



## Title

**locmtest** — Calculates Lochner-Moretti test statistic (see Lochner and Moretti, 2015). A more detailed explanation of the command can be found in Babington and Cano-Urbina (2016).

## Syntax

```
locmtest depvar (varlist1 = varlist_iv) [indepvars] [if] [, options]
```

<i>options</i>	Description
Main	
<b>graph</b>	display graph of the estimated level-specific OLS coefficients, OLS weights, and 2SLS weights.
<b>coefficients</b>	display matrix of the estimated level-specific OLS coefficients, OLS weights, 2SLS weights, and their standard errors.

## Description

**locmtest** calculates the Lochner-Moretti test statistic developed in Lochner and Moretti (2015). This test statistic is robust to a non-linear relation between the outcome variable and the endogenous regressor.

In the language of instrumental variables, *varlist1* contains a single discrete endogenous variable and *varlist\_iv* is the set of instruments.

While this command permits factor variables in *indepvars* (see [fvvarlist](#)), it does not permit factor variables in *varlist\_iv*.

## Stored Results

**locmtest** stores the following in **e()**

### Scalars

<b>e(BLols)</b>	OLS coefficient on the endogenous regressor from Linear Equation
<b>e(SDBLols)</b>	Standard Error of OLS coefficient on the endogenous regressor from Linear Equation
<b>e(BLiv)</b>	2SLS coefficient on the endogenous regressor from Linear Equation
<b>e(SDBLiv)</b>	Standard Error of 2SLS coefficient on the endogenous regressor from Linear Equation
<b>e(DIVOLS)</b>	Difference between BLiv and BLols
<b>e(SDDIVOLS)</b>	Standard Error of Difference between BLiv and BLols
<b>e(WBOLS)</b>	Reweighted OLS using 2SLS Weights
<b>e(SDWBols)</b>	Standard Error of reweighted OLS
<b>e(T)</b>	Difference between BLiv and WBLols
<b>e(SDT)</b>	Standard Error of Difference between BLiv and WBLols
<b>e(wm)</b>	Lochner-Moretti Test Statistic
<b>e(pwm)</b>	p-value of Lochner-Moretti Test Statistic
<b>e(nw)</b>	Naive Wald Test Statistic
<b>e(pnw)</b>	p-value of Naive Wald Test Statistic
<b>e(dwh)</b>	Durbin-Wu-Hausman Test Statistic
<b>e(pdwh)</b>	p-value of Durbin-Wu-Hausman Test Statistic

### Matrices

<b>e(B)</b>	OLS coefficients on dummies in non-linear equation
<b>e(VB)</b>	Standard Errors of OLS coefficients on dummies in non-linear equation
<b>e(Wols)</b>	OLS Weights
<b>e(VWols)</b>	Standard Errors of OLS Weights
<b>e(W)</b>	2SLS Weights
<b>e(VW)</b>	Standard Errors of 2SLS Weights

**Examples**

```
. use http://www.stata.com/data/jwooldridge/eacsap/card  
. locmtest lwage (educ = nearc4) exper expersq, graph
```

**References**

- Babington, M. and J. Cano-Urbina (2016). A test for exogeneity in the presence of nonlinearities. *Stata Journal*, 16(3), 761-777.
- Lochner, L. and E. Moretti (2015). Estimating and testing models with many treatment levels and limited instruments. *Review of Economics and Statistics*, 97(2), 387-397.