International Guest Lecture:

The German-German Monetary Union 1990

Presented by Edgar Preugschat

Where is Germany?

Map


Denmark
Kiel
Schleswig-
Holstein
Hamburg
Mecklenburg-
Vorpommern
Schwerin
Bremen
Nether-
lands
Niedersachsen
Poland
Berlin
Hannover
Magde-
burg
Potsdam
Brandenburg
Münster
Sachsen-
Anhalt
Nordrhein-
Westfalen
Kassel
Erfurt
Sachsen
Köln
Bonn
Dresden
Hessen
Thüringen
Rheinland-
Pfalz
Wiesbaden
Mainz
Lux.
Czech Republic
Saar-
land
Saar-
brücken
Bayern
Regensburg
Stuttgart
France
Baden-
Württemberg
Freiburg
München
Austria
Switzerland

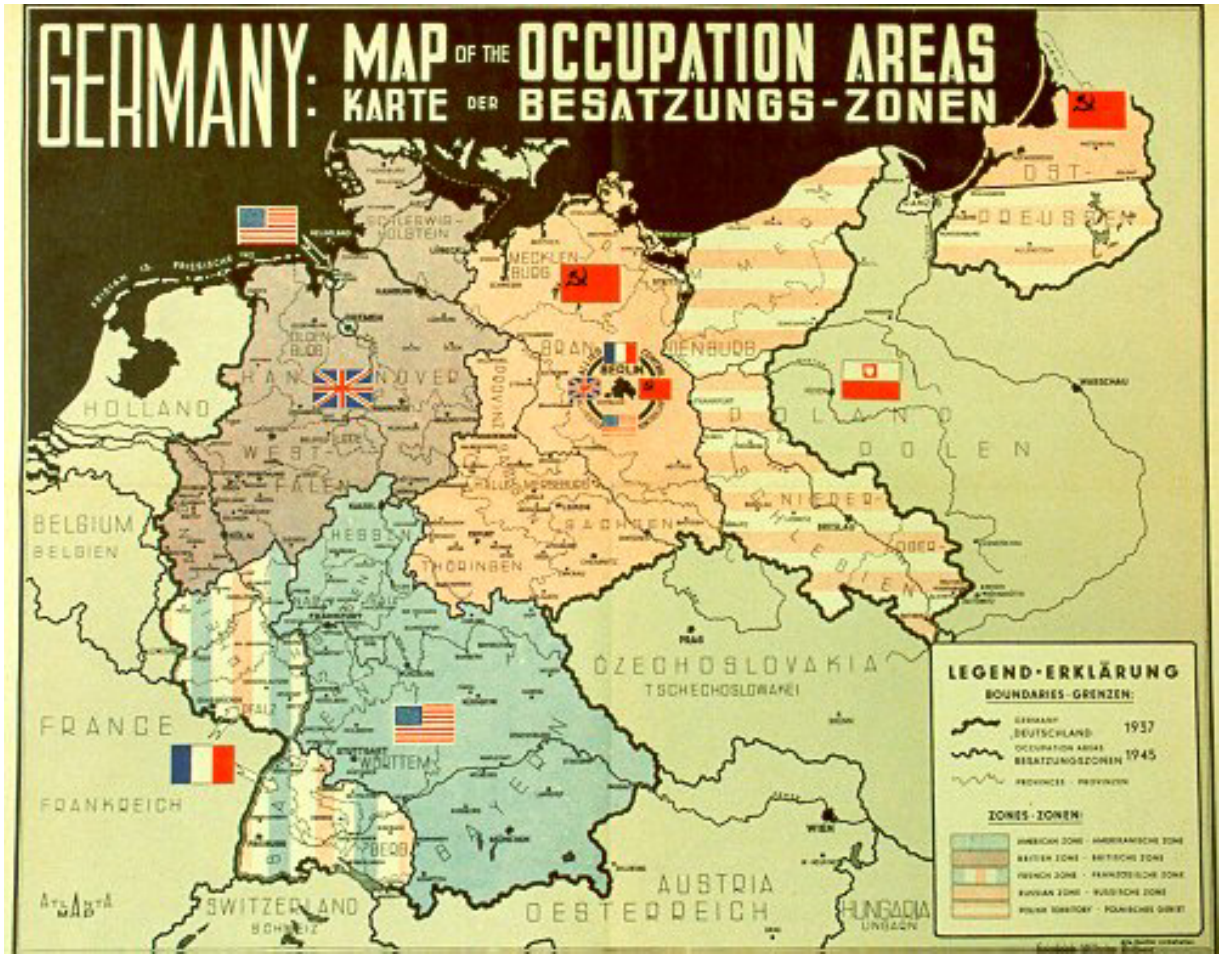
Economic Facts about Germany compared to USA

Data source: OECD	USA	Germany	East	West
Population (in millions)				
1989	**247**		**18**	**62**
2003	**290**	**82**	**13**	**69**

Data source: BLS http://www.bls.gov/fls/flsgdp.pdf	USA	Germany		
			East	West
GDP				
1989 (Real GDP per capita converted to U.S. Dollars using PPPs (1999 U.S. Dollars))	**27,620**			**22,680**
2003 (current dollars, nom exchange rate)	**37,500**	**29,200**	**19,900**	**31,000**

Data source: OECD	USA	Germany		
			East	West
Unemployment (standardized)				
1989	**5.3**		-	**5.6**
2004 (average)	**5.4** (BLS)	**10.5** (Bundesagentur fuer Arbeit)	**18.4**	**8.5**

1. Historical Background: Germany after WW II



(Photograph: Deutsches Historisches Museum, Berlin, www.dhm.de)

"Border Run" of the GDR-citizens, Hungary, Aug. 19, 1989

(Photograph: Tamás Lobenwein, http://w3.sopron.hu/paneu-piknik/attor_uk.htm)

“Monday Protests” in Leipzig (GDR)

(Photograph: Deutsches Historisches Museum, Berlin, www.dhm.de)

Finally, the Trabbis arrive:

November 10th 1989 at the border to West-Berlin (Invalidenstrasse)

(Photograph: Bundesbildstelle, Bonn, www.dhm.de)

2. The Monetary Union

(Photograph: Haus der Geschichte, Bonn, www.dhm.de)

The monetary union: Politics

- **January 1990**: * 200 000 East Germans emigrate into the West:

  "If the DM doesn't come to us we will go to the DM!"

  * Discussions about the economic integration:

- **January 17th :** Social Democrats propose a monetary union
- **January 25th:** Ministry of Finance proposes a slow and step by step integration process
- **February 6th:** Chancellor Kohl offers a monetary union to the East
- **March 18th**: First free elections in the GDR: the alliance of parties for the reunification wins
- **July 1st 1990:** The DM is the only currency in both parts of Germany

The Monetary Union: Economics

- Monetary union was the first step of the reunification of Germany
- What was the monetary union of 1990?

  → Introduction of the *Deutschmark* (**DM**) in the former GDR
- What were the *economic* problems?

  → Implementation:

  - Finding the conversion rate
  - Restructuring of the GDR banking system

→ In this talk, I will focus on the conversion rate, in particular on how it was computed and what the economic consequences were.

Problems with using exchange rates as basis for conversion:

There were at least three kinds of "exchange rates":

1. Official rate of 1M: 1DM, (tourists entering GDR, trade with FRG)

2. Black market rates: Estimates range in between 5:1 to 20:1.

3. Unofficial (GDR internal) exchange rate for trade of 4.4 M:1 DM

→ All of them were **strongly biased measures** of market exchange rates, because they were not the outcome of foreign exchange trading,

→ There third one was also not available.

How should the conversion rate be set?

- The Bundesbank (the German central bank) had to start from scratch and had to **find an estimate for the conversion rate**.

- What has to be converted? Difference between **stocks** and **flows**:

  - Flows refer to current payments (e.g. wages and rents)

  - Stocks are the sum of various monetary aggregates (cash, savings, etc.)

Conversion of Flows

Main problem: How should the (average) wage rate (in terms of DM) for the GDR to be set?

- A rate of 1:1 was chosen.
- This was mainly politically determined but was not completely apart from economic reality

→ The 1:1 rate implied an initial wage of one third of the western wage level.

→ This (very) roughly matched with the estimated productivity gap between East and West.

Stock Conversion

Equation of exchange:

$$M \times V = \underbrace{P \times Y}_{\text{Nominal GDP}}$$

→ To determine the amount of money (M) required for the GDR economy, we need to find V, P and Y of the GDR economy:

$$M = P\frac{Y}{V}$$

→ Compare this M (amount of required **D**eutsch**M**ark) with the current stock of GDR Marks (M') to obtain the conversion rate with DM (M):

$$M'/M$$

Estimates: P

Price level comparison difficult - different economic system (central planning)!

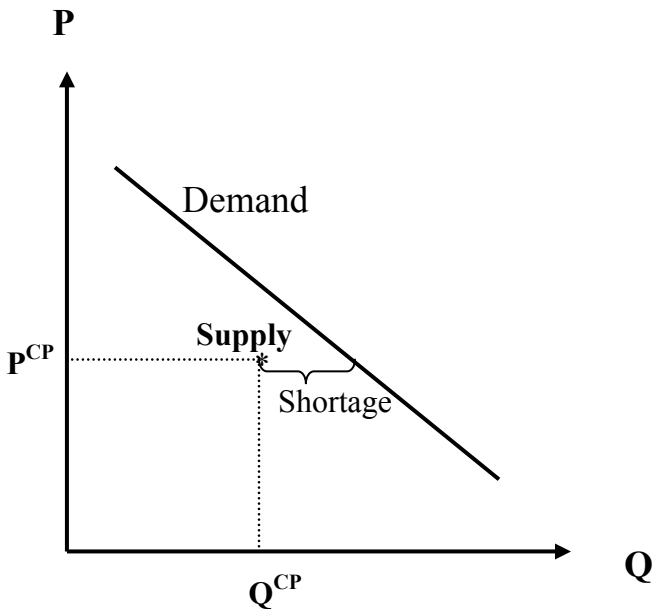
- Prices were set by the government administration

- Prices not directly related to the relative scarcity of goods.

→ Thus, converting the price of one good correctly need not to imply that another good has to be converted at the same rate.

The planning economy:

Demand and Supply in a centrally planned (CP) economy



→ Supply is not always equal to demand

→ Prices are not (necessarily) market clearing prices

CP- Price system and monetary overhang

- There was more money than goods to buy.
- Did not translate into inflation since prices were fixed.
- This overhang resulted from an increase in nominal wages over time that was higher than the increase in produced goods.

→ Thus the price level did not reflect the inflationary pressure.

How should the price level be estimated then?

The Bundesbank argued:

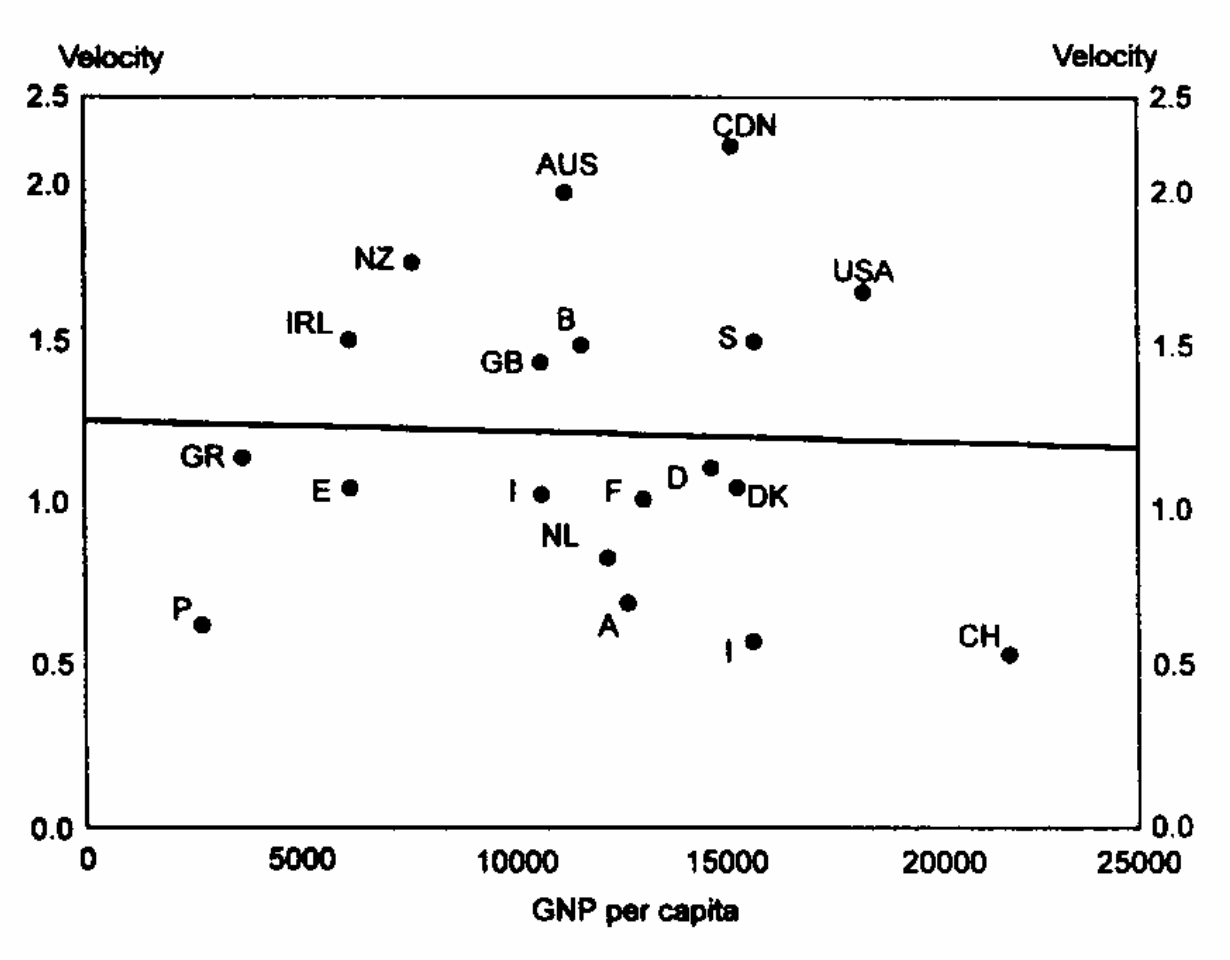
- By removing all the trade restrictions between east and west, prices would equalize quickly ("law of one price").

- Therefore, the western price level was considered as a good proxy value.

Estimates: V

- No data on V for the GDR available
- Can we infer V from the GNP?

Velocity versus GNP per capita for OECD countries:



(Diagram: Bofinger (1997) p. 206)

Estimates: V

→ Empirically, the velocity can be quite different for even very similar countries.

→ Therefore, no attempt was made to estimate this value and simply the value for western Germany was assumed.

Estimates: Y

- The potential output itself depends on the price system which was distorted in the GDR
- Estimations lead to the relative size of Y as 10% of the western potential output.

Estimates: Conclusion

- P and V were assumed to be the same as in West-Germany

- Y was estimated to be 10% of the level in West-Germany

- $$\frac{M^{GDR}}{M^{FRG}} = \frac{P^{GDR}\, Y^{GDR} / V^{GDR}}{P^{FRG}\, Y^{FRG} / V^{FRG}} = \frac{Y^{GDR}}{Y^{FRG}} = 10\%$$

→ Additional money to be printed for the GDR was 10% of the amount of money circulating in West-Germany.

Estimates: Conclusion

- *Problem*: What monetary aggregate should be used?

  → Different concepts of M lead to different conversion rates

- M3 in the FRG was 1200 billion DM

  → Therefore 10% of that =120 billion DM was needed for the Eastern economy

- Money stock ("M3") of GDR marks was 240 billion GDR Marks

$$\frac{M'}{M} = \frac{240\,\textbf{billion GDR Mark}}{120\,\textbf{billion Deutschmark}} = \frac{2}{1}$$

→ A rate of **2 GDR Mark :1 DM** was proposed for stock conversion.

Political Difficulties

Similarly as with the wages, a 2:1 rate faced great political difficulties.

→ The political goal of reunification had priority to economic considerations.

Result: 1:1 rate for limited amount of assets per person:

- Persons no older than 25: 2000 GDR Mark;
- Persons between 26 and 60 years: 4000 GDR Mark,
- Older than 60: 6000 GDR Mark.
- Assets hold by non-residents accrued after 1989 were converted 3:1
- All other assets and debts were converted for a rate of 2:1

→ **Average conversion rate** was about **1.7:1**

Good bye Lenin – How do I get my Deutschmarks?

All cash had to be transferred to an account until Juli 6th 1990.

From Sunday, Juli 1st 1990 people could withdraw DM from their accounts.

There was no problem with providing the bills: The Bundesbank just used its reserves.

However, part of the supply of small change couldn't be delivered in time. GDR Pfennig coins were in circulation until July 1991.

Sunday, July 1st 1990: Standing in line for the DM

(Wanzleben, Sachsen-Anhalt)

3. Discussion

I. Conversion rate and wealth transfer

Since conversion rate was too high (by any measure), people got more for their GDR Marks than they were worth.

→ This resulted into a **transfer of wealth** from West-German citizens to East-German citizens.

II. Conversion rate and the burden for the federal budget

- The **different conversion rates for assets and liabilities** on the balance sheets of the banks created a gap, which had to be covered by the federal budget.
- A public fund issued so-called equalization claims to cover the deficit, which summed up to an estimated 95 billion in 1995.
- It was hoped that this gap could be financed by the sales of the GDR companies, formerly owned by the state.

  → However, the institution selling the firms of the former GDR ended up with debts rather than with a surplus.

III. Conversion rate and debts of the private sector

- Some economists argued that the 2:1 conversion of firm's debt contributed to the fast downfall of the eastern private sector.

- They argued that debts in the GDR were not allocated according to profitability and thus an application of western interest rates could be fatal for many firms (which indeed turned out to be case).

4. Conclusions

- The monetary union can be seen both
  - As an economic tool to prevent a strong east-west migration
  - And as political mean to advance the political process of reunification
- Looking back it seems to be that the **determinants of the conversion rate** of GDR marks into DM were based on
    - social and political acceptability,
    - rather than economic considerations.
- **No monetary instability** (inflation)

→ Reason for this was the relative small size of the GDR (< 10%).

- The monetary union implied a **wealth transfer** due to the relative high conversion rate
- The different conversion rates for assets and liabilities entailed a **burden to the federal budget**, which had to be paid by the tax payers.

What's left?

(Photograph: Haus der Geschichte, Bonn)

… the money bags!

APPENDIX

I. The monetary union and the recession in eastern Germany

After the political, economic and monetary union, former East-Germany fell into a deep recession that continues until today.

- In December 1990 production was about 46% of its 1989 level.
- Unemployment was far above the 20% mark in many sectors.
- Producer prices for goods produced in the east fell by 50%

→ One direct impact of the currency union was the slightly overrated initial wage rate.

→ Another problem economists argue about is the debt conversion of GDR firms. High debts made it harder to survive in the market.

In general, however, **mostly other factors contributed to the disaster** that followed the reunification:

- **Outdated capital stock:** Most of the plants and the infrastructure were old and not working properly.
- **Brain drain:** Many of the most qualified people left for the west soon after (and even before) November 1989. For example in 1989 and the first half of 1990 about 600,000 people emigrated, that was more than 3% of the eastern population
- **High wages:** Due to the initial conversion rate and the West-German unions. Today, the wage in the east in terms of efficiency units is said to be about 10% higher than in the west.

II. The impact of the monetary union on the EMS:

The years immediately after the reunification experienced the most severe crisis of the European monetary system.

What happened in Germany?

- After the reunification East Germany experienced a huge demand shock. Demand was greater than output.
- Furthermore, western German firms were working at capacity.
- Both factors led to a price increase.

→ To control inflationary pressure the Bundesbank increased the interest rate.

→ Other European countries, which were tied to the German DM by the EMS, were experiencing a downturn of their economies.

→ So they either could adjust their exchange rates and thereby put the existence of the EMS at risk or also increase the interest rates and make the recession even worse.

Conclusion: Without having space to go into the details, according to many economists it seems safe to say that the German monetary union ***was not the critical factor*** that triggered the currency crises in the UK, Italy and Sweden during the early 1990s.