Note on the small business normalized optimism index

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Moody's Analytics has added a new variable to its global macroeconomic model: FSBINQ.IUSA, which is the small business optimism index as reported by the NFIB. The variable was added at the request of clients. We forecasted FSBINQ as a function of corporate profits and consumer confidence. We experimented with corporate profits, stock prices, and unemployment rate variables, but much of this is already captured in consumer confidence, which provided a better in-sample and out-of-sample fit.

We opted for a differenced log transformation of all dependent and independent variables. While FSBINQ.IUSA is nonstationary and does not need to be logged in order to safeguard against heteroskedasticity in the forecast equation, we took a DLOG transformation of this dependent variable for three reasons. First, the dlog specification makes the coefficients easier to interpret. A 1% change in the independent variable produces an x% change in the dependent variable, where x is the coefficient on the independent variable. Second, we did so for consistency's sake, because dlog/dlog is used throughout the model. And last, this specification added the practical advantage of ensuring that we will never make a negative forecast for this variable.

New equation specification

Dependent Variable: DLOG(FSBINQ_US)
Method: Least Squares
Date: 11/01/19   Time: 09:15
Sample (adjusted): 1975Q1 2019Q2
Included observations: 178 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
DLOG(FCBC_US)	0.162136	0.014118	11.48478	0.0000
DLOG(FZPA_US)	0.018978	0.021755	0.872350	0.3842

R-squared	0.450036	Mean dependent var	0.000848
Adjusted R-squared	0.446911	S.D. dependent var	0.028406
S.E. of regression	0.021126	Akaike info criterion	-4.865471
Sum squared resid	0.078549	Schwarz criterion	-4.829721
Log likelihood	435.0269	Hannan-Quinn criter.	-4.850973
Durbin-Watson stat	2.358270		

Mnemonics referenced in the above equation, for example FET, can be defined using the Mnemonic 411 feature on DataBuffet. Please contact Help@economy.com for assistance.