



# THE WARP GROUP

THE PROGRESSIVE GLOBAL THINK TANK for PARTICIPATORY  
DEMOCRACY

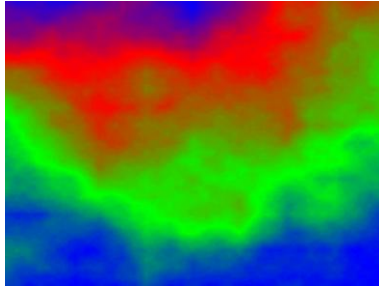
5<sup>th</sup> International Vanguard Science Congress  
Geopolitical, Goeconomic and Geodemocratic Alternatives to the Global  
World Crisis

Mexico City and Toluca, March 19-21, 2015

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THE WARP GROUP

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## **Klaus Bartsch**

Klaus Bartsch Econometrics / WARP (Zehdenick-Ribbeck, Germany)

A prototypical econometric World Model on the Interdependence of International Income and Trade Flows –

First Simulation Results concerning Issues of Geopolitical Relevance

**Preparation for the 5<sup>th</sup> International Vanguard Science Congress**

**Geopolitical, Geoeconomic and Geodemocratic Alternatives to the Global**

**Mexico City and Toluca, March 19-21, 2015**

# **General Structure of the Presentation**

**1. Introductory Notes**

**2. Why was LAPROSIM World built ?**

**3. Basic outline of the Model and its Database**

**4. Exemplary Simulations on two issues of geopolitical Relevance:  
The European Austerity Trap and the West-East Trade War**

**5. Discussing the Results: short and mid-term Effects on  
international Output and Trade.**

## I. Introductory Notes

**The Study is embedded in the Framework of the global WARP Research Project with the main topics:**

- 1.) Constructing geopolitical indices and simulation models for a better understanding of the global geopolitical development and its underlying forces.**
- 2.) Developing and upgrading of the macro- and microeconomic framework for a labour value based equivalence economy as the economic base of the socialism of the 21. century socialism**
- 3.) Developing the framework for the participative democracy of the socialism of the 21. Century**

*The World Model LAPROSIM WORLD is to classify mainly in under the topics 1.) and 2.). But simulations may also support democratic decision making by the provided information, and so also my contribute to topic 3.)*

## I. **II. Why was LAPROSIM World built?**

In the last 25 years, the models of the author were mainly built to deal with more or less complex tasks of German and EU economic policy and its alternatives.

The Versions of LAPROSIM Germany reach more the 1000 Equations, but need some exogenous input concerning the development of world trade.

The Ukraine crisis and its realized and possible feedback to world trade and growth made clear to me, that a global approach of modeling was needed for dealing adequately with the new challenges. It gave the initial push for getting on that task.

An other stimulus to start the work was to have a tool to support research on the global effects of European austerity policy.

The model shall mainly support the dealing with geopolitical issues from a macroeconomic perspective.

# III. A General Overview of LAPROSIM WORLD

## A. Type of model and regional structure

Laprosim World (Ver. 0.17) is a dynamic econometric model of the world economy for simulation purposes. Its database is mainly delivered by free available data of the UN, UNCTAD, ILO, IMF, the Penn World tables and EUROSTAT.

Its by now 693 equations represent submodels for 7 countries and 2 country aggregates:

- Countries: Brazil, China, Germany, India, Japan, Russia, USA
- Country aggregates: European Union without Germany, Rest of the World

Furtheron, aggregates for the BRIC countries and the core „Western“ block (USA, EU and Japan) are derived.

### III. A General Overview of LAPROSIM WORLD

#### B. General Specifications of the country models

##### **Supply side:**

**Potential Output = F(Capital Stock and its Level of Modernity,  
Working People and their average Skills)**

##### **Demand Side:**

**Private Consumption = F( Income from wages, Income From  
Profits, Interest rate )**

**Fixed Capital Investment = F( Change of Demand,  
Depreciation,  
Interest rate, Profits)**

(Continued)

### III. A General Overview of LAPROSIM WORLD

#### C. General Specification of the country models (continued)

Imports and Exports:

Linkage of the country/region models by the country/region import and export functions by a 9 X 9 trade matrix.

The model includes a general „Keynesian type“ function for the countries imports:

**Imports of countries 1...m = F( Income <represented by disaggregated use>, relativ price level towards other countries)**

**Exports of country i = Sum of Imports of country 1....m without i from country i**

The countries import structure from other countries may vary by their own and the other countries production structure.

For Example: The Exports of Germany will benefit from high fixed capital investment demand in other Regions, while Brazil might have a higher benefit from rising consumer demand



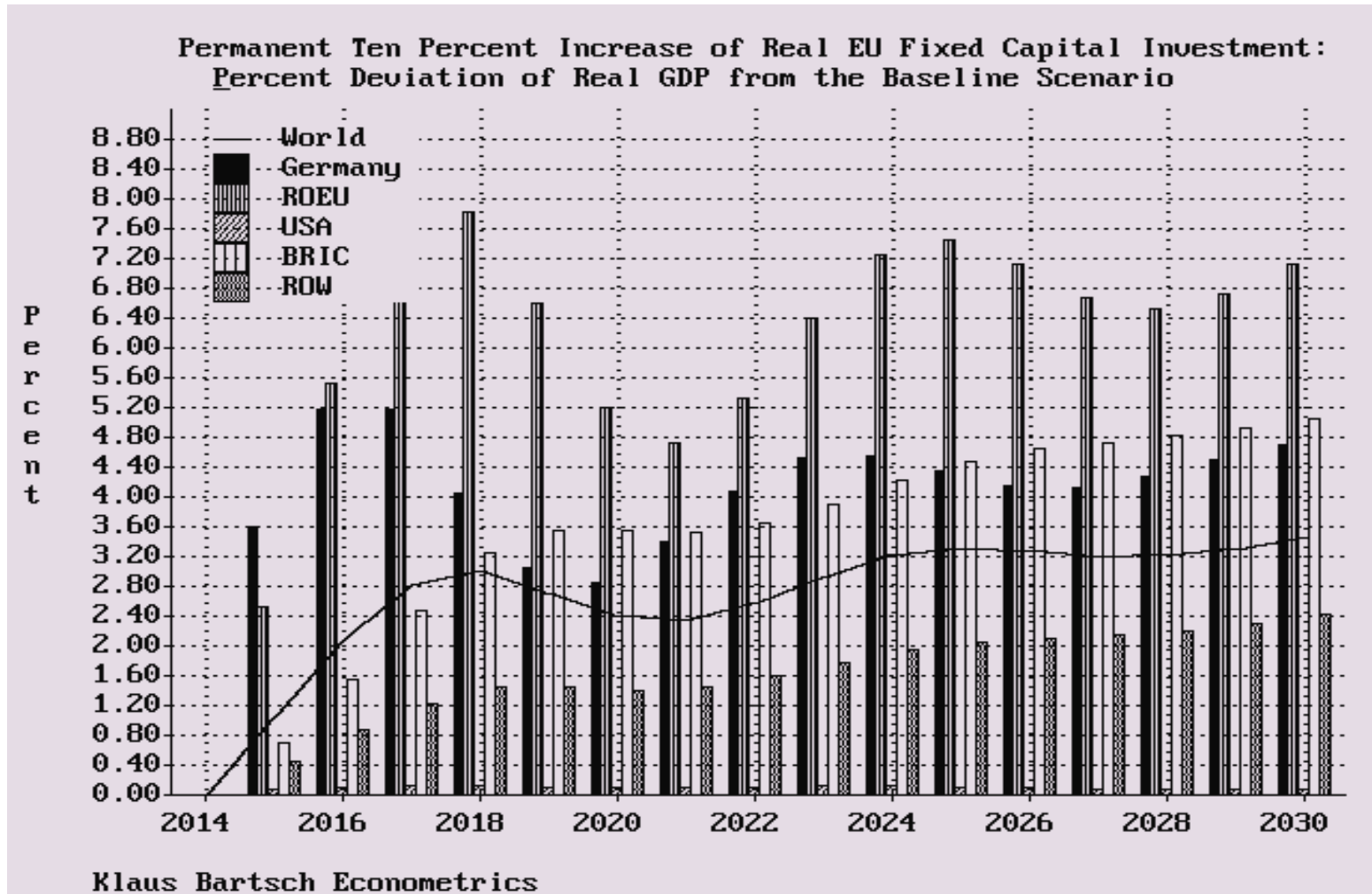
# Exemplary Simulations with LAPROSIM World

## Simulation I: Increasing Demand in Europe

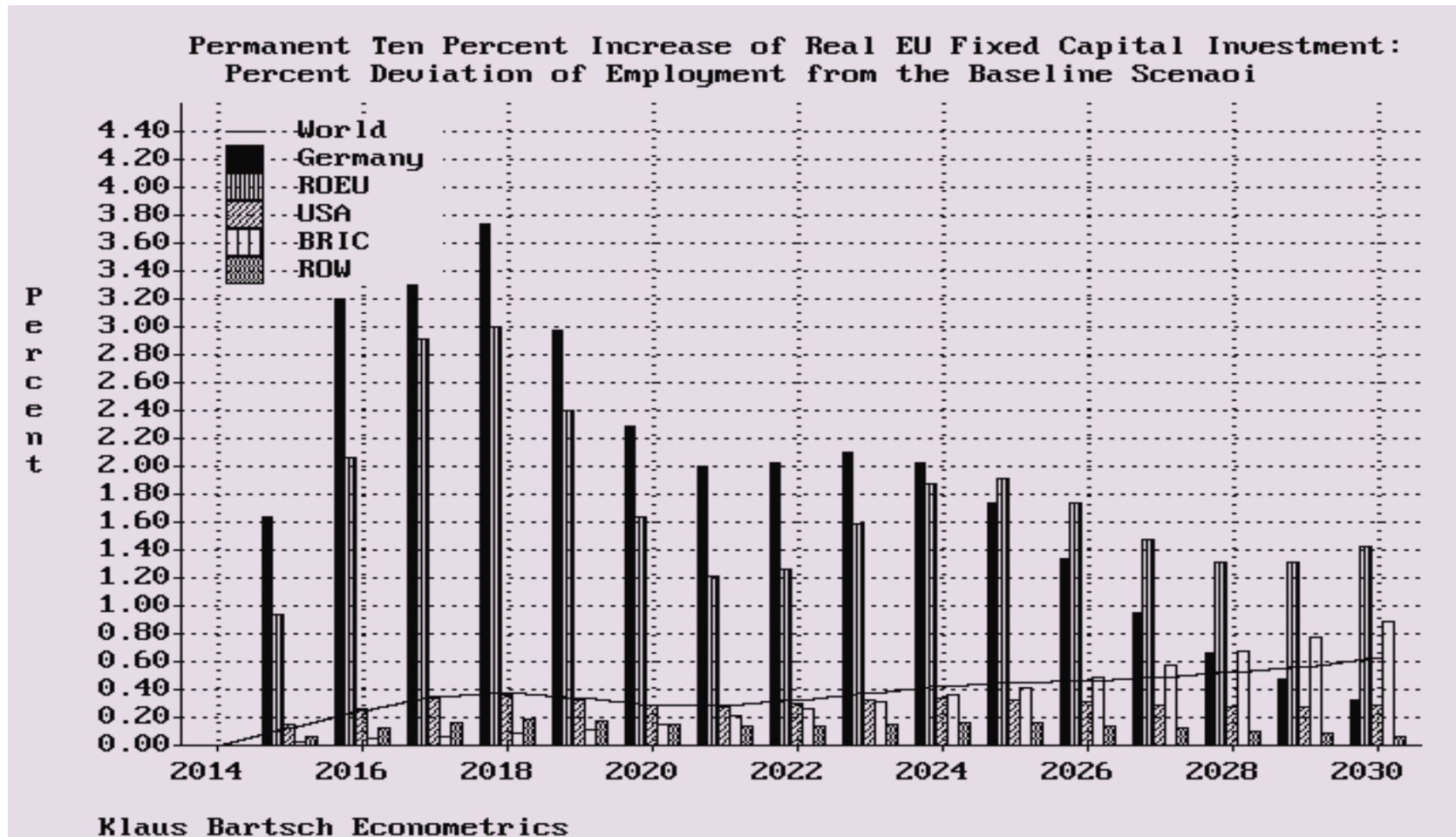
Since the start of the global financial crisis, several of the most prominent Keynesian Economists as the George Stiglitz and Paul Krugman, but also most of the heterodox Economists in Europe plead for an end of the austerity course in Europe, and a more expansive fiscal policy especially of the European countries with big current account surpluses, especially Germany.

In this scenario, real gross fixed capital investment is increased for Germany and for the „Rest of the European Union“ permanently by 10 % against the path of the Baseline scenario for the Period 2015-2030. This variable is endogenous, so the initial increase of investment may cause further feedback effects during the simulation, changing investment more or less than the initial 10 Percent.

## Scenario I: Ten Percent Increase of EU real Fixed Capital Investment Effects on real GDP



## Scenario I: Ten Percent Increase of EU real Fixed Capital Investment Effects on Total Employment



## Scenario I: The Country Data - Ten Percent Increase of EU real Fixed Capital Investment Effects on real GDP

	2015	2017	2020	2025	2030	2040
P.DE2.GDPV	3.6	5.2	2.8	4.3	4.7	5.1
P.EO2.GDPV	2.5	7.7	5.2	7.4	7.1	8.0
P.US2.GDPV	0.1	0.1	0.1	0.1	0.1	0.0
P.RU2.GDPV	3.0	6.7	3.9	7.1	8.5	8.1
P.VC2.GDPV	0.4	2.0	3.9	5.1	5.5	5.8
P.IN2.GDPV	0.6	2.8	3.8	3.0	3.6	3.6
P.BR2.GDPV	0.4	1.1	1.6	2.8	3.7	5.5
P.JA2.GDPV	0.8	2.6	2.8	3.8	3.8	3.5
P.RO2.GDPV	0.4	1.2	1.4	2.0	2.4	3.2
P.DE2.CPV	0.3	3.1	3.8	4.4	4.3	4.4
P.EO2.CPV	0.0	3.0	5.9	5.9	6.1	7.1
P.US2.CPV	0.0	0.1	0.2	0.2	0.1	0.1
P.RU2.CPV	1.7	6.2	6.6	12.1	14.1	10.9
P.VC2.CPV	0.0	0.7	2.9	4.5	5.4	5.7
P.IN2.CPV	0.1	1.2	3.3	3.2	3.9	5.4
P.BR2.CPV	0.0	0.4	1.4	2.8	4.0	6.2
P.JA2.CPV	0.2	0.9	1.8	2.6	3.0	2.9
P.RO2.CPV	0.0	0.1	0.5	1.1	1.7	2.8
P.DE2.IFV	12.8	16.4	8.0	12.8	14.8	16.9
P.EO2.IFV	12.4	32.5	10.6	21.7	18.0	18.8
P.US2.IFV	0.0	0.2	0.1	0.1	0.0	0.0
P.RU2.IFV	7.1	7.8	-3.3	1.1	1.9	1.0
P.VC2.IFV	0.1	2.2	4.9	6.0	6.3	6.4
P.IN2.IFV	0.2	3.2	5.5	2.4	3.5	3.5
P.BR2.IFV	1.3	3.2	1.8	4.6	5.1	6.6
P.JA2.IFV	1.0	5.5	7.6	8.7	7.4	4.2
P.RO2.IFV	0.7	1.4	0.8	1.6	2.0	3.0

Acronyms:

DE: Germany  
 EO: Rest of EU  
 US: USA  
 RU: Russia  
 VC: China  
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 JA: Japan  
 RO: Rest of World

GDPV: Real GDP

CPV: Private  
 Consumption, real

IFV: Real fixed  
 Capital Investment

**Scenario I: The Country Data (continued) - Ten Percent Increase of EU real Fixed Capital Investment  
Effects on real GDP**

	2015	2017	2020	2025	2030	2040
P.DE2.XGSV	2.7	8.1	6.4	8.4	8.1	8.3
P.EO2.XGSV	2.9	8.1	6.1	8.3	8.0	8.5
P.US2.XGSV	1.6	3.8	3.7	4.8	5.0	5.0
P.RU2.XGSV	3.2	8.8	7.8	9.6	9.0	8.0
P.VC2.XGSV	1.2	3.8	4.5	5.3	5.3	5.4
P.IN2.XGSV	1.5	4.4	3.9	4.9	4.8	4.8
P.BR2.XGSV	2.1	5.0	4.1	5.2	5.1	5.2
P.JA2.XGSV	2.8	7.0	5.2	6.7	6.4	6.2
P.RO2.XGSV	1.3	3.4	3.4	4.3	4.4	4.6
P.DE2.MGSV	4.9	10.6	8.6	11.2	11.4	12.2
P.EO2.MGSV	4.1	12.1	9.8	12.9	12.5	13.5
P.US2.MGSV	1.2	2.9	2.9	3.6	3.5	3.3
P.RU2.MGSV	4.7	9.8	5.6	10.7	11.6	9.6
P.VC2.MGSV	0.5	2.6	4.7	5.7	6.0	5.7
P.IN2.MGSV	0.2	1.9	4.8	4.3	5.3	7.2
P.BR2.MGSV	1.6	3.8	2.4	5.3	5.8	7.0
P.JA2.MGSV	1.0	4.5	6.0	6.9	6.1	4.0
P.RO2.MGSV	0.7	1.7	1.7	2.5	2.9	3.6
P.DE2.ET	1.6	4.0	2.3	1.7	0.3	-1.8
P.EO2.ET	0.9	2.9	1.6	1.9	1.4	1.5
P.US2.ET	0.1	0.3	0.3	0.3	0.3	0.2
P.RU2.ET	0.5	1.3	0.8	2.4	3.7	5.1
P.VC2.ET	0.0	0.0	-0.1	-0.2	-0.2	-0.3
P.IN2.ET	0.0	0.0	0.3	0.8	1.6	2.9
P.BR2.ET	0.0	0.1	0.3	0.7	1.1	1.5
P.JA2.ET	0.2	0.9	1.6	2.7	3.5	4.6
P.RO2.ET	0.1	0.2	0.1	0.2	0.1	-0.5

Acronyms:

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XGSV: Real Exports  
MGSV: Real Imports  
ET: Total Employment

## **Scenario I: Ten Percent Increase of EU real Fixed Capital Investment**

### **Main results**

Increasing FCI by 10 percent against baseline leads (in medium term) to:

- An increase of real world GDP by 3 Percent till 2018
- Not surprising, Europe would in have the biggest benefit, followed by Russia, due to the high importance of the European Market for Russian Exports. For India, China and Japan, also significant GDP gains were calculated
- Nearly no net GDP effect would arrive in the USA: export gains are nearly totally compensated by increasing imports.
- Employment effects are calculated highest in Europe, followed by Japan and Russia

# Exemplary Simulations with LAPROSIM World

## Simulation II: A Variant of „Trade War“ with Russia

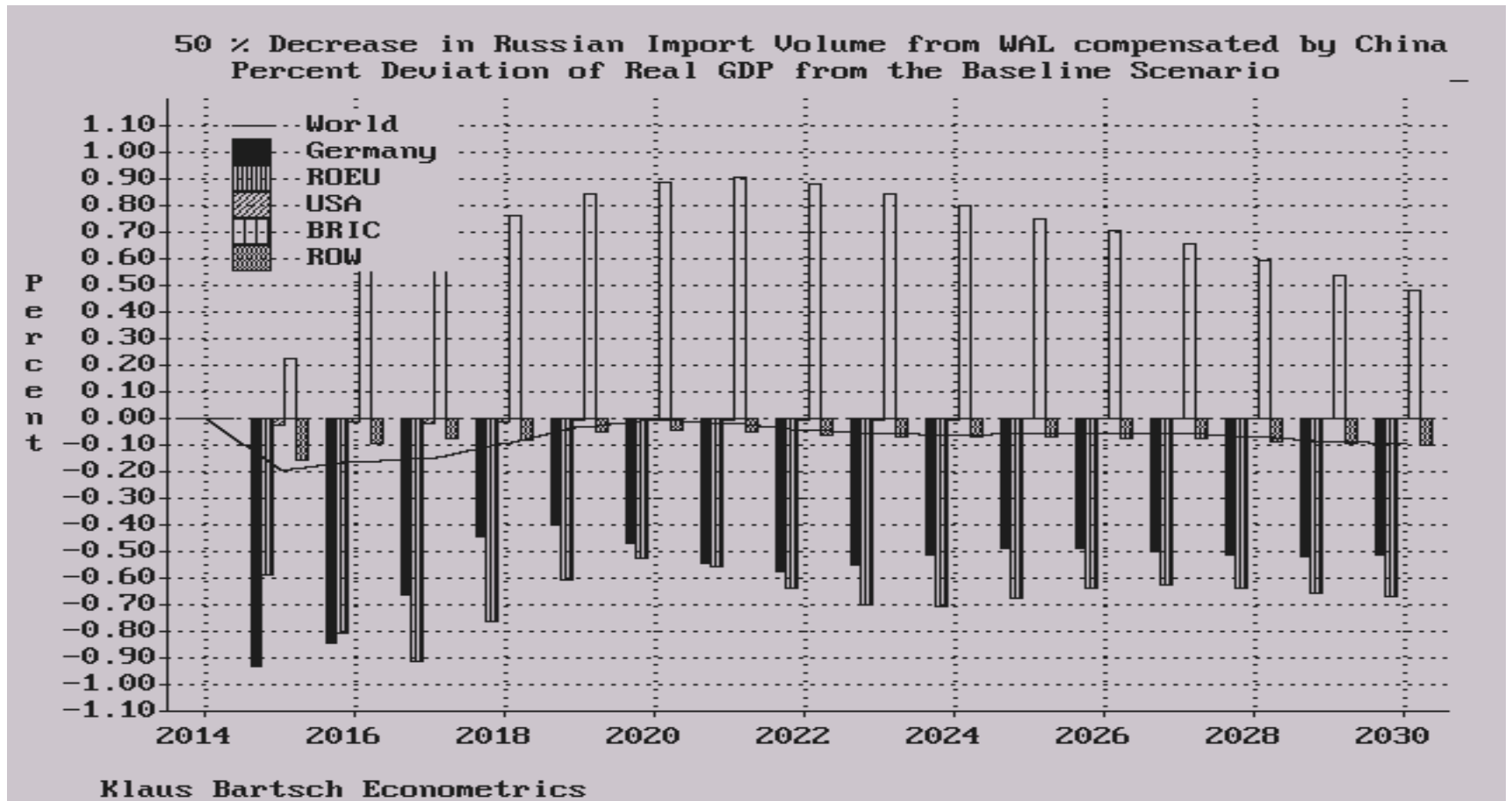
Till now, the aggressive policy of the US-dominated NATO aiming on moving further forward to the Russian borders and crippling Russian power led to severe losses in trade between Europe and Russia. Germany alone lost 20 Percent of its exports to Russia in 2014

Further growing tensions could increase these losses. One possible scenario was simulated for demonstrating the features of the model

The Scenario is based on following assumptions: Core western allies (USA, the EU and Japan) reduce their exports to Russia by an absolute amount, that equals 50 % of the baseline exports to Russia of this group in 2015. Russia compensates these imports at 100 % by Chinese exports to Russia. So implicitly, an import substitution rate of 0 % was assumed. The absolute loss is kept in all following periods.

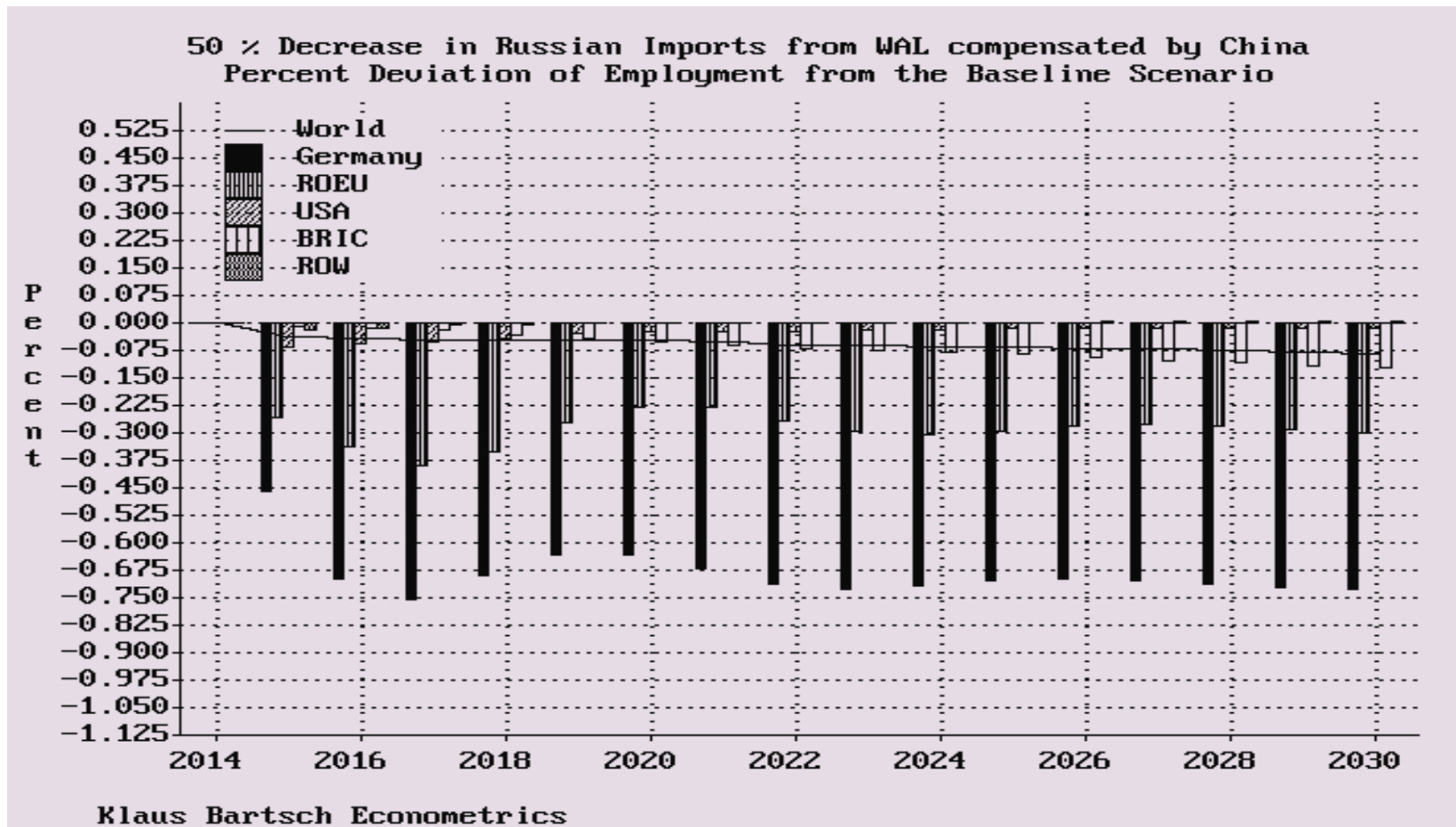
Key Assumption: Losing trust is like smashing a window: easy to do, but impossible to restore in the old framework. So Russia will keep in mind the difficulties with contracts concerning goods of strategic interest with western companies and will tend to substitute imports from the West gradually with imports from more reliable strategic partners.

## Scenario II: 50 Percent Decrease of Russian Imports from „Core Western Alliance“, Compensation by China Effects on real GDP





## Scenario II: 50 Percent Decrease of Russian Imports from „Core Western Alliance“, Compensation by China Effects on Total Employment



## Scenario II: Country Data - 50 Percent Decrease of Russian Imports from „Core Western Alliance“, Compensation by China Effects on real GDP

	2015	2017	2020	2025	2030	2040
P.DE3.GDPV	-0.9	-0.7	-0.5	-0.5	-0.5	-0.5
P.EO3.GDPV	-0.6	-0.9	-0.5	-0.7	-0.7	-0.7
P.US3.GDPV	0.0	0.0	0.0	0.0	0.0	0.0
P.RU3.GDPV	-1.8	-1.0	-0.6	-0.9	-1.3	-1.0
P.VC3.GDPV	0.8	1.6	1.8	1.6	1.3	0.7
P.IN3.GDPV	-0.2	-0.6	-0.4	-0.3	-0.3	-0.3
P.BR3.GDPV	-0.2	-0.1	-0.2	-0.2	-0.3	-0.4
P.JA3.GDPV	0.0	-0.1	-0.1	-0.1	-0.1	-0.1
P.RO3.GDPV	-0.2	-0.1	0.0	-0.1	-0.1	-0.2
P.DE3.CPV	-0.1	-0.6	-0.6	-0.7	-0.7	-0.9
P.EO3.CPV	0.0	-0.5	-0.6	-0.6	-0.6	-0.6
P.US3.CPV	0.0	0.0	0.0	0.0	0.0	0.0
P.RU3.CPV	-1.0	-1.3	-0.9	-1.8	-2.4	-1.4
P.VC3.CPV	0.1	0.9	1.6	1.7	1.4	0.8
P.IN3.CPV	0.0	-0.3	-0.5	-0.3	-0.4	-0.5
P.BR3.CPV	0.0	-0.1	-0.2	-0.3	-0.3	-0.4
P.JA3.CPV	0.0	0.0	-0.1	-0.1	0.0	0.0
P.RO3.CPV	0.0	0.0	0.0	-0.1	-0.1	-0.1
P.DE3.IFV	-1.5	-0.3	0.1	0.0	-0.1	-0.1
P.EO3.IFV	-1.4	-2.0	0.2	-0.7	-0.7	-0.6
P.US3.IFV	0.0	-0.1	0.0	0.0	0.0	0.0
P.RU3.IFV	-4.1	0.0	0.4	0.1	-0.2	-0.1
P.VC3.IFV	0.3	2.1	2.1	1.8	1.3	0.6
P.IN3.IFV	-0.1	-0.8	-0.5	-0.2	-0.3	-0.3
P.BR3.IFV	-0.6	-0.3	-0.1	-0.3	-0.4	-0.5
P.JA3.IFV	-0.1	-0.3	-0.2	-0.2	-0.1	-0.1
P.RO3.IFV	-0.3	0.0	0.0	-0.1	-0.1	-0.2

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Investment

## Scenario II: Country Data - 50 Percent Decrease of Russian Imports from „Core Western Alliance“, Compensation by China Effects on real GDP

	2015	2017	2020	2025	2030	2040
P.DE3.XGSV	-2.1	-2.1	-1.5	-1.5	-1.5	-1.4
P.EO3.XGSV	-1.8	-2.0	-1.5	-1.5	-1.5	-1.4
P.US3.XGSV	-0.8	-0.6	-0.4	-0.4	-0.4	-0.5
P.RU3.XGSV	-1.9	-1.8	-1.2	-1.2	-1.2	-1.0
P.VC3.XGSV	2.6	2.2	2.0	1.6	1.3	0.8
P.IN3.XGSV	-0.6	-0.7	-0.5	-0.5	-0.4	-0.4
P.BR3.XGSV	-0.9	-0.4	-0.3	-0.3	-0.3	-0.4
P.JA3.XGSV	-0.1	-0.3	-0.1	-0.1	-0.1	-0.1
P.RO3.XGSV	-0.5	-0.2	-0.1	-0.1	-0.2	-0.3
P.DE3.MGSV	-1.7	-1.8	-1.5	-1.6	-1.7	-1.9
P.EO3.MGSV	-1.4	-1.8	-1.3	-1.4	-1.3	-1.3
P.US3.MGSV	-0.6	-0.5	-0.3	-0.3	-0.3	-0.3
P.RU3.MGSV	-2.7	-1.4	-0.9	-1.4	-1.7	-1.2
P.VC3.MGSV	1.0	2.1	2.2	1.8	1.4	0.8
P.IN3.MGSV	-0.1	-0.5	-0.7	-0.5	-0.5	-0.6
P.BR3.MGSV	-0.7	-0.4	-0.1	-0.3	-0.5	-0.5
P.JA3.MGSV	0.0	-0.2	-0.2	-0.1	-0.1	-0.1
P.RO3.MGSV	-0.3	-0.1	-0.1	-0.1	-0.1	-0.2
P.DE3.ET	-0.5	-0.8	-0.6	-0.7	-0.7	-0.8
P.EO3.ET	-0.3	-0.4	-0.2	-0.3	-0.3	-0.3
P.US3.ET	-0.1	-0.1	0.0	0.0	0.0	0.0
P.RU3.ET	-0.3	-0.2	-0.1	-0.4	-0.6	-0.6
P.VC3.ET	0.0	0.0	-0.1	-0.1	-0.1	0.0
P.IN3.ET	0.0	0.0	-0.1	-0.1	-0.1	-0.2
P.BR3.ET	0.0	0.0	0.0	-0.1	-0.1	-0.1
P.JA3.ET	0.0	0.0	-0.1	-0.1	-0.1	-0.1
P.RO3.ET	0.0	0.0	0.0	0.0	0.0	0.0

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**Scenario II: Country Data - 50 Percent Decrease of Russian Imports from „Core Western Alliance“, Compensation by China**  
**Main Results**

The negative Effects of „Western Alliance“ export reduction hits mainly Germany, the „Rest of“ the European Union and Russia. The USA as the driver of the actual crises suffers nearly no negative effects.

- Till 2017, Germany would lose 0.7 %; ROEU 0.9% and Russia 1.0% of real GDP towards the Baseline scenario. The slowdown in Europe decreases directly and indirectly Russia exports.
- China would gain 1.6 % of real GDP. For Japan and the USA only minor losses are calculated. Especially Japan would profit from faster growth in China.
- For Germany, the biggest relative losses in employment are calculated (-0.8 % in 2017) The losses for Russia are relatively moderate (-0.2%) .

# Concluding Remarks, striving the Geopolitical Context

The trade wars will hit the other EU Countries in a similar way, those with closer trade ties to Russia *directly* harder than the others.

Even those with a low share of exports to Russia will feel the fallout of economic slowdown in the EU countries with the closer ties at so will be hit by *indirect* effects.

In the presence of the actual economic, financial and political crisis of the EU, every worsening of the situation bears the danger of a factual break-up with all grave consequences also for the financial markets and the EURO currency. It would also mean the death of the strategic project of its founders to form a political subject that once can deal with the US on an equal footing.

Such a situation would make it easier for the US Elites to dominate the EU even more and to foster its project to integrate the EU into its own free trade zone by TTIP and similar projects as a subordinated entity. A substantial weakening or a breaking up of the Eurozone could foster the aim of maintaining Dollar dominance. So the US politics of permanent tensions could from the US elitists view kill two birds with one stone.