



AgEcon SEARCH
RESEARCH IN AGRICULTURAL & APPLIED ECONOMICS

The World's Largest Open Access Agricultural & Applied Economics Digital Library

This document is discoverable and free to researchers across the globe due to the work of AgEcon Search.

Help ensure our sustainability.

Give to AgEcon Search

AgEcon Search
<http://ageconsearch.umn.edu>
aesearch@umn.edu

*Papers downloaded from **AgEcon Search** may be used for non-commercial purposes and personal study only. No other use, including posting to another Internet site, is permitted without permission from the copyright owner (not AgEcon Search), or as allowed under the provisions of Fair Use, U.S. Copyright Act, Title 17 U.S.C.*

EU enlargement in an uncertain macroeconomic environment:

**How do changes in macroeconomic conditions influence the
potential impacts on agricultural markets of a Turkish accession
to the EU?**

Thomas Fellmann^{*1}, Myrna van Leeuwen^{} and Petra Salamon^{***}**

^{*} European Commission - Joint Research Centre
Institute for Prospective Technological Studies (JRC-IPTS), Seville, Spain

¹ University Pablo de Olavide, Department of Economics, Seville, Spain
E-mail: tfel@upo.es

^{**} Agricultural Economics Research Institute (LEI), The Hague, The Netherlands
E-mail: myrna.vanleeuwen@wur.nl

^{***} Johann Heinrich von Thünen-Institut (vTI), Institute of Market Analysis
and Agricultural Trade Policy, Braunschweig, Germany
E-mail: petra.salamon@vti.bund.de

**Selected Poster prepared for presentation at the International Association of
Agricultural Economists (IAAE) Triennial Conference, Foz do Iguaçu, Brazil,
18-24 August, 2012.**

Disclaimer:

The views expressed are purely those of the authors and may not in any circumstances be regarded as stating an official position of the European Commission.

Copyright 2012 by T. Fellmann, M. van Leeuwen and P. Salamon. All rights reserved. Readers may make verbatim copies of this document for non-commercial purposes by any means, provided that this copyright notice appears on all such copies.

EU enlargement in an uncertain macroeconomic environment:

How do changes in macroeconomic conditions influence the potential impacts on agricultural markets of a Turkish accession to the EU?

• Thomas Fellmann, Myrna van Leeuwen and Petra Salamon •

Turkey is officially recognized as a candidate country for European Union (EU) membership. Recent information on the over-indebtedness of some EU Member States, combined with turbulences in the global financial system and a general economic downturn, can be expected to also influence the potential impacts on agricultural markets of a Turkish accession to the EU. Two major issues arise: (1) What would be the potential impacts of a Turkish accession to the EU on agricultural markets and income in Turkey and the EU? (2) How are these impacts influenced by changes in macroeconomic conditions?

1. Background

Formal accession negotiations between the EU and Turkey started in 2005. Turkey is the 7th biggest agricultural producer in the world, even though its agricultural sector is rather poorly structured.

	Turkey	EU-27
Agricultural land (1,000 ha)	41,207	183,156
Share of agricultural land in total area (%)	52.6	43.9
Farms (million)	3.0	14.5
Average farm size (ha)	6.5	15.8
Agricultural trade volume (billion €)	14	139
Agricultural production value (billion €)	59	279
Share of agricultural labour in total labour (%)	27	5
Share of agricultural GDP in total GDP (%)	9.2	1.6

Source: Turkish Statistical Institute (2009); Eurostat (2009)

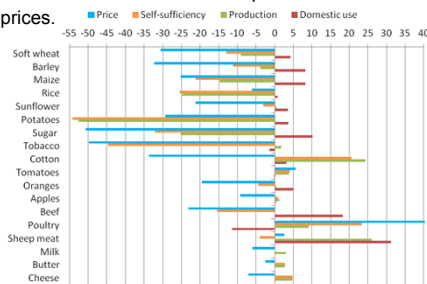
2. Methodology

- AGMEMOD (AGricultural Member States MODelling) is an econometric, dynamic, partial equilibrium, multi-country, multi-market model.
- Network of economists and national agricultural markets experts working together across the EU. The model covers all EU Member States, some candidate countries, Ukraine and Russia.
- Based on a set of commodity-specific model templates, individual country models are developed to reflect the details of agriculture at country level and at the same time allow for their inclusion in a combined model.
- The individual country models consist of behavioral, parametric relations that are estimated from historical time series data.
- A detailed dataset and modeling structure for Turkey were developed and integrated into the overall AGMEMOD modelling framework.

5. Accession impacts in Turkey (year 2020)

Standard Accession Scenario compared to Baseline

- Level of support to Turkish agriculture decreases for almost all commodities (between 20%-40%).
- Decrease in most domestic producer prices.
- Tomatoes: Exports switch to the EU market, prices increase.
- Livestock sector: lower feed costs, production levels increase.



- Given current border measures in Turkey, a liberalization of bilateral agricultural and food trade between Turkey and the EU would be highly asymmetrical. Moreover, with EU accession the level of support to Turkish agriculture would considerably decrease for almost all commodities.
- Accession effects on the Turkish agro-food markets are projected to be mostly negative, especially for crops production. But: Turkish producers of tobacco (higher support) and producers of sheep meat, poultry and dairy milk are projected to gain (due to lower feed costs).
- Turkish consumers would gain due to lower food market prices.

Disclaimer:

The views expressed are purely those of the authors and may not in any circumstances be regarded as stating an official position of the European Commission.

3. Main scenario assumptions

Scenario	Main Assumptions
Baseline Scenario (Baseline)	<ul style="list-style-type: none"> No accession of Turkey to the EU Current (agreed and scheduled) policy (Health Check) remains unchanged Standard macroeconomic projections on GDP growth and inflation as obtained from national statistical offices in the EU-27 and Turkey Exchange rates and world market prices as provided by FAPRI (2010)
Standard Accession (SA)	<ul style="list-style-type: none"> As in the Baseline, but Accession of Turkey to the EU in 2015 and adopts the CAP

Complementary Scenarios	
Depreciation of TL (DepTL)	as in SA, but 10% depreciation of Turkish lira versus Euro and USD
Doubling Turkish GDP (DGDP)	as in SA, but doubling of Turkish GDP growth rates from 2009
Doubling Turkish Inflation (Dinf)	as in SA, but doubling of Turkish inflation rates from 2009

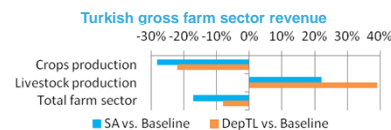
Note: The assumed accession date of 2015 is neither a forecast nor an expectation that Turkey will accede to the EU in 2015. The year 2015 was chosen for technical reasons in order to allow the analytical model enough time to adjust to accession within its ten-year projection horizon.

4. Accession impacts in the EU-28 (year 2020)

- Price changes for the EU-28 are rather moderate; biggest increases: rice (16%), barley (2%), soft wheat and maize (1% each); biggest decreases: sheep meat (-6%), poultry (-3.5%) and oranges (-3%).
- EU production and domestic use of wheat, barley, rice, tobacco, tomatoes, oranges, apples, poultry and sheep meat increase significantly.
- EU self-sufficiency rates decrease remarkably in some crops (especially tobacco, sunflower and rice), but increase for vegetables and fruits (particularly oranges) and most livestock products.
- Complementary scenarios: The changed Turkish macroeconomic variables have no considerable influence on the accession results for EU-28 markets (almost all changes are between -1% and +1% compared to the Standard Accession Scenario).

Complementary Accession Scenarios compared to Standard Accession

- DGDP Scenario: higher domestic consumption, but prices increase only slightly (except for cotton and tomatoes price impacts remain below 1%).
- Dinf Scenario: real prices decrease slightly, domestic consumption increases (but less than 1% on average); production declines (around 2% per product).
- DepTL Scenario: higher Turkish agricultural commodity prices (i.e. lower price reductions) than in the SA scenario; the higher prices especially induce further production increases in sheep meat (+9%) and tomatoes (+2%).
- With respect to gross farm sector revenues, only the depreciation scenario amplifies the accession impacts (mitigating the revenue decreases and augmenting the increases) compared to the Standard Accession Scenario.



6. Conclusions

- The complementary scenarios reveal that a doubling of Turkish GDP or a doubling of Turkish inflation do not significantly alter the accession results.
- However, a 10% depreciation of the TL versus the Euro and US dollar influences and further shapes the potential Turkish accession results.
- Exchange rates are among the key variables that determine domestic prices for agricultural commodities, and the depreciation of the TL leads to less decreases in Turkish producer prices, which has also a positive effect on producer income in Turkey.

Contact:

Thomas Fellmann: European Commission • Joint Research Centre Institute for Prospective Technology Studies (IPTS), Seville, Spain; and University Pablo de Olavide, Seville, Spain • Email: tfel@upo.es

Myrna van Leeuwen: Agricultural Economics Research Institute (LEI), The Hague, The Netherlands • Email: myrna.vanleeuwen@wur.nl

Petra Salamon: Johann Heinrich von Thünen-Institut (vTI), Institute of Market Analysis and Agricultural Trade Policy, Braunschweig, Germany • Email: petra.salamon@vti.bund.de