Euro cash changeover in Austria
Any lessons?

OECD informal EDRC Seminar on Slovakia
Paris, July 9, 2008

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Director, Economic Analysis and Research Department
Overview

- Some important caveats at the beginning
- Price developments around the introduction of the euro
- Perceived inflation vs. measured inflation – explaining the ‘Teuro‘ - effect
- Micro evidence on price setting behaviour
- Administrative measures targeting the cash changeover
- Any lessons?

OeNB has published a number of studies in its quarterly publication Monetary Policy & the Economy, Special edition on the euro Q1/07 (available for download at www.oenb.at)
Some important caveats

- One should be extremely cautious in giving advice from the experience of another country
- Substantial differences in framework conditions and starting points
- Austrian timetable:
  - Strict currency peg to DM since end of the 70ies
  - EU membership in 1995
  - ERM membership in 1995
  - EMU membership in 1999
  - Introduction of euro cash in 2002
Technical differences between the Austrian and the Slovakian case

**Austria**
- Madrid-style approach
- Dual circulation of two months
- Mandatory dual display of prices from 1.10.2001 until 28.2.2002
- Deadlines for the exchange of ATS at banks:
  - Coins until 28.2.2002
  - Notes until 28.2.2002
- at the Oesterreichische Nationalbank
  - Coins without limit
  - Notes without limit

**Slovakia**
- Big-Bang approach
- Dual circulation of 16 days
- Deadlines for the exchange of the SKK at banks:
  - Coins until 30.6.2009
  - Notes until 31.12.2009
- at the National Bank of Slovakia:
  - Coins until 31.12.2013
  - Notes without limit
Selected advantages and disadvantages

- Shorter official preparation period between decision, EMU membership and euro cash introduction
- Loss of monetary policy independence and change of currency at the same time
- Less favourable international environment
- Already existing changeover experience from other countries
- Available blueprints for technical (ATM‘s) and logistical problems
- People are used to euro banknotes and coins already
- Convergence of economic structures and policies

- In general: many overlapping developments……
Price developments

HICP-Inflation yoy, in %

Source: Eurostat.

Interest rate developments

Long term interest rates for convergence assessment, in %

Source: Eurostat.
Introduction of euro in Austria: HICP rather stable and low...

CPI and HICP Inflation Rates in Austria from 1970 to 2006

Annual change in %


- CPI average 1970 to 1973: 6.1%
- CPI average 1980 to 1989: 3.8%
- HICP average 1991 to 1994: 3.1%
- HICP average 1990 to 1999: 2.4%
- HICP average 1995 to 1998: 1.3%
- HICP average 1999 to 2006: 1.7%
- Euro cash changeover
- Austria joins the EU

Source: Statistics Austria, OeNB.

1 CPI up to and including 1989, HICP from 1990.
…..but perceived inflation increases significantly after 2001

A European phenomenon: Why?

Source: Consumer Confidence Barometer of the European Commission, Statistics Austria.
Note: The perceived inflation levels indicated in this chart have been derived from surveys carried out among Austrian households. See box 2 for a detailed discussion of the methodology used.
Significant price increases for frequently purchased goods…

**Price Changes in Selected Goods and Services**

- **Multigrain bread**
- **Melange (espresso with steamed milk)**
- **Glass of beer (restaurant)**
- **Milk**

**Source:** OeNB, Statistics Austria
Survey evidence: Use of outdated schilling reference prices

Which Currency Do You Generally Use as a Mental Benchmark for Price Calculations?

<table>
<thead>
<tr>
<th>% of the population</th>
<th>Daily purchases</th>
<th>Exceptional purchases</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>2006</td>
<td>2006</td>
</tr>
<tr>
<td></td>
<td>2005</td>
<td>2005</td>
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<tr>
<td></td>
<td>2004</td>
<td>2004</td>
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<td></td>
<td>2003</td>
<td>2003</td>
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<tr>
<td></td>
<td>2002</td>
<td>2002</td>
</tr>
</tbody>
</table>

- **Euro**: Blue
- **Austrian schillings**: Red
- **Both equally**: Green
- **Don’t know/not available**: Orange

Source: Flash Eurobarometer.
Socio-demographic differences in inflation perception

**Education**

- Red: Compulsory school education
- Blue: Lower secondary school education
- Green: Higher secondary school/University level education

**Assessment of Respondents’ Personal Financial Situation**

- Red: Satisfied
- Blue: Dissatisfied
Price setting: evidence from micro-level data

Micro-data used to calculate CPI, 40,000 observations/month 1996-2006

Frequency, direction and magnitude of price changes
- Prices changed roughly once per year on average
- 45% downward adjustments
- Average adjustment 13.9% downward and 11.3% upwards.
- After introduction of Euro frequency of price changes increases

Attractive (threshold) prices
Introduction of € and cash changeover lead to more frequent changes in prices, but increases and decreases balanced
Around cash-changeover price adjustments smaller than usual

Size of Monthly Price Changes, January 1996 to June 2006

Weighted average in %

Source: OeNB, Statistics Austria.
Back to attractive (threshold) prices:

**Price Structures in Austria before and after the Euro Cash Changeover**

Share in %

- Feb. 01
- Feb. 02
- Feb. 03
- May 05

- Threshold prices
- Even prices
- Odd prices

*Source: 2001 to 2003: 40,000 prices of individual items as included in the CPI; 2005: 500 prices of individual items as quoted by grocery chains.*
Administrative measures

**Dual pricing** (by law) 3 months before, 2 months after changeover
- information of the customer
- increase of transparency to prevent price increases
- In fact: dual pricing was voluntarily used much longer
  → became a marketing instrument

**Price observation commission**
- Economists, social partners, government officials
- Comparisons with price trends in other non-euro and euro countries
- ACNielsen data on 39,000 products
- Contact point for questions and complaints
The dual phase

1 Sep: Euro information campaign
Start of euro frontloading to credit institutes, possible start of euro sub-frontloading of companies

15 Dec: Euro starter-kits for consumers

1 Jan: Begin of dual phase
Austrian schillings and euro are both legal tender

1 Mar: Euro is the sole legal tender, exchange of schillings to euro only possible at OeNB without amount and time limit

1 Oct Dual pricing

1 Mar End of dual pricing
Share of euro in cash transactions:
Almost no schillings left after two weeks
Some tentative lessons (I)

Overall euro introduction very successful

Two challenges:

1. Abuse of changeover for price increases
2. Divergence between perceived and actual inflation

Policy response:
Very likely some sectors (e.g. services, restaurants) have used the cash changeover to increase prices

• Increase vigilance and public pressure
• Consumers will remark price increases very selectively and blame the Euro
Some tentative lessons (II)

Avoid as much as possible that perceived inflation diverges from actual inflation

Monetary policy oriented towards actual inflation, but perceived inflation important in that it may influence inflation expectations

• Socio-economic characteristics determine inflation perception
• Help people to start calculating in euros quickly
• Avoid preconceptions: ‘Prices will increase’

Shorten dual phase when both Euro and old national currency are legal tender
Selected Eurobarometer results

1) *Will the euro increase prices when it is first introduced?*

<table>
<thead>
<tr>
<th>Will increase prices</th>
<th>Will not increase prices</th>
<th>Don’t know</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>EA-12</strong></td>
<td>70%</td>
<td>28%</td>
</tr>
<tr>
<td><strong>Slovakia</strong></td>
<td>83%</td>
<td>3%</td>
</tr>
</tbody>
</table>

2) *For you personally, do you think that it would be positive or negative if the euro would be introduced?*

<table>
<thead>
<tr>
<th>Positive</th>
<th>Negative</th>
<th>Don’t know</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>EA-12</strong></td>
<td>48%</td>
<td>40%</td>
</tr>
<tr>
<td><strong>Slovakia</strong></td>
<td>48%</td>
<td>42%</td>
</tr>
</tbody>
</table>

3) *Did you already have practical experience of the euro?*

<table>
<thead>
<tr>
<th>Yes</th>
<th>No</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>EA-12</strong></td>
<td>32%</td>
</tr>
<tr>
<td><strong>Slovakia</strong></td>
<td>63%</td>
</tr>
</tbody>
</table>

Source: Eurobarometer November 2001 for EA-12, Eurobarometer November 2007 for Slovakia.
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BACKGROUND SLIDES

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Long- and short-term nominal and real interest rates

Quelle: BIZ.
Gov’t bond yields close to Bunds before 1995/2001 already

Yield on 10-year benchmark bonds

spread to bunds in bp

Source: BIS.
But signs for increasing competition in banking

Zinsspanne der österreichischen Banken

Quelle: OeNB.
Ex-ante expectations: Will the Euro cash changeover have price effects?

YES
Less fierce competition in the services sector
No clear signs of new psychological (attractive) prices
No reliable figures for costs => hard to quantify price effects
Majority of population expects price hikes (see separate foil) => easier for enterprises to raise the prices

NO
Fierce competition
Increased price transparency (reduces wholesale prices)
Price cuts for retailers => pass on to consumers
One-off costs reduce profit margins
Reduced transaction costs
Changeover costs have already been factored into prices
Legal provisions and voluntary agreements against price increases
Strict monitoring of dual pricing and rounding (controlled by the Euro related Pricing Act)
Economic impact of the cash changeover

Impact on Inflation

In general *initial downward pressure* on inflation:

- increased price transparency should enhance competition
- consumer associations intensify price checks
- The use of dual pricing makes any price rises more transparent
- ECOFIN and ECB recommend that governments shall round their prices, taxes and fees in favor of the general public

**Costs** borne by banks/retailers may be passed on to consumers

Impact on economic activity

- A proportion of the costs of changeover represents increase in activity (e.g. investment in new systems)
- Risk that output is adversely affected, if changeover not smooth
EUR/SKK exchange rate

*inverted scale: rise = appreciation*

Source: Thomson Financial.
Asymmetric perception of price increases and decreases

*Consumer Prices in Austria*

by Special Categories

1994 = 100

130

125

120

115

110

105

100


- HIAC
- Processed food
- Unprocessed food
- Services
- Industrial goods
- Energy
Limited role of EU in favourable price performance

- Austria among three EU countries with lowest inflation 1995-2004
- Wage moderation, efforts to qualify for Stage Three of EMU, cost efficiency, rationalization
- Deregulation of network industries (though partly reversed by new regulatory measures and rise in energy prices)
- Single market limited effect
- Little additional competition in services
- Simulations show annual inflation 0,2% lower between 1995 and 2004 due to EU-membership

Source: Fluch, Rumler MP&E Q2/05
Structural effects of joining EU

Inflationsrate und Prognosesimulationen mit und ohne EU-Beitritt

<table>
<thead>
<tr>
<th>Year (Jan)</th>
<th>HVPI Inflationsrate</th>
<th>Scenario without EU</th>
<th>Scenario with EU</th>
</tr>
</thead>
<tbody>
<tr>
<td>1988</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1990</td>
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<td></td>
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<td>1992</td>
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<td></td>
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<tr>
<td>2004</td>
<td></td>
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</tr>
</tbody>
</table>
A European phenomenon
(more recent data)

Source: European Commission.
Note: The figure juxtaposes balance scores with changes of the Harmonized Index of Consumer Prices (HICP). Balance scores provide an indication derived from survey data on how strongly consumers perceive price increases during the past 12 months. They are obtained by calculating the balance between the share of those answering that prices rose a lot or rose moderately and the share of those who believe prices stayed constant or decreased.
Asymmetric perception of price increases and decreases
Asymmetric perception of price increases and decreases
Bank Account Conversion to Euro

Changeover left to individual banks

Co-ordinated approach

Early conversion

1 July

1 October

31 December

Austria, Finland, Greece, Ireland, Luxembourg

Netherlands

Germany

Spain

Portugal

Italy

France

Belgium

"Big Bang" conversion
Information Campaign

OeNB

In co-operation with commercial banks and enterprises

Support of the ECB

Government

Design of euro banknotes
The Cash Changeover - Milestones

1. Sept. 01
   - Start of euro Information Campaign
   - Start of euro frontloading to credit institutes
   - Possible start of euro sub-frontloading of companies

1. Dec. 01
   - Start of euro frontloading to credit institutions outside the Europe

15. Dec. 01
   - Start of frontloading of euro coins to consumers (starter kits)

1. Jan. 02
   - Begin of dual phase
   - Austrian schillings and euro are both legal tender

1. Mar. 02
   - Euro is the sole legal tender
   - Exchange of schillings to euro only possible at OeNB without amount and time limit
14.000 Euro-Sources

EURO-supply all around the clock

- 7,900 bank branches and post-offices
- 1,000 Indoor - Cash Dispensers
- 2,200 Foyer - Cash Dispensers
- 2,600 Automated - Teller - Maschines
## Basic Frontloading Scenario

Assessment of banks' demand until December 31, 2001, under the basic scenario:

<table>
<thead>
<tr>
<th>Pos.</th>
<th>Description</th>
<th>Value in Mio. EUR</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Value of starter kits for consumers</td>
<td>77</td>
</tr>
<tr>
<td>2</td>
<td>Value of starter kits for businesses</td>
<td>73</td>
</tr>
<tr>
<td>3</td>
<td>Other frontloading (coins)</td>
<td>73</td>
</tr>
<tr>
<td>4</td>
<td>Other frontloading (banknotes)</td>
<td>545</td>
</tr>
<tr>
<td>5</td>
<td>Amount required for the first eight working days without ATMs (on today’s basis)</td>
<td>2.907</td>
</tr>
<tr>
<td>6</td>
<td>Amount required for ATMs (on today’s basis)</td>
<td>727</td>
</tr>
<tr>
<td>7</td>
<td>Reserves for double loading of ATMs</td>
<td>727</td>
</tr>
<tr>
<td>8</td>
<td>Exchange of privately held savings („cookie jars“)</td>
<td>124</td>
</tr>
<tr>
<td>9</td>
<td>Exchange of businesses ‘reserves’</td>
<td>1.453</td>
</tr>
<tr>
<td>10</td>
<td>Cash exchanged at banks by consumers</td>
<td>7</td>
</tr>
<tr>
<td>11</td>
<td>Additional amount required in border regions and major cities (shopping trips)</td>
<td>29</td>
</tr>
<tr>
<td>12</td>
<td>Frontloading to bank subsidiaries abroad</td>
<td>218</td>
</tr>
<tr>
<td>13</td>
<td>Amount required for additional change</td>
<td>436</td>
</tr>
<tr>
<td>14</td>
<td>Minus frontloading to businesses</td>
<td>-690</td>
</tr>
<tr>
<td>15</td>
<td>Minus starter kits</td>
<td>-77</td>
</tr>
<tr>
<td></td>
<td><strong>Estimated amount initially required by banks as of January 1, 2002</strong></td>
<td>6.628</td>
</tr>
<tr>
<td></td>
<td><strong>Estimated supply in scenario 1 – 8 working days</strong></td>
<td>7.395</td>
</tr>
</tbody>
</table>
Starter Packages for Consumers

The picture shows a sample of the starter package for consumers. Content: 33 coins with a value of ATS 200,07 or EUR 14,54.
Starter Packages for Retailers

This picture shows a sample of the starter package for retailers. Content: 525 coins with a value of ATS 2.000,12 or EUR 145,50.