

Analysis of Public Employment Rate (2nd)

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1 Summary

In order to study quarterly data, precise election data had to be retrieved for several countries and some time series had to be updated. Two methodologies have been applied to find structural breaks, but their results do not provide clear signal for the analysis, due to the lack of variability of the public employment rate. Finally, a baseline model is proposed for continuing the analysis.

2 Data

Some amount of work has been invested to get precise quarterly data. The exact election date were retrieved from wikipedia, and the time until the next election has a quarterly frequency. The time series from government political orientation and government fractionalization are updated as well to match the election dates.

The working document can be found [here](#) and the resulting csv on [github.com](#) as well.

3 Bai and Perron structural breaks

Two methodology has been applied to detect structural break changes. However, they do not always coincide and the break are not common to all countries. There are some liberty and variability of the location of the changes depending on the tuning parameters (size of clusters).

4 Impact of quarterly data for the data analysis

The variability of `egr1f` is so small that linear regression has an almost perfect fit by only using country dummy variables. Hence, it is compulsory to analyze the difference of `egr1f` and to understand which variables can explain the variability. However, this methods and the frequency of the data greatly diminish the signal to noise ratio (the adjusted r squared is at ten percent at best).

5 Union of explanatory and control variables

[Aas15] and [ALW14] use the following variables as control variables:

Variable	[Aas15]	[ABE00]
GDP Growth	x	
GDP per capita	x	
Money income		x
Unemployment rate	x	x
Government spending	x	x
Log of population		x

The next variable are used to explain the variation of **egr1f**:

Variable	[Aas15]	[ABE00]	[ALW14]
Fiscal transparency	x		
Government political orientation	x		
Years until next election	x		x
Measures of inequality		x	
Fiscal rules		x	x
Potential GDP gap (Boom and Slump)			x

From the above tables and some regression, for quarterly data the following baseline model is proposed. The dependent variable is the change in **egr1f** and the control variables are

- Autocorrelation with lag one.
- GDP growth, QoQ, lagged one quarter;
- Change in unemployment rate (absolute difference), QoQ;
- Government expenditure (GEXP) in percent of GDP (interpolated from annual data);
- Changes in GEXP;
- Log of adult population;
- Change in GDP per capita in USD, QoQ.

References

- [Aas15] Lasse Aaskoven. “Fiscal Transparency and Public Employment: Evidence from the OECD”. In: *Journal of Political Economy*, submitted (2015).
- [ABE00] Alberto Alesina, Reza Baqir, and William Easterly. “Redistributive public employment”. In: *Journal of Urban Economics* 48.2 (2000), pp. 219–241.
- [ALW14] James Alt, David Dreyer Lassen, and Joachim Wehner. “It isn’t just about Greece: domestic politics, transparency and fiscal gimmickry in Europe”. In: *British Journal of Political Science* 44.04 (2014), pp. 707–716.