WINIR 2016 Symposium on “Property Rights” in Bristol, UK, 4-6 April 2016

P1.4 Money, finance & property

‘Property ownership, property-based money and the self-expanding nature of capitalism’

Frank Decker (*)

Sydney

(*) Dr. rer. pol. Dr. rer. nat. MAppFin

April 2016
After 1,700 years of stagnation, Western Europe has experienced a phenomenal growth dynamics...

Data: Maddison Project 2013
... which is now threatening the balance of the global ecosystems and appears to be difficult to contain

A number of growth theories have therefore argued that capitalist systems are subject to a growth imperative.

**No**
- Neoclassical growth theories
  - Capital accumulation
  - Advances in technology
  - Population growth
  - Human capital
- Institutional and endogenous growth theories
  - North and Thomas (1973)
  - Acemoglu (2009)
  - Secure property rights
  - Inclusive economic institutions
  - Incentives to invest

**Yes**
- Karl Marx (1867)
  - Competition
  - Greed
- Gordon (1987)
  - Bankruptcy avoidance
  - M. Binswanger (2009)
  - Doughwaite (1999)
  - Profit
  - Credit Money
  - Growth Spiral
  - Steppacher (2008)
  - Griethuysen van Pascal (2010)
  - Property ownership
  - Property based money
  - Interest
  - Solvency

See Decker (2016)
There are a number of reasons to revisit Heinsohn and Steiger’s original growth theory

1. Growth imperative argued only quantitatively

2. Conflicting views about the role of interest
   • Dittmer (2015) in *Ecological Economics*: ‘[the] debt money growth-imperative […] has yet to be rigorously shown to exist”

3. Piketty’s ‘central contradiction of capitalism” (r > g)
   • At odds with an interest-based growth imperative
A new mathematical model of a simplified money economy confirms that...

...monetary institutions created on the basis of ownership underpin the capitalist growth dynamics 

\[(g \sim i)\]

**Qualitative:**
Interest and property-based (bank) money emergence as a consequence of ownership

Liquidity pressures arising from money creation with interest result in monetary growth imperative

Heinsohn / Steiger 1981, 1996, 2013:

**Quantitative - monetary growth model:**
A nominal growth imperative is created as soon as part of the interest income is retained \[(g \sim i)\]

Translation into productive growth depends on additional factors

**Argument that monetary factors impact growth has validity:**
Bank-money creation and interest provide **underlying mechanism and stimulus** for self-expanding nature of capitalist growth

Not sufficient conditions for productive growth

See Decker (2016)
Heinsohn and Steiger argue that interest and bank-created money emergence as a consequence of property ownership...

Use or control
- Possession

Money creation
- Ownership
- Security

Claims to property

Property premium

Interest

Money = “Creditor’s money”: bank / central bank notes

Payment with creditor-issued claim

Claim to C’s assets
Claim to C’s assets
Claim to A’s assets

Source: Decker (2015a, 2015b)
... which underpins the self-expansionary dynamics of capitalist growth

‘For the economy in aggregate ‘it is always the case that less money is lent than owed’ (Heinsohn and Steiger, 2013, 113)

Principal at 100; interest 10%; money supply if all loan contracts rolled-over and interest income is retained

‘The extension of loans on collateral […] has therefore in the nature of things a cumulative character’ (Veblen 1904, 105-6)

‘The exploitation of minerals, particularly fossil fuels, together with engines and machines provide the technically most feasible configuration through which exponential economic growth pressures can be met.’ (Steppacher 2008, 343)
We have constructed a new mathematical model of a simplified economy in order to analyse the monetary growth mechanism in detail...

Repayments: $K_0 + iK_0, K_1 + iK_1, K_2 + iK_2, K_3 + iK_3, K_{n-1} + iK_{n-1}$

Money created: $K_0, K_1, K_2, K_3, K_4, K_n$

Periods: 0, 1, 2, 3, 4, n

Key assumptions:
- All producers fulfill their credit contracts
- Products sold at end of period
- Velocity of money = 1 = constant

Money supply
- $M_0 = K_0$ start of period 1
- $M_1 = K_0 + iK_0$ end of period 1

Additional money $iK_n$ must be created in each cycle:

$$iK_n = (1 - \gamma) iK_n \text{ (by producers)} + \gamma iK_n \text{ (by banks)}$$

$\gamma = 1$ if banks spend everything

Source: Decker (2016)
... this shows that a growth imperative is created as soon as part of the interest income is retained

Money supply growth rate: \( g_n = (M_n - M_{n-1})/M_{n-1} \)

Define capital growth rate \( a \) with \( K_n = (1+a)^n K_0 \)

\[
g_n \sim i \text{ for } n \to \infty \text{ and } 0 \leq \gamma < 1; \ -1 < a < i; \text{ banks retain part of interest income}
\]

\[
g_n \sim 0 \text{ for } \gamma = 1; \text{ banks spend all interest}
\]

\[
g_n \sim a \text{ for } n \to \infty \text{ and } 0 \leq \gamma < 1; \ a > i; \text{ capital increases at higher rate than interest}
\]

At odds with Piketty’s \( g < r \)
A numerical calculation shows that growth rates converge towards the interest rate at typical bank income retention parameters.

Source: Decker 2016
However, this is insufficient to explain productive growth

Repayment obligations are nominal
- Producers can raise prices ‘in step’, if accommodated by monetary policy (Stadermann 2002)

This raises the importance of
- Importance of restrictive money policies (Stadermann 2002)
- Credit allocation to producers that demonstrate innovation (Stadermann 2006, Binswanger 2009)
- Existence of wage labour (Heinsohn and Steiger 1996)
- Existence of minimum wage (Stadermann 2006)
- Competition (Heinsohn and Steiger 2013, Marx 1867)
- Successful investments in product and process innovations (Stadermann 1996)

Underlying mechanism and stimulus for self-expanding nature of capitalist growth
Conclusion

- Monetary factors play an important role in the capitalist growth process
- Link between ownership, property-based money, interest and growth
- Subject to assumptions, growth rate converges towards:
  - Interest rate \( g \sim i \) or
  - Capital growth rate \( g \sim a \)
- At odds with Piketty’s \( g < r \)
- Property-based money creation and interest not sufficient condition for productive growth:
  - Provides the underlying mechanism and stimulus for growth
  - But other factors important
References


Marx, Karl (1876 [1867]): Capital Volume 1, translated by Ben Fowkes, London.


Veblen, Thorstein (1904), The theory of business enterprise, New York.