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Government in a Financially Unstable Capitalist Economy

by

**Hyman P. Minsky
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**Remarks prepared for the 14th Annual Outlook Conference of
the American Statistical Association, Chicago Chapter, Thursday, June 9,
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In the last quarter of 1974 and the first quarter of 1975 a sharp drop in employment and output took place. This drop was accompanied by the most serious financial trauma since the end of World War II. Not only did the five billion dollar Franklin National Bank fail, but three other banks in the billion dollar class either failed or were in such serious trouble during 1974 and 1975 that special Federal Reserve actions were required to abort bankruptcy. In addition an entire financial industry, the Real Estate Investment Trusts, was unable to roll over its commercial paper on the open market. Massive and often concessionary refinancing of the R.E.I.T.s by banks was required to prevent wholesale default. Recent Congressional comments confirm what many suspected: The Federal Reserve apparently was an accessory before the fact to the refinancing of at least some R.E.I.T.s.

In spite of the downward momentum due to widespread financial trauma, a huge fall in the stock market, an explosive growth of unemployment, and a sharp drop in industrial production, the decline of the economy came to an abrupt halt in the second quarter of 1975. A sharp increase in output and income followed in the third quarter of '75. It was just two years ago that "The Sky Did Not Fall" and the uncertain, tentative, oft limping and still incomplete recovery from the most serious recession since World War II began.

Events of two years ago are ancient history at an Economic Outlook Conference. Nevertheless in order to understand how our economy works we need to understand why the worse that could have happened - a collapse

into a Great Depression like that of the 1930's - did not happen in 1975. In no sense was the resilience of the economy due to any innate characteristic of a market economy. The economy's quick bottoming out was mainly due to how big government affects the cash flows of households, businesses, and financial institutions when our economy slumps. The basic financial interactions among sectors by which an increase in a deficit someplace has to be offset by a decrease in some deficits or an increase in some surpluses affects both the course of the economy once it goes into a slump and the markups on costs that can be realized. Our type of big government acts as a stabilizer when it prevents declines from becoming deep depressions and as a destabilizer by being in part responsible for chronic inflationary pressures.

The behavior of our economy since 1966 constitutes prima facie evidence that it is unstable. Three times within a decade, in 1966, 1970 and 1974/75, special intervention by the Federal Reserve and other monetary authorities was needed in order to prevent what was believed to be a threatened financial crisis: After a hiatus of more than thirty years, the Federal Reserve had to act as a lender of last resort. This Federal Reserve action was one, but not the only, important reason why these financial crises did not lead to a serious depression. The sky did not fall in 1975 because of the various ways big government offsets the momentum of a cyclical decline.

Our attitude to government has to be two-faced. On the one hand big government is necessary if we are to avoid Great Depressions, such as characterized our history prior to World War II. On the other hand the

existing structure of government economic policies fosters inequity, inefficiency, and is responsible for some of our chronic inflation. We must recognize the necessity for big government even as we realize that the big government we have is not apt. We need to explore alternative structures of government economic intervention to discover those that are more conducive to efficiency, equity, and stability than our present system.

Our subject is our economy, not an economy described by the abstract relations of a pure theorist or by an econometricians equations. Our economy is a capital using capitalist economy with sophisticated, complex and ever evolving financial usages. Production is carried out by using complex capital-assets that have long technical lives. Almost all capital-assets are privately owned, which, in today's economy means that corporations are the direct owners of capital assets. Corporations finance their positions in capital and financial assets by means of debts and equity shares. Households that own wealth typically own paper (aside from residential housing); either the direct paper of corporations that own capital-assets or the paper of financial intermediaries. Capital assets and most financial instruments can be traded; this means that they have prices denominated in dollars.

Thus we need deal with an economy in which there are two sets of money prices. One set consists of the wages of labor and the prices of current output (including investment output). The other set consists of the prices of capital-assets and financial instruments. These two sets of prices are determined in two quite different sets of markets. Current output and capital asset prices depend upon quite different sets of

relations: Current output prices depend upon money wages, supply conditions, and aggregate demand whereas capital-asset prices depend upon capitalization rates and current views about future profits. For our economy to function normally the current prices of capital assets must be high enough to make current production of investment goods profitable. An economic theory for our economy needs be concerned with what determines the alignment of these two sets of prices. A major shortfall of existing standard theory is that it does not address this problem.

The paper issued by corporations and financial institutions are commitments to make payments - at particular dates, on demand, or if a stated contingency occurs. The organizations that issued this paper have undertaken commitments to pay money. Presumably the money to fulfill these commitments will come to the organization from its income earning activities, from the sale of assets, or from cash that is on hand from previous activity.

One way our economy can be characterized is by outputs produced, consumption patterns, and inputs used to produce outputs. Leontief's input-output analysis and the econometric models of the various forecasting services are two technological views of our economy. Our economy can also be seen as a maze of money flows due to its financial interrelations and technological characteristics. In order to understand how its capitalist nature affects the way our economy operates it is necessary to adopt the maze of money flows perspectives.

In our economy the owners and operators of capital assets are under various contractual obligations to pay cash. Ultimately the cash

to fulfill such obligations is obtained from the excess of sales revenues over operating costs. When the economy is functioning normally these gross profits generates sufficient cash so that firms fulfill their payment commitments or are able to roll over maturing debt.

Production in a capitalist economy is for profit. In an economy with a complex financial system profits validate business debts and enter into the determination of equity shares and capital-asset prices. The present value of expected profits determine the pace of investment by first determining the market valuation of the existing capital-stock.

What determines profits? In a world with business cycles - with instability such as characterized 1973-75 - the technical productivity of capital assets does not generate profits: It is the scarcity of capital asset services that leads to output prices greater than average variable costs. This excess multiplied by sales is the economically relevant profits. Fluctuating demand relative to essentially fixed supply conditions lead to variations in profit.

I will now skip some simple algebra and simply assert some vital relations. Under quite heroic simplifying assumptions profit, as defined above, equals gross investment. The assumptions underlying this assertion are that the value of investment output equals the wage bill in investment plus profits in investment production, the value of consumption output is the wage bill in consumption plus profits in consumption production, there is no government, all of wages are spent on consumption and none of profits are spent on consumption.

Profits are the gross cash flows that accrue to corporations as they use their capital-assets in production. Profits are used to meet

commitments on debts (validate debts), pay dividends, pay taxes, and increase corporate net worth through retained earnings. Retained earnings become an 'internal' source of financing of investment. If investment increases then the aggregate profitability of business increases; this implies that debt servicing becomes less of a burden, higher dividends can be paid, retained earning can increase net worth more rapidly and more investment can be financed through internal funds. If investment decreases the reverse is true: Aggregate profitability of business decreases and in particular the burden of debt increases, as does the dependence upon external funds to finance investment. If the burden of indebtedness is high enough and if the fall in investment is sharp enough then business may find it difficult to meet payment commitments on their debts. Failure to meet payment commitments on outstanding debt implies that further debt financing cannot take place. In an economy with no or little government and with capitalist financial institutions a drop in investment implies that the burden due to debts increases, which tends to decrease subsequent investment; in a capitalist economy with a small government a deflationary interactive process can be triggered readily.

Let us modify the economy and allow for a big government. Let us assume the government pays wages to workers it hires and has various transfer payments schemes. Let us also assume taxes are on wages and profits. In this case after tax profits equals investment plus the government deficit.

The proposition that profits equals investment plus the government deficit is a key to understanding why the sky did not fall in 1975. In

the second quarter of 1975 the Federal Government ran a seasonally adjusted deficit in the neighborhood of \$100 billions, for the calendar year 1975 the deficit was \$73 billions. The 1975 Federal government deficit was some \$61.7 billions greater than the 1974 federal deficit. This increase in the Federal Deficit was partially offset by a \$15.6 billions increase in household savings but it was mainly reflected in a decrease in the business deficit of some \$46.3 billions. This \$46.3 billions decrease was made up of \$33.1 billions increase in business internal funds and a \$13.2 billions decrease in business investment.

The huge increase in the government deficit in 1975 over 1974 is the principal reason why the steep decline of 1974IV-1975I was halted; in 1975II when the decline halted the deficit ran at a \$100 billions annual rate.

The events of 1975 constitutes a dramatic display of the power of big government to avert a deep depression and the efficacy of fiscal policy in turning slumping economy around. Big government braked the steeply falling economy of 1974IV-1975I in three ways: It sustained aggregate demand, it assured that corporate cash flows did not collapse, and it provided a large infusion of default free assets to a financial system that was eager for safety.

(1) By sustaining disposable income, through its own employment, transfer payments, and contracts (mainly defense), government directly sustains demand and employment. This aggregate demand effect is taken into account in standard economic analysis. For our purposes it is trivial.

(2) Big government automatically generates a huge deficit whenever income falls. In 1975 this was augmented by a discretionary expansive

fiscal policy in the form of tax rebates and improvements in transfer payments. Money was literally thrown at the recession. Part of this deficit showed up in household saving, but it also led to a decrease in the business deficit. The gross internal funds of business increased by some 23% over 1974; of the \$61.6 billion dollar increase in the total government deficit \$33.1 billions became an increase in business internal funds. Business internal funds are the cash flows that are available to meet the payment commitments on business debt. The debt servicing and carrying capacity of business increased even as the economy went into a deep recession.

If government were small the decline of some \$13.2 billions in gross private investment and the rise in household saving of \$15.6 billions that took place in 1975 would have forced a \$28.8 billions decrease in business gross internal funds. In 1974 business internal funds were \$141.7 billions; in 1975, with big government, business gross internal funds were \$174.8 billions. In the absence of big government, business internal funds in 1975 would have been about \$113 billions. With small government the decline of investment of 1975 and the rise of the household savings ratio would have led to a huge decrease in the ability of business to meet debt commitments. By sustaining business cash flows the massive government deficit of 1975 prevented financial repercussions from amplifying the initial precipitous decline.

(3) The increase in outstanding government debt due to the deficit of 1975 fed a huge volume of default free Treasury debt into the economy. As a result of the "performance" of the stock market, the failure of a goodly number of banks and the de facto destruction of the R.E.I.T.s, banks,

business and households sought safety and liquidity. In 1975 the Federal Government debt held by households and business increased by some \$25 billions and that held by commercial banks increased by \$29 billions. As a result of the infusion of government debt into the banking system the money supply was increased even as private indebtedness decreased. Availability of new issues of government debt for private portfolios was a stabilizer in 1975.

The profits equals investment and profits equals investment plus the government deficit relations can be extended to account for the balance of payments, savings out of wage income, and consumption out of after tax profits.

A balance of payments deficit is an offset to profits: Profits plus the balance of payments deficit equals investment plus the government deficit. Secretary of the Treasury Blumenthal stated late in May that the United States balance of payments deficit is expected to be in the neighborhood of \$12 billions: The trade deficit seems to be running at twice that level. This deficit is a decrease of \$12 billions in the cash flows available to validate business debt and sustain capital-asset and equity prices. The energy crisis has little to do with the supply or price of oil: The crisis is due to the unfavorable implications for the normal functioning of the United States' economy of a huge balance of payment deficit during prosperous times. The structural relations that generate this huge payments deficit during prosperous times makes the achievement and the sustaining of prosperity difficult if not impossible. In the absence of apt policies that reduces its dependence upon imported oil the United States is doomed to a stop-go economy that has difficulty

Sectoral Surpluses and Deficits
1972-75

	1972	1973	1974	1975
Households				
Disposable Personal Income	801.3	903.1	983.6	1,076.8
Personal Outlays	<u>751.9</u>	<u>830.4</u>	<u>909.5</u>	<u>987.2</u>
Personal Saving (Surplus)	+49.4	+72.7	+74.0	+ 89.6
Business				
Gross Internal Funds	131.3	141.2	141.7	174.8
Gross Private Investment	<u>-179.2</u>	<u>-220.2</u>	<u>-209.5</u>	<u>-196.3</u>
Deficit or Surplus	-47.9	-79.0	-67.8	-21.5
Government				
Federal Gov. Deficit or Surplus	-17.3	-6.9	-11.7	-73.4
State Gov. Deficit or Surplus	<u>13.7</u>	<u>12.9</u>	<u>8.1</u>	<u>10.0</u>
Total Gov. Deficit or Surplus	- 3.6	+ 6.0	- 3.6	-63.4
Total Surpluses	49.4	78.7	74.0	89.6
Total Deficits	<u>-51.5</u>	<u>-79.0</u>	<u>-71.4</u>	<u>-84.9</u>
Discrepancy	- 2.1	- .3	+ 3.6	+ 4.7
Households Savings as % of Disposable Personal Income	6.08	8.05	7.52	8.92
Business Deficit as a % of Gross Private Investment	26.73	35.88	32.4	10.95

SOURCE: President's Economic Report (1976): Table B-18

in attaining even a close approximation to full employment. Furthermore such an economy will experience chronic pressures upon the international value of the dollar. We all now know that a downward floating dollar implies domestic inflation.

The simple formula that yielded profits equals investment can be amended to show that after income tax profits equals investment plus the deficit, that saving out of wage incomes tends to decrease profits associated with any level of investment and government deficit, and that consumption out of profit income tends to increase profits. The business cash flow net of consumption out of profits equals investment etc. unless consumption out of profits consists largely of imported items.

Profits are the cash flows that are available to business to validate debts, provide internal funds for investment, and pay dividends. Profits, current and expected, along with capitalization rates determine the prices of capital-assets and equity shares. This leads to a basic instability in our economy. An increase in profits will lead to an increase in investment, which in turn increases profits and leads to a further increase in investment. This argument is symmetric with respect to declines in investment and profits.

As investment increases so do profits, capitalist consumption, and because of feedbacks from prosperity to workers behavior, workers consumption. If as prosperity increases imports increase in a nonlinear fashion with respect to total demand, then profits available to meet debt commitments tapers off.

Investment and positions in capital assets and many types of financial instruments are financed by debts of various kinds. When our economy

expands the ratio of external to internal financing of corporate investment increases. Furthermore corporate debt relative to assets and cash flows increase during the refinancing of positions in capital assets that occur when corporate takeovers, mergers, and transactions in capital-assets takes place. The conglomerate movement increased business debt, relative to existing and anticipated profit flows.

So far we have emphasized how profits are sustained by a government deficit as an economy with a big government enters into a recession. The downside instability of our economy that brings this relation into play is due to the way payment commitments on financial instruments are affected by market developments and by changes in the structure of debt. Payment commitments on debts are on account of both principal and interest. The rate of interest and the length of time to maturity of financial instruments affect payment commitments.

Our experience is that debt financing of investment, interest rates and the proportion of debt that is short term increase during prosperity. The shortening of debt terms implies that an increase proportion of the funds for financial payments have to be obtained by refinancing outstanding debt: Borrowing from Peter to pay Paul becomes increasingly prevalent. Furthermore as prosperity is sustained a larger proportion of debt reflects the view that an appreciation of asset values will provide the funds to validate debt. In terminology that I have used elsewhere, the proportion of speculation and Ponzi finance increases as prosperity is sustained.

Investment is a peculiar type of financial contract; investment involves spending money now in exchange for money in the future. The realized price of investment output must allow for interest on early on costs of

production if producing investment goods is to be profitable. The greater the gestation period of an investment project the more significant interest costs. During a vigorous expansion interest rates, both long and short term, rise. The rise in short term rates increases the supply price of investment output even as the rise in long term rates decreases the present value of completed capital assets. The margin between the value of the capital asset and the investment output, which is the basic inducement to invest, decreases and may even become negative as interest rates rise. Such a present value reversal is a normal functioning relation which brings an expansion to a halt and triggers a contraction.

The upward instability due to the relation between investment and profits sets up forces that tend to constrain the expansion. Experience amply indicates that in our economy with our present institutional arrangements the constraint upon this upward expansion does not lead asymptotically to a stable growth path, but rather leads to a sharp break in asset values and difficult refinancing problems. Our economy regularly enters into taut financial situations which threaten to trigger a cumulative deflation.

We have an economy that is inherently unstable, both upwards and downwards, in which the upward explosion is broken by the effects of financing terms and in which the downward explosion is now broken by the profit flows that result from government deficits.

In any capitalist economy the upward expansion will be broken by the internal dynamics of cash flows. However in our capitalist economy which suffers from chronic inflationary pressures an acceleration of inflation during an expansion brings forth deliberate central bank actions

aimed at halting inflation.

Chairman Burns loves to fight inflation, which is surprising because his track record is so bad. We know why his track record is bad, the theory he uses makes no allowances for financial interrelations and cash flows that effectively govern the operations of our economy. In an economy with a complex financial structure monetary policy cannot ignore the cash-flow and asset value implications of interest rates. Blathering about price level deflated interest rates does not hide the reality of the cash payment and present (market) value implications of an explosive rise of interest rates. Monetary policy cannot offset the mucking up of the price level that follows from inept policy and an inappropriate economic structure.

The relations which show how investment determines profits also show that the markup in the price of consumer goods over the wages per unit of output of production workers is positively related to the size of the wage bill in the production of investment goods, government employment (both direct and in the production of goods for government use), government transfer payments, and consumption out of profits relative to the wage bill in producing consumer goods. From the perspective of this analysis corporate overhead such as executive salaries, advertising, research and development, and bribery are an allocation of profits. The billings of N.B.C., C.B.S., and A.B.C. show up in the price level as a mark up on out of pocket labor costs. We all know that there is no such thing as a free lunch. A growth of television billings shows up as an inflationary pressure: Mary Tyler Moore may be lovely but she is not for free.

The allocation of profits to executive salaries, advertising, research

and development, and bribery, means that profits are used to finance consumption. Consumption out of profits tends to increase profits; the mark up on production wages per unit of output increases as such expenditure rise relative to direct wages.

In an economy with partial trade unionism, where the strength of trade unions vary, some unions will succeed in protecting their members against the determination of price deflated wages that occurs when investment, transfer payments and consumption out of profits increase. Successful "defensive" behavior by strong trade unions puts upward pressure on wages and prices even in times of recession; in prosperous times the pressure on wages from weaker trade unions (which are strengthened by prosperity) puts further upward pressure on prices. Because of the wage parameters in inflation government policies must move towards the development of universal trade unionism and comprehensive collective bargaining.

The three threats of a financial crisis and deep depression that have taken place since 1966 were offset by a combination of lender of last resort action by the Federal Reserve and by government deficits. The Federal Reserve intervention validated instruments used in the prior expansion and set the financial stage for another round of inflationary expansion [the present difficulties of the giant banks with their foreign deposits and loans are largely due to the signal the Federal Reserve gave when it validated the offshore liabilities of Franklin National]. Government deficits during recessions are in part due to the automatic workings of the spending and tax laws but in each case the automatic stabilizers were augmented by increases in transfer payments and by tax manipulations mainly designed to stimulate investment. But investment spending and

transfer payments are inflationary. Not until we break with the view that increasing investment as a proportion of output is always a good thing and the dependence upon transfer payments as our main income maintenance device can we hope to break the inflationary thrust of our economy.

Inflation in our economy is not the result of an abstract money supply being too large. Inflation in our economy is the result of too little production of consumer goods relative to the demand for consumer goods as generated by investment goods production, government output, transfer payments, and consumption demand financed by profits. In order to cut inflationary pressures we have to increase the production of consumer goods relative to investment, government output that does not lead to household well being, transfer payments and profits that finance consumption.

Everything that is done to expand investment as a proportion of income, everything that is done to increase disposable income independently of labor market activity, and every government expenditure on defense, etc. is inflationary. A successful fight on inflation cannot be mounted by Federal Reserve action: All the Federal Reserve can treat is a symptom of inflation and not a cause of inflation. A successful fight against inflation involves decreasing the weight in the policy mix of inducements to invest, such as the investment tax credit and artificially rapid depreciation, barriers to employment, such as social security taxes and institutionalized retirement, and income from transfer payments.

The emphasis in economic policy need shift towards employment in the production of consumer goods. We need to deliberately move to a full

employment, high consumption, low investment economy. Instead of transfer payments discouraging labor market participation, government income maintenance schemes need to be changed so as to encourage labor market participation.

In order for income maintenance policies that encourage labor market participation to be successful, jobs must be available not only for all who are now in the labor force but for all who might enter the labor force if jobs existed. The only organization that can guarantee jobs for all is the government. Thus I propose a vast expansion in direct government employment by reviving the W.P.A., C.C.C. and N.Y.A. of the 1930's and making these programs permanent and open ended. The policy should be that all who want income will have an opportunity to earn income; a job at the minimum wage will be available for all.

Along with the shift towards a W.P.A. job strategy both aid to dependent children and the present children's deduction in the income tax should be replaced by a universal children's allowance of some \$35 per month. Social Security taxes and the tying of medical insurance to wage costs must be eliminated; instead of Social Security and health and welfare acting as barriers to employment, medical care and retirement transfers must be financed by value added or income taxes.

The W.P.A./removal of barriers to employment/children's allowance policy strategy is part of a package aimed at removing barriers to labor intensive production processes. It is evident that the combination of inducements to invest, the preferential treatment of corporate income, and the barriers to employment have led us to adopt inappropriately capital intensive techniques. Our economic development has been unbalanced since

the Great Depression: We have destroyed the small shop, artisan, tradesman, and independent producers base of our economy and have gone in for large scale massive organizations that use government to validate their decisions. Not since the T.N.E.C. of the late 1930's has the legitimacy of the government grant of privilege to the corporation been questioned. It is time that we once again inquire into whether the private corporations, especially the giant corporations with multi-billion dollar footings, serve us well.

Thus we need big government. As long as we have a high investment philosophy we will have a highly unstable economy. In these circumstances big government is a necessary safety net to prevent another great Depression such as we missed by the proverbial "Skin of your Teeth" two years ago.

However what we have is increasingly unstable and, because it requires inflation to validate financial commitments, increasingly inefficient. The fact that we now can prevent great depressions is an improvement over the capitalism that ruled prior to the World War II, but it seems as if the process by which we prevent Great Depressions leads to a significant impoverization of many; the United States is not now doing well in improving the standard and quality of life of all but some 20% of the population. Thus we need thoroughgoing reform; reform that gets the economy off of the inflation-Great Depression treadmill.

The solution I propose involves an effort to move towards a simple full employment goal; one that uses the Federal Government as an imaginative employment foundation so that everyone has a guarantee of a job at the minimum wage. Note that with the universal children's allowance and

multiple employment possibilities a guaranteed job at the minimum wage will eliminate poverty for almost all.

Side by side with the W.P.A. strategy we need active encouragement of labor intensive production. We have gone much too far in the direction of capital and energy intensive techniques. Quality production using the most valuable and ever renewable resource, people, should be our objective.

As employment opportunities in more labor intensive occupations increase the W.P.A., C.C.C. and N.Y.A. effort can diminish. In these circumstances government will become smaller than it had been. But as our history has shown, as long as an economy is capitalist it will tend to generate conditions conducive to financial crises and deep depressions. Thus for the sake of stability, government must remain a large part of our economy.

The withering away of the state is not a feasible nor a desirable policy objective in the foreseeable future.

Technical Notes for
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1) This paper rests upon a theory of how the cash flows which enable business to pay debts and which make capital assets valuable are generated.

2) The simplest model: No government, no foreign trade, workers spend all wage income on consumption, profits do not finance consumption. Two outputs (consumption and investment).

- a) $P_c Q_c = W_c N_c + W_I N_I$ (demand for consumption)
 b) $I = P_I Q_I = W_I N_I + \pi_I$ (distribution of revenues from Investment)
 c) $P_c Q_c = W_c N_c + \pi_c$ (distribution of revenues from consumption)
 d) $W_c N_c + W_I N_I = W_c N_c + \pi_c$ (a+c)
 e) $W_I N_I = \pi_c$ (from d)
 f) $I - W_I N_I = \pi_I$ (from b)
 g) $I = \pi$ (e + f)

Symbols:

- P_c, P_I prices of consumption and investment goods
 Q_c, Q_I quantities of consumption and investment goods
 W_c, W_I wages in consumption and investment goods
 N_c, N_I employment in consumption and investment goods
 π_c, π_I profits in consumption and investment goods

3) Government, with taxes on labor income and profits

- a) $Df = W_G N_G + T_r - T_w (W_c N_c + W_I N_I + W_G N_G) - T_\pi \pi$
 b) $P_c Q_c = W_c N_c + W_I N_I + W_G N_G + T_r - T (W_c N_c + W_I N_I + W_G N_G)$
 c) $\pi_c = W_I N_I + Df + T_\pi \pi$
 d) $\pi_I = I - W_I N_I$
 e) $\pi = I + Df + T_\pi \pi$
 f) $\pi^* = I + Df$

Symbols as above plus

- $W_G N_G$ = Wages and employment in government
 T_r transfer payments, government
 T_w tax rate on wage income
 T_π tax rate on profit income
 Df = government deficit
 π^* = after tax profits

4) government, foreign trade

- a) $M + P_c Q_c = W_c N_c + W_I N_I + W_G N_G + T_r - T (W_c N_c + W_I N_I + W_G N_G) - T_\pi \pi + X$
 b) $BPDf = M - X$

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- a) $M + P_c Q_c = W_c N_c + W_I N_I + W_G N_G + T_r - T (W_c N_c + W_I N_I + W_G N_G) - T_\pi \pi + X$
- b) $BPDF = M - X$

- c) $BPdf + P_c Q_c - W_c N_c = W_I N_I + Df + T_\pi \pi$
 d) $BPdf + \pi_c = W_I N_I + Df + T_\pi \pi$
 e) $\pi_I = I - W_I N_I$
 f) $BPdf + \pi^* = I + Df$

Symbols as above plus
 M, X = imports, exports
 BPdf = balance of payments deficit

- 5) as above with savings out of wage income
 a) $M + P_c Q_c = \Sigma W + T_r - T_\pi \pi + X - SEW$
 b) $BPdf + \pi_c = W_I N_I + Df + T_\pi \pi - SEW$
 c) $\pi_I = I - W_I N_I$
 d) $BPdf + \pi^* = I + Df - SEW$

Symbols:
 $\Sigma W = W_c N_c + W_I N_I + W_G N_G$
 S = savings ratio for wages

- 6) as above with consumption out of after tax profits
 a) $BPdf + \pi^* = I + Df - S \Sigma W + c\pi^*$

Symbols
 c consumption ratio for profits

- 7) From 6a we can get
 a) $BPdf + \pi + \Sigma W = I + Df + \Sigma W - SEW + c\pi^*$
 b) $= I + Df + cW + c\pi^*$
 c) $BPdf + \pi + W = I + Df + C$
 d) $M - X + \pi + W = I + G - T_x + C$
 e) $M + \pi + W + T_x = C + I + G + x$
 f) $C + I + G + x = \text{Gross Domestic Product} = W + \pi + M + T_x$

7f is a standard definition of Gross Domestic Product.

By looking at the way cash flows are generated we get a different way of looking at the relations of our economy.