



Testing the quantity theory of money

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Quantity Theory of Money Basics

Quantity theory of money:

$$P \times Y = M \times V$$

Transform it into a theory of inflation:

$$\% \Delta P + \% \Delta Y = \% \Delta M + \% \Delta V \quad (*)$$

$$\rightarrow \pi = \% \Delta P = \% \Delta M + \% \Delta V - \% \Delta Y$$

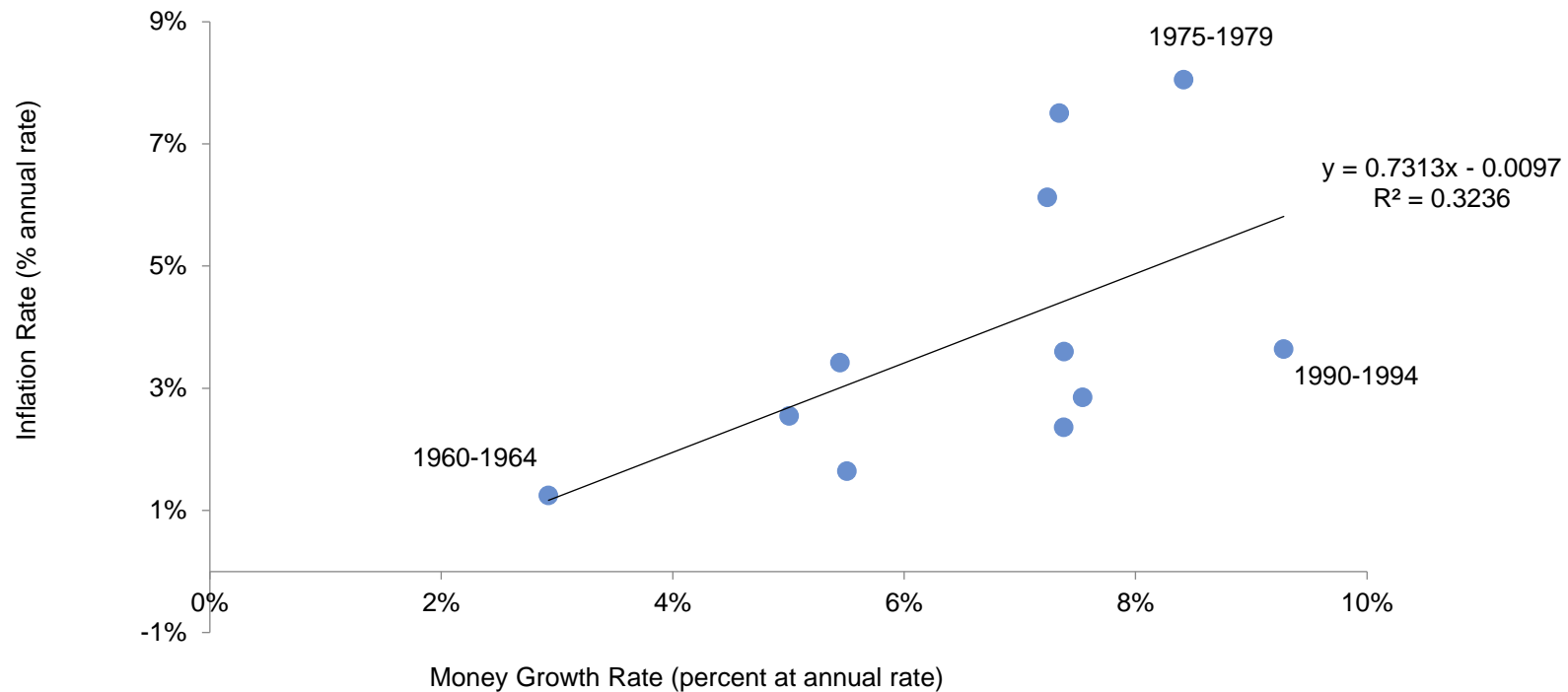
Assuming V is constant:

$$\pi = \% \Delta M - \% \Delta Y$$

(*) Percentage Change in $(x * y) = (\text{Percentage Change in } x) + (\text{Percentage Change in } y)$

Quantity Theory of Money in the Long Run

U.S. Inflation and Money Growth Rates by Half Decade

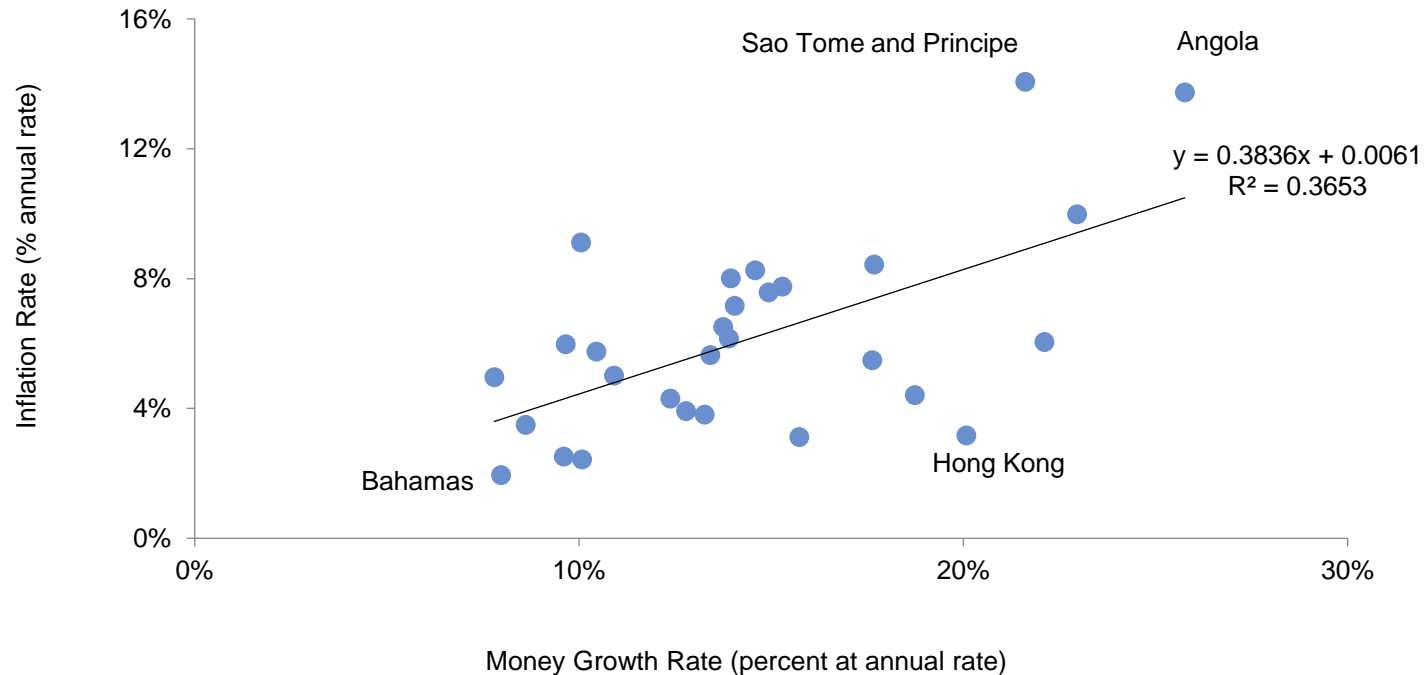


Sources: Federal Reserve Bank of St. Louis, FRED database: <http://research.stlouisfed.org/fred2/>.



Quantity Theory of Money in the Long Run

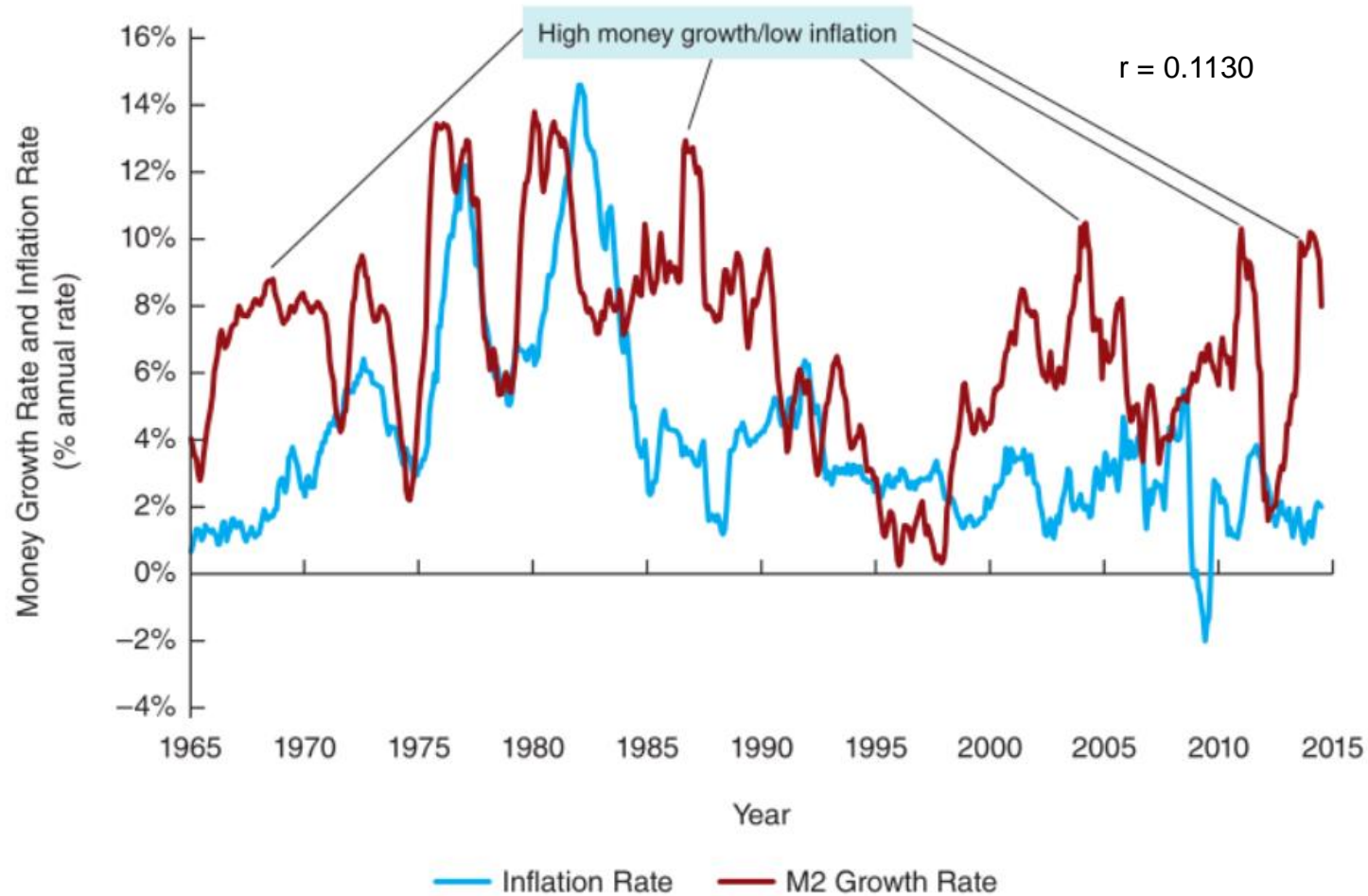
International Comparison of Average Inflation and Money Growth(2006-2016)



Sources: International Financial Statistics. International Monetary Fund, <http://www.imfstatistics.org/imf/>.



Quantity Theory of Money in the Short Run



Sources: Federal Reserve Bank of St. Louis, FRED database: <http://research.stlouisfed.org/fred2/>.



Quantity Theory of Money in the Short Run

- Long run ✓ short run ✗

- “Inflation is always and everywhere a monetary phenomenon.”

——Milton Friedman

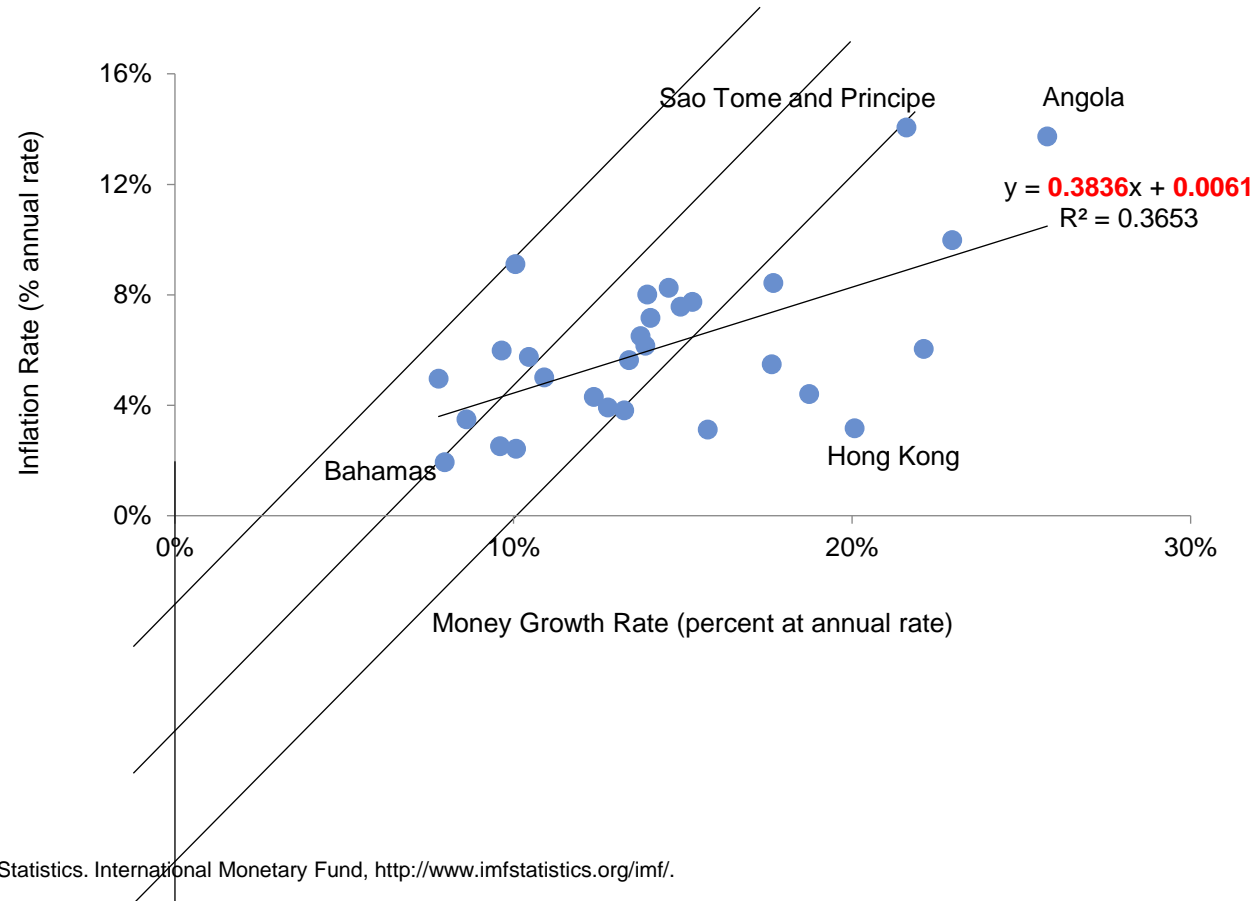


- Why not short run?



Something More

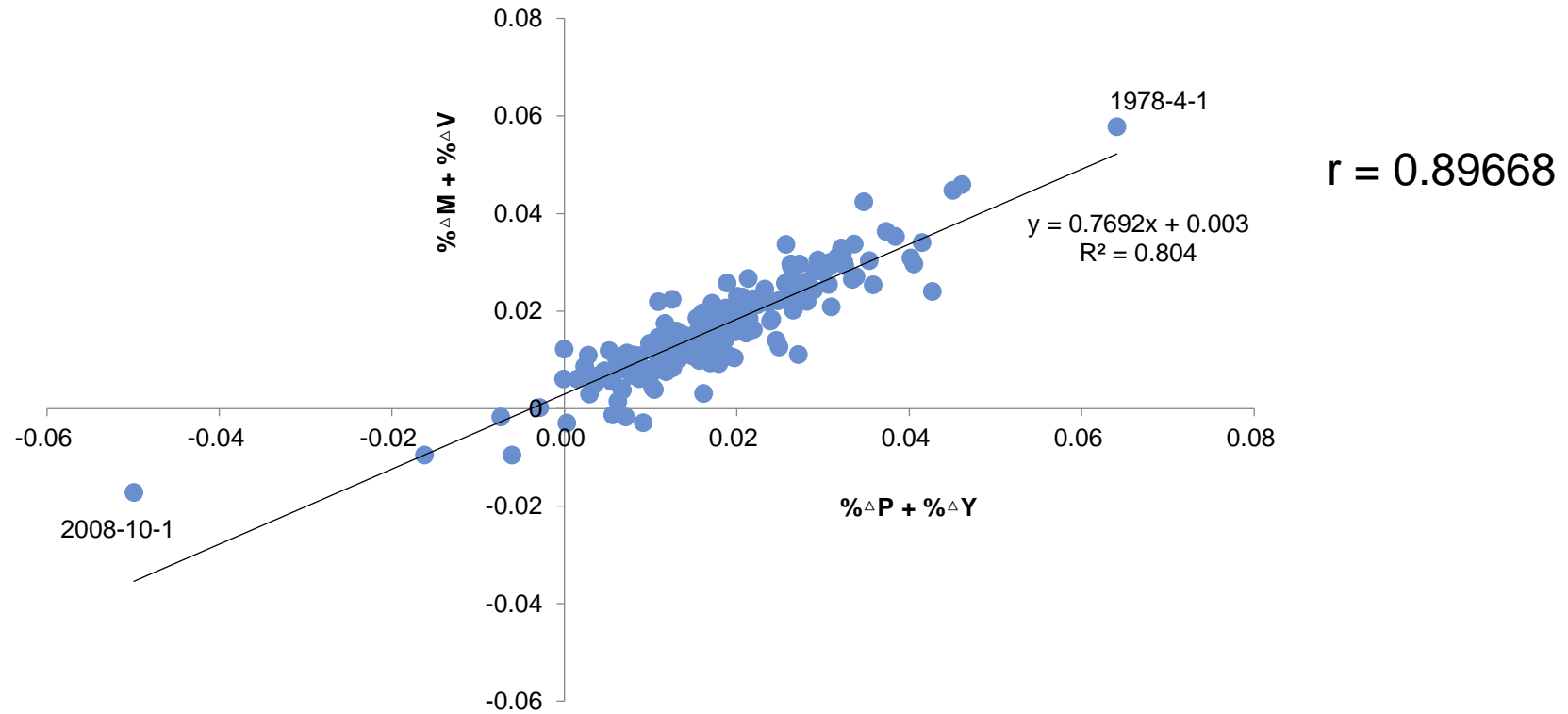
International Comparison of Average Inflation and Money Growth(2006-2016)



Sources: International Financial Statistics. International Monetary Fund, <http://www.imfstatistics.org/imf/>.

Something More

Back to $\% \Delta P + \% \Delta Y = \% \Delta M + \% \Delta V$:



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Thanks.

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