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Madrid
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Monthly Unemployment

Quality Issues

Introduction & Background

Quality aspects & proceedings

- Timeliness
- Harmonisation
 - Guidelines for comparability, adjustment, consistency

Quality indicators & checks

Austrian (harmonized) monthly unemployment figures

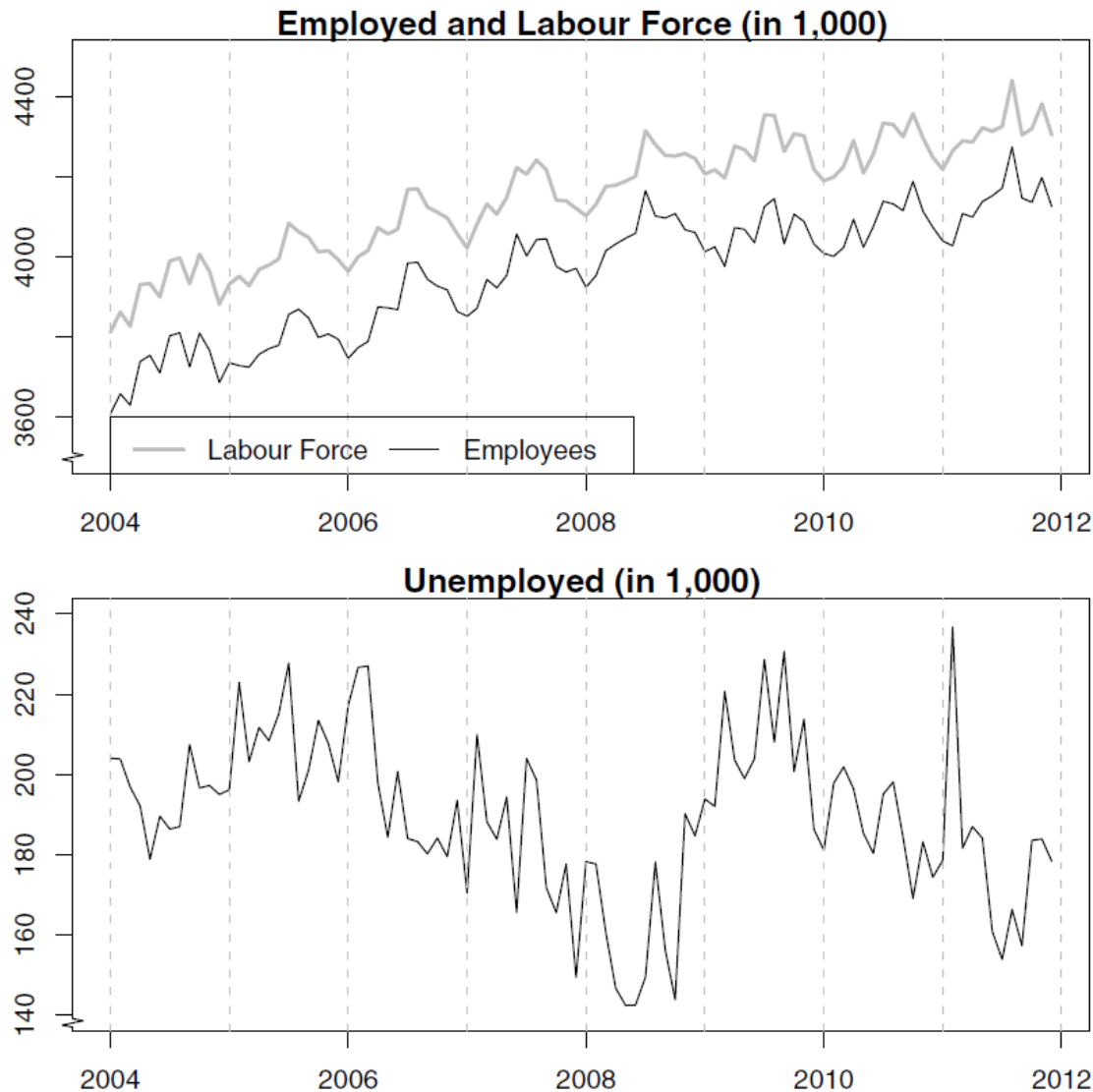
- According to international definitions
- Used for Principal European Economic Indicators (PEEI)
- Calculated, published and sent to Eurostat by STAT
- From reference month January 2011 onwards
- Use of LFS data only (no administrative data)
- Totals and rates
- Sub- and super-groups
- Unadjusted and adjusted figures

Data set: Monthly LFS data

- LFS is a continuous survey
- Reference weeks (and interviews) are evenly distributed

Weighting: Iterative proportional fitting

- NUTS-2 x sex x age
- Nationality class
- NUTS-2 x number of residents



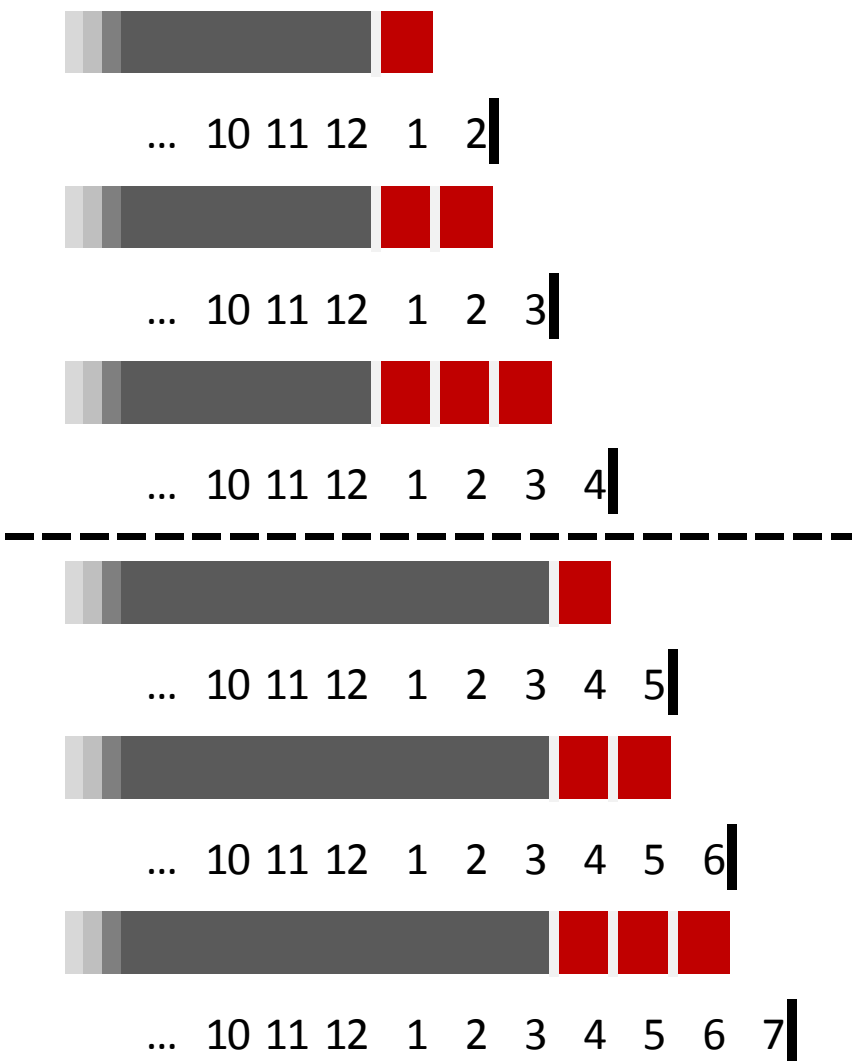
Timeliness

- Conflict: early estimation versus completeness of data
- Flash and final estimates

Harmonisation

- Guidelines to guarantee international comparability
- Seasonal adjustment: needed, use of certain methods
- Consistency: sub- and super-groups, months and quarters

Flash and Final Monthly Figures



Past:

- Final estimates
- Final monthly (quarterly) data

Current Edge (1-3 months):

- Flash estimates
- Preliminary monthly data

Aim: 3-months average = quarterly estimate

Only for final monthly figures, not before quarterly figures are available

Simple: multiply final monthly figures by factor q / \bar{m}

2011	Not-consistent		LFS Quarter	q / \bar{m}	MQ consistent	
	LFS Month	\bar{m}			LFS Month	\bar{m}
Oct	183.522				187.615	
Nov	183.881	181.913	185.970	1.0223	187.982	185.970
Dec	178.337				182.314	

All calculations are done at the lowest level (4 subgroups)

- MQ consistent
- Adjustment (indirect approach): totals only
- Unemployment rates

All super-groups: cumulations of corresponding subgroups

- $U_{\text{Women}} = U_{\text{Women}[15;24]} + U_{\text{Women}[25;74]}$
- $a(E_{\text{Pop}[15;24]}) = a(E_{\text{Men}[15;24]}) + a(E_{\text{Women}[15;24]})$
- $a(UR_{\text{Men}[25;74]}) = a(U_{\text{Men}[25;74]}) / \{a(U_{\text{Men}[25;74]}) + a(E_{\text{Men}[25;74]})\}$

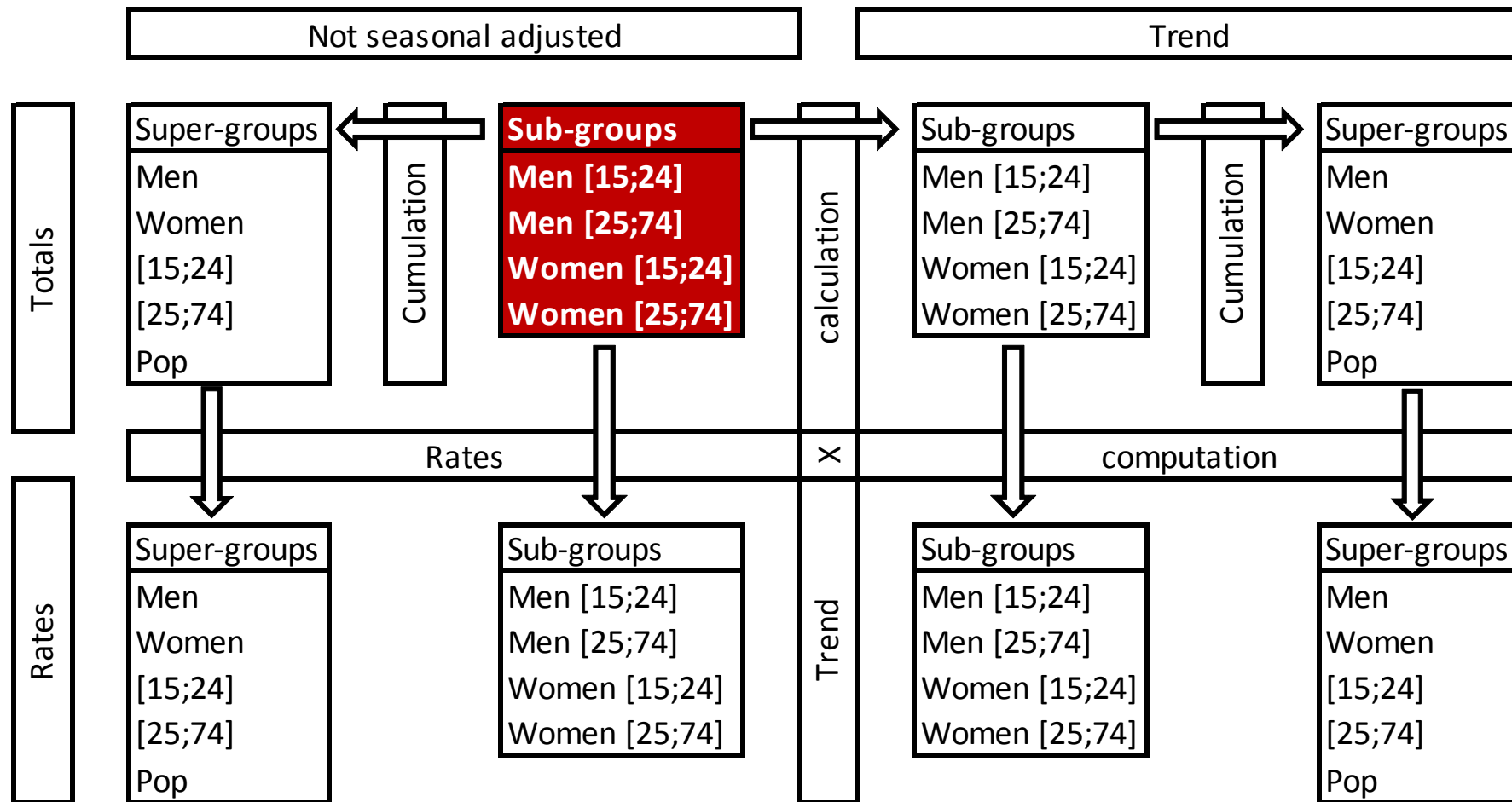
Eurostat demands for seasonal adjustment, using a certified method (TRAMO/SEATS or ARIMA X12), but

- Some AT series show seasonal patterns, some do not
- Some AT series show high fluctuation

Seasonal adjustment: only if seasonal pattern exists

Smoothing of series always desired

Compromise: Use trend as adjusted series

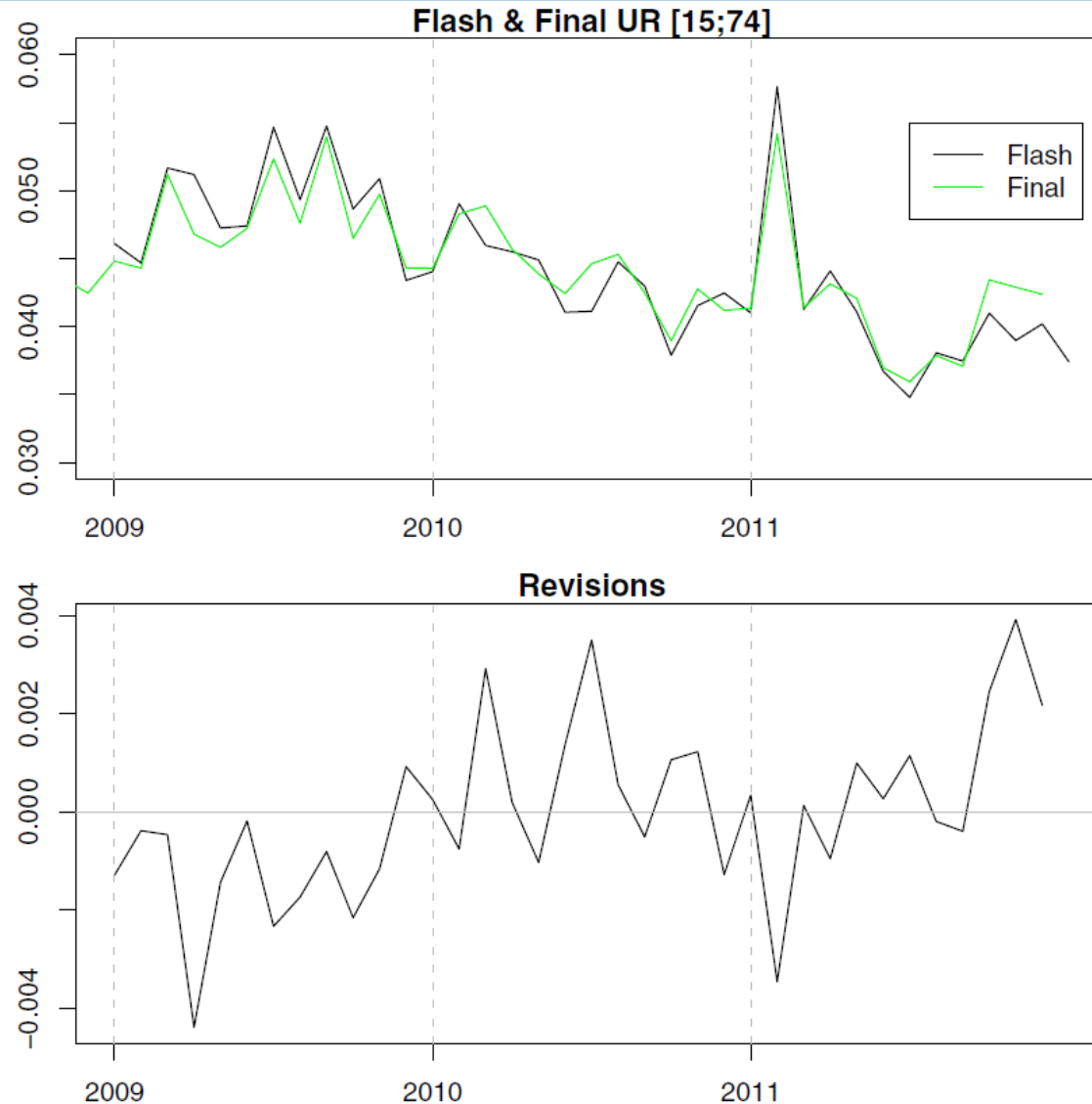


Evaluation of flash estimates

- Average difference in %-points (QI1)
- Average absolute difference in %-points (QI2)
- Maximum absolute difference between flash and final estimates (QI3)
- % of correct direction of provisional month-to-month changes, lag 1 (QI4) and lag 12 (QI5).
- Example: Unemployment rate total population, Dec.11

QI1	QI2	QI3	QI4	QI5
-0.0039	0.1332	0.4408	91.43%	95.83%

Flash vs. Final Estimates



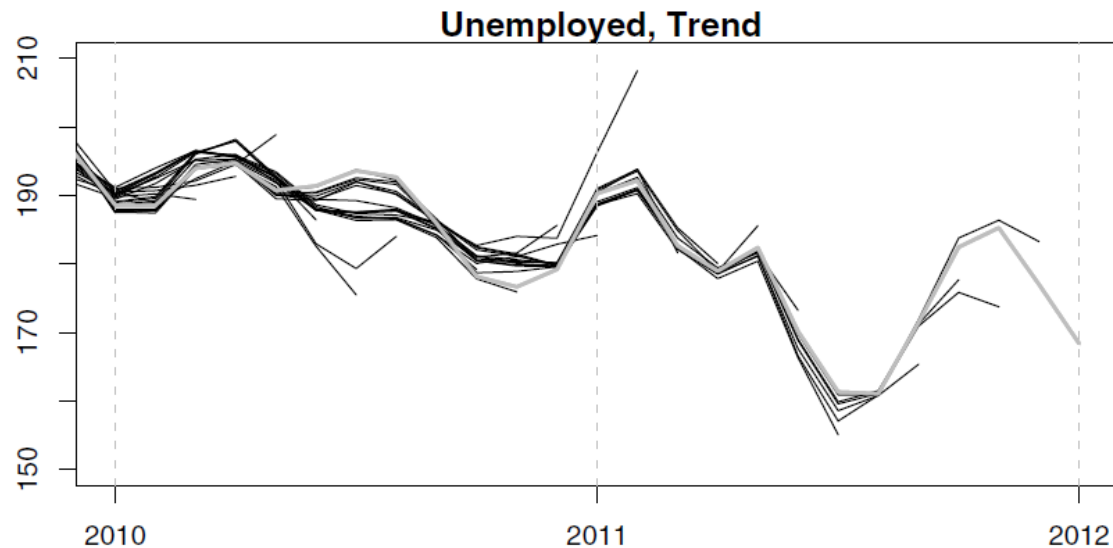
Revisions first – next time

Revision first – last time

Differences: not adjusted values, trend, absolute, average etc.

Behaviour at Turning Points

Quality Indicators – Time Series



Unemployment totals and rates

Sub- and Super-groups (but no Men_[15;24] and Women_[15;24])

Not adjusted and trend values

Revisions:

- Trend series: each month revision of the whole series
- Not adjusted values: revision of months whenever new quarterly LFS values are available

Gumprecht, D., Haslinger, A., & Kowarik, A. (2011). Austrian LFS Monthly Unemployment Rates. *Austrian Journal of Statistics*, 40, 297-313.

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