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Fragility and Resiliance of the International Financial Structure: Some General Conditions and their Applicability to Current Conditions

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Outline

I. Introduction: The economy as a nonlinear, time dependent and multidimensional system and the existence of a system of borrowing and lending based upon margins of safety increases the nonlinearity, time dependence and dimensionality of the system.

II The structure of financial relations: Hedge, speculative and Ponzi financial postures as "cash flow" relations.

III. The Minsky hypothesis: Over a protracted period of good times the weight of speculative and Ponzi financial postures increases and this attenuates the robustness of the financial structure so that as the process continues the financial structure becomes increasingly fragile.

IV. The heavier speculative and Ponzi financing are in the total financing of an economy the greater the normal functioning of the economy depends upon markets and institutions which refinance positions. Normal functioning will be disrupted if the markets and institutions that do the refinancing are stressed.

V. Central banking and fiscal deficits as devices which thwart the tendency of the economy to become chaotic or incoherent. Late post war resilience as the result of an effective thwarting institutional structure.

V. Therefor fragility is a consequence of a normal functioning evolution of the economy and resilience is a consequence of the power of the institutional structure to dominate the endogenous processes.

VII. The coherence of the post war economy as a beneficial side effect of American economic dominance and the use of the fiscal policy model to sustain aggregate demand and aggregate profits.

IIX. Albin's Proposition: "The agents in the model have a model of the model"

IX. The 1991 power relations: The main actors and the model of the model that they have?

I. Introduction

The fragility and resilience of financial structures reflect the same fundamental relations, whether the structure be of an agent, (such as a household, a firm or a financial institution), a national economy, or the international financial order. These fundamental relations are the structure of payment commitments on liabilitiies, the normal sources of the funds with which these payment commitments will be validated, and the provisions for refinancing, working out or repudiating commitments as stated on liabilities when the contingency, that the normal sources do not yield sufficient funds to meet commitments, becomes the actuality.

Our subjects are economies in which there are systems of borrowing and lending based, as Keynes put it, upon margins of safety. These borrowings and lendings are devices by which control over resources, in excess of those which the borrower's own resources can command, are achieved. In exchange for financing such control "now" a lender receives a commitment from the borrower to make payments in the future. In the fundamental capitalist borrowing - lending exchange the resources which are controlled as a result of the financial transaction are capital assets. In the modern world, in addition to being used to finance capital asset control, borrowing on a large scale is used to finance household consumption, government deficits and deficits in international payments. Therefore the fragility and resiliance of the international financial order depends upon financial relations among a set of capital using capitalist economies, each of which has a sophisticated, complex and evolving financial structure. Each of these natioanl financial are more or less fragile or resilient.

In these economies the capital asset, labor force characteristics and the financial structure link every today to yesterdays and tomorrows. George Allen, the late great coach of American football, stated the principle that "The future is now": this is the guiding principle for decisions to invest. Investment decisions depend upon comparing the payment commitments through time required by the financing, which is made now, with concurrent views about a time series of cash flows that the project is expected to yield.[1]

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1 The formation of expectations is of course critical to both the theorizing about investment and finance and doing

For a capitalist economy Allen's dictum needs to be expanded to allow for "The past is now" inasmuch as payment commitments entered upon in the past come due and investments made in the past are the capital assets now being used in production. Furthermore even economists recognize that "Now is now". The behavior through time of a capitalist economy depends upon the evolution of financing commitments, this involves decisions made yesterday and today and current expectations of what will take place over tomorrows.

These complex time considerations mean that the formal representation of capitalist economies will take the form of nonlinear equation systems which are multidimensional and time dependent. As is well known such equation systems generate paths through time which are not well behaved: periods of apparently coherent macroeconomic behavior are interrupted by periods of apparently incoherent macroeconomic behavior. This implies that there are endogenous relations within economies which tend to create organized behavior even as there are relations which tend to

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investment and fianced. The volatility of the terms for financing investment and the margins of safety required by the various players in financing, that have been observed over the past decade, indicate that those models of expectation formation, called rational by their proponents, which relied upon a Walrasian model of the economy to generate the expected profit flows misspecified the model of the model that in fact seems to guide the expectations that lead to investment financing, financing of positions in capital assets and the determination of asset prices. A model of expectation formation for a financially complex capitalist economy needs to allow for euphoria and what Kindleberger called revulsion.

foster disorganized, incoherent or chaotic behavior. Furthermore the path through time that such systems generate, the transitions from coherence to incoherence and back again, as well as the time spent in each type of behavior, are not predictable. This is so because in any simplified system, which is all we can ever deal with, the parameters and even even the structure cannot be estimanted for they change so rapidly that reliable parameter estimation is not possible.

The broad implication of these considerations is that the traditional view of economies as equilibrium seeking and maintaining systems needs to be abandoned. Economies need to be considered as systems which move through time where the path depends upon the endogenous dynamic generating system and the impact of institutions, economic policies and random events.

These considerations imply that capitalist economies are likely to spin out of control from time to time. Furthermore the purely production and life cycle characteristics of economies are likely to be slow moving relative to the pace of change of financial output and price variables as the economy spins out of control. For example the production potential and human characteristics of the American economy were substantially the same 1933 as in 1929 but the financial and price level variables - in particular the prices attached to capital assets and the level of aggregate demand - were substantially different. The financial characteristics of capitalist economies introduce the incremental complexities that lead to the observed intermittent incoherence.

II. The Structure of Financial Relations: Hedge, Speculative and "Ponzi" Financial Postures.

Every unit in a capitalist economy can be characterized by an income statement and a balance sheet. The balance sheet states the units assets and liabilities as of some date in a common denominator. The income statement states the receipts and spending and therefor the net profits or savings over some period in the same common denominator. It is important to note that these common denominators are national monies.

The liabilities on a balance sheet which appear as a dollar amount as of a date are in fact commitments to make payments either on demand, when some contingency occurs or at specified dates. Furthermore there are meaningful penalties for not fulfilling payment commitments. A balance sheet is states the prior commitments of future cash flows to make payments that will "funded" by future wages, gross profits, taxes or receipts from international trade.

The normal sources of funds to fulfill payment commitments are income cash flows. Most importantly these income cash flows are the gross profits before taxes for business firms, wages for households, tax revenues for national and local governments and net trade receipts for the international accounts. These income cash flows may or may not be sufficient to fulfill the payment commitments on debts. If they are insufficient then the commitments may be fulfilled by various balance sheet operations.

A unit is a hedge financing unit when the income cash flows are sufficient in the current period and over the foreseeable future to fulfill all of the legally committed payments. Firms which are mainly equity financed so that there are no commitments to repay any principle sum and whose dividend payments are conditional upon future income are always hedge financed units. For hedge financed firms the threat of disruption of operations because of financial pressures is not large.

A second type of financing posture is what I called speculative finance, in that the unit's income flows can fulfill the interest payments on its indebtedness but is not large enough to fulfill commitments to repay principle. Furthermore the prospects are that the unit will be able to pay interest at the same level over the foreseeable future. This means that the unit can roll over its outstanding debts, it can issue new debt to raise funds to pay the principle due on maturing debts. Speculative financing units finance long positions with short debts: Governments that use Treasury Bills, Savings and Loan Associations and

Commercial Banks are examples of units that speculative finance at least part of their positions.

The third financing posture is Ponzi finance. In this posture the units cash flows are not large enough to meet the interest payments due on debts. These interest payments are met by increasing indebtedness. Inasmuch as indebtedness is increased even as there is no increase in assets Ponzi finance involves a decrease in the equity account and an increase in the future interest and principle payments. Furthermore debt and interest commitments increase even as there is no increase in the unit's earning capacity. The ability of a unit to Ponzi finance is limited, for as the ratio of payment commitments to expected cash flows increases the willingness of lenders to hazard financing the unit decreases. In the transformation that is taking place right now in the American economy examples of Ponzi financial postures are turning up in the business press almost every day. If one doesn't like the term Ponzi finance the term "capitalizing interest" can be substituted.

The robustness or fragility of a financial structure can be measured by the ratios of hedge, speculative and Ponzi financial structures in the economy relative to the size, expected increase and assuredness of cash flows. The fundamental propositions of the financial instability hypothesis that I put forth more than 15 years ago are:

If we do the multimarket equilibrium of Keynes in a manner that integrated finance then

1. There are financial regimes in which the system generates a stable equilibrium and there are regimes in which the equilibrium is unstable.
2. Over an extended period of good times the financial regime migrates from being conducive to stability to being hospitable to instability in that the proportion of units that engage in speculative and Ponzi finance increase.

The merger and take over movement of the 1980's clearly led to an increase in speculative and Ponzi finance: this increase followed a strong demonstration that effective government action can contain a recession.

III. Refinancing positions: the normal functioning of financial markets and institutions.

Not all units can meet their payment commitments by their income receipts: this is especially true of banks and other financial institutions but it is also true of organizations that use the modern commercial paper market. Such units expect to meet a portion of their payment commitments out of funds that they borrow from institutions or raise in markets. This means that their normal functioning depends upon the continued availability of funds from the markets in which they expect to do this refinancing. It is a major concern of policy that the continued availability of funds for refinancing short term debt that finances long period assets be available.

IV. Fragility as the result of normal functioning.

In an economy dominated by hedge financing units there are a great deal of short term funds in business portfolios and banks are liquid. In these circumstances short term rates will be substantially lower than long term rates. banks and other financial markets or institutions will be ready to advance short term funds to finance longer term positions. Business and financial institutions will take advantage of the term structure; even households may be able to make on the carry. As a result there will be good cost reasons for substituting some short term debt for both equity and long term debt in liability structures. Furthermore the low short term interest rates associated with robust financial structures means that profit maximizing lenders will substitute long term debt for short debt in their portfolios. What is good for a unit, what conforms to a units maximizing under the constraints of some total ability to externally finance or hold assets may well undermine the very robustness of the financial system.

The overall profit flows to business are determined by the composition of aggregate demand. In the simplest statement we have gross business profits = gross investment.

The implication of this accounting relation is that the ratio of gross cash flows that business in the aggregate receive to aggregate income equals the ratio of gross investment to gross national income.

An econmy that is mainly hedged finance will have a high ratio of equity to debt fianncing and a high ration of business cash flows to the business commitment to pay on debts. In this situation the liquidity of both business and finacial institutions will be high. Short term financing will be cheap relative to long term financing and in general debt will carry low interest rates: interest expense of debt will be low relative to gross profits. The term structure and the risk structure of interest rates makes the payment commitments for financing projects low realative to the cash flows that can be expected from investment projects that are expected to do well in the competetion for prfits. This cost structure encourages debt financing by both lenders and borrowers.

With debt financing available, investment is maintained and even increased. Increased aggregate investment leads to increased profits. In an economy world where units experiment with increasing short term financing of long positions, high and rising gross business profits validates the experiments. Emulation of the successes of the experimenters with speculative financing is fostered by the agents who operate on the lending side of the financial markets who see the process raising the demand for short term financing: after all bankers are merchants of debts and the profits of commerciasl bankers depend upon the demand for short term financing.

There is an internal inconsistency between financing terms and profit expectations during a period of mainly hedge financing: interest rates are low relative to gross business profits. The result of this internal inconsistency is an inducement for speculative financing. Speculative financing absorbs the pockets of idle cash, so short term interest rates rise. When this takes place heavily indebted speculative financing units find that they need to bridge finance payment commitments. Not only do speculative financing units become Ponzi financing units, but as a new era thinking takes over de nova Ponzi financing schemes are accepted as brilliant innovations. As was mentioned earlier Ponzi financing, whether the result of market forces that transform speculative financing into Ponzi financing or as a result of a la Milken pyramid schemes, decreases equity and increases debts without either contributing to the overall availability of profits or to improve the ability to compete for profits.

A capitalist economy is financially fragile when the system is highly indebted, the debt structure is heavily weighed with short term debt so that large scale refinancing is necessary and a substantial portion of units are Ponzi financing. The eroding equity positions associated with

Ponzi financing makes the aggregate of investment subject to sharp declines and in a highly indebted situation this increases the proportion of debtor units that are "Ponzi financing". Such a financial structure is very vulnerable to units needing to sell out position in order to make position which can lead to rapidly declining asset prices and to any decline in business profits.

Lending institutions, such as banks, depend upon debtor's meeting their payment commitments if they are to acquire new assets, if they are to finance investment. When banks and other creditors fail to extend refinancing loans, heavely indeted units are forced to try to make position by selling out position. This can be disastrous to asset values. A reconsideration of credit standards is a corralry of non-performing loans and falling asset values. A decline in financed investment will take place which leads to a decline in profit flows, which diminishes the margin of safety that protects lenders which leads to constraints upon refinancing, which leads to attempts to sell assets, which leads to a decline in investment. A process is at work in which each unit seeking its only its own good ends up contributing to a worsening for all. A market economy can readily spin out of control.

V. Central Banking and Other Thwarting Devices: Recent Resilience as the Result of the Institutional Structure.

Thwarting devices are structural features of the economy which dominate the internal processes in determining the path of the economy when the internal processes are leading to unacceptable results. . Such thwarting devices are operative when the economy seems ready to spin out of control. Modern capitalist economies have two types of thwarting devices. One is the central bank, which as the lender of last resort tries to contain the need for units and banks to make position by selling out position: such refinancing both puts a floor under asset prices and assures that the financing facilities for banks and businesses do not collapse.

A second is the government demand for goods and services as well as government transfer payments. These can be used to assure that aggregate profits are sustained in the face of a decline in business investment. The profit aquation for a an economy with a big government is

business profits = investment + government deficit

these two have been able to contain the recessions of the post war period. The question in 1991 is whether these two are adequate in the power relations that now rule.

VI. The Coherence of the Post War World Economy as a Beneficial Side effect of American economic Dynamism and the Fiscal Policy Model of the Economy as a guide to policy.

VII. Albin's Proposition: The Agents in the model have a Model of the Model.

VIII. The 1991 power relations: What is the model of the model that the main actors have.

Orwell: All agents are equal but some agents are more equal than others.

Germany's central bank "Fight inflation at all times"

Japan: Export now and forever.

Germany and Japan: Beggar my neighbor policies

The likelihood that policy will be inept in 1991 is too high for comfort An Anxiety Index.

The belief in the self righting properties of market economies is unwarranted. Nevertheless it pervades economic policy thinking. The American international financial position that enabled it to use the fiscal policy model was undercut in the 1980's. The success of global capitalism in the 1990's depends more upon what form Japanese and German policy take than upon what the United States does unless the united states is willing to hazard an international regime that developed under its auspices in the third quarter of the 20th century.