

Aus dem Institut für Marktanalyse und Agrarhandelspolitik

**Martina Brockmeier
Petra Salamon**

**Agricultural market at the advent of the next WTO
round - focus on dairy**

Paper presented at IFCN Dairy Conference, Braunschweig 8th
of June 2004

**Braunschweig
Bundesforschungsanstalt für Landwirtschaft (FAL)
2004**

Agricultural Market at the Advent of the next WTO Round – Focus on Dairy

M. BROCKMEIER and P. SALAMON

Federal Agricultural Research Centre (FAL)
Institute of Market Analysis and Agricultural Trade Policy

IFCN Dairy Conference 2004

Braunschweig, 8th of June

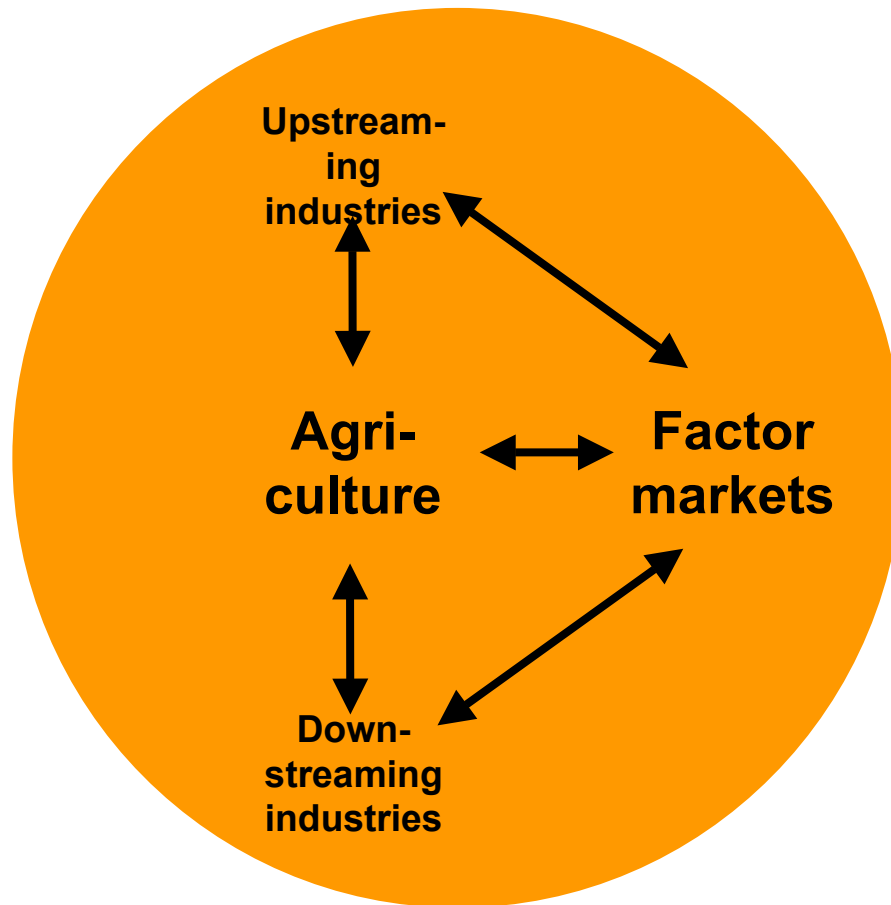
Outline

- Introduction
- Approach: Global Trade Analysis Project (GTAP)
 - Extensions
 - Data base
- Simulations
- Results
 - Focus on dairy products and trade
 - Decomposition of results
 - Variation of simulations (H1, H2, H3)
- Summary and concluding remarks

Introduction

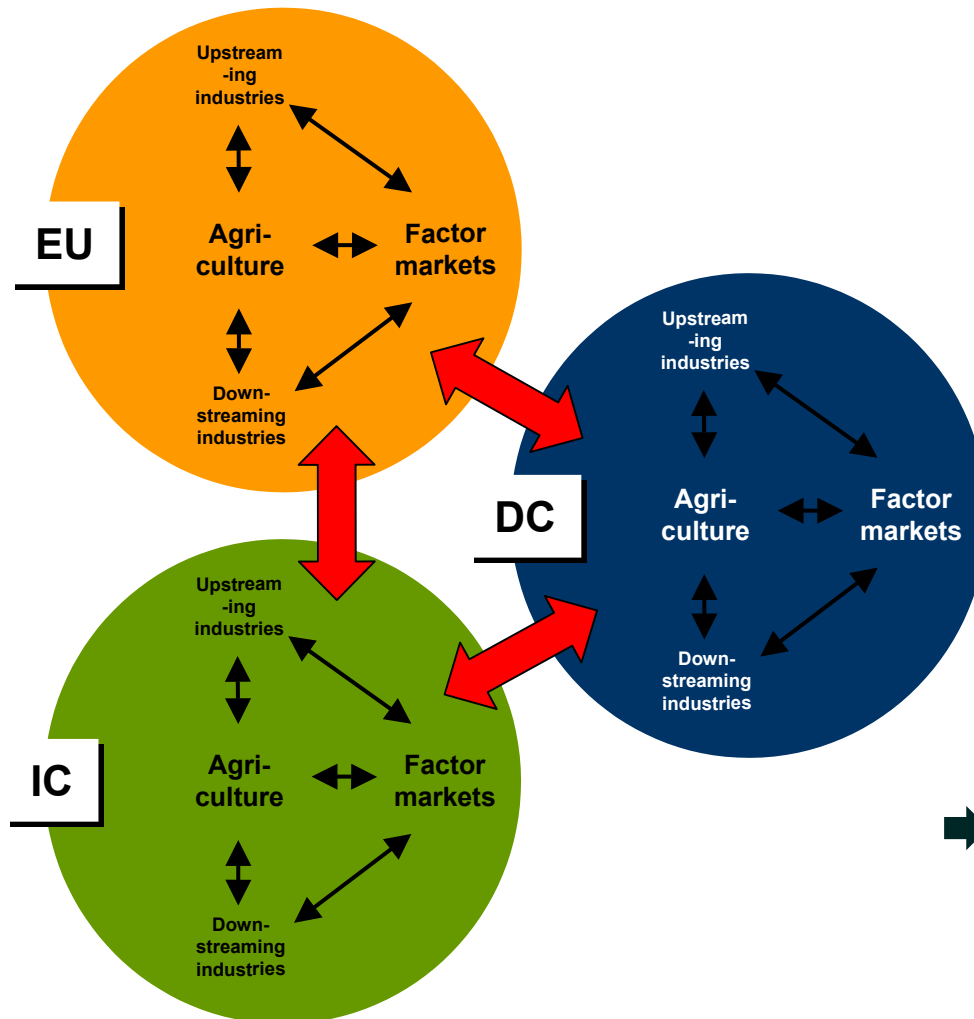
- WTO negotiations are still an ongoing topic with agriculture as a key action (single undertaking)
- The so-called Harbinson paper was the last one presenting quantitative figures
- What would have been the impact of the Harbinson proposal?
- And what are effects of single components of the proposal?
- Simulations are conducted for all agri-food products, but here the focus is on milk and dairy products

Global Trade Analysis Project (GTAP) - Model



- Interaction between agriculture and factor markets
- Integration of agriculture into intersectoral division of labour

Global Trade Analysis Project (GTAP) - Model



- Interaction between agriculture and factor markets
- Integration of agriculture into intersectoral division of labour
- Representation of EU, developed countries (IC) and developing countries (DC)
- Representation of bilateral trade flows

➔ Starting point of the analysis is the standard multi-regional general equilibrium model GTAP

GTAP - Database

- Base year 1997
- Sources of the GTAP - database:
 - national input-output-tables: users
 - bilateral trade flows: COMTRADE (UN)
 - Protection data: notifications of the WTO, PSE-values of the OECD, AMAD-database
- Database: 57 sectors, 76 countries, 5 factors
- Aggregation of WTO simulations
 - 23 regions: Germany, France, Ireland, CEECs, EU-12, USA, EBA-countries, ACP-countries, etc.
 - 19 sectors: detailed dis-aggregation of agri-food sectors, higher aggregation in non-agricultural sectors (other primaries, manufactures and services)

GTAP – Regional aggregation – part 1

Germany

GER

France

FRA

Ireland

Ire

EU-12

EU12

Belgium, Denmark, Finland, Greece, UK, Italy, Luxemburg,
Netherlands, Austria, Portugal, Sweden, Spain

Accession countries

CEECs

Poland, Hungary, Bulgaria, Czech Republic, Malta, Rumania,
Slovakia, Slovenia, Estonia, Latvia, Lithuania, Cyrus

USA

USA

Canada

CAN

Oceania

OCE

Australia, New Zealand

Indonesia

INDO

Malaysia

MAL

Brazil

BRA

India

INDIA

China

CHINA

GTAP – Regional aggregation – part 2

EBA

Bangladesh, Rest of South Asia, Malawi, Mozambique, Tanzania, Zambia, Rest of Southern Africa, Uganda, Rest of Sub-Saharan Africa

Other ACP countries

Central America, Caribbean countries, Botswana, Zimbabwe

High Income Asia

Hong Kong, Korea, Taiwan, Singapore

Japan

Rest of Former Soviet Union

Other Europe

Swiss, other EFTA

Other Asia

Philippines, Thailand, Vietnam, Sri Lanka

Northern Africa, Near East

Turkey, Rest of Middle East, Morocco, Rest of North Africa

Other Latin America

Mexico, Columbia, Peru, Venezuela, Rest of the Andean Pacts, Argentina, Chile, Uruguay, Rest of South America

Rest of the World

Croatia, Rest of SACU, Rest of the World

EBA

OACP

HICAS

JAP

FSU

OEurop

OASIA

MEDNE

OLA

ROW

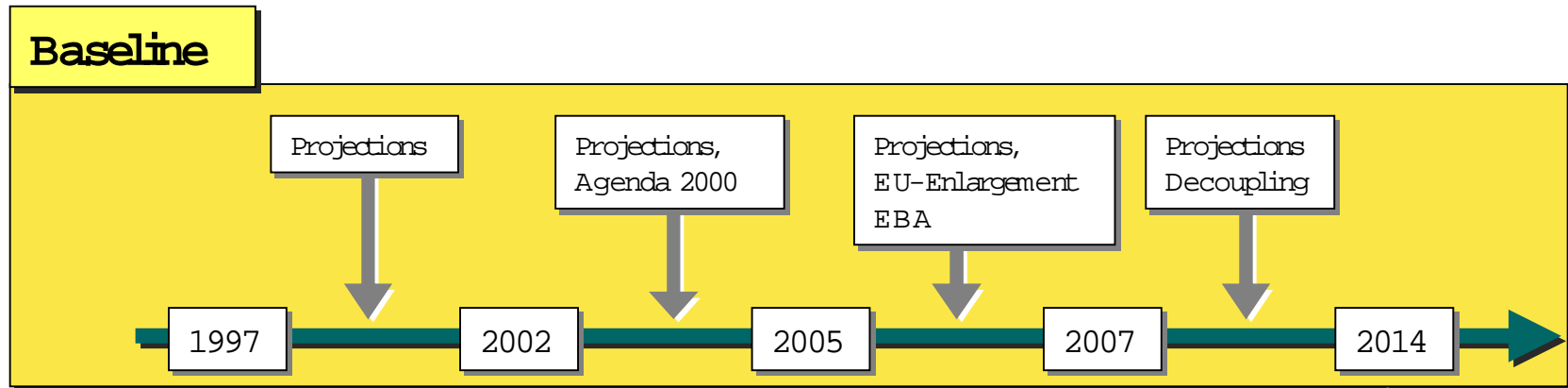
GTAP – Sectoral aggregation – part 2

Wheat	WHEAT
Other Cereals	OCER
Oilseeds	OSEEDS
Sugar beets, sugar cane	RSUG
Paddy rice	RICE
Fruit, vegetables, other crops	FRVEOC
Cattle, sheep, goats, horses	CATTLE
Other animals	OTHANM
Raw milk	MILK
Other primaries	PRIMA
Beef	BEEF
Other meat	OTHMEAT
Oils and Fats	OILS
Dairy products	DAIRY
Other Food	OFOOD
Sugar	SUGAR
Drinks, Tobacco	DRTOB
Manufactures	MANU
Services	SVCS

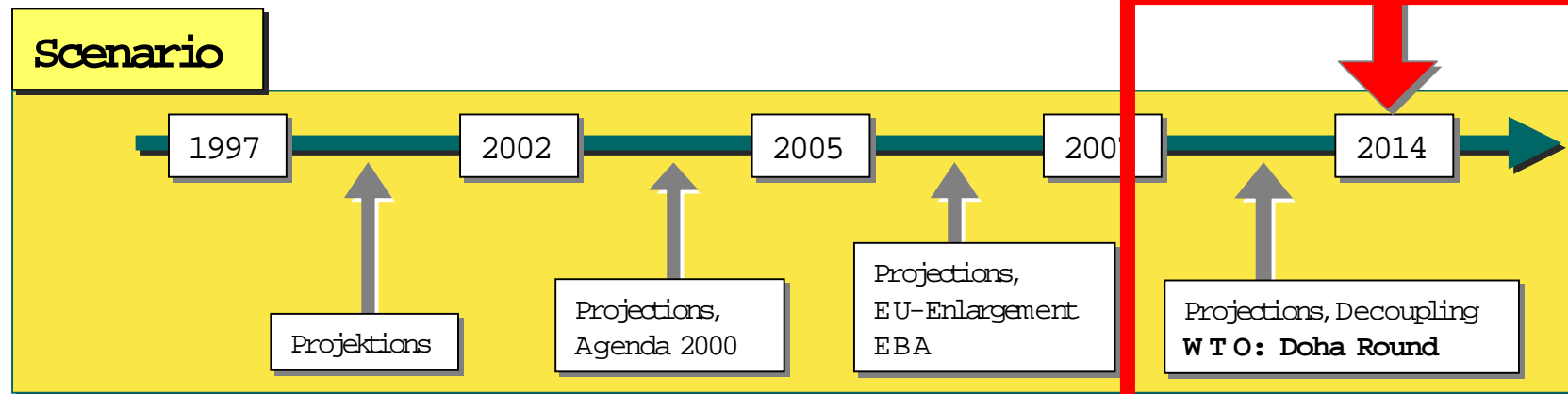
Extensions of the GTAP model

- Instruments of the CAP (Common Agricultural Policy)
 - Milk- and sugar quotas ("complementarity approach")
 - Set-aside (adjustment of productivity)
 - Direct payments (animal and area premiums modelled as factor subsidies of land and capital)
- EU – Budget
 - Components of the European Agricultural Guidance and Guarantee Fund (EAGGF - section: guarantee)
 - Representation of endogenous net transfer payments
- Projection-module for adjustments within the economic environment
- No explicit representation of non-EU policies

Simulations



Comparison of results



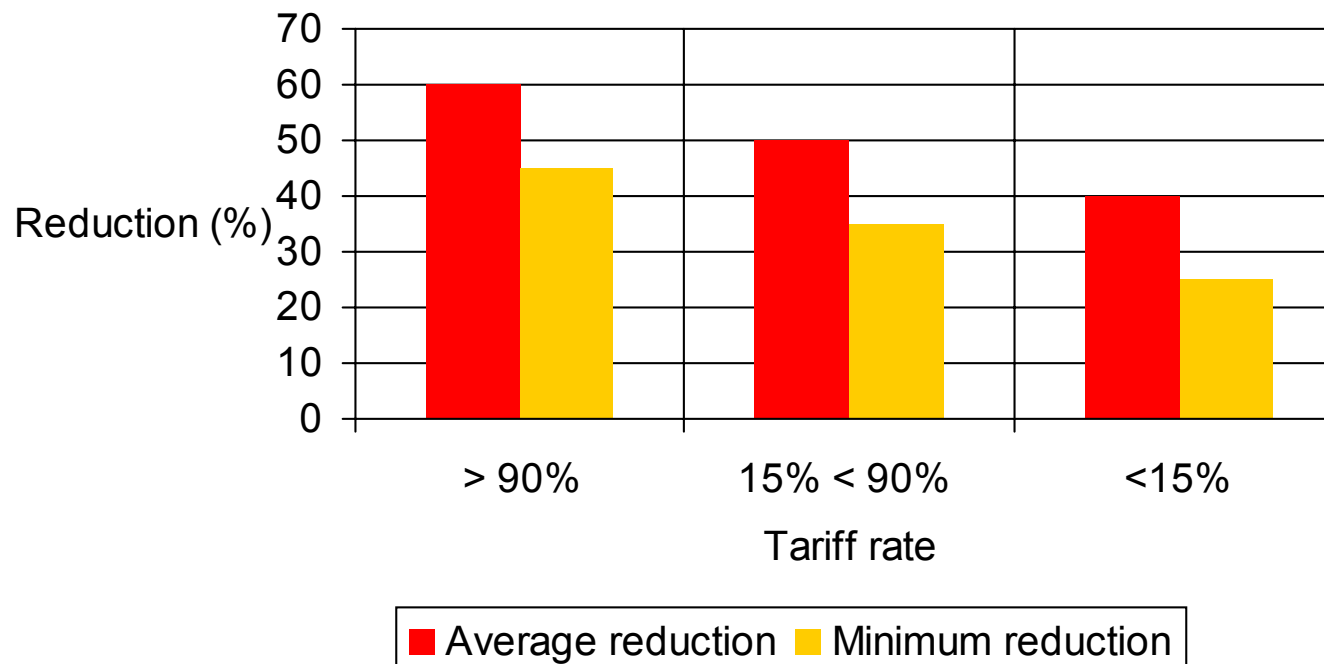
Simulations of the Doha-Round concerning agri-food trade

H1	
Market access	margins
Export Subsidies	-100%
Domestic Support	-60% IC -40% DC

IC = Developed countries; DC = Developing countries

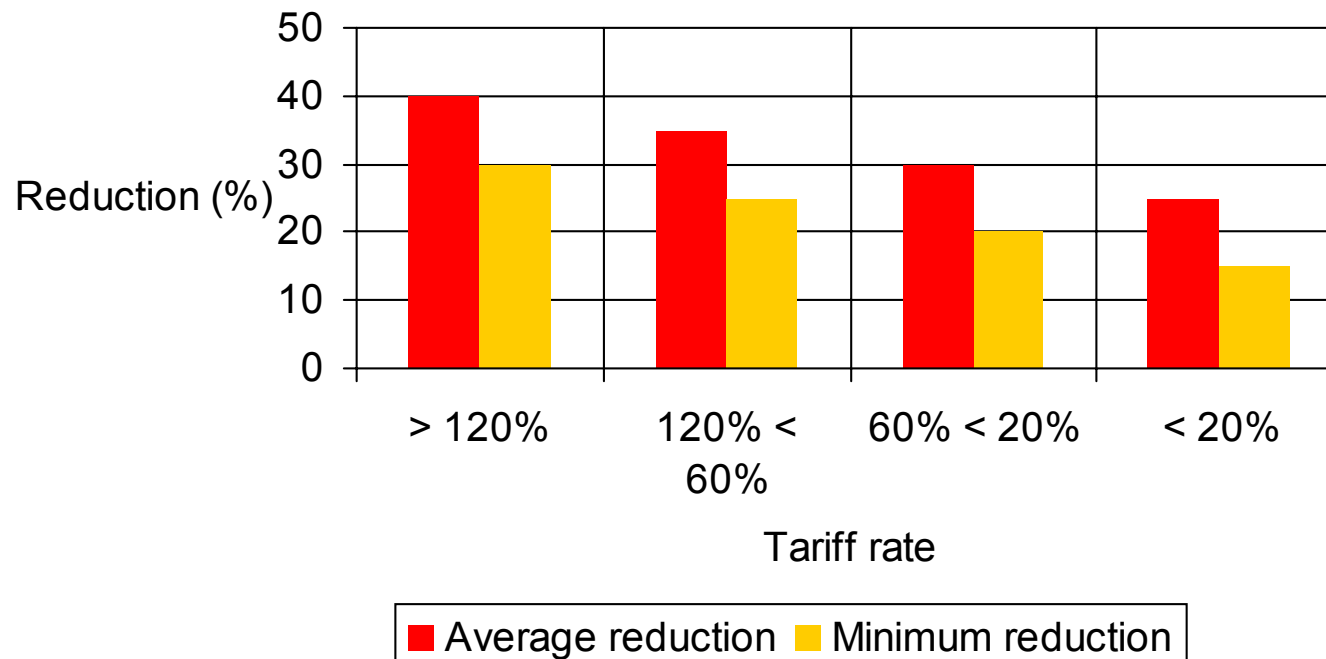
HARBINSON-Proposal for Market Access: Reduction of notified tariffs

Developed countries (5 years)

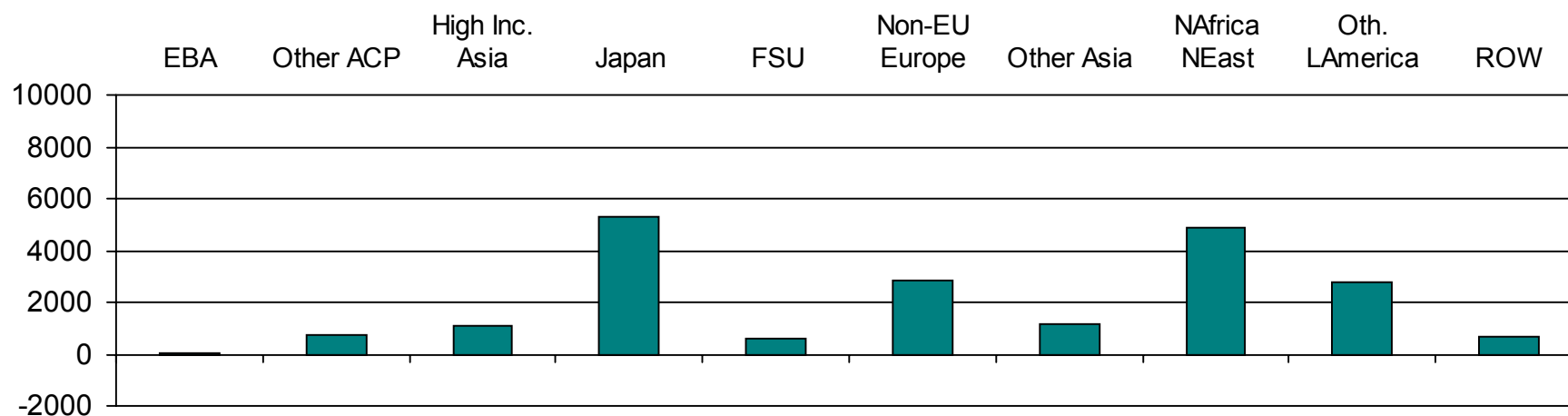
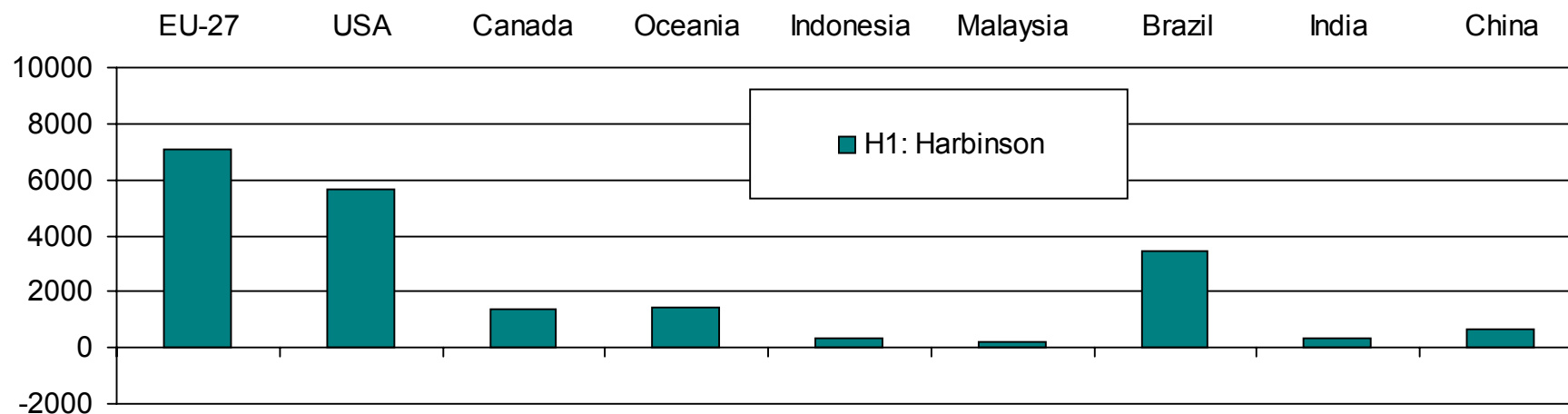


HARBINSON-Proposal for Market Access: Reduction of notified tariffs

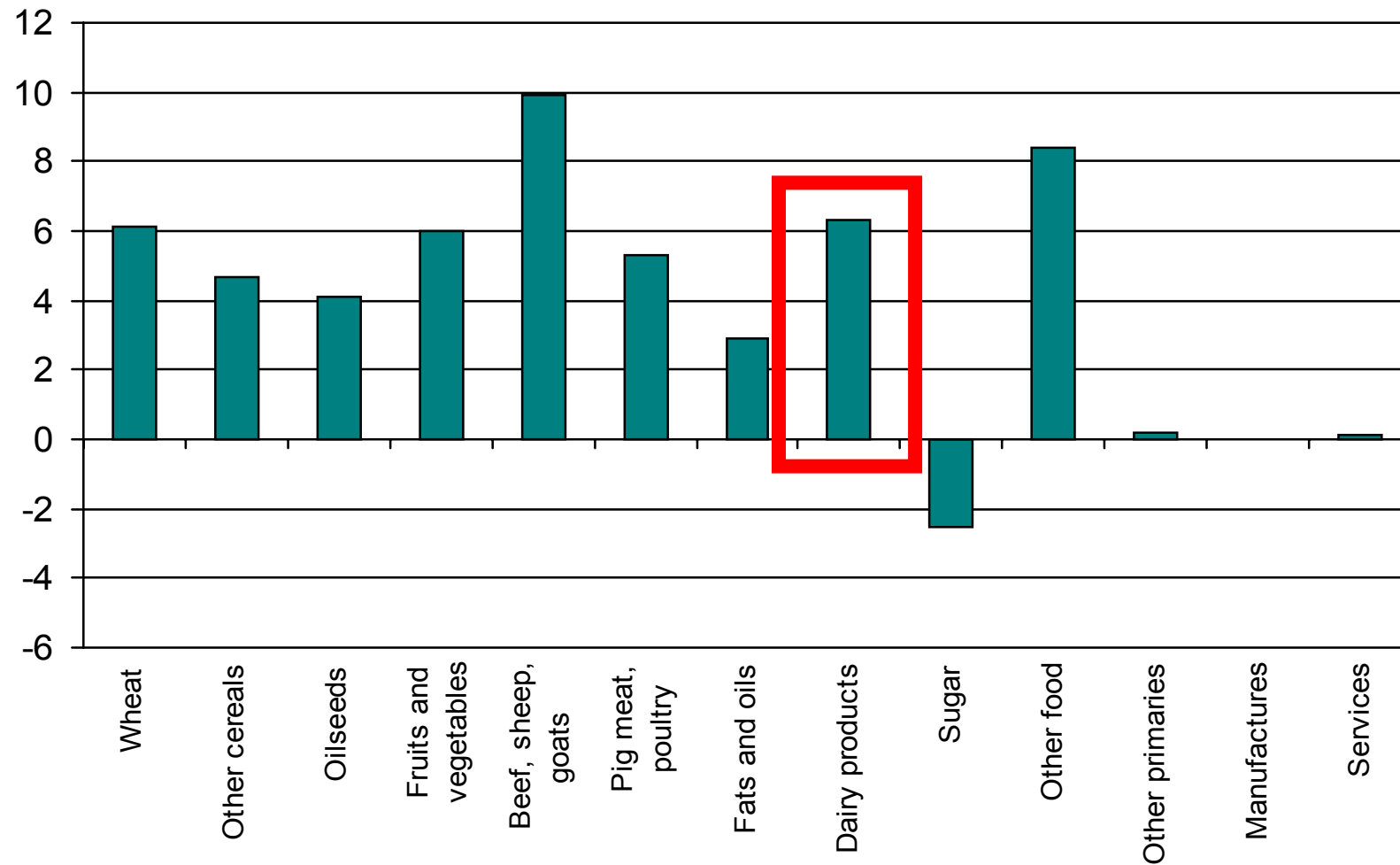
Developing countries (10 years)



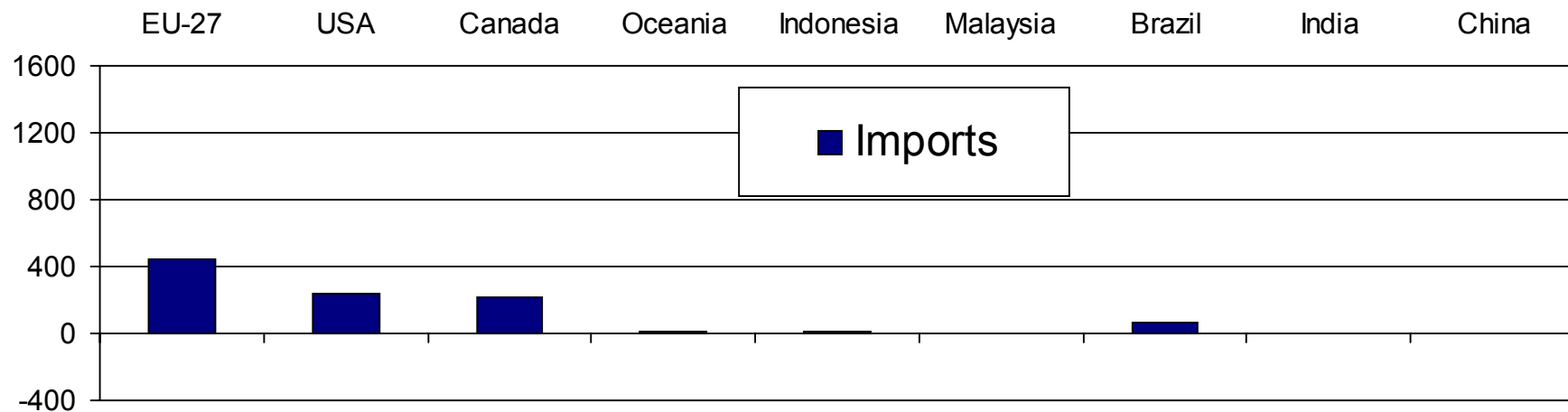
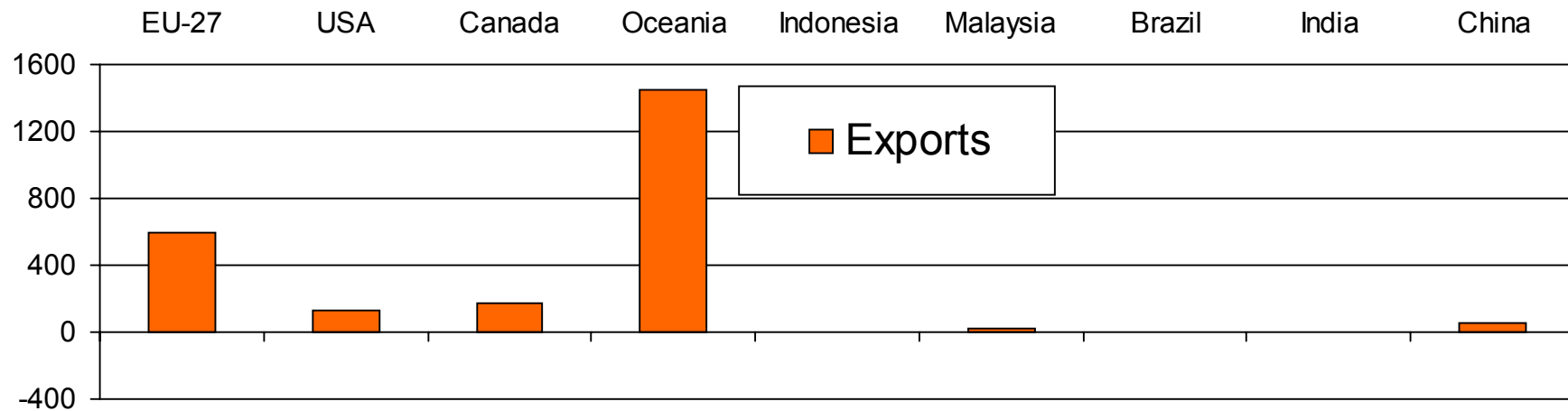
Changes in global exports – scenario H1 vs. base (Mio. €)



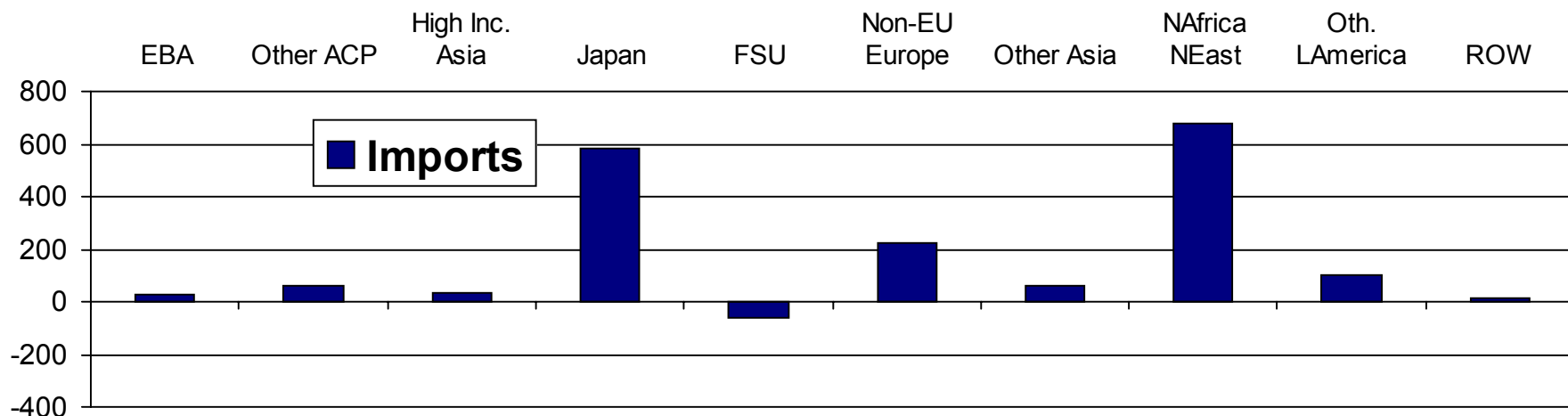
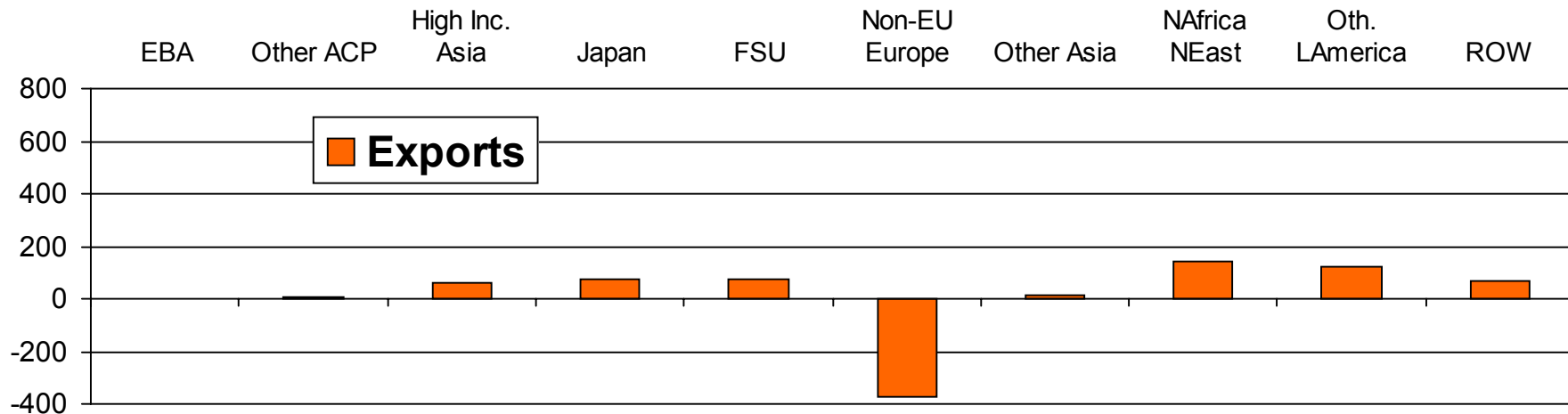
Changes in global exports – scenario H1 vs. base (%)



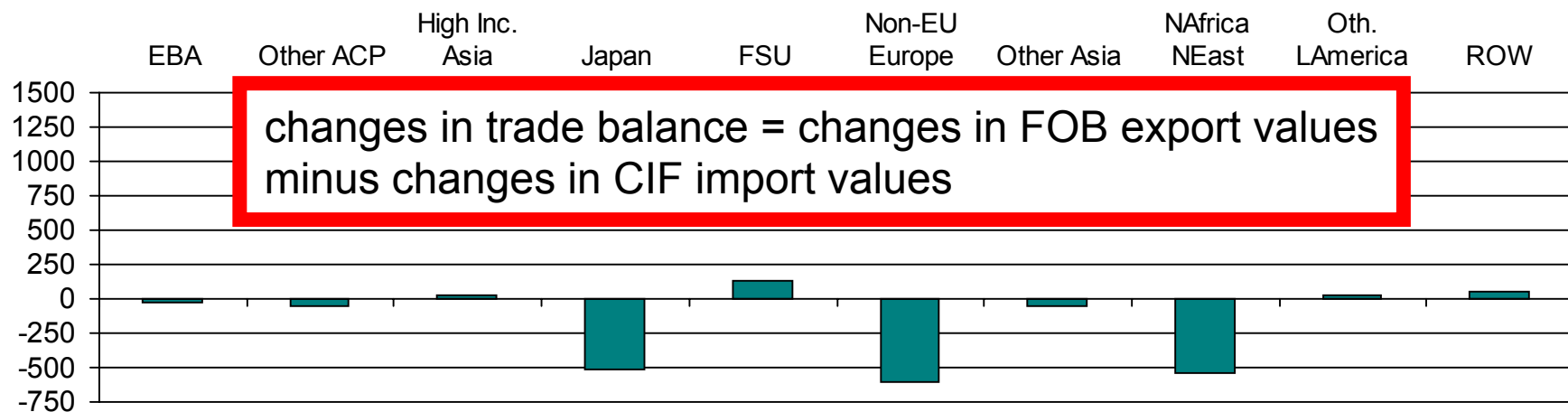
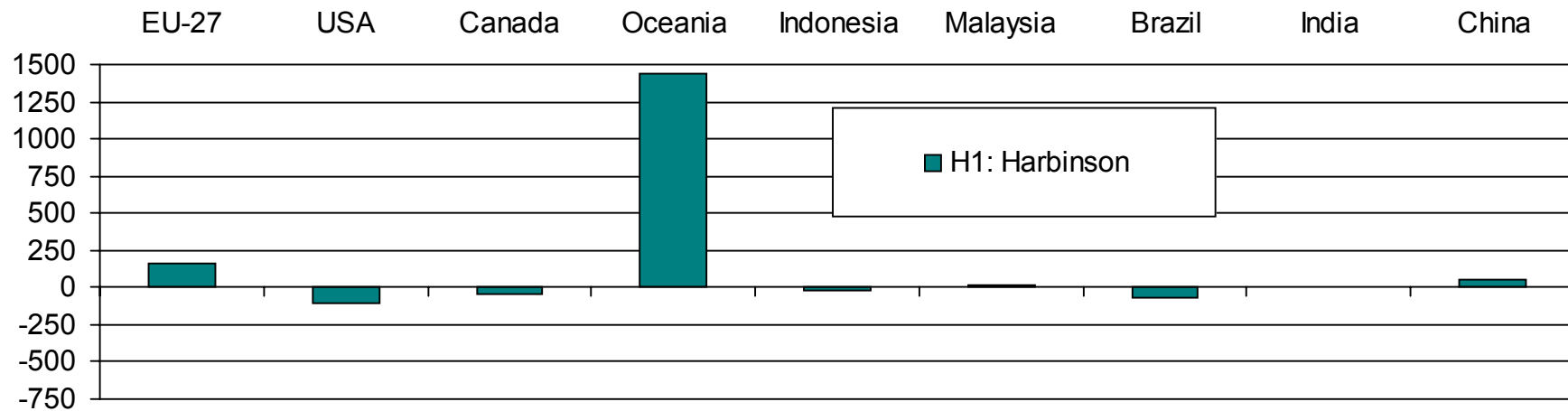
Changes in exports and imports of dairy products – scenario H1 vs. base (Mio. €)



Changes in exports and imports of dairy products – scenario H1 vs. base (Mio. €)



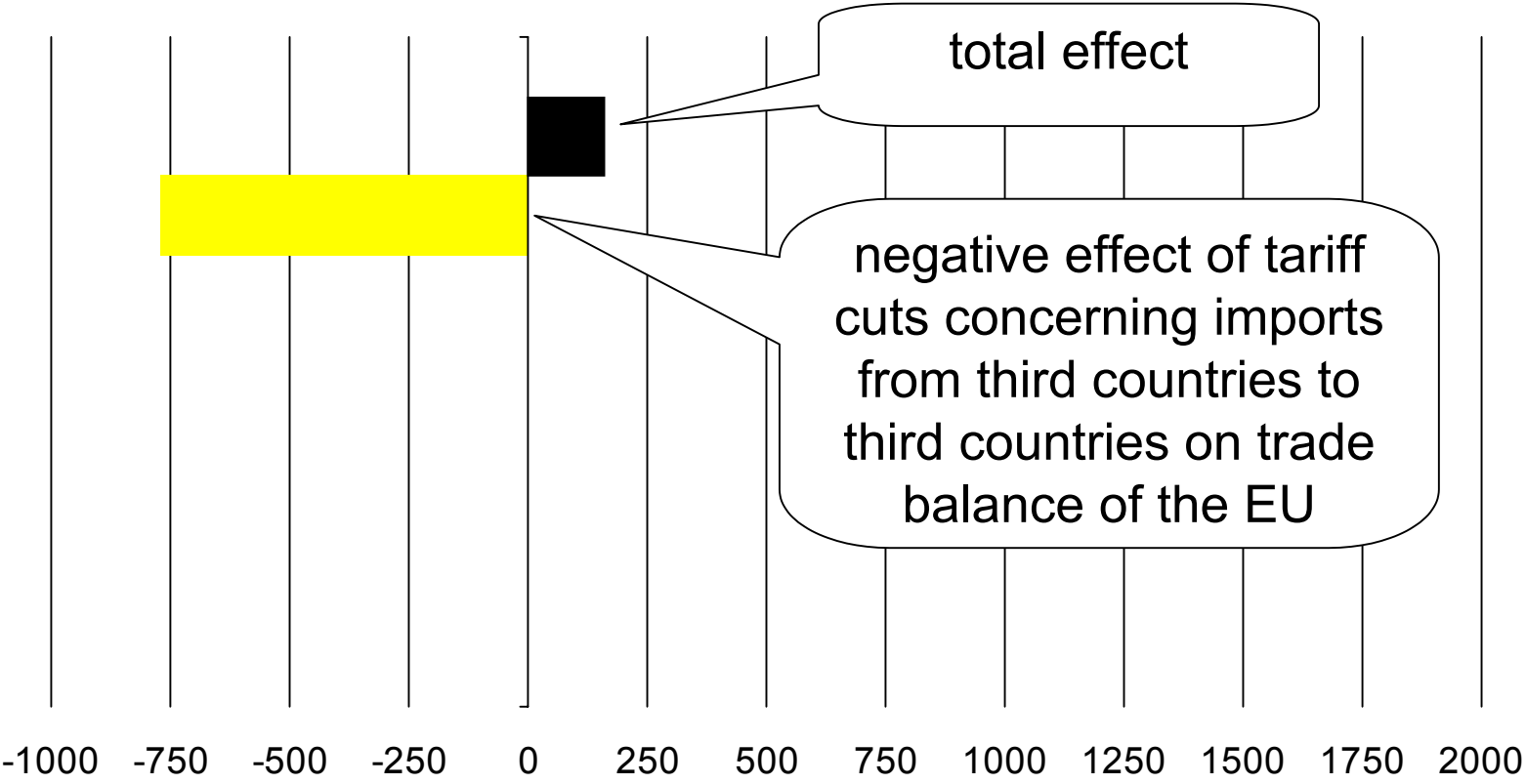
Changes in trade balances of dairy products – scenario H1 vs. base (Mio. €)



Decomposition of total results

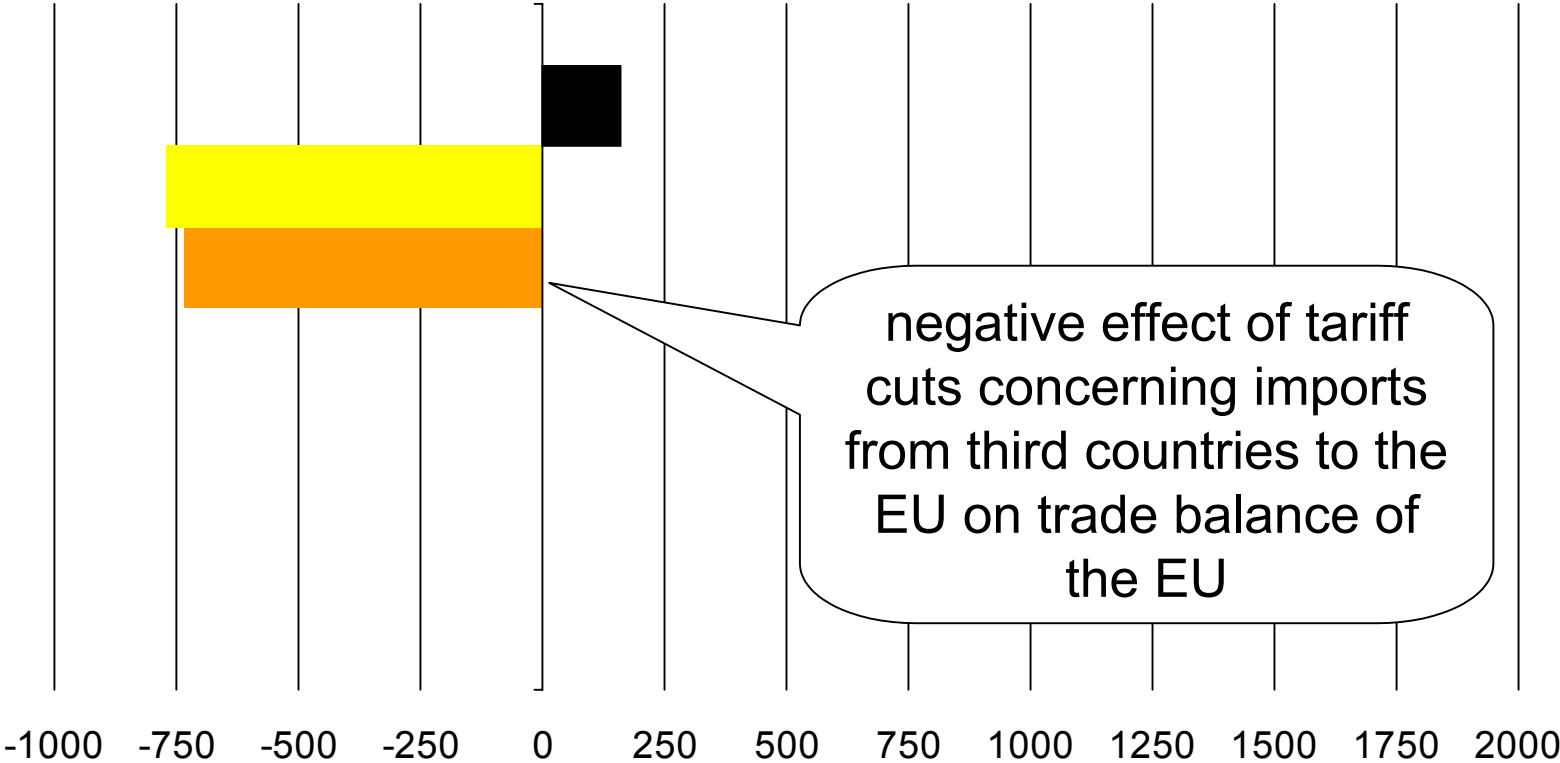
- Simulation results (e. g. implementation of the Harbinson proposal H1) will be decomposed in partial effects
 - Identification of important contributions to the total results
 - Support for comprehension and interpretation of results
- Important: partial effects can cancel out each other!

Decomposition - EU-27: change in total balance of dairy products



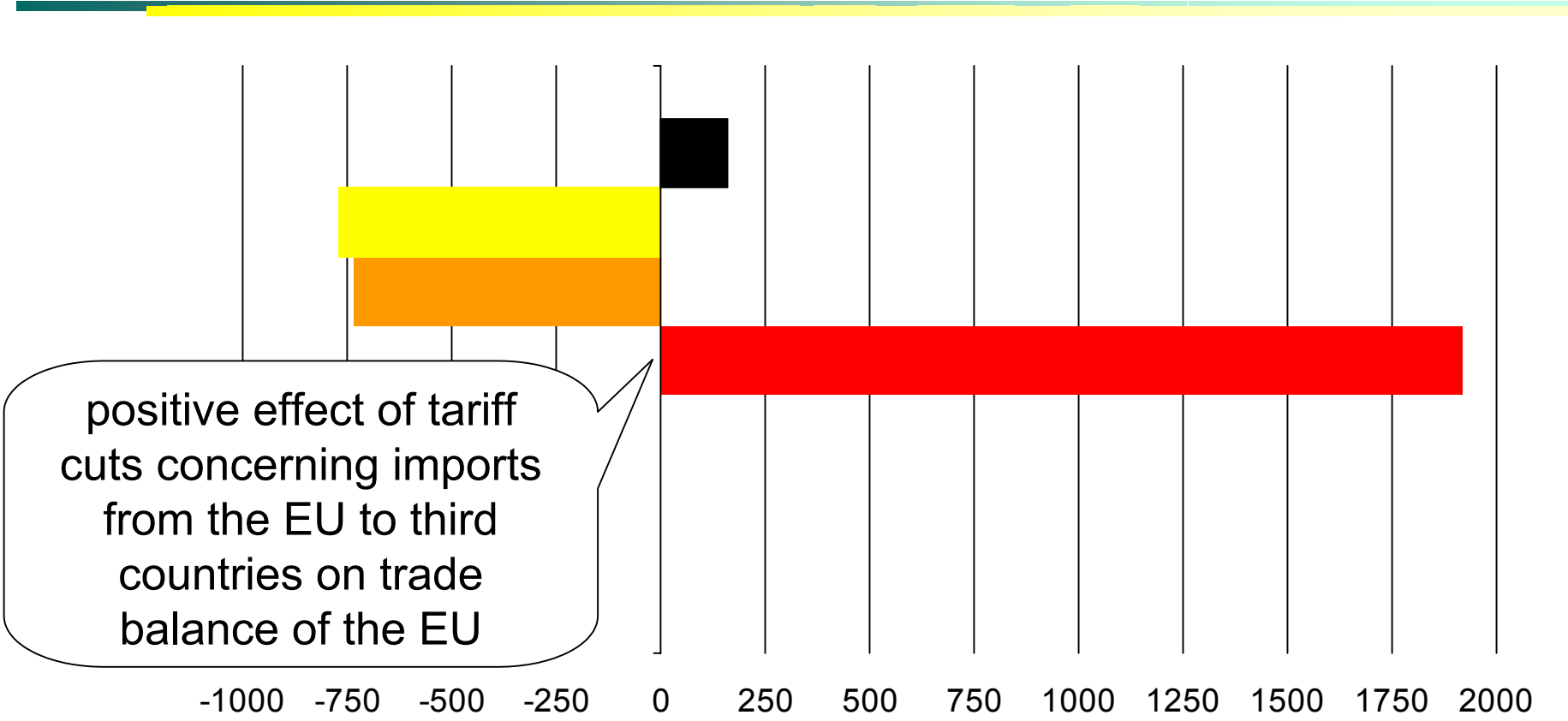
- tariffs (third country, third country)
- tariffs (EU, third country)
- export subsidies (third country, third country)
- export subsidies (EU, third country)
- tariffs (third country, EU)
- export subsidies (third country, EU)
- export subsidies (EU, third country)

Decomposition - EU-27: change in total balance of dairy products



- tariffs (third country, third country)
- tariffs (EU, third country)
- export subsidies (third country, third country)
- export subsidies (EU, third country)
- export subsidies (third country, EU)
- tariffs (third country, EU)

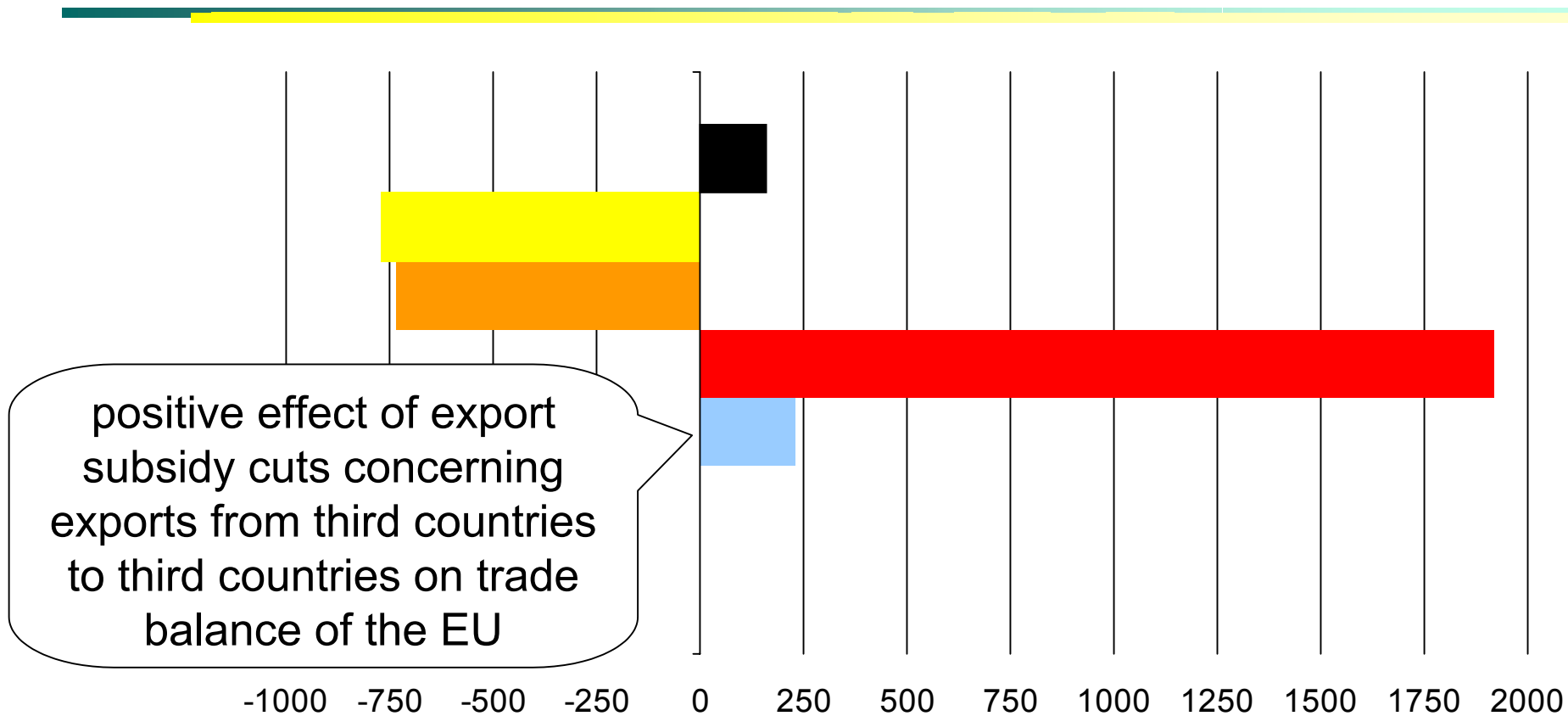
Decomposition - EU-27: change in total balance of dairy products



positive effect of tariff cuts concerning imports from the EU to third countries on trade balance of the EU

- tariffs (third country, third country)
- tariffs (third country, EU)
- tariffs (EU, third country)
- export subsidies (third country, third country)
- export subsidies (third country, EU)
- export subsidies (EU, third country)

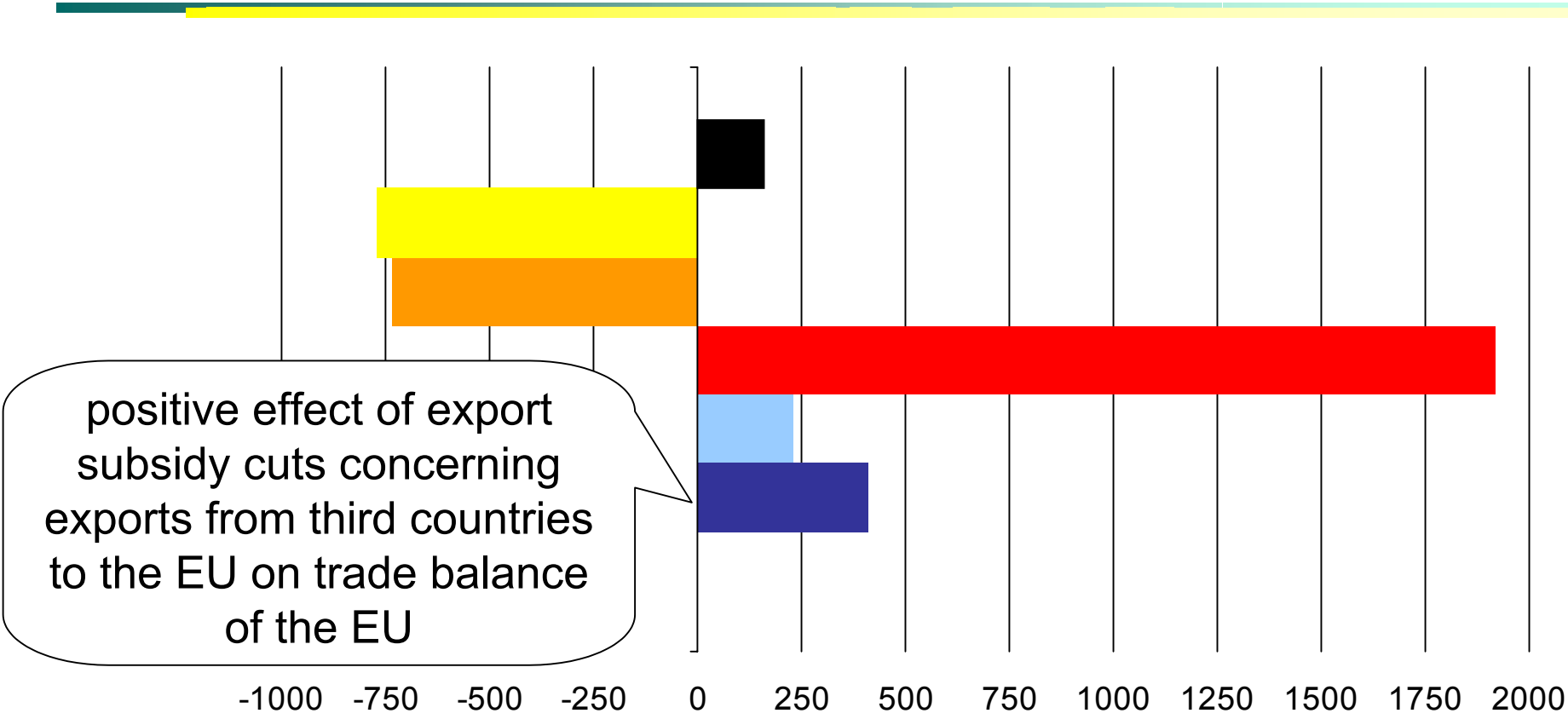
Decomposition - EU-27: change in total balance of dairy products



- tariffs (third country, third country)
- tariffs (EU, third country)
- export subsidies (third country, EU)

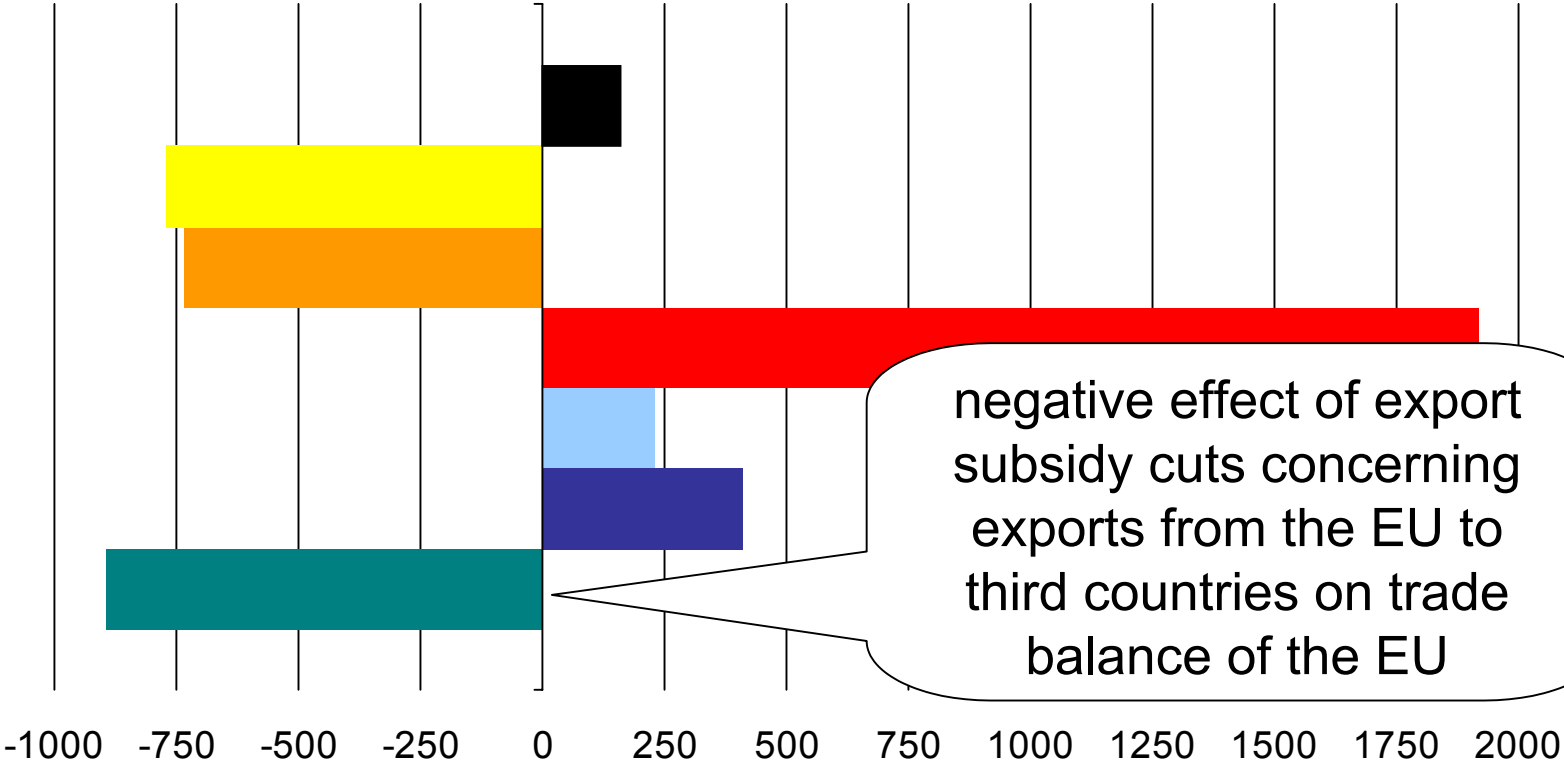
- tariffs (third country, EU)
- export subsidies (third country, third country)
- export subsidies (EU, third country)

Decomposition - EU-27: change in total balance of dairy products



- tariffs (third country, third country)
- tariffs (third country, EU)
- tariffs (EU, third country)
- export subsidies (third country, third country)
- export subsidies (third country, EU)
- export subsidies (EU, third country)

Decomposition - EU-27: change in total balance of dairy products

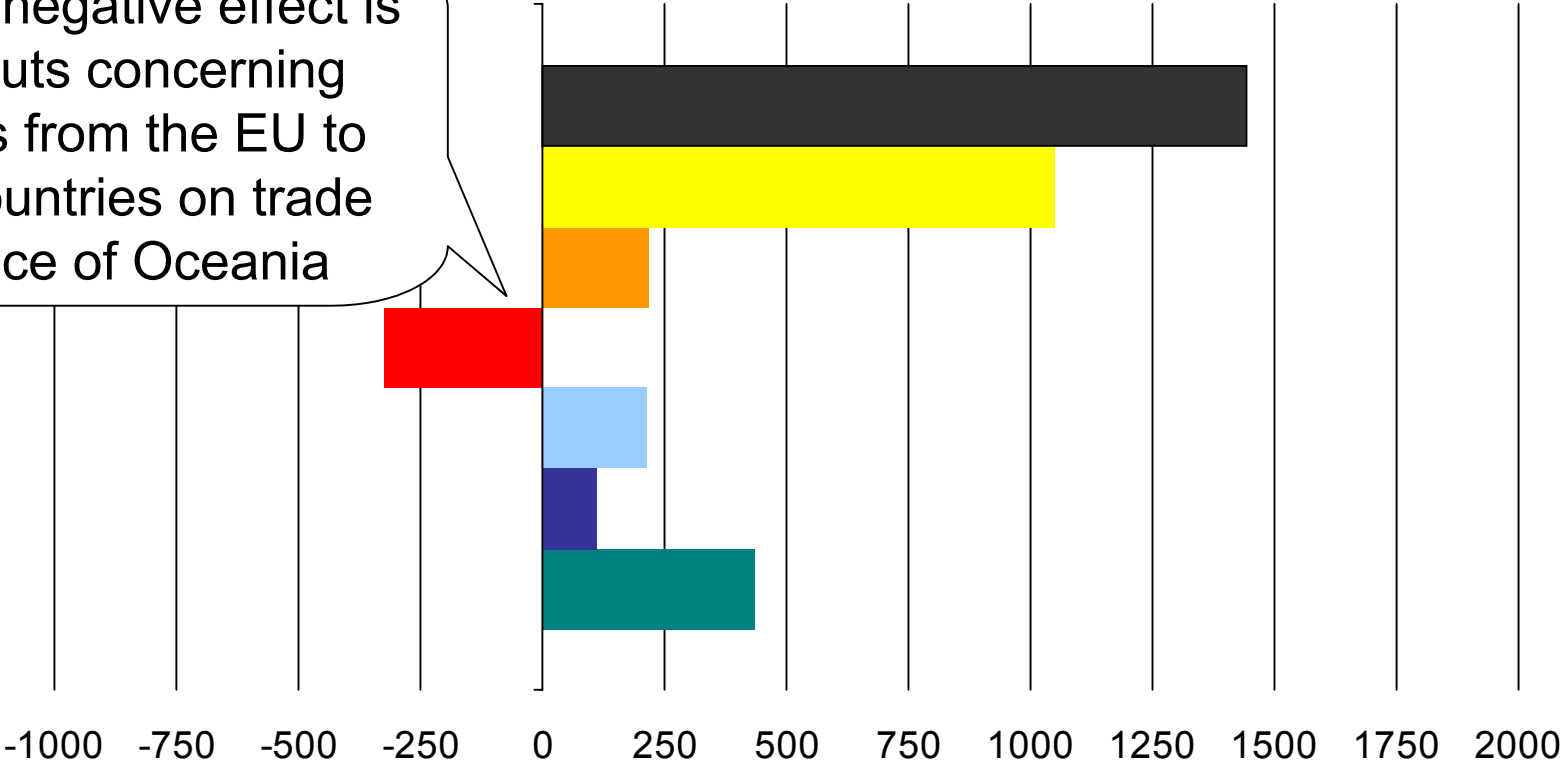


negative effect of export subsidy cuts concerning exports from the EU to third countries on trade balance of the EU

- tariffs (third country, third country)
- tariffs (third country, EU)
- tariffs (EU, third country)
- export subsidies (third country, third country)
- export subsidies (third country, EU)
- export subsidies (EU, third country)

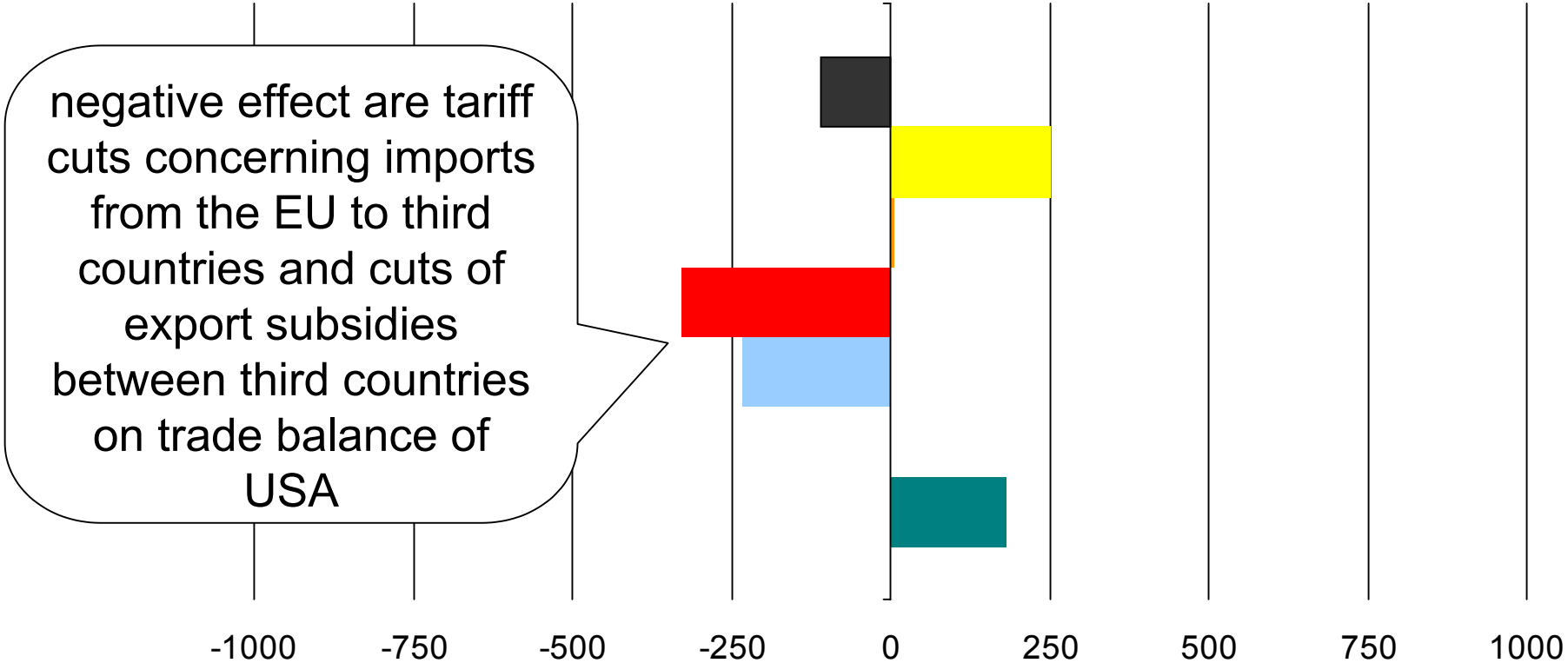
Decomposition – Oceania (OCE): change in total balance of dairy products

the only negative effect is tariff cuts concerning imports from the EU to third countries on trade balance of Oceania



- tariffs (third country, third country)
- tariffs (EU, third country)
- export subsidies (third country, third country)
- export subsidies (third country, EU)
- tariffs (third country, EU)
- export subsidies (EU, third country)

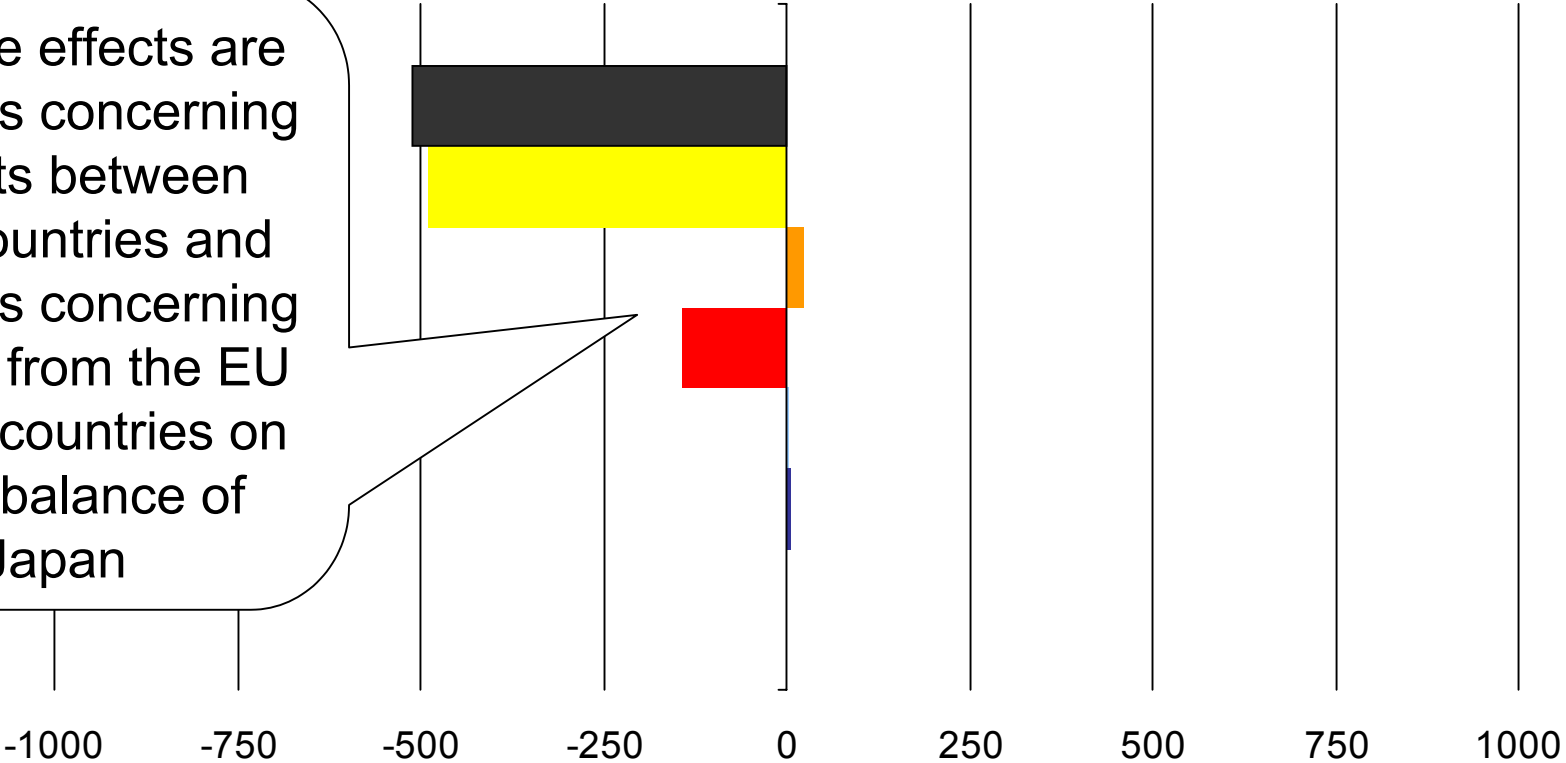
Decomposition – USA: change in total balance of dairy products



- tariffs (third country, third country)
- tariffs (EU, third country)
- export subsidies (third country, EU)
- tariffs (third country, EU)
- export subsidies (third country, third country)
- export subsidies (EU, third country)

Decomposition - Japan: change in total balance of dairy products

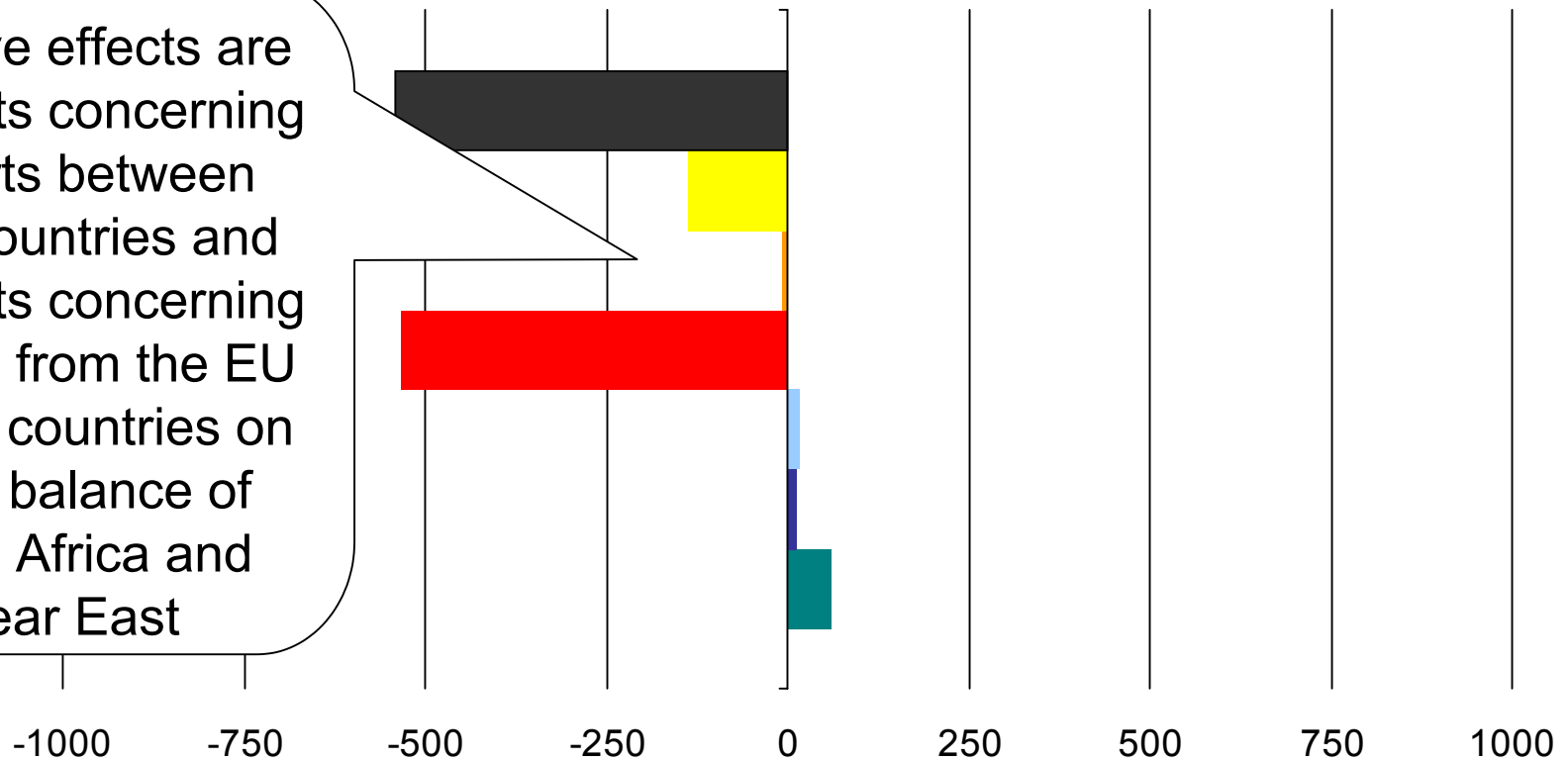
negative effects are tariff cuts concerning imports between third countries and tariff cuts concerning imports from the EU to third countries on trade balance of Japan



- tariffs (third country, third country)
- tariffs (EU, third country)
- export subsidies (third country, third country)
- export subsidies (third country, EU)
- tariffs (third country, EU)
- export subsidies (EU, third country)

Decomposition – North Africa and Near East (MEDNE): change in total balance of dairy products

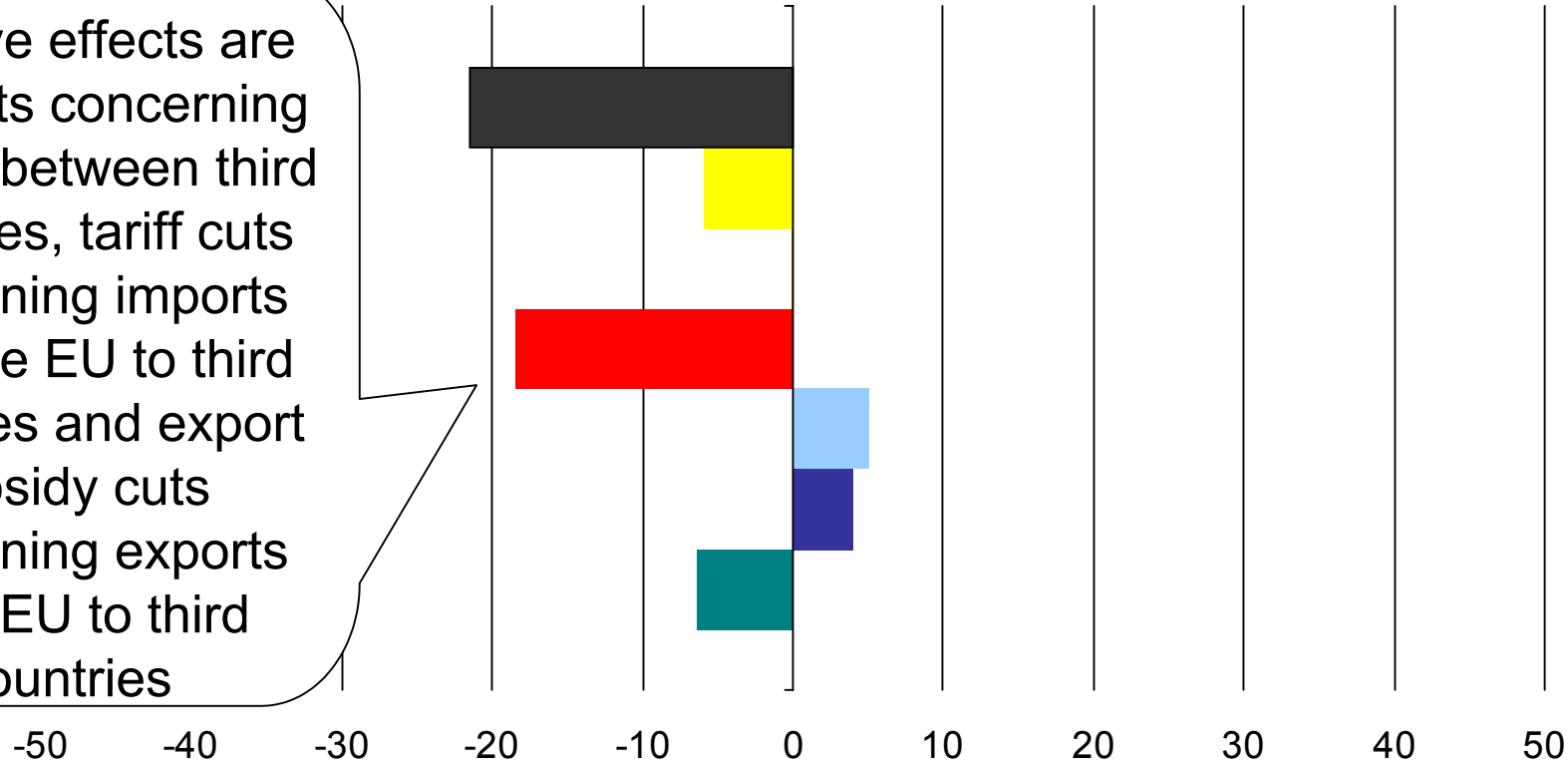
negative effects are tariff cuts concerning imports between third countries and tariff cuts concerning imports from the EU to third countries on trade balance of North Africa and Near East



- tariffs (third country, third country)
- tariffs (EU, third country)
- export subsidies (third country, third country)
- export subsidies (third country, EU)
- export subsidies (EU, third country)

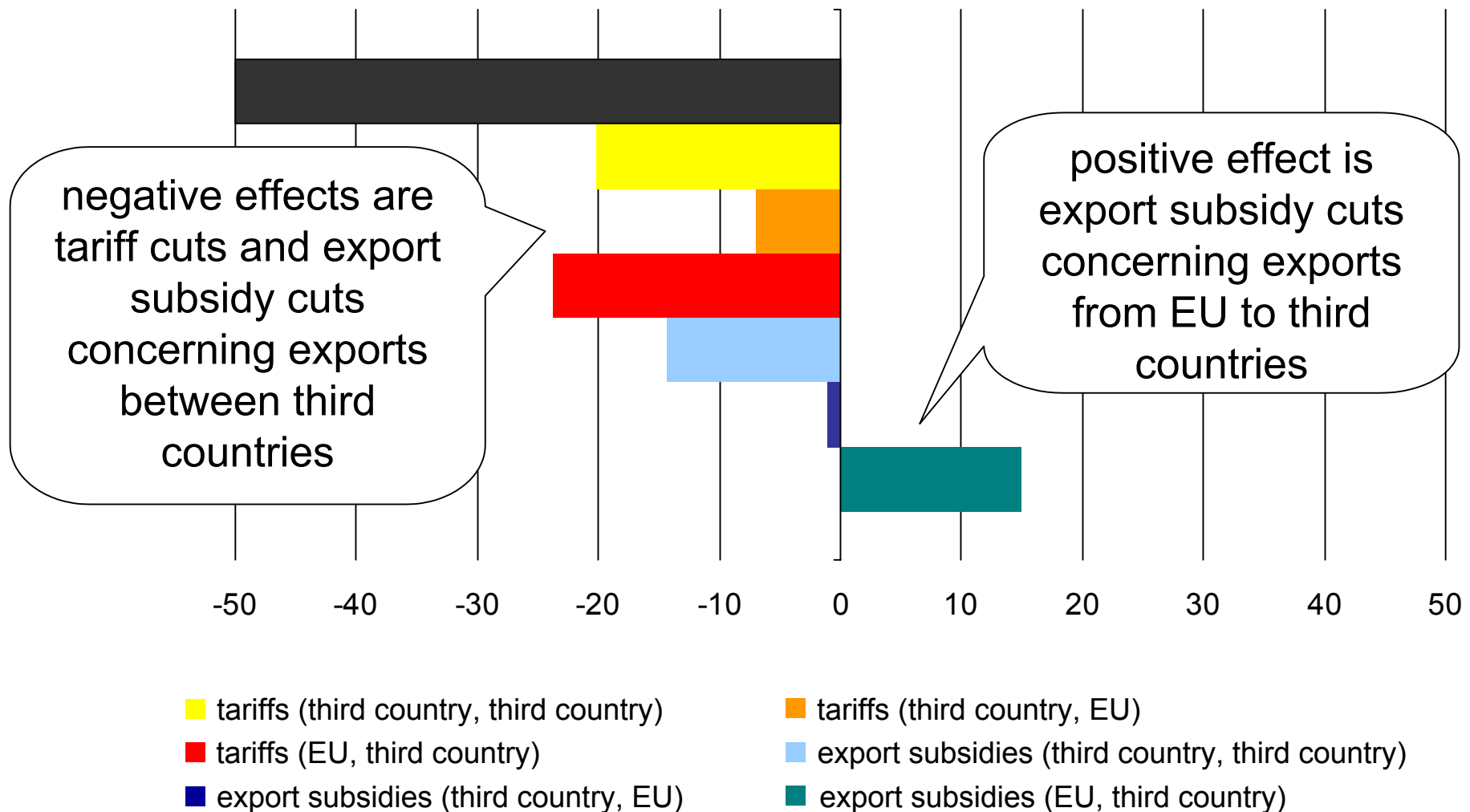
Decomposition – Everything But Arms region (EBA): change in total balance of dairy products

negative effects are tariff cuts concerning imports between third countries, tariff cuts concerning imports from the EU to third countries and export subsidy cuts concerning exports from EU to third countries

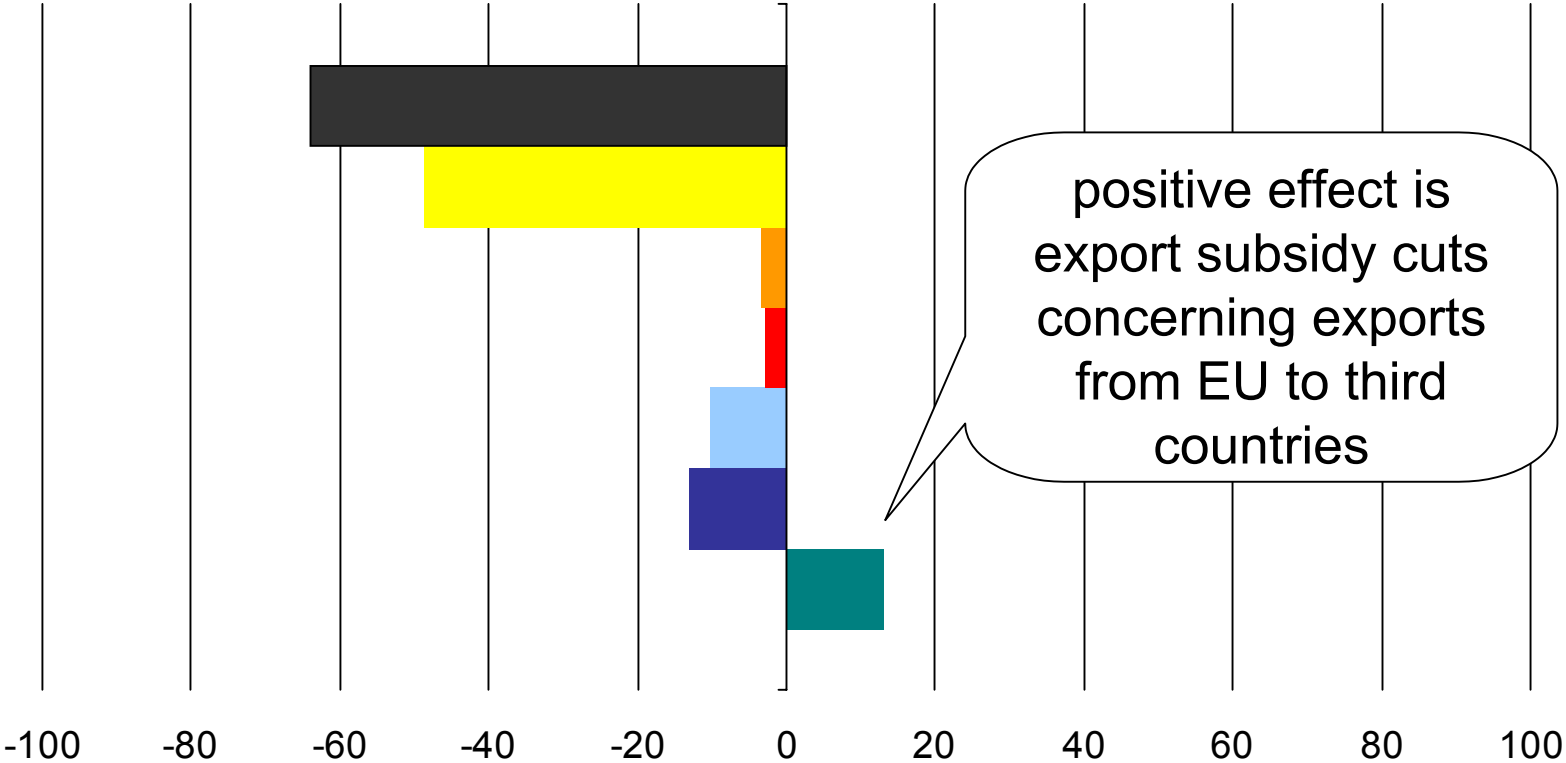


- tariffs (third country, third country)
- tariffs (EU, third country)
- export subsidies (third country, third country)
- export subsidies (third country, EU)
- export subsidies (EU, third country)

Decomposition – Other ACP countries (OACP): change in total balance of dairy products

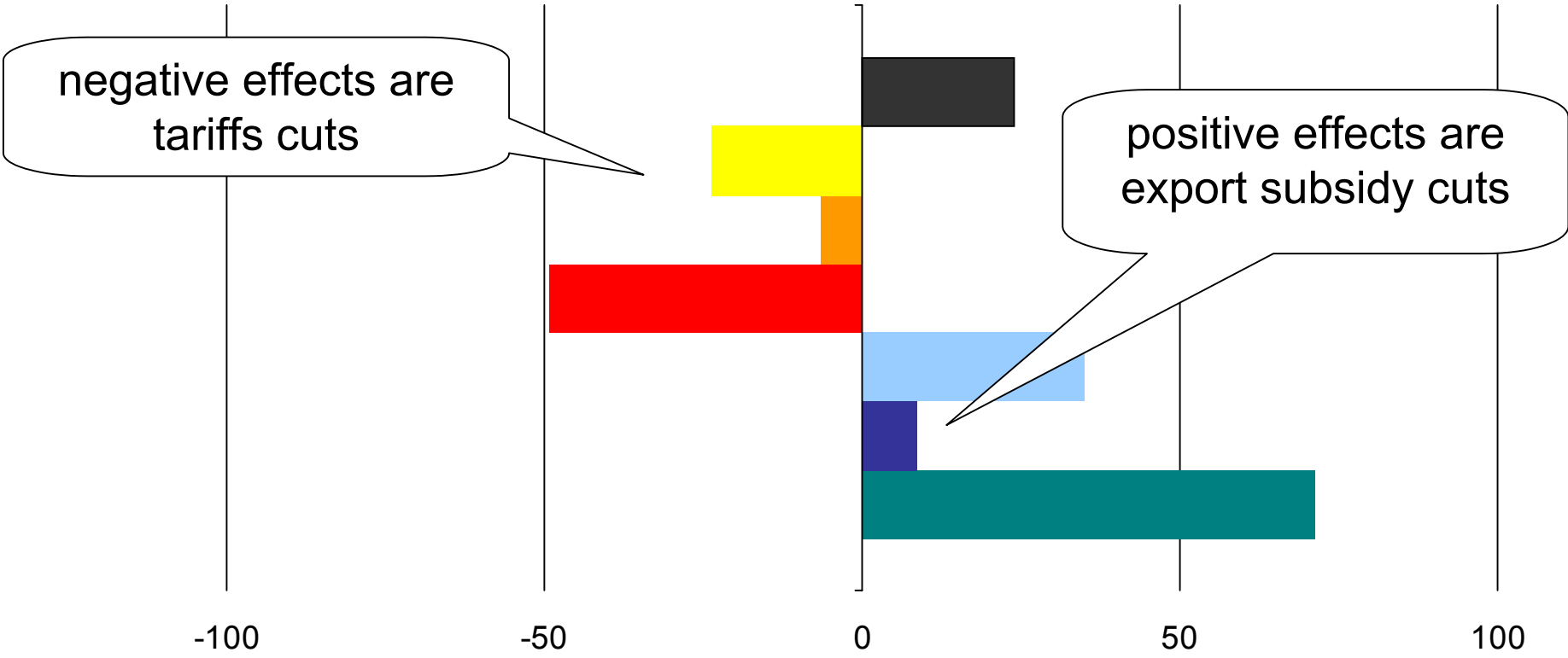


Decomposition – Brazil (BRA): change in total balance of dairy products



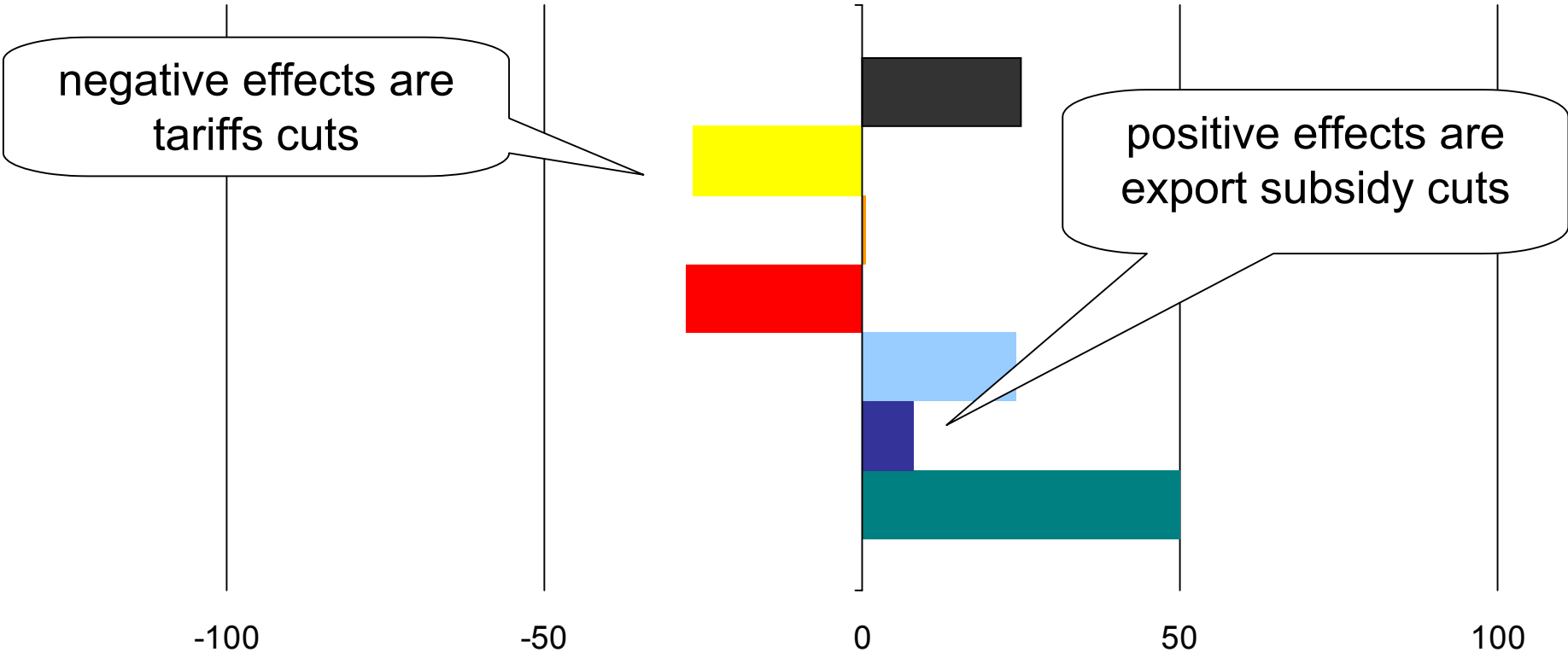
- tariffs (third country, third country)
- tariffs (third country, EU)
- tariffs (EU, third country)
- export subsidies (third country, third country)
- export subsidies (third country, EU)
- export subsidies (EU, third country)

Decomposition – Other Latin America (OLA): change in total balance of dairy products



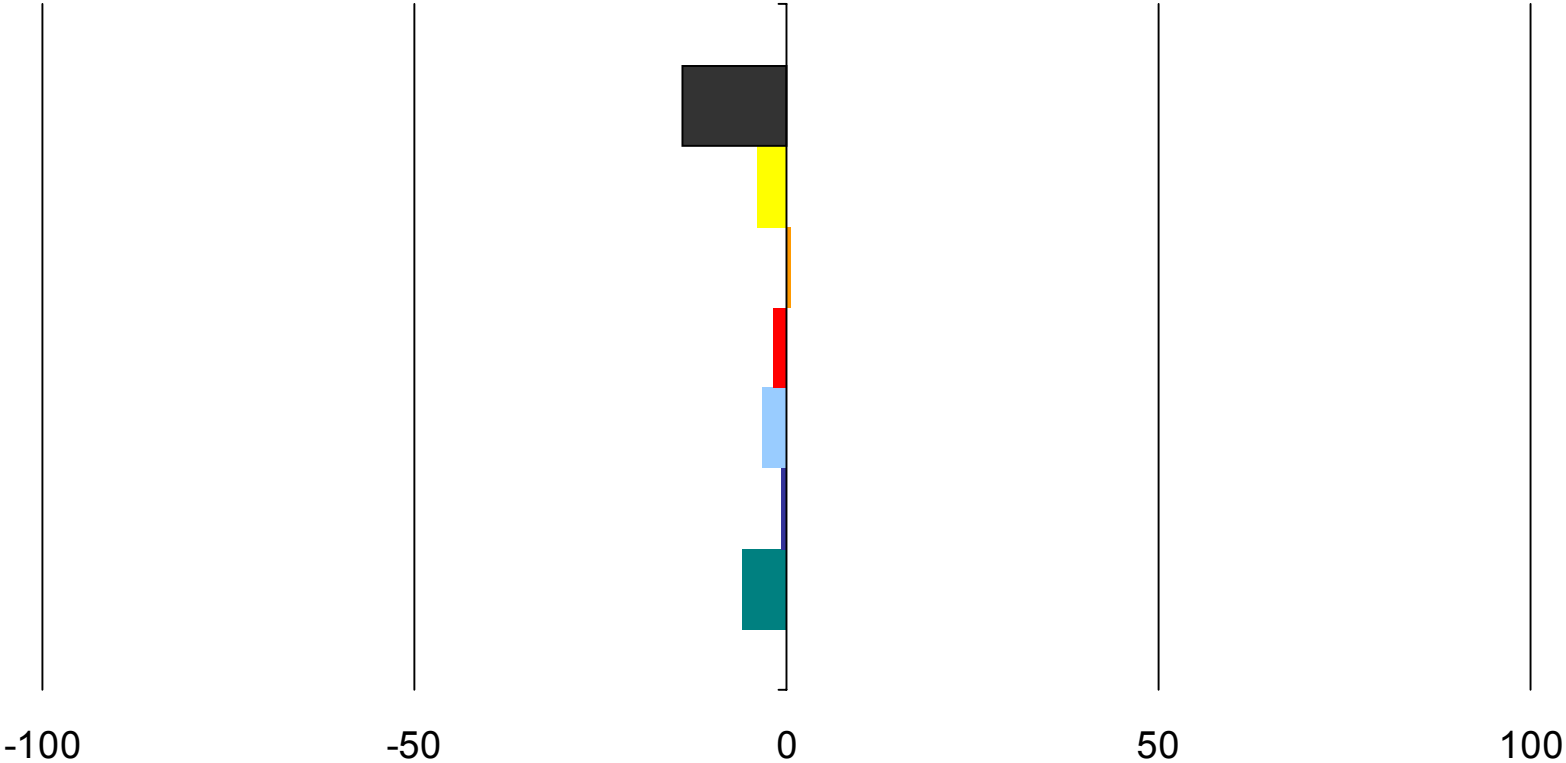
- tariffs (third country, third country)
- tariffs (EU, third country)
- export subsidies (third country, third country)
- export subsidies (EU, third country)
- export subsidies (third country, EU)
- tariffs (third country, EU)

Decomposition – High Income Asia (HICAS): change in total balance of dairy products



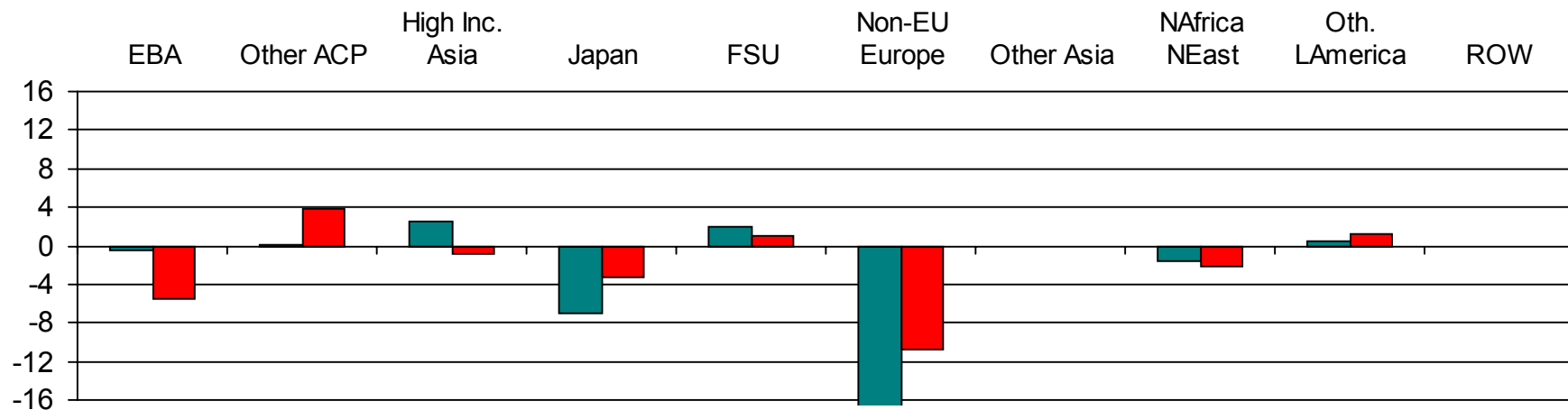
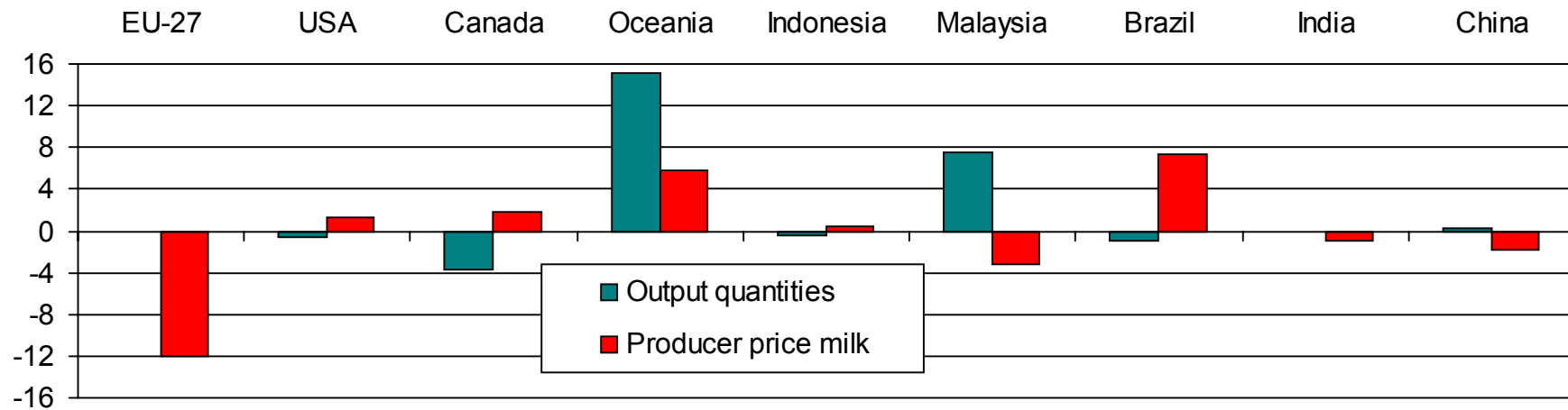
- tariffs (third country, third country)
- tariffs (EU, third country)
- export subsidies (third country, EU)
- tariffs (third country, EU)
- export subsidies (third country, third country)
- export subsidies (EU, third country)

Decomposition – Indonesia: change in total balance of dairy products

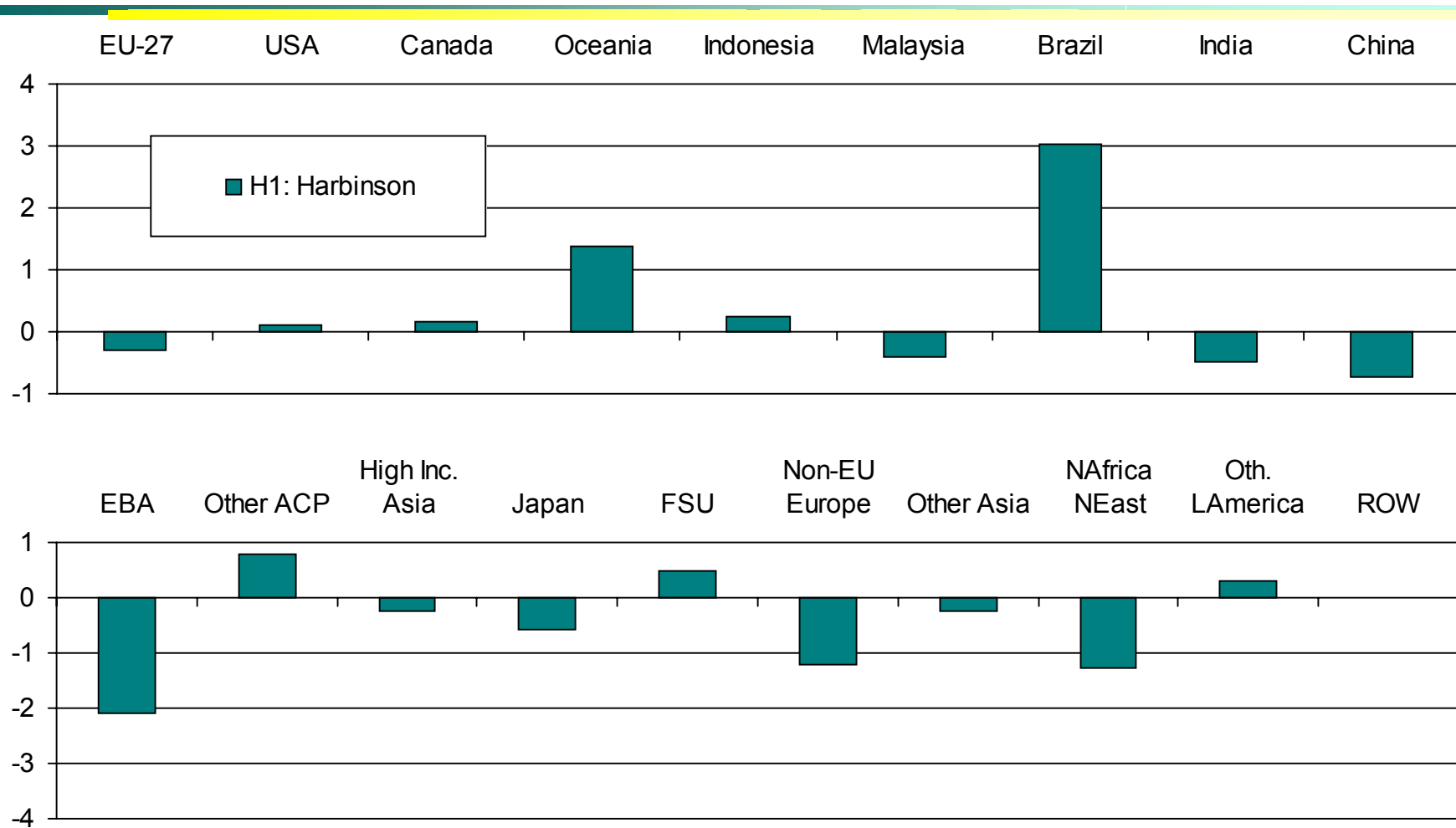


- tariffs (third country, third country)
- tariffs (EU, third country)
- export subsidies (third country, third country)
- export subsidies (EU, third country)
- export subsidies (third country, EU)
- tariffs (third country, EU)

Changes in quantities and prices – scenario H1 vs. base (%)



Changes in income (%) *



Qualification

- Intervention prices, TRQs and exogenous export subsidies
- political “update” in third countries
 - Representation of RTAs
 - Differences between bound and applied rates, “water” in tariffs
 - Explicit modelling of agricultural policies in third countries
- Changes in availability of factor endowments
- Sensitivity analysis

Summary

- The Harbinson proposal would have the following impacts:
- World trade increases in all regions and in most agri-food products including dairy products
- Positive net trade effects in trade balance of dairy products are expected in Oceania, EU-27, high income Asia, Malaysia, other Latin America, FSU and China.
- When the trade balance effects of dairy products are decomposed:
 - In the EU-27, positive effects of the tariff cuts concerning imports from EU to third countries are dominating negative impacts of tariff cuts concerning imports from third countries to the EU and to third countries as well as cuts of export subsidies concerning exports from the EU to third countries. Production quotas are binding, but producer prices will decline.
 - In Oceania, nearly all effects are positive. Production and prices will increase.

Summary

- further:
 - In the USA, dominating negative effects are tariff cuts concerning imports from the EU to third countries and cuts of export subsidies between third countries. Due to production increases in other areas, milk production declines and prices increase.
 - In Japan and North Africa and Near East, tariff cuts on imports are the most important effects. Prices and production decline.
 - In the EBA region, preference erosion takes place. Prices and production decline.
 - In Brazil, nearly all effects are negative, but high production increases in other agri-food sectors lead to higher prices. Nevertheless, production of milk declines.
 - In other Latin America, positive effects of export subsidy cuts are dominating. Prices and production increase.
- An overall positive income effect is expected in Brazil, Oceania, other ACP countries, other Latin America, Indonesia, the USA and Canada.

Thank you for your attention
