

1984

I-O Marx Interest Payments

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I-O/MARX : Interest Payments

~~2000~~ T-O / MARX : Interest

Interest Payments in I-O

8/1/85

1. In case of business interest payments alone, the ~~original~~ imputations procedure shifts them from being part of business sector GVA to ~~intermediate~~ business "intermediate inputs (finance charges)"

- The sum of these (NIP)'s by business
= total revenue ($m_F + Y_F$) of finance sector = TR_F ~~or TR_F~~ = \$400

- Since GVA of business is reduced by TR_F and this own shows up as
a) Finance charges paid by business
= $\sum SC_{P,T,R} = TR_F$

b) Total Revenue of Finance = $m_F + Y_F$

We can either count $Y_{P,T,R} + \sum SC_{P,T,R}$

OR count $Y_{P,T,R} + Y_F + m_F$

2. In case of consumer, govt. interest payments alone, the original payments by business to consumers are left in business GVA (i.e. imputations procedure does not affect them).

(i) Thus, business GVA is not reduced (by \$400)

(ii) But finance TR is increased by business NIP's to consumers + govt
(+) consumer + govt net int. paid to finance = $400 + (500 - 400) = 500$

(iii) ~~So TR_F is 500~~ ~~input~~ imputations procedure

Int. Payments in F-O

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therefore creates +\$500 of fictitious service charges in consumer & govt columns, so that from F-O point of view everything balances.

$$m_P + Y_F = TR_F = \text{\$}(SC_H + SC_G)$$

(iv) The upshot of this is that we cannot count both $Y_{P,IR}$ and/or $\begin{cases} TR_F = m_P + Y_F = \text{\$}500 \\ SC_H + SC_G = \text{\$}500 \end{cases}$

Since the former ^{now} includes ~~the~~ good part of the _{either of} latter ^{two} (\$400 out of \$500)

- So either: $Y_{P,IR} + \overset{NIP_{H,G}}{SC_H + SC_G}$

$$\text{or} = (Y_{P,IR} - \underset{\text{to H,G}}{(NIP)_{P,IR}}) + (Y_F + m_F)$$

3. It is for these reasons that when both business & consumer payments are combined, the general form is

$$Y_{P,IR} + \sum_{P,IR} SC \quad ?? \quad - SC$$

Imputation of Interest Payments in IO

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0 ~~0~~

1. BUSINESS Interest Payments

If (non-financial) business pays \$400 in net interest to finance sector $\rightarrow TR_F = \sum (NIP)_{P+T} = \400

(i) From Marxian point of view, we could count ~~gross~~ gross surplus value:

either at point of original realization = $Y_P + (Y_T + m_T)$, in which case the revenue received by the finance sector is already included in Y_{P+T} in the form of NIP_{P+T}

$$GVA^* = Y_P + (Y_T + m_T)$$

or we can reduce Y_{P+T} by $NIP_{P+T} = \$400$, and then add $Y_F + m_F = \$400$

$$GVA^* = (Y_P - NIP_P) + (Y_T - NIP_T) + m_T + (Y_F + m_F)$$

$$GVA^* = Y'_P + (Y'_T + m_T) + (Y_F + m_F)$$

$$\text{where } NIP_P + NIP_T = Y_F + m_F = TR_F$$

(ii) Imputations procedure of I-O/NIPA in effect transforms Y_P, Y_T into $Y'_P = (Y_P - NIP_P)$, $Y'_T = (Y_T - NIP_T)$ by transferring business net interest payments out of business GVA and into business intermediate inputs (as service charges $sc_P + sc_T$). Thus, now we can write:

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Imputations of I-O Payments in I-O

either ① $GVA^* = Y_p + (Y_T + m_T) + (SC_p + SC_f)$
||

or ② $GVA^* = Y_p + (Y_T + m_T) + (Y_f + m_f) = Y + m_T + m_f$

where now $Y_p + Y_T$ is effective demand of any net interest payments by business to finance.

(11) On many grounds, the second form above is the most attractive, because it allows us to estimate Marxian gross value added as

$GVA^* = Y + m_T + m_f$, where $Y = GVA = Y_p + Y_T + Y_f$

But unfortunately it is the first form, not this second one, which is the more general.

when we introduce consumer & govt. interest payments then form ② does not work.

Do GFV*

2. Consumer Interest Payments

These are two issues here: first, net interest payments by consumers to finance, independent of any interest received by consumers from non-financial business; and second, net interest received by consumers from non-financial business = net interest paid by business to consumers

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2 ... Consumer Int. Payments etc.A. Interest Paid by Consumers to Finance.

In our traditional example, the total (wages + profit) revenue of consumers coming from non-financial business is $W_{P+T} + \pi_{P+T} = Y_{P+T} = \1400 .

Suppose consumers pay \$100 of this to finance, as net interest paid $NIP_{HF} = \$100$.

Purchasing power of consumers is initially reduced by \$100, and total revenue of finance sector is increased by $TR_F = m_F + Y_F = \$100$. Of this, $Y_F = W_F + \pi_F$ returns to consumers as "revenue", while m_F is retained by ~~business~~ ^{finance} sector as equivalent of net inputs used up ~~earlier~~.

$$\begin{aligned} \therefore \text{Final } \overset{\text{net}}{\text{Revenue of Consumers}} &= Y_{P+T} - m_F = [Y_{P+T} - NIP_{HF} + Y_F] \\ \text{Net Revenue of Finance} &= m_F \end{aligned}$$

- (1) On side of Marxian GVA*, this all amounts to a recirculation of revenues which have already been accounted for at their point of origin in P+T. As shown above, the apparent expansion of ~~the~~ total economy-wide sectoral receipts by $+TR_F$ is simply due to transfer of revenue from P+T workers and capitalists to Finance sector firms, workers & capitalists. There is no net increase.

UP shot is that $Y_p + Y_T + m_T$ ^{would} ~~be~~ ^{always} ~~be~~ lowest if it were not for fact that imputations procedure affects $Y_p + Y_T$ differently for business int. payments + consumer int. payments

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2 Consumer Int. Payments ...

A. Int. Paid by Consumers to Finance ...

(i) Marxian GVA* ...

It follows that on value added side, we still have

$$\boxed{GVA^* = Y_p + Y_T + m_T = \$1400}$$

[If we wished to include $TRF = Y_F + m_F = \$100$ explicitly in this total, then we would have to deduct the same amount from $Y_p + Y_T$, on the grounds that MIP_{AF} is really an indirect transfer of S.V. from non-financial business to finance sector. But this would serve no useful purpose, particularly since ^{MIPAF=0} imputations procedure does not make this particular deduction for us (unlike earlier case of business net int. payments, where it did do so).]

(ii) On Marxian GFCV* side, the net revenue ^{of \$100} transferred by P+T workers + capitalists to finance sector involves ~~recap~~ a net loss of "effective demand" ^(including ADW) of \$100 from these consumers, which is exactly counterbalanced by the corresponding gain arising from the recapture of this same amount by finance sector firms (MF), workers (WF) and capitalists (AF).

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2. Consumer Int. Payments

A. Int. Paid by Consumer...

(i) Marxian GFD ...

It follows from this that ^{total} $(C + I)$ is not changed by this re-circulation of revenue (since I includes ΔMV)

$\therefore GFD = C + I = \1400

(iii) Imputations Procedure

The net effect of the imputations procedure is simply to create an additional \$100 of ^{fictitious} consumer purchases of "finance services", (finance row, consumption col.) so as to compensate for the +\$100 in ^{measured} total revenue of finance sector. This allows NIPA/F-0 to treat the additional revenue of finance as an net addition to aggregate economy-wide gross output (i.e. finance is made into a "production sector")

a) Prior to imputation procedure, measured ^{aggregate} $GVA = Y_F + Y_P$ is now greater by $+ Y_F = \$100 - m_F$.

But ~~since~~ the net revenue of all workers & capitalists is reduced by $-m_F$, which is the portion retained by finance sector as equivalent of int. inputs used up. Thus total GFD = C + I is now smaller by $-m_F$

b) It follows that the total gap between GVA and $GFD = Y_F + m_F = \$100$ and it is exactly this amount which the imputations

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procedure adds to the final demand side in the form of fictitious consumer purchases of financial services $SC_H (= \$100)$.

d) It follows from all this that the overall ^{in NIPA/I-O accounts} result is that ^{and as expanded} economy wide ~~measures~~

~~Measured~~ ^{Recorded} Total Gross Output is expanded by $TR_F = m_F + Y_F = \$100$

~~Measured~~ ^{Recorded} Total Gross ^{Use} ~~expenditure~~ is expanded by $SC_{HF} = NIP_H = \$100$

- Because they treat TR_F as additional product, not merely revenue transfer
- Because they treat SC_F as additional purchase, not merely transfer.

(iv) Marxian I-O Relations

From our point of view, both of the above recorded expansions of recorded GO and ~~GU~~ are double-counting (i.e. treating transfers as creation and consumption of additional production). We must therefore exclude both:

Marxian Gross Output, (GO^*) and $GVA^* = GO^* - mp$

$$GO^* = GO - TR_F \\ = (Y_p + Y_r + Y_f) + (m_p + m_T + m_F) - (Y_f + m_p)$$

$$GO^* = m_p + [Y_p + (Y_r + m_T)]$$

$$\therefore GVA^* = Y_p + (Y_r + m_T)$$

$$\text{where } Y_p + Y_r = Y - Y_f$$

$$\therefore GVA^* = m_T + Y - Y_f$$

Marxian Gross Use (GU^*) and GFU^*

$$GU^* = C + I + m_p + m_T + m_F - SC_H$$

$$GO^* = [(C - SC_H) + I] + (m_p + m_T + m_F)$$

$$\therefore GFU^* = [(C - SC_H) + I] + (m_T + m_F)$$

$$\text{where } SC_H \mp TR_F = m_F + Y_f, FD = C + I$$

$$\therefore GFU^* = FDI_T + FD - Y_f \quad \checkmark$$

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B. Business Interest Payments to Consumers

Suppose business pay \$400 in MIP_{P+T} to consumers, ~~now, for~~ which they ~~take as part of~~ retain as revenue.

- 1. On VA side, profit is less by this same amount (by construction), so Y_{P+T} is unaltered
- 2. Total revenue of consumers $\equiv Y_{P+T} = W_{P+T} + \Pi_{P+T}$ is also therefore unaltered
Thus total C+I is unchanged
- 3. It follows that no change appears either in Marxian measures ~~from this~~ or in F-O NIPA (since no new sector is created). Thus

$$GVA^* \equiv Y_p + (Y_T + m_T) \quad \Bigg| \quad GFU^* = C + I + m_T$$

C. Combined ^{Business Payments to Finance, of} Business Payments to Cons. ^{+ Govt} Payments to F

$$GVA^* = Y_p + (Y_T + m_T) + SC_p + SC_c$$

$$GFU^* = (C - SC_H) + I + (G - SC_G) + m_T + m_F$$

Appendix A: Imputed Interest & Service Charge

IV

4. We ~~can~~ now examine the ^{official NIPA} ~~actual~~ procedure used to calculate GVA_F .

(1) The income statement of the financial sector (before adjustment) would ~~look~~ be as in Figure ~~at~~ below (p. 39, Rosen). ^{Total net} ~~Actual Total~~ Interest Received by the finance sector (= $(MIP)_{PT}$ = 400) is shown here as total gross interest received by F (500) and Total Int Paid by F (to P+T) = 100

<u>FINANCE</u>			
<u>Uses</u>		<u>Sources</u>	
Purchases From Other Firms (MF)	200	Actual Interest Received [$(MIP)_{PT}$]	500
Actual Interest Paid	100		
Wages	100		
Profits (net of interest)	100		
Total	500		500

(2) The first step is to add a fictitious "imputed service charge", of equal ^{in magnitude} to net interest received by the finance sector (= 400), to the sources side. This represents ...

At the same time, a fictitious net interest paid by the finance sector, equal in magnitude to ~~the~~ ^{the} actual net interest received, is added to the uses side.

The resulting table is (Rosen 39)

IV, 4

		<u>Finance</u>	
(17)	<u>Uses</u>		<u>Sources</u>
	Purchases From Other Firms (MF) 200	200	Actual Interest Received 500
	Actual Interest Paid	100	Imputed Service Charges Received +400
	Wages (WF)	100	
	Profits (PIF)	100	
	Imputed Interest Paid	+400	
	<hr/> Total	<hr/> 900 (+400)	<hr/> 900 (+400)

(18) From this artificially expanded Income Statement we then derive an income and product account in "standard" NIPA I-0 format (~~pages 40~~). Note that by construction, net interest paid = (Actual Int. Paid - Actual Interest Received) + Imputed Interest Paid = (100 - 500) + 400 = 0, by construction (~~pages 40~~)

Income		Product
Wages (WF)	100	Imputed Service Charges 400
Profits (PIF)	100	
Net Interest Paid (Actual and Imputed)	0	<u>less</u> Purchases from Other Firms 200
<hr/> Gross Value Added (GVA _F)	<hr/> 200	<hr/> Gross Product 200

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UI-4 (14)

We can see that the final result of this whole programme is to be able to treat the sum $W_P + \pi'_P$ as the NIPA/FD measure of value added in finance.

(iv) But this is not all; The last step involves adjusting the accounts of the production & trade sectors in ^{exactly} the opposite way, with

equal but opposite magnitudes, so as to preserve "accounting balance". Thus $(NIP)_{P+T}$ is disappeared

no $(NIP)_{P+T}$ because inv. & govt are ignored

Note that $GVA = (W_P + \pi'_P) + (W_T + \pi'_T) + (W_F + \pi'_F) - MF$

whereas $GVA^* = (W_P + \pi'_P + NIP_P) + (W_T + \pi'_T + NIP_T)$

$$GVA^* = GVA + M_T + M_F$$

$$= (GVA)_{P+T} + (NIP)_{P+T} + M_T + M_F$$

Similarly $GFD^* = GFD + m_T + m_F$

GFD is not affected by this process

So ~~same~~ standard portrayal here is OK

This one is more general, since once we introduce inv. & govt, GVA is double counted at

C & G are inflated?

Imputed Net Inv. Received by P & T

~~DO NOT also~~

II. 4

Same total ⁽⁴⁰⁰⁾ is deducted from the GVA's of the production and trade sectors, in proportion ^{as negative imputed interest paid} $(\text{IMP}NIP_P + \text{IMP}NIP_T)$ $-(NIP_P + NIP_T) = -400$ respective ^{bank} deposits with the bank sector, and ~~is~~ added to their intermediate inputs as ~~imputed~~ ^{imputed} service charges $(\text{IMP}SC_P + \text{IMP}SC_T = +400)$.

Since the imputed interest in question is definitionally equal to the actual interest paid by the production and ~~finance~~ ^{trade} sectors, this procedure in effect reduces the total (actual and imputed) net interest paid by P + T to zero, and increases the total (actual and imputed) net interest paid by the finance sector to zero (since without "adjustment" it would be negative, as in Fig 12).

(iii) To illustrate this process, I have ~~assumed~~ ^{below} assumed that the individual ^{deductions from the GVA's of the} production and trade ~~deductions~~ ^{these sectors' respective} ~~sectors~~ are equal ~~in amount~~ to their actual net interest payments. This is not strictly necessary, since only the totals need match. But it is ^a very useful simplification ^{because} in illustration, ~~since~~ it makes the process quite transparent. Recalling that "IMP NIP" stands for Imputed Net Interest Paid, and "IMP SC" stands for ^{below depicts the} imputed service charges, Figure 13, ^a transformation of each sector's accounts from Marxian to NIPA form in three successive steps.

For the sake of comparison, the Marxian GVA's are shown ~~as~~ ^{shaded yellow} (on top) and the NIPA measures of GVA are shown shaded blue at the end of each ^{sector's transformation} sequence.

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NIPA GVA, ADJUSTED VIA IMPUTED INTEREST FLOWS

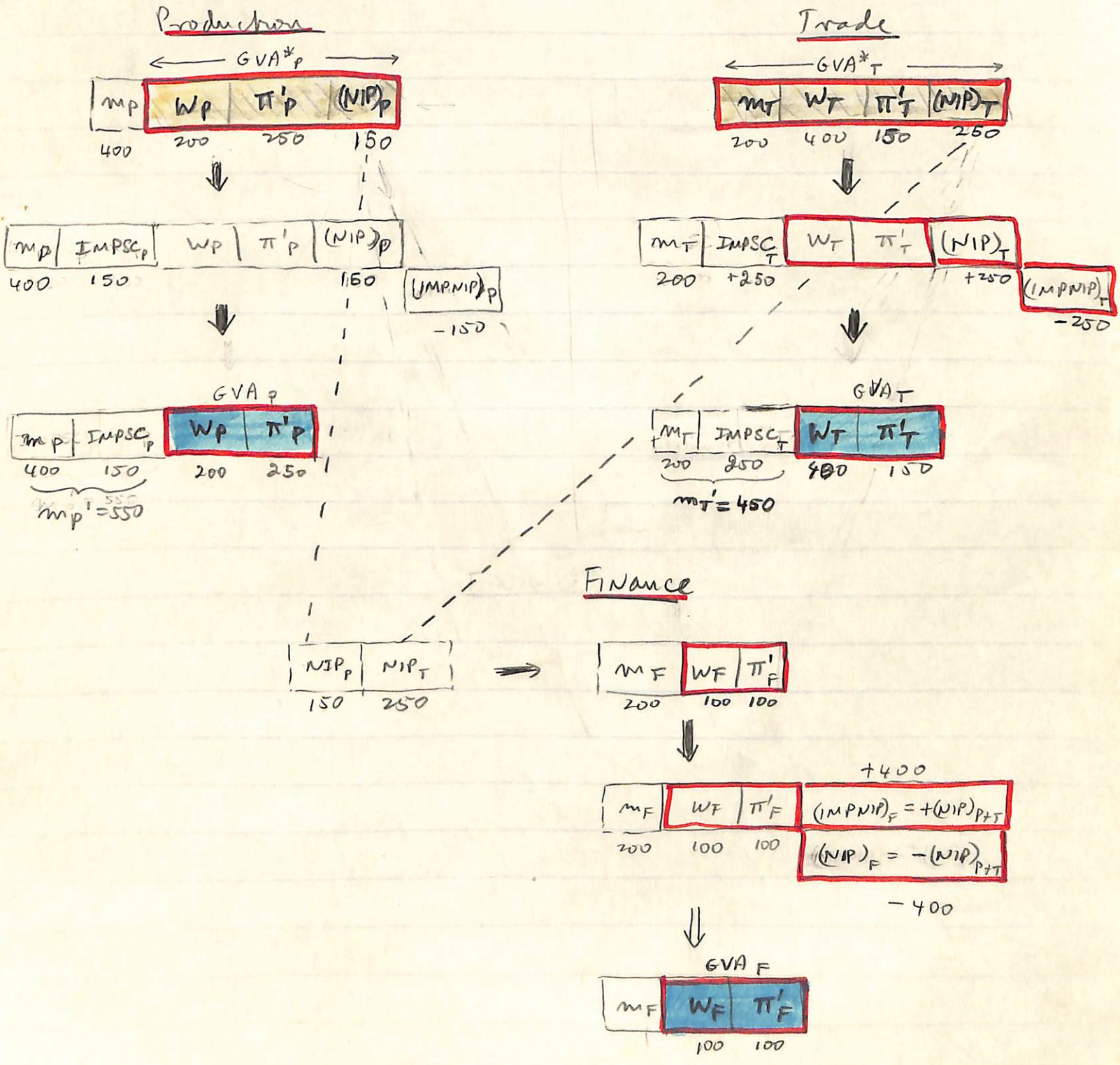


FIGURE 13

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II.4

(iv). The transformations pictured in Figure 13 above can be summarized by leaving out intermediate steps. This can evidently be done in several ways. The form chosen below was chosen because, as we shall see, it remains valid even after we introduce consumer and governmental financial flows.

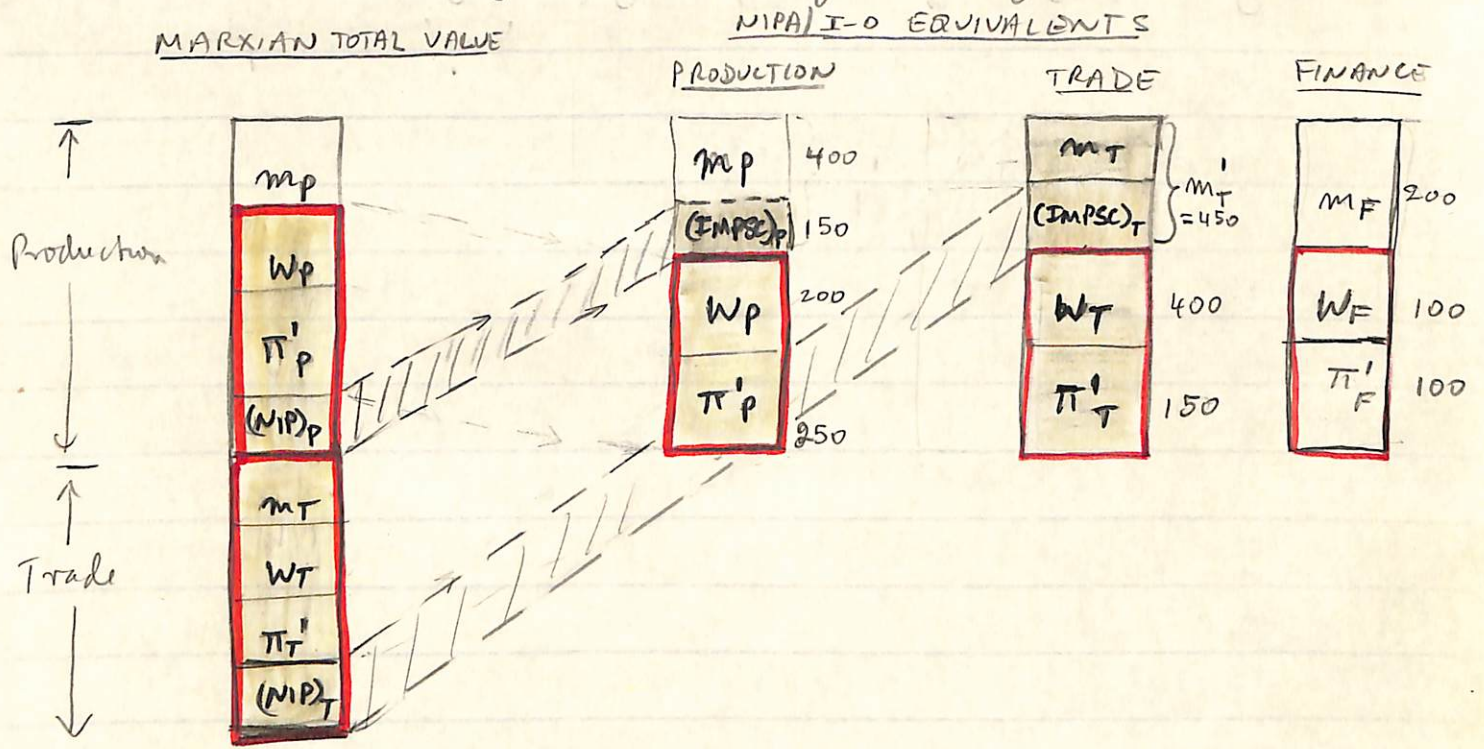


FIGURE 14

From the above diagram, the Marxian total value is depicted as a single column on the left hand side, with Marxian gross value added outlined in red and also shaded in yellow.

On the right hand side are the three NIPA/I-O sectoral equivalents, with each column representing the total revenue of the corresponding sector, and each sector's NIPA measure of GVA outlined in red. The areas shaded in yellow then represent the ~~eq~~ NIPA/I-O equivalents of Marxian total value added GVA*. On this basis, we can easily see that

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II. 4

$$GVA^* = (GVA_p + IMPSC_p) + (GVA_T + m_T')$$

$$= (450 + 150) + (580 + 450) = 1600 \checkmark$$

where $IMPSC_p$ = imputed service charge paid by productive sector to the finance sector *

m_T' = "expanded" intermediate = real intermediate input of the trade sector (m_T) + imputed service charges $(IMPSC_T)$

(V.) The imputations made ^{by NIPA} of the finance sector are all on the value added side of the NIPA accounts. Therefore they do not affect the NIPA totals of ~~GFU~~ $GFU = C + I$

But, as we have ~~seen~~ already seen in Figure 9, the Marston measure of gross final use GFU^* includes within it m_T and m_F , since these represent that portion of the surplus product which is absorbed in ^{circulation} ~~reproduction~~ (trade and finance) activities. Now, of these two amounts, the NIPA imputations procedure transforms m_T into $m_T' = m_T + (IMPSC)_T$. Thus, to recover the

* In our diagrams so far, the imputed service charges $IMPSC_p$ and $IMPSC_T$ are equal to the ^{corresponding amounts} actual net interest paid on each sector (i.e. $IMPSC_p = NIP_p$, $IMPSC_T = NIP_T$). But even if P+T only pay net interest to banks, this would not be true of individual sectors, but only of the totals (as ~~not~~ already noted). In addition, P+T can also pay net interest to consumers and government, so even total $(NIP)_{P+T} \neq (IMPSC)_{P+T}$.

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Dolf

(V)

The correct, ^{Marxian} measure of Gross Final Use GFU^* , we must correct the recorded figure m_T' for the imputed service charge included in it. Going back to Figure 9, noting that $m_T = m_T' - IMPSC_T$, we can write

$$GFU^* = [(m_T' - IMPSC_T) + m_F] + C + I$$

$$= [(450 - 250) + 200] + 950 + 250 = 1600 \checkmark$$

5. As a last step, we can portray the whole set of transactions in a standard input-output form, as in Figure 15 below. For this representation, the ~~total~~ value flows are shown in Figure 14, and the ~~total~~ product flows in Figures 7 and 9 (with the intermediate inputs ~~excluded~~ of production and trade expanded by ~~the~~ (fictitious) ~~facilitations~~ imputed service charges).

Production, Trade, & Finance

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	<u>Production</u>	<u>Trade</u>	<u>Finance</u>	<u>C</u>	<u>I</u>
Production	200 } m_P	100 } m_T	100 } m_F	475 } C	125 } I
Trade	300 }	100 }			
Finance	150 } $IMPSC_P$	250 } $IMPSC_T$			
Wages	200 } GVA_P	400 } GVA_T	100 } GVA_F		
Profits	150 }	150 }	100 }		
M&P	-	-	-		

Figure 15

The Marxian measure of Gross Value Added GVA^* is indicated by the items ~~bordered~~ enclosed within the red lines, and the corresponding ^{Marxian} Gross Final Use GFU^* by the items enclosed within the blue lines.

$$GVA^* = [GVA_P + IMPSC_P] + [GVA_T + IMPSC_T + m_T]$$

= $GVA_P + GVA_T$ before, with M&P's

$$GFU^* = (C + I) + [m_F + m_T]$$

Prod + Trade

$$GVA^* = [GVA_p] + [GVA_T + m_T]$$

$$GFU^* = C + I + m_T$$

Prod + Trade + Finance

$$GVA^* = [GVA_p + IMPSC_p] + [GVA_T + m_T]$$

$$GFU^* = C + I$$

I-O
Notes The problem of Value Added ^{into}
is not that of treating it as Wages + "Profits",
but rather of breaking ~~it down into~~
"Profits" down into Net Interest + Rental
Income of Persons + Corp. Profits, etc -

It is only in the latter instance
that Finance gets negative NI,
& (~~Rental~~ Fictitious Rental sector ~~gets~~ goes into
~~Net~~ Rental Income of Person)

Similarly, the problem of "Final Demand"
is not to get same total as VA, but to
have it represent only commodity purchase
and not ^{also} transfers of revenue to Finance Sector
or State.

From our point of view, the discrepancy between
VA & FD ~~is~~ because ~~total~~ of recirculation of revenues
→ Portion of VA is due to recirculation of revenues
→ hence $\pi > S$

1. Int Paid by MFB does not change their VA, since it is listed as part of MIPA measure of GVA, under net cost paid

2. ~~But~~ ^{Now} ~~because~~ if MIPA measure were also ~~applied~~ directly to Finance, we would get

- a) Correct ~~the~~ value added total with $Y_P + Y_T + m_T = Y^*$
 $\rightarrow Y_F$ does not enter at all ✓
- b) ~~of~~ But negative Y_F , since net int = negative for banks

~~⇒ So if we took out effect of Imputations, then correct total from P+T alone~~

3. But, ^{actual} MIPA measure of Y_F ^{← BUSINESS Finance only} includes imputed int. of service charges, both equal in total to Net int. paid by corp.

(i) The ~~service charges~~ imputed int. received ⁽⁺²⁵⁰⁾ by Prod + Trade reduces Net Int ^{paid by P+T} & hence VA originating in P+T, by -250
 Thus total VA ↓ by -250 at this point

~~(ii)~~ (ii) The MIPA "value added" by Financial Sector, on other hand, is merely wages + profits of financial sector = $W_F + \Pi_F = 270$

This component adds to VA by +270

(iii) It follows that the net change in ^{measured} VA due to MIPA conventions (as compared to correct VA)

is
$$E = (\text{Imputed } \cancel{\text{Net Int. Received by Corp}} - Y_F)$$

$$E \geq 0 \text{ are all possible}$$

⇒ Alternate measure
$$Y^* = Y_P + Y_T + Y_F + E = Y_P + Y_T + \text{Imputed Int. Received by } \text{Corp}$$

4. Thus ~~two~~ ways to calculate Y^* [⊕]

R2
11/2

(Y^* is defined as correct sum of $W + \pi$, leaving out m_T , etc.)

Method A

$$Y^{*\oplus} = Y^d + m_T = \text{Marxian Value Added, } \text{where} \\ = 1300 + 400 = 1600 \checkmark$$

~~Method A~~

where

$$Y^* = Y + (\text{Imp. Int. received by P+T}) - Y_F \\ Y^* = 1320 - 20 = 1300 \checkmark$$

$$Y_F = (W + \pi)_F \text{ since } \\ \pi_F = 0$$

$$\Leftrightarrow Y^* = Y_P + Y_F + \text{Imputed Int. received by P+T}$$

$$\text{Method B) } Y^{*\oplus} = (C+I)^* + m_T + m_F, \text{ where } C' \\ (C+I)^* = 1220 = (C - \text{Imp. Surcharge Paid by Cons}) + I \\ = (820 - 100) + (400) = 1220 \checkmark$$

[Note $(C+I)^* \neq Y^*$]

$$\text{Note that } Y^{*\oplus} = Y^d + m_T = (C+I)^* + m_T + m_F \\ = 1300 + 300 = (820 + 400) + 300 + 80 = 1600$$

But ~~the~~, once we have unprod. labour, we no longer get $Y^* \neq (C+I)^*$

Prod. Sector $C_{mp} + W_p + S^* = \Delta$

(i) Sold to Trade Sector ✓

(ii) Int. Paid to Finance by $\left\{ \begin{array}{l} \text{Bus} \\ \text{Cons} \\ \text{Govt} \end{array} \right.$
 Our Treatment There's

(iii) Int. Received from Finance by $\left\{ \begin{array}{l} \text{Bus} \\ \text{Cons} \\ \text{Govt} \end{array} \right.$
 Our There

Note that on F.D (Govt Savings) Side, only service charges show up

Final Demand

MARXIAN

I - 0

1.

Prod.	C_{mp}	400
	W_p	300
	π_p	200
	$(IntP)_p$	100
$Y_p^* = 600$		1000

Trade	m_T	300
	w_T	200
	π_T	250
	$(IntP)_T$	250
$Y_T^* = 1000$		1000

	Prod	Trade	Finance
Prod	200	450	40
Trade	200	150	40
Finance	50	100	FF
W	300	200	180
π	200	250	150
Net Int	150	50	0
VA	550	500	350
GO	1000 ✓	1000 ✓	350 + FF

	C	I	GO
	410	800	1000
	410	200	1000
	100		350 + FF
	1320 (+20)		
	1320 = Y _p + Y _T + Y _F ✓		
	(Y _p [*] + Y _T [*] = 1300) ↓		

Total Use of Prod. $M = m_p + m_T + m_F = 780$ $C_w = 300 + 200 + 120 = 620$ $C_{\pi} = 200$ $I = 400 \Rightarrow 2000$ $C + I = 1220 = Y^*$
 $C + I + m_T + m_F = \text{Imp. Serv. Charge}$

Total Value of Output = 1000 + 1000 = 2000
 Total VA = $Y^* = TV - C_m = 1600$
 $= Y_p + Y_T + m_T = 1600 \checkmark$

Marxian Sum of Value added = $Y_p^* + Y_T^* + m_T$
 leaving aside m_T , $Y_p^* + Y_T^* = 600 + 700 = 1300$

NIPA $Y = Y_p + Y_T + Y_F = 560 + 500 + 300$
 $Y = 1350 (+50) > Y^*$

The difference is simply m_F , since this is the difference between

$Y^* = Y_p + (Y_T + m_T)$ } need to distinguish $Y^* + Y$
 $Y^* \equiv Y_p + Y_T$
 Financial sector
 (Assumes no Int. received from Cons.)

Int. received	350
- m_F	180
- W_F	120
π_F	150

Net Int. Paid = -350 \Rightarrow Imputed Int. Paid by Banks to depositors
 +150 to Prod
 +200 to Trade
 +100 to Cons.
 $= 350$
 $=$ Imputed Int. received by Prod, Trade, & Cons. ✓

11/2/34

~~Book~~ Financial Business

~~Accounting~~

Revenues: Int. received ⁽¹⁰⁰⁾ + Service charges ⁽¹⁰⁾ + Other receipts ⁽⁵⁾ = 115,000

Costs: Purchases ⁽¹⁰⁾ + ~~Deprec~~ + other loss ⁽²⁰⁾ + Wages ⁽⁵⁰⁾ + ~~Int. paid~~ ⁽⁵⁾ = 80,000

~~Profits~~ : 35 ← }
 } ~~Int. paid~~ ⁽⁵⁾
 } Retained earnings ¹⁰
 } Dividends paid ¹⁰
 } Corp. Profits Tax ¹⁰

GVA = Wages + ~~Int. paid~~ ^{Surplus value} + ~~Profits~~ + ~~Deprec~~ = 50 + ~~50~~ ^{35 + 20} = ~~130~~ ¹⁰⁵

Note that here ~~Profits~~ ^{Surplus value} already takes int. received ^{Int. paid} into account.

~~NIPA~~ ^{NIPA} adds Net Int. received = 95 to Revenues, as Imputed Service charges
 add - = 95 to Costs, as Imputed Int. Paid

new Revenues = 210
new Costs = 180

new Profits = 30

But ∴ GVA ≡ Wages + Net Int. Paid + Profits + Deprec = 50 + ~~100~~ ⁰ + 30 + 20 = 100 ✓

So ~~NIPA treatment~~ ^{NIPA treatment} reduces true measure of GVA !

Owned Occup
Non Farm

$$60 = 90.1$$

$$- M = 17.9$$

$$\text{Imputed GMP} \quad \underline{77.2}$$

CCA 19.5

IBT 19.1

Net Subsidies 0.2

Net Int 28.7

Rentals 10.2

of Persons
(with CCA Adj)