Publication of small figures in Austria

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Theme: Dissemination and publication issues

Aspects of information about reliability

- **Aim of information**

  - Give users (experts/broad public) information to enable correct use/interpretation of the data

- **No systematic approach in the Austrian LFS, but some tools to inform on ….**

  - Limits in the use of the data
  - Confidence intervals for main figures, main indicators in the actual period
  - Confidence intervals for main figures, main indicators in comparison over time

- **In order to answer questions like ….**

  - Does the data give results for small groups, why is there sometimes such a change between one period and the other …..

Limits in the use of the data of **one** period

For 95% confidence interval:

- **Sample error of the weighted number of persons > +/-50%**

  ➢ Figures below 3000 persons for annual results (4000 quarterly) will be suppressed (x)

- **Sample error of the weighted number of persons > +/-33,3% to +/-50%**

  ➢ Figures below 6000 persons for annual results (8000 quarterly) will be published in brackets (…)

- **Tables with standard error and confidence interval for main figures and rates in our annual and quarterly publications**

  ➢ For both sex, some also for NUTS 2

Separate limits for NUTS 2; explanation of (x) and (…) in the footnote of the tables

➢ **Interpretation of results**

• Suppression of small values (Flags)

() Weighted values
< 8.000 are difficult to interpret;
(x) Weighted values
< 4.000 should not be interpreted

Limits in the use of the data of **one** period

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> **Interpretation of results**
>> • Standard error and confidence interval for selected estimates, for both sex and some also on Nuts2 level in annexed tables

Sample unweighted / weighted

Standard error

Employed Unemployed Part time employed …. + rates

Upper/lower limit at 95% confidence interval

Unsicherheitsbereich ausgewählter Schätzwerte in der Mikrozensusstichprobe - Absolutwerte 2. Quartal 2011

Merkmale	Stichprobe		Standardfehler		95% Konfidenzintervall		
	ungewichtet	gewichtet in 1.000	in 1.000	in %	+/- in 1.000	untere Schranke in 1.000	obere Schranke in 1.000
Insgesamt							
Erwerbspersonen	22.722	4.316,5	23,5	0,5	46,1	4.270,4	4.362,5
Erwerbstätige	21.896	4.141,2	23,6	0,6	46,2	4.095,0	4.187,4
Selbständige	2.620	490,4	10,9	2,2	21,4	469,0	511,8
Mithelfende	463	89,6	5,4	6,0	10,5	79,2	100,3
Unselbständig Erwerbstätige	18.793	3.561,1	23,6	0,7	46,3	3.514,7	3.607,4
Abendarbeit in den letzten 4 Wochen	7.227	1.376,7	17,5	1,3	34,3	1.342,5	1.411,0
Teilzeitbeschäftigte	5.618	1.047,9	14,3	1,4	28,1	1.019,8	1.076,0
Arbeitslose	826	175,3	7,2	4,1	14,1	161,2	189,4
Langzeitarbeitslose	215	47,3	3,8	8,0	7,4	39,8	54,7
Nicht-Erwerbspersonen (ab 15 Jahren)	15.470	2.743,5	24,8	0,9	48,6	2.694,9	2.792,0
Männer							

Limits in the use of the data of **one** period

Confidence intervals in graphics: AT NUTS 2 unemployment rates

Grafik 4

Arbeitslosenquoten nach Bundesländern, 4. Quartal 2012

95%-Konfidenzintervall

Wien	Kärnten	Österreich	Burgenland	Niederösterreich	Vorarlberg	Oberösterreich	Steiermark	Tirol	Salzburg
7,5	5,3	4,4	4,3	4,1	3,6	3,3	3,2	3,1	2,5

Q: Mikrozensus-Arbeitskräfteerhebung 4. Quartal 2012.
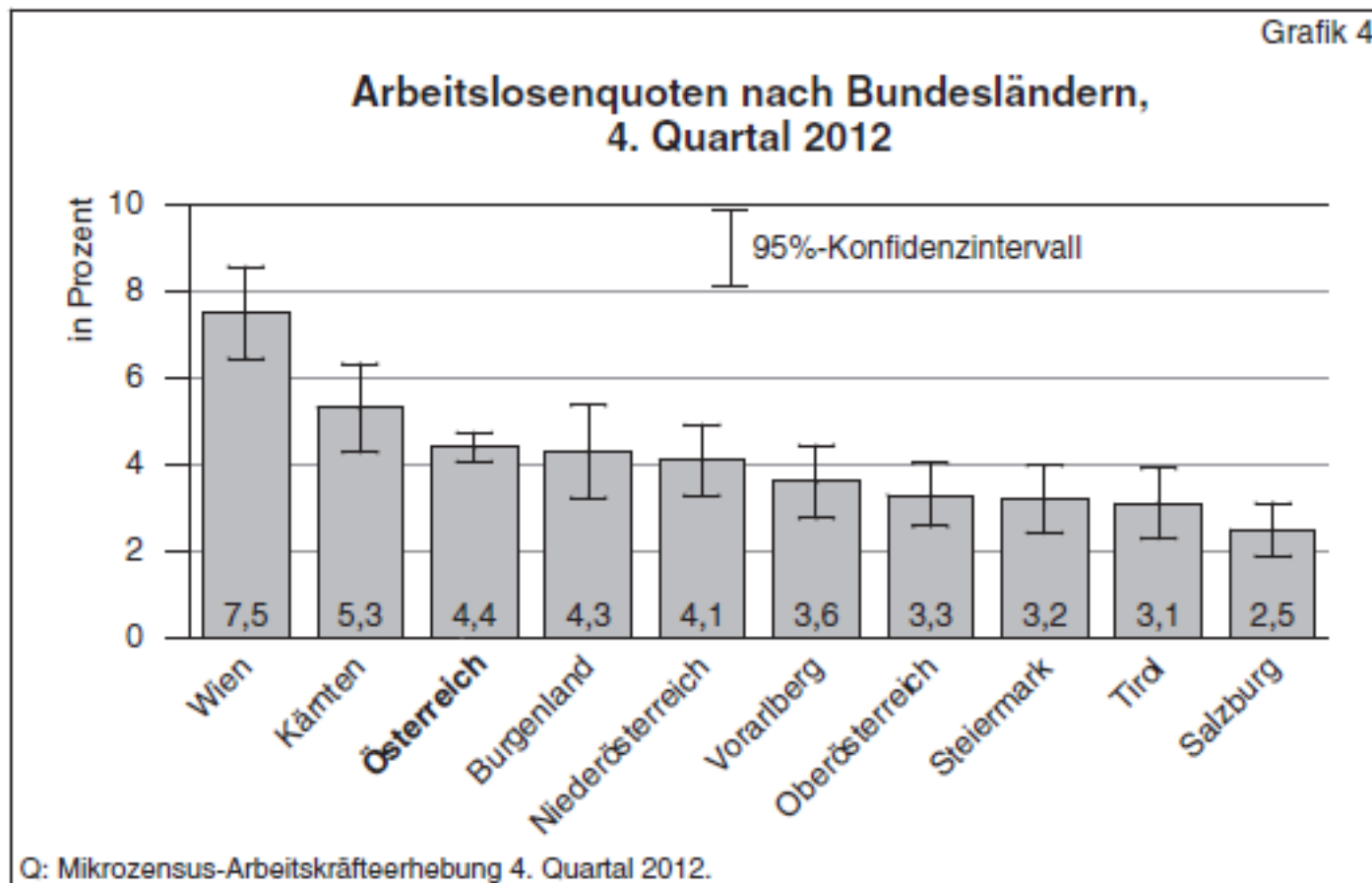
Limits in the use of the data in comparison **over time**

In AT publications we use the same limits for suppression and brackets for the values changing over time as for values in one period

This is not really correct since changing values do not reflect the same sample error

Tables with the confidence interval for main figures for changes quarter to quarter or quarter to quarter one year before are annexed in our quarterly publications

Limits in the use of the data in comparison **over time**

Same thresholds for suppression and brackets for changes over time as for results of one period ⟹ not really correct!

D1 Arbeitslose nach Alter und Geschlecht - unemployed by age and sex

Quarter	Total	15 - 24 years	25 - 34 years	35 - 44 years	45 - 54 years	55 - 64 years
	in 1000					
Total						
4th Quarter 2010	176,1	44,0	50,8	36,6	35,9	8,5
4th Quarter 2011	186,0	51,3	42,8	43,4	33,7	14,3
1st Quarter 2012	184,4	51,4	46,6	38,2	35,3	12,7
2nd Quarter 2012	187,3	48,8	44,5	38,4	40,9	13,8
3rd Quarter 2012	192,0	59,4	49,5	35,5	33,9	13,4
4th Quarter 2012	192,6	47,6	47,3	43,3	40,1	14,3
Change (in 1000) to						
4th Quarter 2011	(6,6)	(x)	(4,5)	(x)	(6,4)	(x)
3rd Quarter 2012	(x)	-11,8	(x)	(7,8)	(6,1)	(x)
Men						

Confidence interval for main variables in comparison **over time**; tables annexed in publications

Range of uncertainty of changes for selected estimated figures - absolute numbers from quarter 4 2012 to quarter 3 2012

Variables	4th quarter 2012	3th quarter 2012	Change	Standard error	95% Confidence Interval		
	in 1000				+/- in 1000	lower threshold	upper threshold
Total							
Employed	4.182,2	4.242,4	-60,3	18,8	36,9	-97,2	-23,4
Part time employed	1.077,9	1.067,3	10,6	12,4	24,4	-13,8	35,0
Unemployed	192,6	192,0	0,6	8,8	17,2	-16,6	17,8
Persons out of labour force	2.757,0	2.680,8	76,2	19,7	38,6	37,6	114,9

Range of uncertainty of changes for selected estimated figures - absolute numbers from quarter 4 2012 to quarter 4 2011

Variables	4th quarter 2012	4th quarter 2011	Change	Standard error	95% Confidence Interval		
	in 1000				+/- in 1.000	lower threshold	upper threshold
Total							
Employed	4.182,2	4.161,9	20,3	31,0	60,8	-40,5	81,1
Part time employed	1.077,9	1.046,2	31,7	18,7	36,7	-4,9	68,4
Unemployed	192,6	186,0	6,6	10,4	20,4	-13,8	27,0
Persons out of labour force	2.757,0	2.735,4	21,6	32,2	63,2	-41,5	84,8

Providing meta-information in publications

➢ **Drawbacks**

for the interpretation of results and in the technical implementation

- Standard error and confidence interval only for some estimates, - not for all

  - for comparison over time only for quarterly results

- Flagging for comparison over time is based on the standard error for one period

- Flagging is only semi-automated (not for NUTS 2 thresholds)

➢ Our solution is unsatisfactory – how do you deal with this problem?

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