Does Debt Matter?

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www.profstevekeen.com
A recent Twitter exchange...

- “Nobel Prize” winner Paul Krugman:
  DEBT IS MONEY WE OWE TO OURSELVES
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  DEBT IS MONEY ...

  It only makes us poorer in aggregate if it crowds out investment — which is isn't doing

- Recent “Not the Nobel” finalist (me):
  DEBT IS MONEY WE OWE TO BANKS
  DEBT IS MONEY WE OWE TO BANKS
  DEBT IS MONEY WE OWE TO BANKS

  ... 

  4:31 pm · 5 Oct 2019 from Amsterdam, Nederland · Twitter for iPhone

  22 Retweets 369 Likes

- Does it make a difference?
Do Banks matter?

- Krugman (and mainstream “Neoclassical” economics in general): No…
  - “As I (and I think many other economists) see it, banks are a clever but somewhat dangerous form of financial intermediary…
  - in the end, banks don’t change the basic notion of interest rates as determined by liquidity preference and loanable funds…
  - Banks don’t create demand out of thin air any more than anyone does by choosing to spend more; and banks are just one channel linking lenders to borrowers.” (March 27, 2012, “Banking Mysticism”, New York Times)

- Loanable Funds model as per economics textbooks:
  - “Saving is the supply of loans – individuals lend their saving to investors or they deposit their saving in a bank that makes the loans for them.
  - Investment is the demand for loans – investors borrow from the public directly by selling bonds or indirectly by borrowing from banks.” (Mankiw, Macroeconomics, p.65).
Assembling a long-term data series for USA Private Debt

- Work initially done for Richard Vague’s Debt-Economics Project
- Three different time series on loans and debt in USA Census, Federal Reserve...

Three different data series on private debt and loans

- Series X580 Census Bank Loans
- Series X393-409 Census Debt
- Federal Reserve/BIS Data
Assembling a long-term data series for USA Private Debt

- Overlaps between 1916 and 1970...

Rates of change overlap almost perfectly

- Series X580 Census Bank Loans
- Series X393-409 Census Debt
- Federal Reserve/BIS Data

Great Depression

WWII End
Assembling a long-term data series for USA Private Debt

- Long-term series normalized to current Federal Reserve private debt data...

Current level still exceeds peak of Great Depression

- This is **Debt** (denominated in $)
- I define **Credit** as the *rate of change of debt* (denominated in $/Year)

- Derive credit from this debt data and we find...
Exposing “the smoking gun of credit”

- Negative credit associated with the USA’s deepest downturns...

* USA Credit (change in debt)/GDP since 1834

- Panic of 1837: 21% GDP fall
- Great Depression: 18% GDP fall
- GFC: 21% GDP fall
The Debt and Credit Trap

- Why don’t we talk (much) about private debt?
  - Same reason Medievals didn’t talk about gravity: *their priests taught them a false theory*
    - “The idea of debt-deflation … was less influential in academic circles, though, because of the counterargument that debt-deflation represented no more than a redistribution from one group (debtors) to another (creditors).
    - *Absent implausibly large differences in marginal spending propensities among the groups, it was suggested, pure redistributions should have no significant macroeconomic effects.*” (Bernanke, 2000, p. 24)

- Banks as “Financial Intermediaries” in a “Loanable Funds” model
  - “Think of it this way: *when debt is rising, it’s not the economy as a whole borrowing more money.*
  - It is, rather, a case of *less patient people*—people who for whatever reason want to spend sooner rather than later—*borrowing from more patient people.*” (Krugman 2012, End this Depression Now!)
The Debt and Credit Trap

• After the crisis, Central Banks reject Loanable Funds/Money Multiplier models:

• Bank of England 2014: “Rather than banks receiving deposits when households save and then lending them out, bank lending creates deposits.”

• Bundesbank 2017: “It suffices to look at the creation of (book) money as a set of straightforward accounting entries to grasp that money and credit are created as the result of complex interactions between banks, non-banks and the central bank.
  • “this refutes a popular misconception that banks act simply as intermediaries at the time of lending – i.e. that banks can only grant credit using funds placed with them previously as deposits by other customers.”

• Bank of England 2014: “In normal times, the central bank does not fix the amount of money in circulation, nor is central bank money ‘multiplied up’ into more loans and deposits.”

• Bundesbank 2017: “And a bank’s ability to grant loans and create money has nothing to do with whether it already has excess reserves or deposits at its disposal.”
The Debt and Credit Trap

- **What’s the macroeconomic impact of credit?**
- A logical analysis: derive relative impact from identity of Aggregate Demand & Supply
- Divide economy into 3 sectors, where each sector spends on the other two
- 3x3 “Moore Table”: diagonal is expenditure (-), off-diagonal is income (+)
- Each row **must** sum to zero: (Your) Expenditure IS (Someone Else’s) Income
- Column sum **can** be non-zero: sectoral incomes can differ from expenditures
- 3 monetary arrangements
  - “Say’s Law”: no lending possible
  - “Loanable Funds”: lending between two sectors (along diagonal)
  - “Bank Originated Money & Debt”: Bank (4th sector) lends to one sector
    - Its Assets rise in tandem with new net lending
The Debt and Credit Trap

- Firstly, “Say’s Law”: Expenditure only from existing money, no lending/borrowing

<table>
<thead>
<tr>
<th>”Say’s Law”</th>
<th>Sector 1</th>
<th>Sector 2</th>
<th>Sector 3</th>
<th>Sum</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sector 1</td>
<td>-</td>
<td>A</td>
<td>B</td>
<td>0</td>
</tr>
<tr>
<td>Sector 2</td>
<td>C</td>
<td>-</td>
<td>D</td>
<td>0</td>
</tr>
<tr>
<td>Sector 3</td>
<td>E</td>
<td>F</td>
<td>-</td>
<td>0</td>
</tr>
<tr>
<td>Sum</td>
<td>(C+E)-(A+B)</td>
<td>(A+F)-(C+D)</td>
<td>(B+D)-(E+F)</td>
<td>0</td>
</tr>
</tbody>
</table>

- Expenditure by sector 1
- Income generated by sector 1’s expenditure
- Income for sector 1
- Effectively Friedman’s “Quantity theory of money”
  - Aggregate Demand \( \equiv \) Aggregate Income = money times velocity of circulation

\[ -\text{tr}(SL) \]

- simplify
- substitute \( A + B + C + D + E + F = V \cdot M \) \( \rightarrow M \cdot V \)
The Debt and Credit Trap

- “Loanable Funds”
  - Sector 2 lends to sector 1 (flow across diagonal of table)
  - Sector 1 pays interest to sector 2
  - Sector 1 spends on sector 3

<table>
<thead>
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<th>Sector 2</th>
<th>Sector 3</th>
<th>Sum</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sector 1: -(A+B+Credit+Interest)</td>
<td>A+Interest</td>
<td>B+Credit</td>
<td>0</td>
</tr>
<tr>
<td>Sector 2: C</td>
<td>- (C+D-Credit)</td>
<td>D-Credit</td>
<td>0</td>
</tr>
<tr>
<td>Sector 3: E</td>
<td>F</td>
<td>-(E+F)</td>
<td>0</td>
</tr>
<tr>
<td>Sum: (C+E)-(A+B+Credit+Interest)</td>
<td>(A+F+Interest)-(C+D-Credit)</td>
<td>(B+D)-(E+F)</td>
<td>0</td>
</tr>
</tbody>
</table>

\[-\text{tr}(LF) \begin{align*}
\text{simplify} & \quad (A+B+C+D+E+F) = V \cdot M \\
\text{substitute} & \quad \text{Interest} + M \cdot V
\end{align*}\]

- Credit cancels out
  - **IF** loanable funds were true, **THEN** banking could be ignored in macroeconomics
The Debt and Credit Trap

- “Bank Originated Money and Debt”: Bank lending (to sector 1) creates money
- Sector 1 spends this money on sector 3

Credit (increase in Bank Liabilities) created by increase in debt (Bank assets)

\[ \text{Credit} = (A + B + \text{Credit} + \text{Interest}) \]

Credit does not cancel out

\[ \text{SINCE BOMD is true, THEN banking cannot be ignored in macroeconomics} \]

Credit is the most volatile component of aggregate demand and income
The Debt and Credit Trap

- Illustrating this in Minsky: system dynamics software supporting monetary modelling using double-entry bookkeeping...

- Krugman & Eggertsson (2012 supplement) had Loanable Funds model
  - “Patient” Consumer goods producing agent lends to “Impatient” Investment goods producing agent
  - Bank charges “Intermediation Fee”
  - Huge changes in credit and debt
  - Trivial changes in GDP
The Debt and Credit Trap

- Easily modify it to BOMD...

- Huge changes in credit and debt
- **Huge** changes in GDP
The Debt and Credit Trap

- Correlation of credit with unemployment in the USA since 1990 is minus 0.85

- Causation runs from credit to aggregate demand (as shown in Moore Table)

- Similar results for all other countries in BIS database
  - (Except Germany!
    - Huge trade surplus plus government austerity
    - Low/falling credit usage)
The Debt and Credit Trap

- Correlation of change in household credit with real house price change is 0.71

- Causality test confirms causation from change in household credit (acceleration of household debt) to change in inflation-adjusted house price index
The Debt and Credit Trap

- “Big Government” + Federal Reserve backstop caused dramatic change in economy

USA Credit (change in debt/GDP) since 1834

Pre-1945 Credit average 1.9% p.a.

Post-1945 Credit average 7.5% p.a.

Numerous negative credit events

Panic 1837

Post WW II End

WW II End

One negative credit event
The Debt and Credit Trap

- Decline in velocity of circulation of money as inflation fell, debt levels rose
- Probable cause?
- Increasing private debt burden encourages individual “hoarding”
- Hoarding at individual level causes fall in velocity of money at aggregate level

https://fred.stlouisfed.org/series/MZMV
The Debt and Credit Trap

- Need policy to remove dangerous side-effects of Big Government + Fed backstop
  - Too high credit-based demand
  - Accumulation of too much private debt—see Vague “Brief History of Doom” (the new Mackay/Kindleberger)
- “Abolish private money creation” one option
  - Side-effects?
- “Modern Debt Jubilee” another
  - Per-capita “QE for the People”
    - Debtor households get debt offset/reduce private debt
    - Non-debtor households get cash injection
    - Spending? If aggregate demand boost needed
    - Purchase new corporate shares used to reduce corporate debt
- One-off to reduce private debt to ‘50s-60s “Golden Age of Capitalism” levels
A new approach to economics: Minsky

- Model economy as the monetary, dynamic, unstable complex system it actually is...

LinearDefinitionsModelSwitchNonlinear.mky
A new approach to economics: Minsky

- General Dynamics: far more elaborate models can be built & simulated:
  - 5 sector model of Portuguese economy (Pratas, Portuguese Statistical Office)
For more see https://www.patreon.com/ProfSteveKeen

- Crowdfunding (from $1/month) supports my work
- Debunking Neoclassical Economics
- Monetary Non-Equilibrium Macroeconomics
- Energy-based real economy analysis