



OESTERREICHISCHE NATIONALBANK  
EUROSYSTEM

# The Euro Cash Changeover Challenges and Lessons learned

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## Euro-production – basic questions

- **The two main questions:**  
 What volume should be produced?  
 Split-up by categories?
- **Production volume**  
 Very simple approach: actual cash circulation plus reserve
- **Split-up by categories**  
 Not a simple mathematical transformation for the current situation!
- **Is there a model working independently of the current denominations of the home currency?**

## It needs a foundation to build on ...

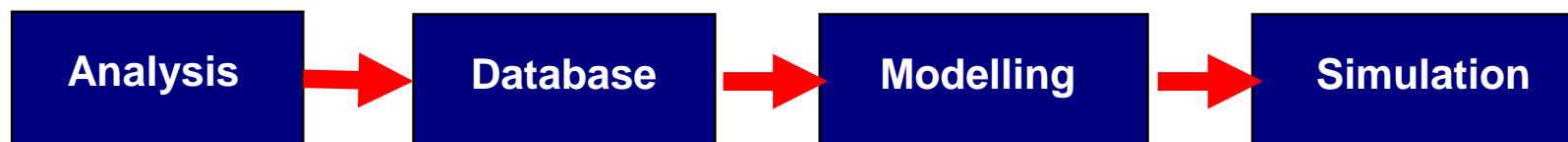
- **Solid analysis of the flows and stocks of cash in circulation.**

Necessary to answer the following questions:

- Who holds the stocks?
- What is the velocity of the cash in circulation?
- Which denominations are preferred for which transactions?
- What is the cash percentage of all daily purchases?
- What do cash transactions look like at retailers, banks' POS, pubs and restaurants?
- What reserve stocks do companies hold for change today?

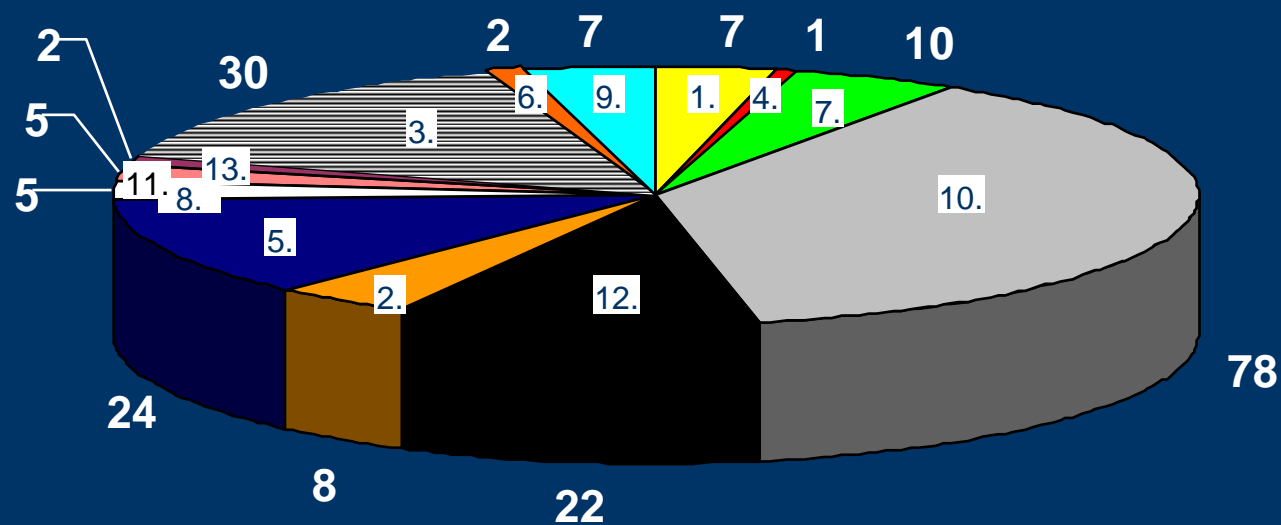
- **Surveys of basic transactions data to establish a robust database.**

- **Proper models for cash in circulation to simulate changes in stocks and flows as well as changes in denomination split.**



## Where Is the Money Today? The “Cash Pie”

Cash in Circulation ATS 200 billion



- |            |                  |                    |                |             |
|------------|------------------|--------------------|----------------|-------------|
| 1. wallets | 4. cookie jars   | 7. oth. cash desks | 10. gray       | 12. unknown |
| 2. ATMs    | 5. banks         | 8. small bus.      | 11. large bus. | 13. CITs    |
| 3. abroad  | 6. pub. entities | 9. lost            |                |             |

## Euro-production – a systematic ongoing process

- Example for the systematic approach in Austria.
- Steps 1 and 2 can be done simultaneously.
- 2 bottom-up order cycles for banks are a „conditio sine qua non“ for a successful process.

1	2	3	4
		Comm. bank-data survey	Sub-frontloading orders by companies
	Definition of starter kits	Top-down requirement proposal per bank branch based on bank-data survey	Plausibility check of 1st order cycle
Basic Model	Definition of ATM-stocking	1 <sup>st</sup> bottom-up order cycle for banks	2 <sup>nd</sup> bottom-up order cycle for banks
Start of production	Revision 1	Revision 2	Revision 3

## Cash Changeover Strategy in Austria (1)

- Cash payments should be made in **Euros** from the beginning of 2002
  - **reduce transaction costs for banks and retail sector**  
(more pure euro transactions, less mixed transactions)
  - **reduce storage and handling costs** for higher cash stocks  
(less change requirements, less handling with mixed cash boxes)
- Extensive availability of cash
  - for **banks** in order to avoid local supply problems and
  - for **retailers** in order to put enough coins and small banknotes into circulation
- **Coins:** available to the general public from December 15, 2001 (starter kits)
- **ATMs:** Euro banknotes from 1 January 2002
- **Specific cash demand** in tourist regions and regions near national borders

## Cash Changeover Strategy in Austria (2)

- The OeNB should have a **strong influence** on the frontloading process as the **owner of Euro banknotes and coins** and be able to monitor the process in all stages and audit euro stocks at banks.
- **Debiting model** for banks: strong incentive to put euro banknotes and coins into circulation as quickly as possible.
- **Retailers** and other cash intense companies should only use Euro for change.
- The banking sector and the CITs should benefit from the co-ordination possibilities.
- The **primary objective** was to keep the Euro Cash Changeover preferably in **normal channels** in order to reduce costs for all participants.

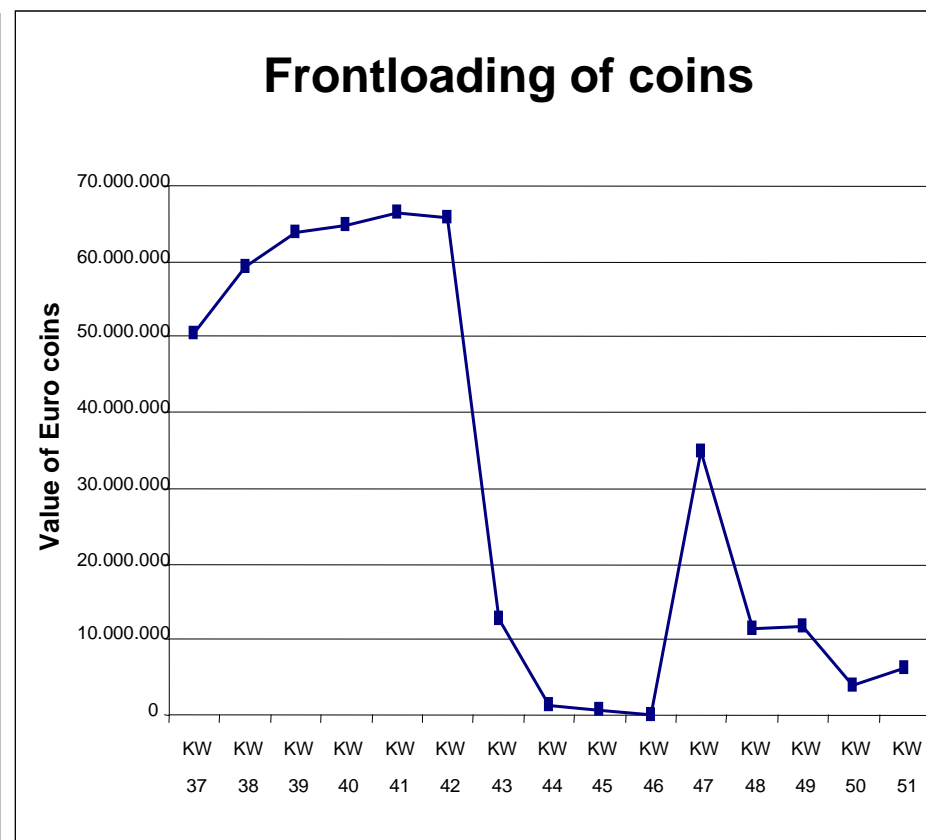
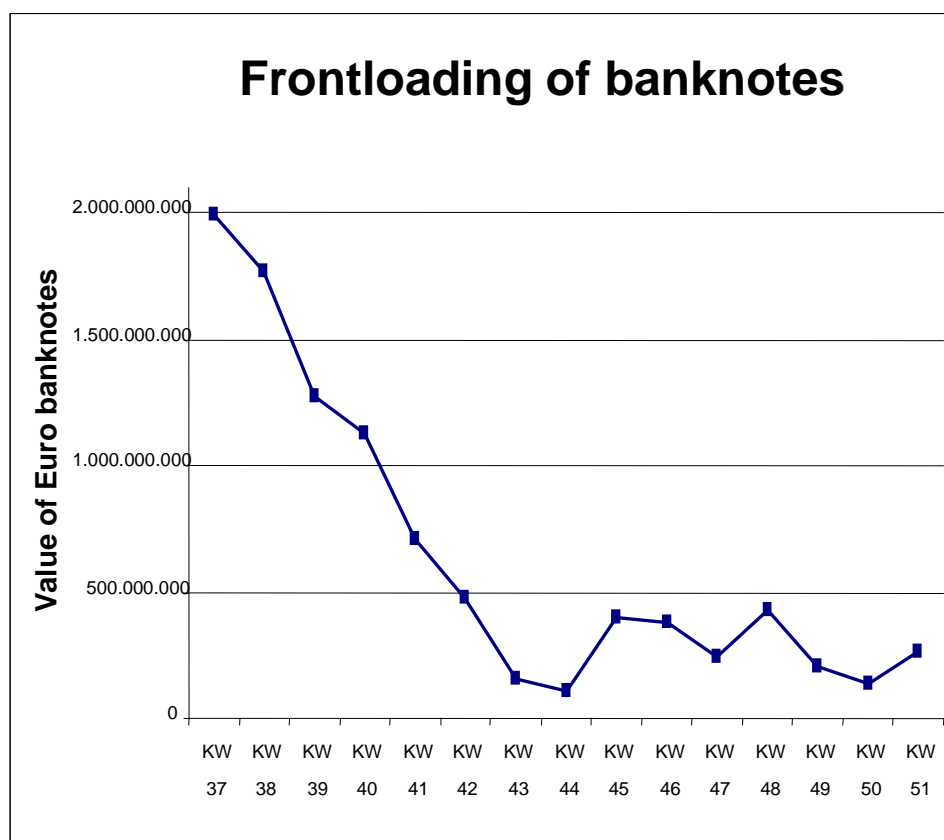
## Cash Changeover Strategy in Austria (3)

- OeNB handled **coins separately from banknotes** (coin logistic centre)
- Initiatives to an **early backflow of ATS-coins in 2001**:
  - Request to the public via media to transfer **hoarded ATS cash to saving accounts**
  - Extension of the Internat. Savings Day to a Savings Month
  - At the same time an agreement with Commercial Banks has been concluded to **interrupt coin charges for public** coin lodgements
  - Cooperation with the Chamber of Commerce: Public should be encouraged to use ATS-coins at the point of sale (“accurate payment”)



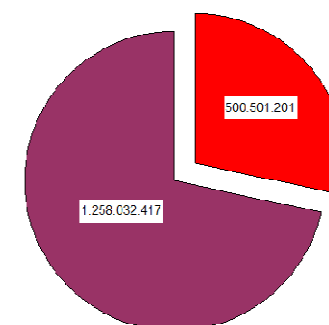
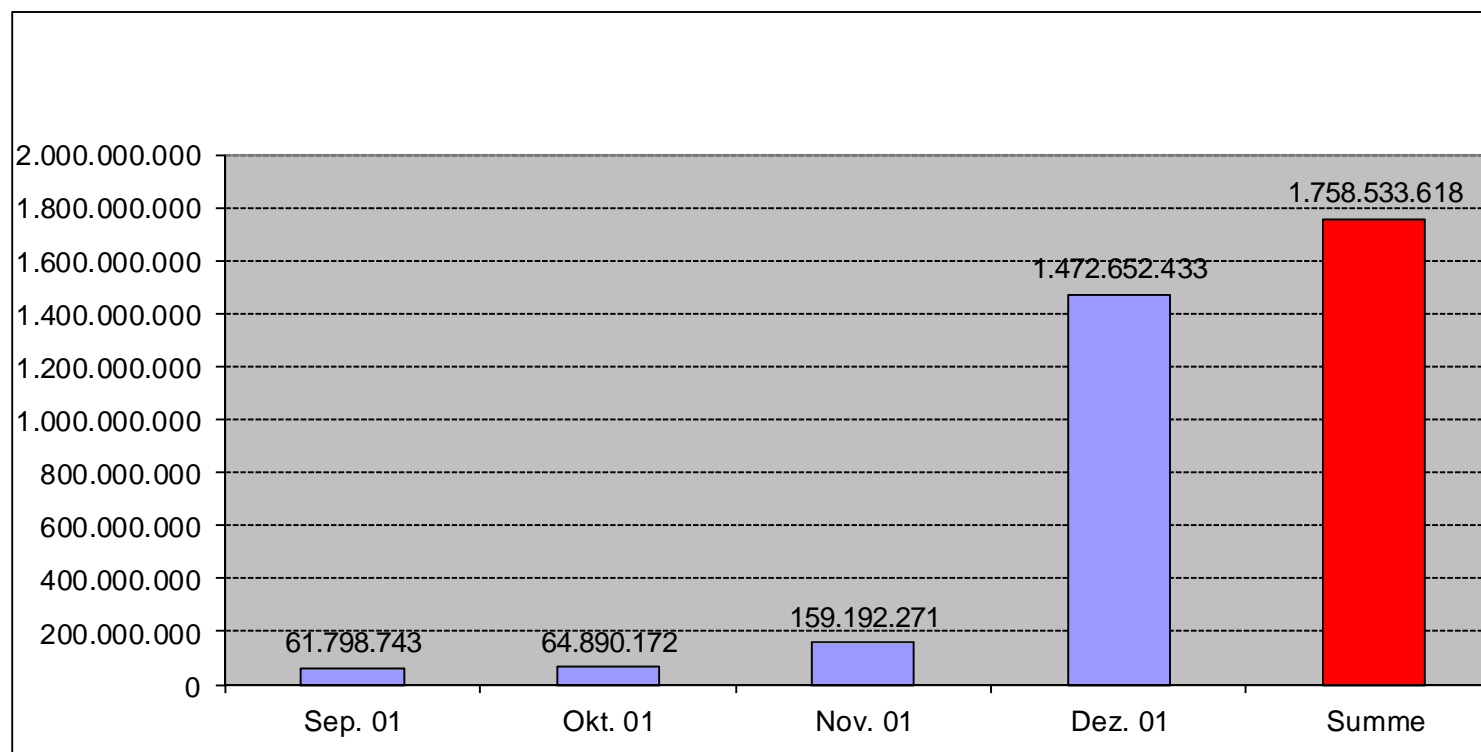
## Frontloading Progress

In total approx. 10.2 billion Euro had been ordered by the banks (frontloading volume).



## EUR-Sub-Frontloading

**In total approximately EUR 1.76 bn. (17.2 % of the frontloading volume) had been announced by the commercial banks to be sub-frontloaded, whereof 500 Mio. Euro were designed for outside Austria.**



## Starter Packages for Consumers

Banks ordered more than **5 million starter packages for consumers**.

- These starter packages contain a mix of all EUR denominations equivalent to ATS 200 loosely packaged in a small bag.
- 100 starter packages are boxed in cartons.



Starter Kits for Consumers					
EUR coin	Weight per coin	Amount of coins	Value EUR	Value ATS	Total weight
1 Cent	2,30 g	6	0,06	0,83	13,8 g
2 Cent	3,06 g	4	0,08	1,10	12,2 g
5 Cent	3,92 g	4	0,20	2,75	15,7 g
10 Cent	4,10 g	6	0,60	8,26	24,6 g
20 Cent	5,74 g	3	0,60	8,26	17,2 g
50 Cent	7,80 g	2	1,00	13,76	15,6 g
1 Euro	7,50 g	4	4,00	55,04	30,0 g
2 Euro	8,50 g	4	8,00	110,08	34,0 g
		<b>33</b>	<b>14,54</b>	<b>200,07</b>	<b>163,1 g</b>
The weights of coins are technical averages, which may vary due to production tolerances. The weight of packaging is not included in the total weight.					

## Starter Packages for Retailers

Banks ordered over **600,000 starter packages for retailers** from the OeNB.

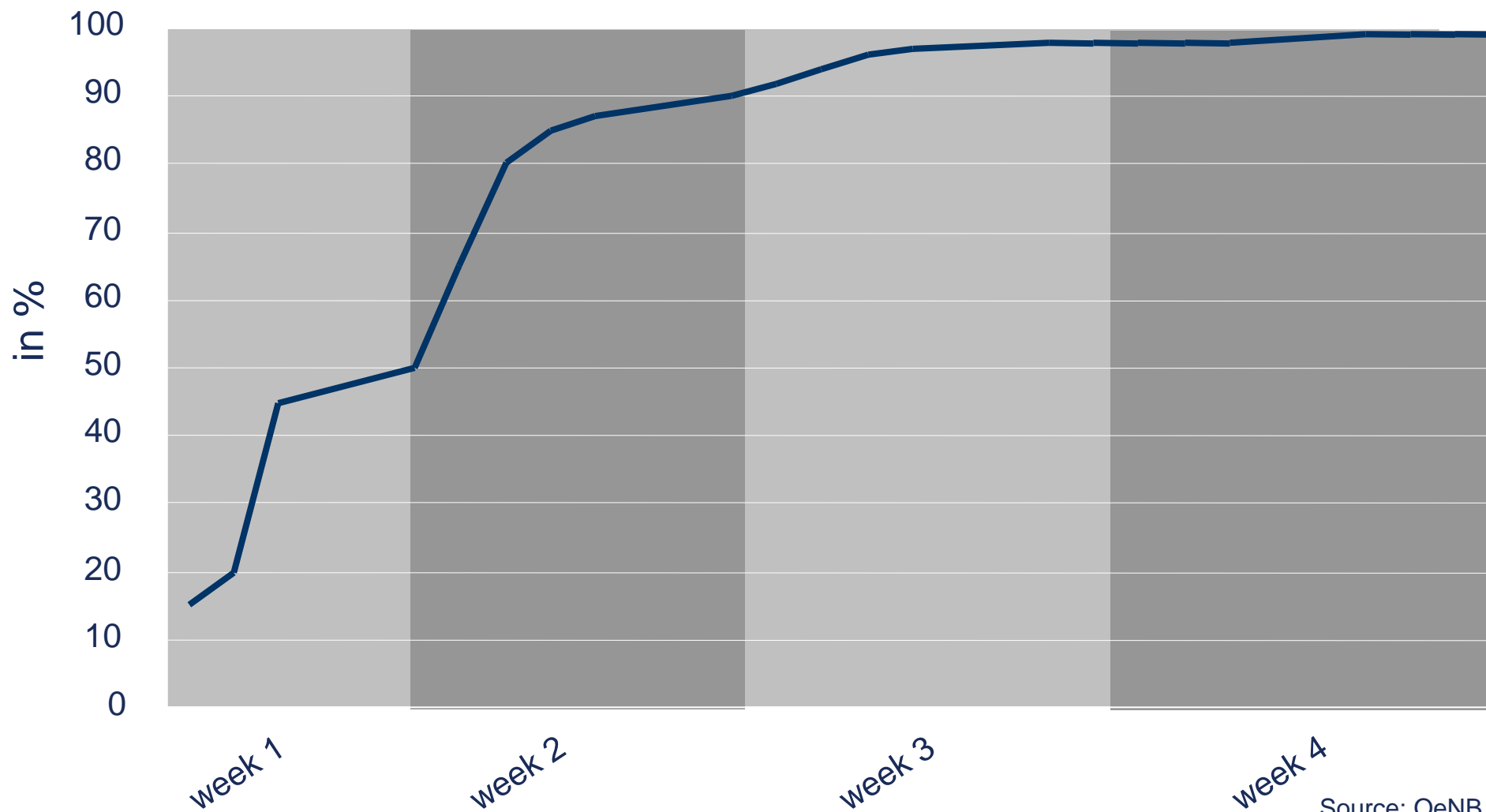
- The starter package for businesses contains 13 plastic-wrapped rolls of euro coins of all denominations.



Starter Kits for Businesses						
EUR coin	Weight per coin	Amount of coin rolls	Amount of coins	Value EUR	Value ATS	Total weight
1 Cent	2,30 g	2	100	1,00	13,76	230,0 g
2 Cent	3,06 g	2	100	2,00	27,52	306,0 g
5 Cent	3,92 g	1	50	2,50	34,40	196,0 g
10 Cent	4,10 g	3	120	12,00	165,12	492,0 g
20 Cent	5,74 g	1	40	8,00	110,08	229,6 g
50 Cent	7,80 g	1	40	20,00	275,21	312,0 g
1 Euro	7,50 g	2	50	50,00	688,02	375,0 g
2 Euro	8,50 g	1	25	50,00	688,02	212,5 g
		<b>13</b>	<b>525</b>	<b>145,50</b>	<b>2002,12</b>	<b>2.353,1 g</b>

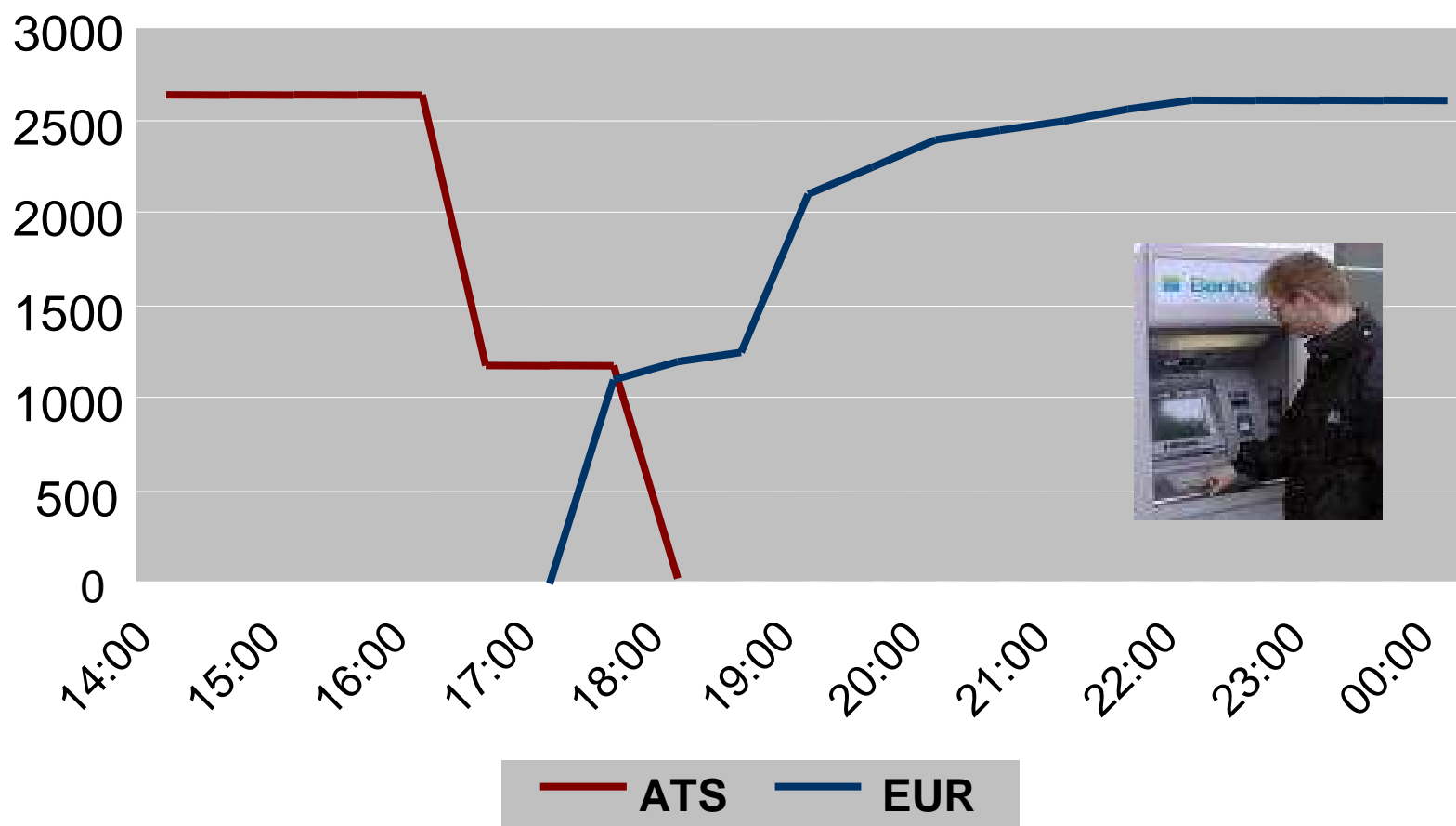
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## Cash Transfers in Euro



Source: OeNB experts

## Disposability of ATMs



## Coin Logistic Centre

The main logistical challenge was the withdrawal of coins (weight). In order to get free capacities at OeNB/GSA cash centres for handling banknotes, most of the coins were directed to a newly established mint processing centre.



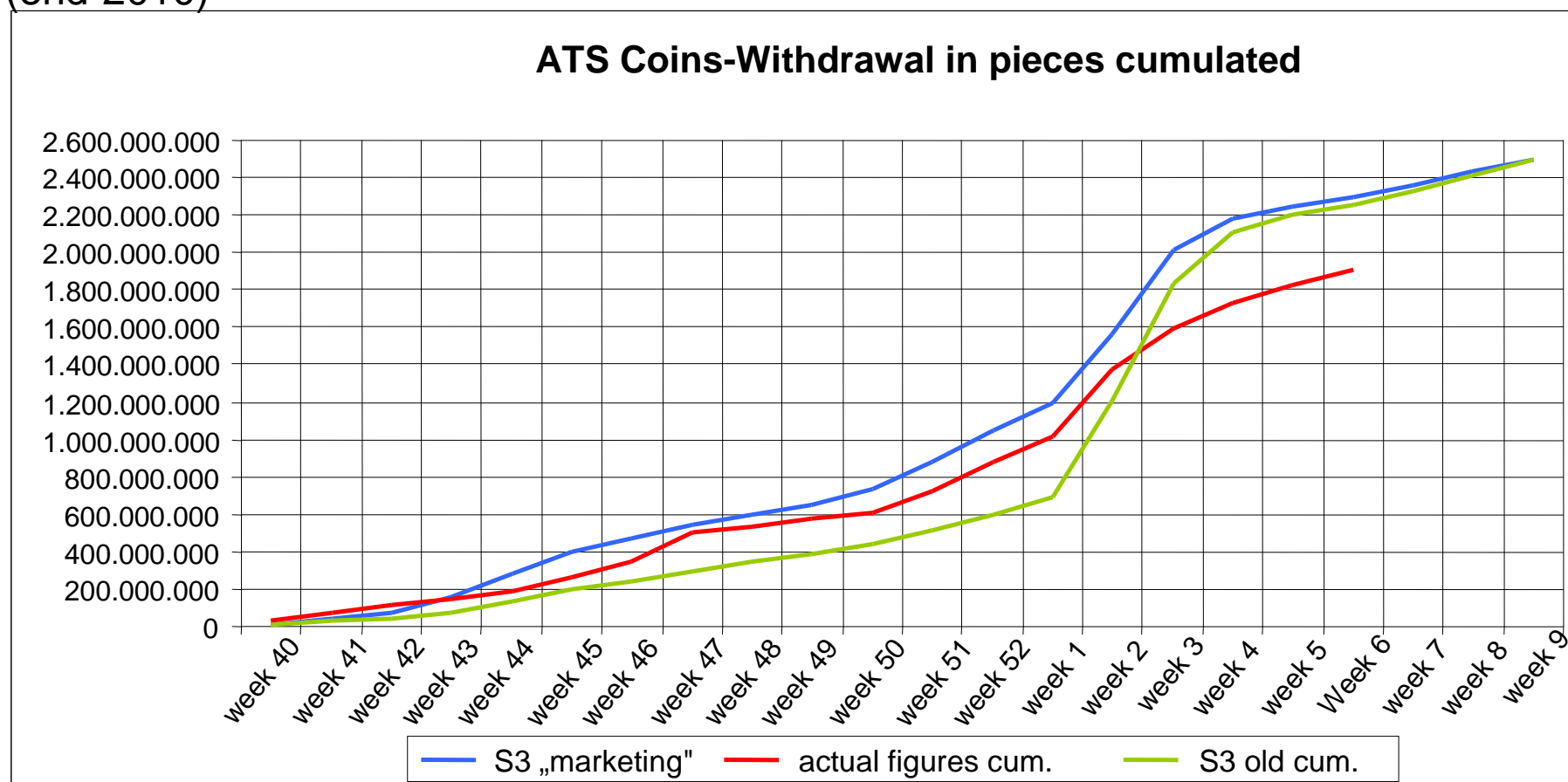
## Syndicate for cash transport logistics

- For an efficient transport co-ordination for the frontloading process to take place, the commercial banks formed a syndicate for cash transport logistics to assign CITs for the distribution of notes and coins throughout Austria.
- By setting up the contract with the CITs, the syndicate considered several important aspects (security, reliability, quality, ...) of the Austrian central bank (OeNB), since the CITs executed some transports during the distribution process, which otherwise would have been carried out by internal transports of the OeNB.
- A cost model was designed to determine the total costs of the whole frontloading transportation process.
- The route planning for basic cost calculations was very beneficial for the syndicate and reduced over all transport costs of CITs' initial offers up to 40 %.

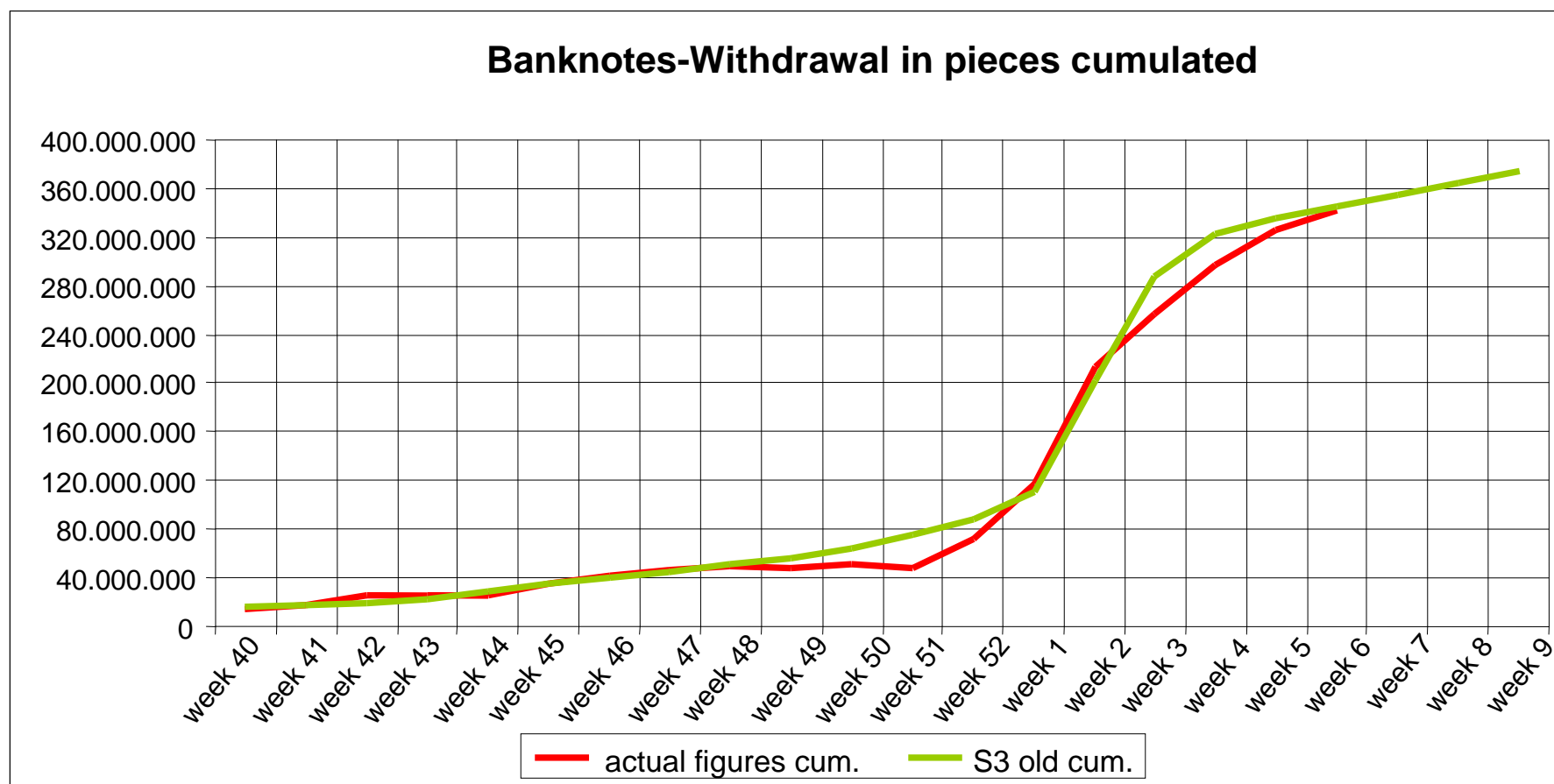


## ATS Coins-Withdrawal - Projected figures/Actual Figures

circulation 01/2001: 6.5 billion coins      expected withdrawal: 50%      actual: 43%  
(end-2010)



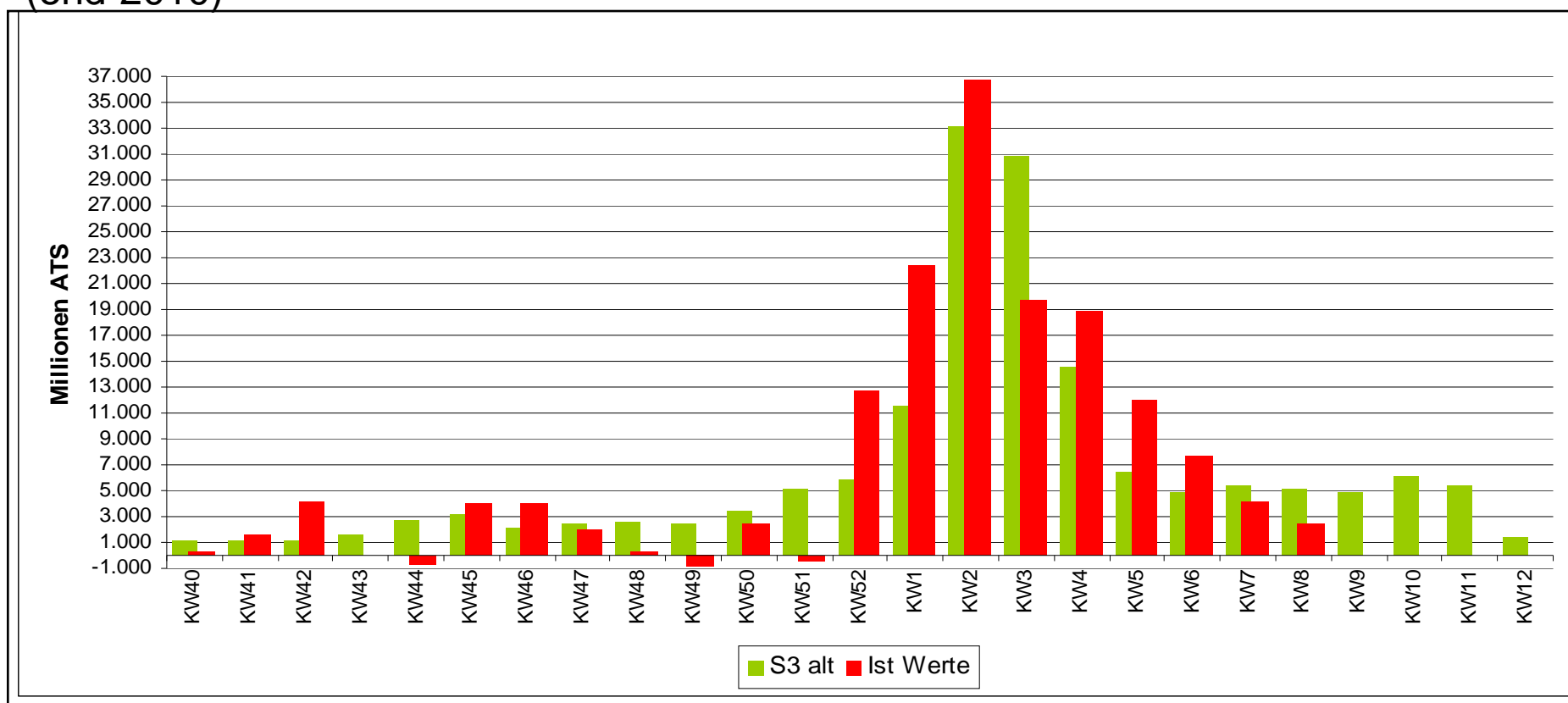
## ATS Banknotes-Withdrawal - Projected Figures/Actual Figures



## ATS Banknotes-Withdrawal - Projected Figures/Actual Figures

circulation 12/2001: 195 billion ATS  
(end-2010)

actual withdrawal: 97%



**Thank You For Your Attention!**

