



Conceptualizing Credit and Money

Law, Balance Sheets and the Inherent Instability within the Core
Institutions of Open Societies

- Draft -

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Abstract

Private law, public law, republican forms of government and money-denominated contracts, as opposed to customary tribal reciprocal exchange or redistribution by religion based moral authorities, constitute the defining institutions of open societies. Credit and money, two core institutions of business/economics, are based on law, representing special kinds of state enforceable legal relations between legal persons. Credit is a contractual claim/obligation. Means of payment can be either a special type of money-denominated claim ("credit money") or a special type of property right ("commodity money") used alongside credit means of payment. Private legal persons use double-entry bookkeeping to keep track of and manage their claims and property rights ("assets") as well as obligations ("liabilities").

In this paper, the well-known but sometimes fuzzy paradox of thrift as well as its complementary opposite, the paradox of spending, is described in precise accounting terms, utilizing Stützel's 3-part scheme of connecting micro and macro accounting. Adding intentional actors planning their operations in terms of money values to this framework, a simple but precise balance sheet model of business cycles explaining asset price inflations and deflations in terms of constellations of actor's expectations and strategies is developed. Within this framework, the instability of private law based credit systems stemming from nominally fixed obligations/claims versus nominally variable property values/prices and market interest rates can be recognized as an inherent attribute of open societies, implying a *paradox of private law* at the root of Katharina Pistor's *law-finance paradox*. At the same time, the law-finance paradox can be systematically reconnected to economics by way of double-entry bookkeeping.

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Introduction

The case Karl Popper makes for the open society in its main work on the subject, is a rather ideological one. It is understandable given the circumstances at the time, where the very ideals underlying it were under critique. We, however, want to focus on more practically and prosaically on the question he does not answer: How can an open society actually be constructed?

In our opinion, all realizations of open societies have one central element - the rule of law. The very foundations of our western liberal “democracies”, the citizens being born as free and equal citizens, is by no means natural, but created by a state under the rule of law, monopolizing the use of force. It is through the legal system, the citizens are granted not only human rights, but also the ability to own property and make contracts, i.e. act economically.

In order to avoid abuse of power within a modern state, various ways of checks and balances have been established. However, one of the most important ones is all too often overlooked: The division of public and private law. The process of legislation consists namely not only of top-down decisions by a parliament, but instead every time two people enter a contract by free will, state-enforceable law is created.

Private law is an undeniably important element in open societies. Unfortunately, already the two most basic elements of private law - property and contract, create a dynamic that can potentially threatening to the society itself, if it is not to be contained. Indeed, citizens contracting (i.e. making fixed promises) under expectations about a future that is fundamentally unknown leads to business cycles, as has been pointed out by many already, like Minsky, Hawtrey or Pistor. We want to clarify and pin down the conditions of these business cycles more precisely. By differentiating Buyer's and Seller's market as different situations in a common theoretical framework, long-standing controversies between demand-side and supply-side economics can also be resolved.

Accounting Definitions

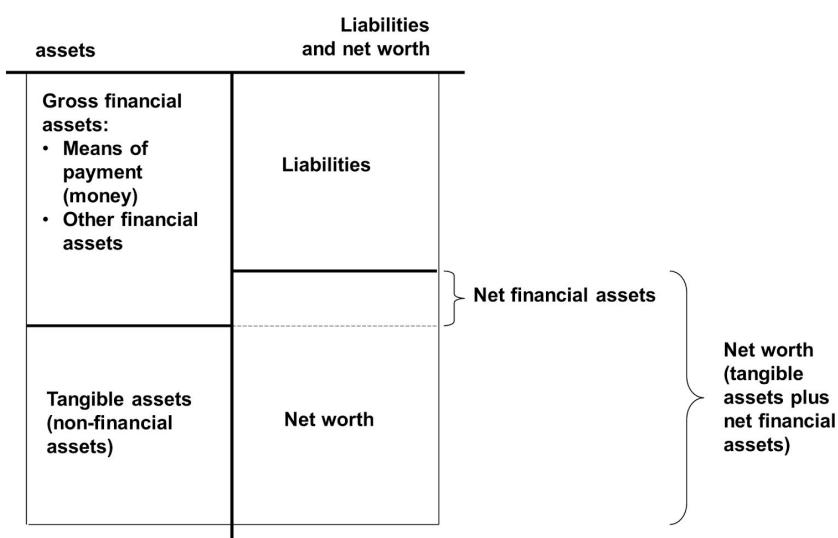
Accounting is a tool of economic units for organizing their actions under legal circumstances. Here, balance sheets represent an inventory of rights and duties (account of stocks) that can be valued in money, while income statements document legal transactions (account of flows), giving rise to changes in the balance sheet.

A balance sheet contains two categories of entries. The first one is genuine legal entries, i.e. rights and obligations, while the second one are accounting quantities, that are *derived from* the legal entries for their practical usefulness in managing and keeping track of the former. Explicitly we mention, that the entries noted in balance sheets are *never things* - formally called first order objects of law - but are and always have been *rights* - second order objects of law. The monetary valuation of these rights is not directly related to the legal system but derived from expected future returns, may it by selling the right (exchange value), or using the right (e.g. to a machine, or a copyright) in order to produce something that can then be sold.

The total assets are usually divided into financial and non-financial or tangible. Recognizing them by their legal essence, we specify the former category as claims, and the latter as property rights, so the term tangible assets is actually highly misleading. Even more so, as there are not only property rights in tangible things, but also patents or trademark rights, i.e. intellectual and intangible property.

The total liabilities are divided into debts or obligations and net worth. The balance of financial assets and obligations is called *net financial assets* (NFA).

Within assets there is a subset called *means of payment* (MoP). We use the term MoP to distinguish it clearly from other meanings of "money", like a unit of account or a store of value. In principle MoP can be claims (credit money) or property rights (commodity money), usually in gold or another precious metal. However, the modern financial system has almost completely abandoned the use of property rights as MoP by now, so we focus on the former kind of money. What type of claim can be considered a MoP depends on many things, most of all on which level of the "hierarchy of money" (Mehrling, 2013) the transaction is happening, e.g. it depends on whether the involved parties are private persons, commercial banks or central banks. Additionally the hierarchy is not rigid but "breathing", i.e. the acceptance of certain types of claims as MoP changes over time and under different circumstances also. In general, the hierarchy steepens during bust and flattens during booms. Stützel was also aware of this (Stützel, 1978, p. 65).



A simplified balance sheet.

The rigorous separation between MoP and NFA and correspondingly between the two kinds of money flows is done routinely in financial accounting, and has been around since the merchants of the 12th to 15th century and the work of L. Pacioli. Each of the sets has its specific characteristics and many issues can be seen clearly when viewed under this "microscope". One immediate insight is, that due to the essential symmetry of a

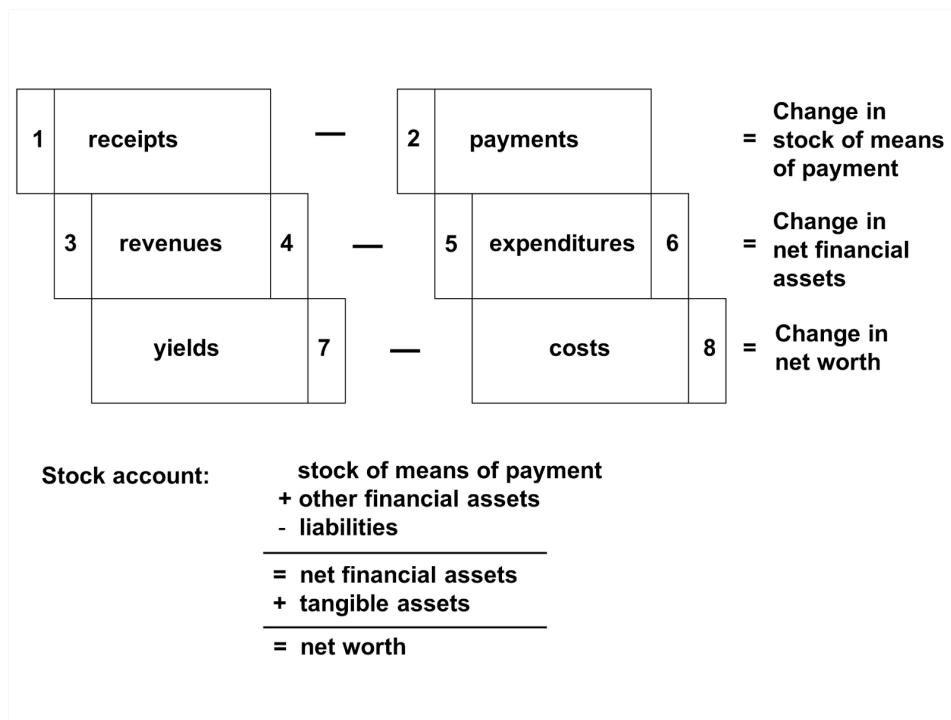
creditor-debtor relation, the total NFA of a closed economy are always zero. Consequently, only property rights are net assets to the closed aggregate economy. Thus, “credit money” (transferable claims) is no net asset to the closed aggregate economy, while “commodity money” (gold coins) is.

Further, as the definition of MoP is inherently volatile, building a theory on NFA offers a more solid foundation. Of course issues of liquidity must also not be neglected.

These distinctions are missing in the system of M. Copeland. The notion of “money flows” does not differentiate between a flow of MoP and a flow of NFA. This is the main reason why his classification is both less powerful and in a sense more complicated.

In analogy to accounting of the stocks, flows can be documented in an income statement. In accordance with the previous we choose definitions of flows based on whether a transaction involves a change in MoP, NFA or net worth.

Receipts and payments are changes in the stock of MoP, revenues and expenditures are changes in NFA. Changes in net worth are called yields and costs, while for households the terms income and consumption might be more intuitive.



Types of stocks and flows. Source: Schmidt 2016,, in dependence on Bofinger 2015

1. Receipt, but no revenue:

This transaction increases the stock of money, but the stock of net financial assets stays the same. Either other financial assets decrease by the same amount as the stock of money increases (accounting exchange on the asset side) or the liabilities increase by the same amount (balance sheet extension). An exchange on the asset side takes place if a firm's customer pays a bill due by bank transfer; this increases the firm's stock of money but the claim against the customer ceases to exist, so net

financial assets do not increase. A balance sheet extension takes place if the firm takes out a loan: its stock of money increases as the firm's bank account gets credited with the amount of the loan but at the same time the liabilities of the firm increase by the same amount.

2. Payment, but no expenditure:

This transaction decreases the stock of money, but net financial assets stay the same. That is the opposite of the first transaction: with the decrease of the stock of money other financial assets must increase (accounting exchange on the asset side) or liabilities must decrease by the same amount (balance sheet contraction). An exchange on the asset side takes place if the firm hands out a loan to an employee: the stock of money of the firm decreases but other financial assets of the firm increase by the same amount (claim against the employee for repayment of the loan); a balance sheet contraction takes place, if the firm repays a loan due or pays a bill (which is essentially a form of a short term loan).

3. Revenue, but no yield:

This transaction increases net financial assets, but net worth stays the same. This is possible only by decreasing property rights by the same amount. An example would be the sale of a machine at the price it is assessed in the balance sheet (an accounting exchange on the asset side again).

4. Revenue, but no receipt:

This transaction increases net financial assets, but the stock of money stays the same. The sale of a good on account is the classic example: the claims of the firm against the customer increase, but as he has not paid yet, the stock of money stays the same. This presents the important case, that a transaction usually classified as belonging to the sphere of the "real economy" does increase gross financial assets (i.e. financialisation is happening), which is underappreciated in the Money View, where financial transactions are considered exclusively (As P. Mehrling likes to say, "All banking is a swap of IOU's").

5. Expenditure, but no cost:

Net financial assets decrease, but net worth stays the same. This is only possible if property rights increase by the same amount as net financial assets decrease, e. g. by purchasing a machine which shows up in the balance sheet at the purchasing price.

6. Expenditure, but no payment:

Net financial assets decrease but the stock of money stays the same. An example is the purchase of inputs on account: the firm's liabilities increase but as there is no immediate payment, the stock of money stays the same.

7. Yield, but no revenue:

Net financial assets stay the same, but net worth increases. This can take place only by an increase in (the value of) property rights. It can be the result of a bequest the firm receives or of an increase in the market value of a property right the firm already possesses, e. g. an increase in the value of property after a change in building laws.

8. Cost, but no expenditure:

This transaction also leaves net financial assets unchanged, but net worth decreases. Therefore, this decrease must result from a decrease of property rights.

The most important example is depreciation of existing equipment and machinery, which is also called “consumption of fixed capital” in the national accounts.

An important point we would like to make here, is that business accounting focuses on profit and loss statement, i.e. including changes in (the monetary value of) property rights, as legal persons try to optimize their net worth. We instead focus mostly on the revenues and expenditures balance (called current account balance for national accounting) as this allows for more conclusive implications on a macroeconomic level.

To close this section, we will give two brief examples, demonstrating the problems of Copeland's money flow approach. First, consider the case of writing off a claim. In Copeland's approach there has to be introduced the device of a fictitious payment, which however does not change the balance of MoP. The combination of actually no payment being made, but nevertheless having an expenditure, does not quite fit into his scheme.

As a second example, we analyze a statement from Mehrling:

“From a money flow perspective, there are logically only three sources of funds for agents who find themselves in deficit on the goods and services account. They can dishoard (spend money balances), borrow, or sell some asset.” (Mehrling, 2016)

We interpret the first sentence as agents who have a positive balance of buying and selling property or services (balance of trade). We simplify the case a bit further by assuming it is only one transaction of buying. It is formulated in a way suggesting that the deficit on the goods and services account comes first, and then the required funds are acquired afterwards, with the intermediate state not being specified. In fact, the act of buying consists of two parts, contracting and fulfilment. With contracting, there are two obligations being created, of the buyer to pay and of the seller to transfer the property right. The transaction up to this point, i.e. before fulfilment by payment, can be classified as the option "borrow", which is the unspecified intermediate state as well as a possible final state. It is of absolute practical necessity for businesspeople to keep track of their unfulfilled payment obligations, i.e. this intermediate state is everyday reality in business. Now if this obligation is due one has the choice to use existing MoP to pay it (dishoarding), in which case the combined transaction is a cash purchase, or borrow MoP from a third party, arriving at yet another interpretation of the option "borrow". The option "sell some asset" finally is too unspecific, as selling of a (non-financial) asset, is a revenue but not immediately a receipt, if the payment is delayed. In conclusion we see, that what is conceptualized here as acquiring *funds*, involves quite different processes, some but not all of them involving another transaction.

Global, partial and relational Statements

The second pillar of Stützel's work is the concept of global, partial and relational statement. It offers a systematic way of analyzing how microeconomic and macroeconomic statements relate to each other.

As C. Bruun puts it:

"Using Stützel's scheme we no longer have to choose between doing macroeconomics that has no microfoundation and microeconomics that ignore macro-relations." (Bruun 2005, p. 84)

The basic idea is that certain statements are true for a single economic unit but not for the union of all economic units. A simple example is to 'be able to have a positive balance between revenues and expenditures'. A *partial statement* is defined as a statement about a single economic unit or a group, i.e. strict subset of all economic units. Correspondingly a *global statement* is about the union of all economic units. Defining the *complementary group* as all economic units that are not in a group, a *relational statement* shows how statements about the group and its complementary group are connected, resolving the seemingly paradoxical discrepancies between partial and global statements.

Regarding the balance of revenues and expenditures, the three types of statements take the following form:

Partial statement: For each economic unit and each group of economic units an increase in expenditures means a decrease in NFA, an increase in revenues means an increase in NFA and vice versa.

However, as each revenue is another units expenditure, on the global level we have a different statement:

Global statement: The aggregate economy can never change its NFA by increasing or decreasing its revenues or expenditures.

The corresponding relational statement takes the following form:

Relational statement: An economic unit or a group of economic units can achieve a decrease in NFA by increasing its expenditures only if the complementary group achieves (or suffers) an increase in NFA.

Different meanings of saving

At this point we can specify the commonly used term *saving* by using the just defined terminology. Altogether we differentiate five different meanings:

1. The monetarily valued difference between income and consumption within the same period. In conventional notation this is $S = Y - C$, while it is also true that $S = \Delta NW = I + \Delta NFA$, where ΔNW is the change in net worth and I is the change in property rights (usually called Investment). The opposite of this is dissaving, consuming more than the income, and decreasing net worth
2. The monetarily valued difference between revenues and expenditures within the same period. This is the change in net financial assets, ΔNFA .

3. The act of binding liquid financial assets as long-term financial investment. In precise legal terms, this means exchanging liquid (e.g. maturing daily) claims into long-term claims.
4. The monetarily valued difference between the (higher) consumption of a prior period and the (lower) consumption of a later period, $C_{t1} - C_{t2}$, i.e. a reduction of consumption not in comparison to income as in (1), but in comparison to prior consumption.
5. The act of using means for reaching a certain production or consumption goal in an economical or efficient way.

As for every economic unit \$i\$ the equation $S_i = \Delta NW_i = I_i + \Delta NFA_i$ holds, we can take the sum over all economic units of the aggregate economy, arriving at

$$\sum_i S_i = \sum_i \Delta NW_i = \sum_i I_i + \sum_i \Delta NFA_i$$

But as the sum over all ΔNFA_i , i.e. the change of NFA of the aggregate economy is zero, this reduces to the famous

$$S_{\text{aggr}} = \Delta NW_{\text{aggr}} = I_{\text{aggr}},$$

i.e. the aggregate saving, or the aggregate change in net worth, is equal to the aggregate change in (the value of) property rights.

Advance, Lag and Lockstep

We can reformulate the relational statements from above in a different way. In fact the changes of the group can be called an *advance* and the changes of the complementary group a *lag*. In that way a relational statement says that a group can achieve an advance only if the complementary group achieves or suffers a corresponding lag. A priori the terms advance and lag are interchangeable, it lies only in the judgement of the economic units, which direction of change is the more desirable one.

It is of crucial importance in understanding the bridge from micro to macro, to distinguish, which statements can be true for the aggregate economy on the one hand and statements that represent advance and lag effects only on the other hand.

The (theoretical) case that there are no advances we call *lockstep*. This particular state has great analytical value and will be used as reference, i.e. to study deviations from lockstep. In general we define:

“There is lockstep, if what holds for the aggregate economy, holds also for every economic unit.” (Stützel, 1978, p. 29)

Lockstep can exist on different levels, e.g. lockstep of payments, lockstep of expenditures and revenues, or lockstep of credit expansion and repayment. In the first case it means, that for each economic unit the balance of receipts and payments is zero.

In this way, balances are recognized as deviations from lockstep. This concept helps us to specify the connection between flows and stocks:

"There is never a simple correlation between the absolute magnitude of flows and the change of the corresponding stocks, but only between deviations from lockstep and the change in stocks." (Stützel, 1978, p. 50)

In this abstract way the scope of this theorem might be underestimated, so we apply this to both most relevant examples, MoP and NFA.

We see that the change of the stock of MoP does not correlate with the absolute magnitude of payments made, but only with the deviations from lockstep in payments, i.e. with the difference of receipts and payments at each unit. Thus, if there is lockstep in payments, economic cycles can happen without a significant change in the need for MoP, thus rendering monetary policy secondary.

On the other hand we can consider lockstep in buying and selling. In this case, the difference of revenues and expenditures is zero for each unit, implying that there is no redeployment of NFA.¹ In this case, money is essentially reduced to its function "money of account", stocks of MoP or NFA do not play a significant role, "neutrality of money" holds, we have essentially a barter system. GDP can grow or decline without gross financial assets ("debt") changing. If there is a considerable deviation from lockstep in buying and selling, financing conditions and interest rates are important determinants of the economy.

Paradoxes of competition

In this section we will give an overview of some paradoxes, arising from the fact that purely advance and lag effects do not translate from the micro to the macro level.

The first is a paradox of price competition. An entrepreneur can increase its sales by lowering its prices. This is clearly an advance effect, if we assume that the total sales of the type of product is independent of its price, which is true for many everyday products like toilet paper. The corresponding relational statement says: An entrepreneur can increase its sales only by that amount that his complementary group suffers a decrease in sales.

One of the most important paradoxes is the paradox of surplus revenue: A single economic unit or a group can increase its NFA by reducing its expenditures, which is an advance effect. If expenditures of the aggregate economy are reduced, however, necessarily

¹ Abstracting from changes arising due to reevaluation or default

revenues are reduced by the same amount, extinguishing any gain in NFA. The paradox of surplus revenue is a pure balance mechanics statement, without any assumptions on behaviour of the involved actors. The related, but farther reaching paradox of thrift involves assuming that companies will react to the drop in demand by lowering investment, thus reducing demand even more, resulting in a reduction of revenues by even more than the initially planned saving, paradoxically reducing saving as an effect. This second version however, falls not in the scope of the balance mechanics approach only anymore.

There are countless examples of these kinds of paradoxes. It arises among shop owners deciding over their business hours, in advertising, in arms races or in a welfare state. The common feature of these phenomena is always, that the effect the individual is trying to achieve is negated if its action is done on the global level. However, there is usually a side effect, that may be positive (like in innovation competition) or negative (like in thrift).

A theory of business cycles: Behavioural assumptions and Expectations

There must be great caution not to confuse these always fulfilled, ex post accounting identities with causality. Not without a reason we included both verbs *achieve* and *suffer* in our relational statements, as any effect can be active, passive or anything inbetween. However, ex post description only is not a satisfactory goal for a macroeconomic paradigm. The considerations of this section therefore aim to enrich Stützel's basic relations with behavioural assumptions on the economic actors. As these relations are eventually coming from the structure of contract, it is of course of fundamental importance under what circumstances and why people conclude these contracts. Following this line of thought leads eventually to the question of power. Such an *economic theory of power* can be found in detail in (Stützel, 19).

Supply and Demand

Instead of ex post considerations only, i.e. *documentation* of contracts, we also include now *planning* of contracts. Quite straightforward, *demand* is formalized as plans to buy², i.e. plans to decrease NFA, and *supply* is formalized as plans to sell, i.e. to increase NFA. As we have seen now, demand is by definition also a planned expenditures, while supply equals planned revenues. Immediately it is clear that the eventually realized quantities of buying and selling transactions are equal, as every purchase is the other side of a sale. This is again independent of any assumptions or mechanisms.

The plans might also be equal, this purely theoretical case is called equilibrium. In most cases, supply and demand are not equal, implying that necessarily some actors are not able to fulfill their plans.

This explicitly does not assume inconsistency of plans on the individual level. Each economic unit is allowed to behave sensibly, meaning that his planned change in NFA

² Buying here always is used as buying property rights and services, and never as "buying financial assets"

equals his planned difference of revenues and expenditures. The plans just do not fit together.

Buyer's and Seller's Market

The naturally following questions to a disequilibrium between supply and demand is of course, which plans are actually realized, the buyer's or the seller's?

We define a *Buyer's Market* as the situation, where buyers are reluctant to buy, while sellers are always eager to sell, or even have to actively urge people to buy. In this case, the buyers have the power to decide, which also means that the actually *realized transaction* will equal the *planned expenditures*, i.e *demand*.

The exact reversed situation is called *Seller's market*, where seller are reluctant to sell, while buyers are always eager to buy. In this case, the sellers have the power to decide, which also means that the actually *realized transaction* will equal the *planned revenues*, i.e *supply*.

Business cycles

We distinguish four cases, in which either demand or supply surplus meets either a buyer's or a seller's market:

	Demand Surplus	Supply Surplus
Buyer's market	I	II
Seller's market	III	IV

In case I, demand is greater than supply, and the market structure is demand-led, i.e. the realized transactions equal planned expenditures, and are greater than planned revenues. Consequently, some people will necessarily have more revenues than planned, leading them to most likely planning increased expenditures for the future. This dynamic increases output and employment.

If on the other hand, a supply surplus meets a buyer's market, which is case II, actual revenues will be lower than planned revenues, inducing a downward trend for transactions and consequently output and employment.

Another case, where a downward trend appears is case III, where a demand surplus meets a seller's market. Now realized transactions equal planned revenues which is lower than planned expenditures. So necessarily some people can not realize their plans to buy, leading them to planning decreased revenues, which induces in turn further decreasing transactions.

Case IV finally, a supply surplus meeting a seller's market, is again an upward stimulus on output and employment. Realized transactions equals planned revenues, being larger than planned expenditures. Therefore, some people will have more than planned expenditures, leading them to increase their plans to sell in the future, consequently raising the amount of transactions.

The buyer's market situation is what Keynesianism assumes as its root and describes well both the growth periods in the 1950ies, 1960ies as well as Roosevelt's New Deal, but also recessions of 1931 or 2010 in the Eurozone.

The seller's market situation is on the other hand the underlying assumption of supply side economics and describes well e.g. the growth in the 1980ies after the neoliberal turn, as well as the shocks 1971 and 1973.

Hawtrey, Minsky and Pistor

Perry Mehrling (Mehrling 2011, p. 12) describes the inherent instability of credit coined by Ralph Hawtrey like this:

"The two faces of credit show themselves not only at the level of each individual, but also at the level of the system as a whole because one person's cash inflow is another person's cash outflow. If the allure of credit induces one person to increase spending, the immediate result is income somewhere else in the system, which income is then available for additional spending. Similarly, if the burden of debt induces one person to decrease spending, the immediate result is reduced income somewhere else in the system, and thus possibly also reduced spending."

This boils down to two elements:

- The balance mechanics of "spending" (interpreted as expenditures) having a revenue counterpart creating a ripple effect. This is equivalent to cases I and II in our model (while not recognizing cases III, IV)
- An initial "allure of credit" to increase expenditures, or an initial "burden of debt" motivation to reduce expenditures. Being precise, this means that liquidity effects, i.e. how much MoP are available, plays a significant role for the planned expenditures, as taking on or repaying a loan only changes MoP, but neither NFA nor net worth. This is true for certain situations, and these effects are not covered by our model, which considers expenditures and revenues only. It is, however, important to point out, that liquidity effects are not *necessary* for business cycles.

Later in his book (Mehrling 2011, p. 68f), Minsky's view on instability is outlined as follows:

"In Minsky's thought, the tendency toward fragility comes from the interaction between asset valuation and creditworthiness. Whereas Hawtrey emphasized the valuation of inventories and the feedback of that valuation on the availability of trade credit, Minsky emphasized the valuation of capital assets and the feedback of that valuation on the availability of capital credit. Credit-financed spending by one person creates income for others, both present and prospective income, and the capitalization of that income raises asset prices and thus improves creditworthiness for another round of spending. The resulting instability is more substantial than anything Hawtrey ever imagined, simply because the price of capital assets has a lot more room to move than the price of inventories. That wide range of price movement makes it also more difficult to control instability with mere interest rate policy."

So besides the two points made above, Hawtrey recognizes that rising inventory prices foster ever cheaper liquidity. In our opinion much stronger is, however, the direct effect of increased net worth for a possible decision to increase future expenditures, as a profit indicates a functioning business model and prospects of further future profits through increased business activity.

The same logic applies to Minsky's view on moving asset prices³, i.e. here is also the effect on net worth probably larger than the liquidity effect.

The last sentence points in the direction of our theory of business cycles, but underestimates the severity: As the cycles can happen without *any* liquidity effects, interest rate policy might be *completely ineffective*.

Katharina Pistor (Pistor 2013, p. 1) describes the essence of the Law-Finance Paradox like this:

“Legal commitments lend credibility to financial contracts and help transform relational finance into large-scale markets; yet, enforcing all contracts *ex post* as written *ex ante* irrespective of intervening change can lead to the system’s self-destruction; further, suspending or relaxing the full force of law to rescue the system undermines the credibility of legal commitments needed to support market development.”

She recognizes that previously made contractual obligations by private legal persons might be unfulfillable due to the way the future actually turned out, and that ripple effects can be destructive to the system itself. In comparison to Minsky and Hawtrey she puts more focus on the way that the financial system reacts and is managed when a crisis occurs. A detailed analysis, why booms and busts occur can not be found in their paper, which makes our theory of business cycles a suitable complement.

Implications

Instability of asset prices is hard-wired in the basic institutions of an open society. *Humans cannot foresee the future in any type of society. But open societies are based upon “free prices and fixed promises”* (Stützel 1973, p. 11) i.e. nominally variable property rights (and interest/discount rates) and nominally fixed contractual claims. Therefore, in open societies they have to speculate and value their rights and set their prices in terms of an abstract, purely quantitative monetary unit according to what they expect, which may turn out to be unrealistic; contractual promises, however, are fixed and remain the same even if expectations turn out to have been unrealistic, and debtors can be held accountable no matter how their situation or the general economic situation changed. From partial standpoint, it's functional to ride the crest of a wave or to desert the sinking ship, i.e. to act pro-cyclically. However, from global standpoint, it's functional to act anti-cyclically. In order to cure the market's chronic manic depression, an independent

³ It is not clear to us what precisely is meant by “capital assets”. Most likely included are property rights in land, real estate, possibly also factories and machines. Probably he means also “financial assets”, i.e. claims, with a volatile market value, like stocks, higher risk index bonds, structured products or even derivatives.

global actor is needed. Since a global subject for anti-cyclical action is lacking, global financial crises provoke democratic recessions, authoritarian regimes and international conflict.

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