriminatory and non-discriminatory barriers in services.

Kosse and Kravchuk (2020b) have also produced estimates of the shares of the Ukrainian business services market captured by firms in Ukraine and by firms from the seven foreign regions of the model.

- *Kosse, Iryna and Vitaliy Kravchuk (2020a), "Trade Restrictiveness Indexes and Ad Valorem Equivalence in the Ukrainian Service Sectors," Report of IER on the sub-contract # CEP-2019-134 for USAID "Impact Assessment of a Potential Future Free Trade Agreement (FTA) between Ukraine and Turkey."*
- *Kosse, Iryna and Vitaliy Kravchuk (2020b), "Documented dataset of ownership structure: ownership structure for services sectors with FDI," Report of IER on the sub-contract # CEP-2019-134 for USAID project "Impact Assessment of a Potential Future Free Trade Agreement (FTA) between Ukraine and Turkey."*

Research team has produced an 85-sector input-output table for Ukraine and further decomposition

- This expands the 42-sector IO table publicly available for Ukrstat;

- Going beyond the IO table:

  - It decomposes labor into skilled and unskilled labor;

  - Decomposes external trade into 7 regions;

  - Taxes: contains data on more than 10 types of taxes at the sector level.

Evidence of increased manufacturing productivity from increased FDI in services and trade in intermediate goods.

1. Services access. Econometric studies using firm level data show that increased access to services increases total factor productivity.

- Shepotylo and Vakhitov for Ukraine (Economics of Transition, 2015)

- Arnold et al. (EJ, 2016) for India; Arnold et al (JIE, 2011) Czech Republic; Fernandes and Paunov (JDE, 2012) for Chile

- Also numerous other studies in Francois and Hoekman (Journal of Economic Literature, 2010)

2. Access in intermediate goods. More than 10 econometric papers showing better access to imported intermediate goods increases total factor productivity. Literature begun by Coe and Helpman (1995)

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- The imperfect competition and FDI features incorporate the productivity gains from trade in intermediate goods and services.

- Only Ukraine is modeled fully; external regions are modeled as supply and demand curves by sector to Ukraine.

What do we assess as part of our "Central" FTA scenario—Nine Policies are part of the package

- **Time in Trade:** (i) 20 percent reduction in AVEs of the time required to import goods into Ukraine from Turkey;

- **Time in Trade**: (ii) 20 percent reduction in AVEs of the time required to export goods from Ukraine to Turkey, with a five percent cut in the AVEs for third countries;

- **Non-Tariff Barriers:** (iii) 20 percent reduction of Ukrainian AVEs of non-tariff barriers against imported goods from Turkey;

- **Non-Tariff Barriers:** (iv) 20 percent reduction of Turkish AVEs of non-tariff barriers against imported goods from Ukraine;

- **Services:** (v) 50% reduction by Ukraine of discriminatory barriers against Turkish cross-border business services;

What do we assess as part of our "Central" FTA scenario (continued)

- **Services:** (vi) 50% reduction by Turkey on discriminatory barriers against Ukrainian cross-border business services;

- **Tariffs:** (vii) Full elimination of all tariffs by Ukraine against imports of goods from Turkey;

- **Tariffs:** (viii) Full elimination of all tariffs by Turkey on its imports of goods from Ukraine;

- **Services:** (ix) 50% reduction by Ukraine of discriminatory barriers against Turkish FDI in business services.

Annual gain to Ukraine from "Central FTA" scenario is 2.72 percent of real household income

- Not a growth rate

- Not a one-time gain.

- Income each year is 2.72 percent higher than otherwise.

- Wages of skilled workers, unskilled workers and returns to capital increase between 1.5 and 1.8 percent.

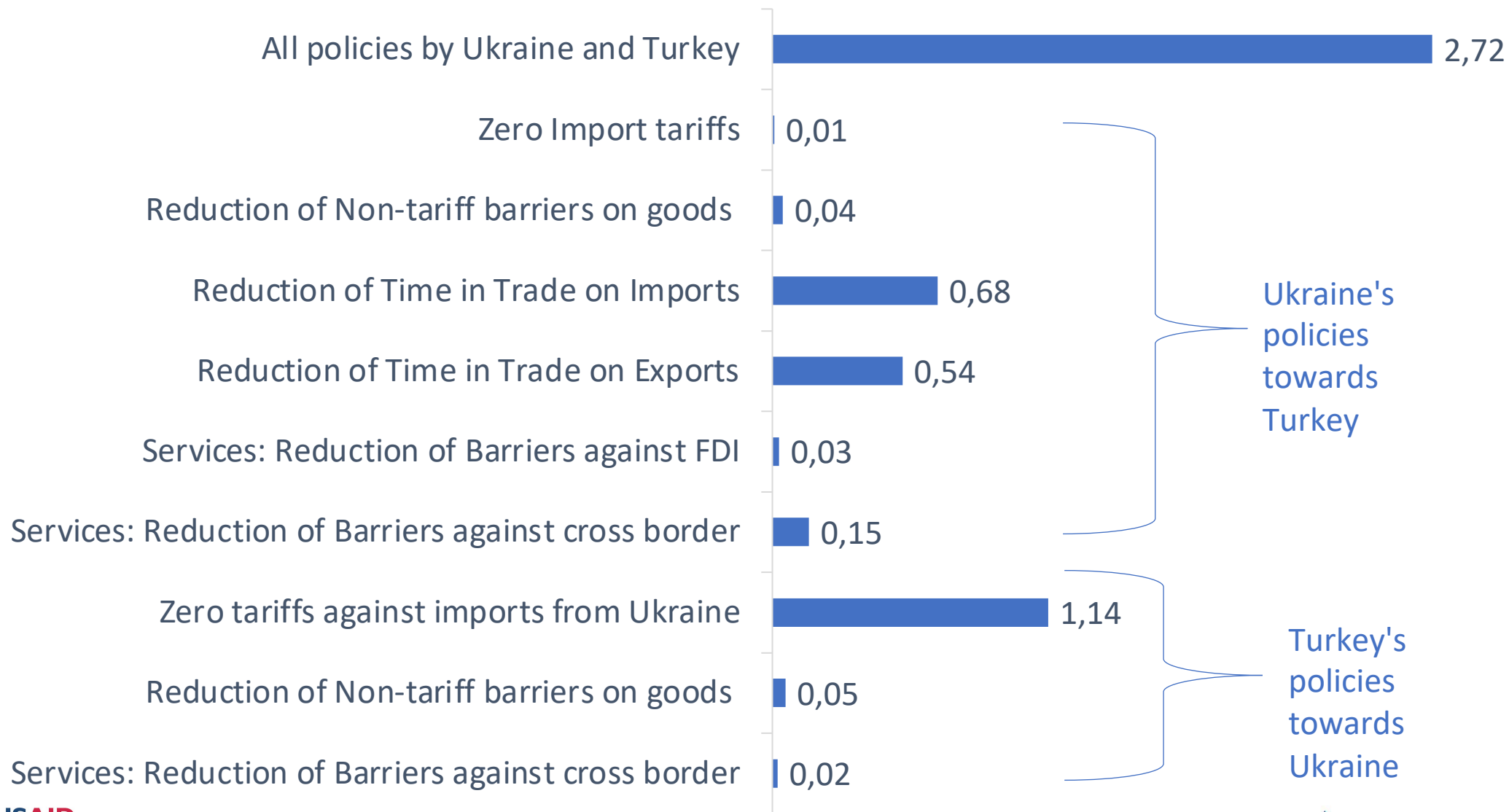- We discuss the risks and caveats to this estimate below.

FIGURE 1: Welfare gains of the FTA, percent change in real household income

Policy	Value
All policies by Ukraine and Turkey	2,72
Zero Import tariffs	0,01
Reduction of Non-tariff barriers on goods	0,04
Reduction of Time in Trade on Imports	0,68
Reduction of Time in Trade on Exports	0,54
Services: Reduction of Barriers against FDI	0,03
Services: Reduction of Barriers against cross border	0,15
Zero tariffs against imports from Ukraine	1,14
Reduction of Non-tariff barriers on goods	0,05
Services: Reduction of Barriers against cross border	0,02

Ukraine's policies towards Turkey

Turkey's policies towards Ukraine

The largest estimated gains derive from a reduction in time in trade costs on imports and exports of goods (1.22 percent of real Ukrainian household income).

- Turkey is already a member of the European Union's "Common Transit System."

- The Common Transit System includes the "New Computerized Transit System" (NCTS).

- If Ukraine joins the EU's "Common Transit System" (as Ukraine intends), Ukrainian firms and consumers will obtain lower time in trade costs, and this will magnify the gains from mutually negotiated improved market access under the FTA with Turkey

Improved Market Access to Turkey's markets is the next most important source of gains (1.14 percent of real Ukrainian household income).

- Turkey has extremely high tariffs in several agriculture and food sectors on Ukrainian exports, notably meat, dairy and "other food products."

- In these sectors, Ukrainian exports products within the aggregate category that face higher than average tariffs in Turkey in the sector.
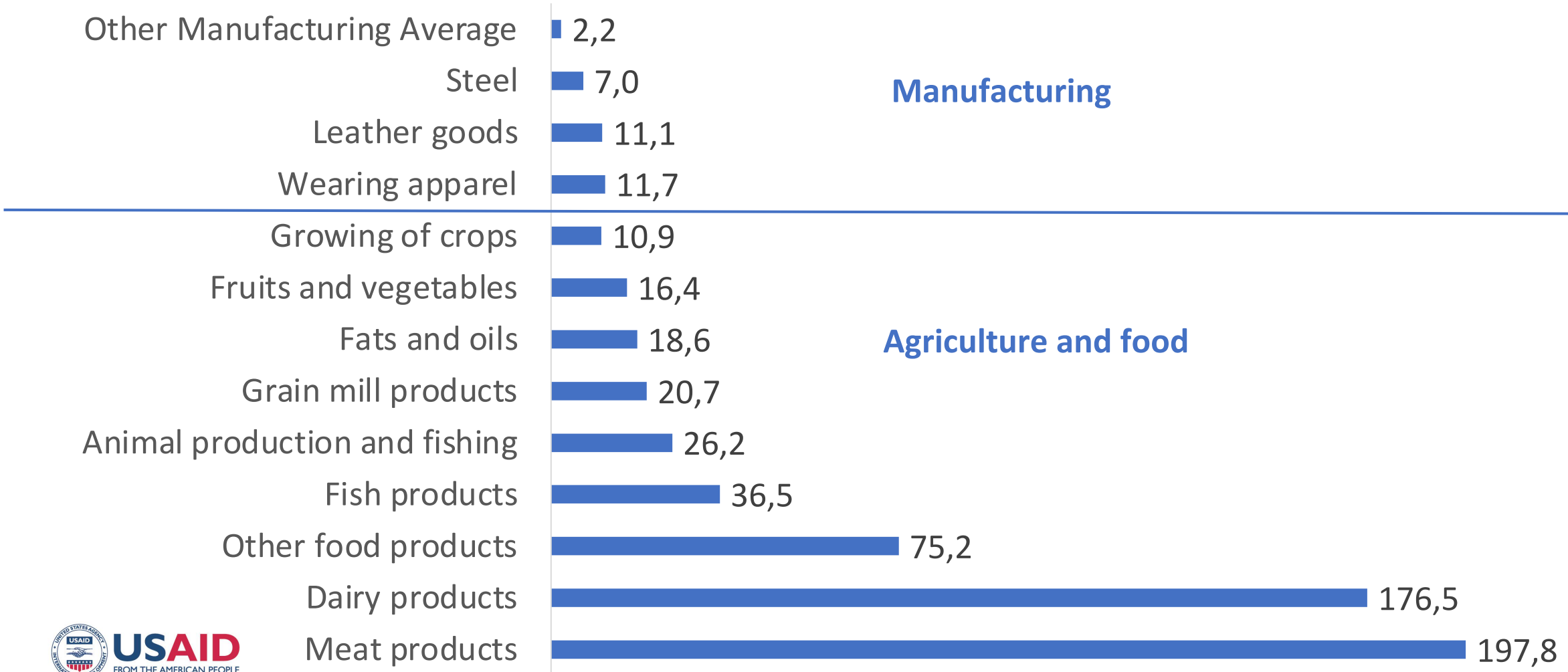
Figure 2: Turkey's tariffs on Ukrainian exports in percent

Other Manufacturing Average	2,2
Steel	7,0
Leather goods	11,1
Wearing apparel	11,7

Manufacturing

Growing of crops	10,9
Fruits and vegetables	16,4
Fats and oils	18,6
Grain mill products	20,7
Animal production and fishing	26,2
Fish products	36,5
Other food products	75,2
Dairy products	176,5
Meat products	197,8

Agriculture and food

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Liberalization of Barriers to Investment in **Services** —gains as a percent of real income

- 50% cut in discriminatory barriers with Turkey   = 0.03%

- 25% cut in discriminatory barriers with whole world   = 0.27%

- 25% cut in **Non-**discriminatory barriers   = 2.03%

- Low Turkish market shares in Ukraine, except for air transport and telecommunications, explains low gains for Turkey

- Non-discriminatory barrier reduction impacts all suppliers, both Ukrainian and foreign.

FTA Central combined with wider liberalization of services barriers (gains in real Ukrainian household incomes).

- FTA Central plus 25% cut in discriminatory barriers to all = 2.96%

- FTA Central + 25% cut in Non-discriminatory barriers   = 4.76%

Output impacts by sectors are diverse.

- Sectors that expand the most: dairy products; "other" food products; fruits and vegetables; fats and oils; meat products; air transport; water transport.

- Sectors that contract the most are: electronic components; manufacture of electric equipment and motors; textiles and wearing apparel; and manufacture of machinery.

- Expansions explained by our assumption of full market access to Turkey's highly protected agriculture and food sectors. Also lower time cost of trade helps the transport sectors explains their expansion.

- Contractions—very low Turkish protection in manufactured goods. Agriculture, food and the transport sectors compete resources away from sectors that don't get better market access but have to pay more for labor and capital.

We estimate the adjustment costs of workers and compare to the estimated gains: Gains divided by losses are greater than 100

- Average duration of unemployment in Ukraine is six months;
- We estimate that 1.2 percent of workers would need to find new jobs due to the FTA; 1.4 percent if the FTA is combined with non-discriminatory reduction of services barriers
- Losses end after a new job is found.
- Gains are recurring each year.
- The gains divided by losses are:
  - 117 for the FTA
  - 175 for the FTA plus non-discriminatory reduction of services barriers

Risks and Caveats

1. Successful Conclusion of the Agreement

- How much of what we assume in the deep agreement will be agreed? For example, will the parties agree to mutual acceptance of certificates of product conformity? On the positive side, a significant portion of what we assume on time in trade gains could be achieved through acceding to the EU's Common Transit System.

Risks and Caveats (continued)

2. Successful Implementation of the Agreement

- Vested interests in Ukraine could lobby against implementation of the agreement. In recent years, however, Ukraine has shown that it can implement transformative deep integration reforms as part of the DCFTA with the EU. For example, the product regulation and standards regime has radically changed.

Risks and Caveats (continued)

3. Parameter Specification in the Model

- The estimates are subject to a margin of error. We have quantified the margin of error. Instead of a point estimate of FTA Central of 2.72 percent of Ukrainian real household income, we get a range of estimates between 2.42 and 4.00 percent. This preserves the story line.