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PMI Begins to Correlate with Economic Indicators

PMI surveys in the United States and elsewhere have been shown to help predict turning points in the growth of the economy. In this supplement, we begin to examine the statistical properties of the Puerto Rico Manufacturing Purchasing Manufacturing Index (PRM-PMI) for this purpose.

The PRM-PMI is a relatively new survey with only 43 months in existence. Nevertheless, initial results suggest that it is already beginning to show a relationship with some widely-used indicators of the economy.

Table 1 presents regression results that show the PRM-PMI is correlated with movements in the Index of Economic Activity of the Government Development Bank (IEA-GDB) and with movements in the Average Hours Worked in Manuf. (AHWM).

After controlling for other factors, the change of AHWM last month has a positive and statistically significant effect on the PRM-PMI in the current month (Equation 1). In other words, a rise in the AHWM will be reflected by an increase in the PRM-PMI next month.

The PRM-PMI also appears to be starting to show some predictive power for movements in the real economy. This is reasonable considering that manufacturing continues to account for most of Puerto Rico's GDP. In specific, after controlling for other factors, a change in the PRM-PMI last month has a positive and statistically significant effect on the IEA-GDB (Equation 2). However, the coefficient remains too small to be economically meaningful at this time.

Although more months of PRM-PMI data are needed, these regressions suggest that the PRM-PMI may be starting to exhibit some behavior that helps predict short-run economic developments in Puerto Rico.

Table 1. Regression Results: Relation of the PRM-PMI with other real economic indicators

Equation 1 (Dep. Var: Δ PRM-PMI)		*Equation 2 (Dep. Var: Δ IEA-GDB)*	
Δ AHWM$_{t-1}$	2.15** (1.08)	Δ PMI$_{t-1}$	0.04** (0.023)
Δ PMI$_{t-1}$	-0.49*** (0.14)	Δ IEA-GDB$_{t-1}$	0.55*** (0.13)
R^2	0.32	R^2	0.30

Notes: Standard Errors in parentheses. *** indicates significance at 99% confidence interval, ** at 95%. Number of observations: 38. Both regressions passed LM test for serial correlation at 95% confidence interval.