

in private autonomous spending. The full-employment (high-employment) budget surplus is used as a measure of the active use of fiscal policy. The full-employment surplus measures the budget surplus that would exist if output were at its potential (full-employment) level.

KEY TERMS

aggregate demand
equilibrium level of output
consumption function
marginal propensity to
consume

budget constraint
marginal propensity to save
disposable income
multiplier
fiscal policy

automatic stabilizer
budget surplus/deficit
balanced budget multiplier
full-employment budget
surplus

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Testimony on the Budget and Economic Outlook: Fiscal Years 2004-2013, January 30, 2003

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- Monthly Budget Review
- Current Budget Projections ←
- Current Economic Projections
- Current Status of Discretionary Appropriations
- Historical Budget Data
- CBO's Economic Forecasting Record
- Glossary of Budgetary and Economic Terms

Recent Publications

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- Cost estimate for S. 23, an act to provide for a five-month extension of the Temporary Extended Unemployment Compensation Act of 2002 ..., January 16, 2003
- Evaluating and Accounting for Federal Investment in Corporate Stocks and Other Private Securities, January 2003
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- CBO's Baseline Budget Projections
- CBO's Projections of Discretionary Spending Under Alternative Assumptions
- CBO's Baseline Projections of Mandatory Spending, Including Offsetting Receipts
- CBO's Baseline Projections of Federal Interest and Debt
- Changes in CBO's Baseline Projections of the Surplus Since March 2002

The Budget Outlook Under Current Policies

(In billions of dollars)

	Actual 2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	Total, 2003- 2007	Total, 2003- 2012
On-Budget Surplus or Deficit (-)	-34	-314	-315	-299	-246	-209	-190	-173	-147	-122	4	185	-1,259	-1,511
Off-Budget Surplus ^a	161	157	170	188	207	224	242	262	280	299	319	337	1,031	2,527
Total Surplus or Deficit (-)	127	-157	-145	-111	-39	15	52	88	133	177	323	522	-229	1,016
Memorandum:														
Social Security Surplus	163	160	171	188	206	224	242	262	280	299	319	337	1,031	2,527
Postal Service Outlays	2	3	1	*	-1	0	0	0	0	0	0	0	*	'
Total Surplus or Deficit (-) as a Percentage of GDP	1.3	-1.5	-1.3	-1.0	-0.3	0.1	0.4	0.6	0.9	1.1	2.0	3.0	-0.4 ^b	0.7 ^b

Source: Congressional Budget Office.
 Note: * = between zero and \$500 million.

a. Off-budget surpluses comprise surpluses in the Social Security trust funds as well as the net cash flow of the Postal Service.
 b. Cumulative surplus or deficit as a percentage of cumulative GDP over this period.

Economics

Models of Markets

- commodity markets
 - specify the demand curve
 - " " supply curve
- factor markets
 - specify the demand curve
 - " " supply curve
- asset markets
 - specify the demand curve
 - " " supply curve
- specify the process by which markets reach equilibrium
 - existence
 - approach

- models of the commodity market

- Keynesian
- Monetarist
- Classical / New Classical

all three in Dornbusch.

- Chap 9

- Keynesian view of the commodity market.

CHAPTER I

THE GENERAL THEORY

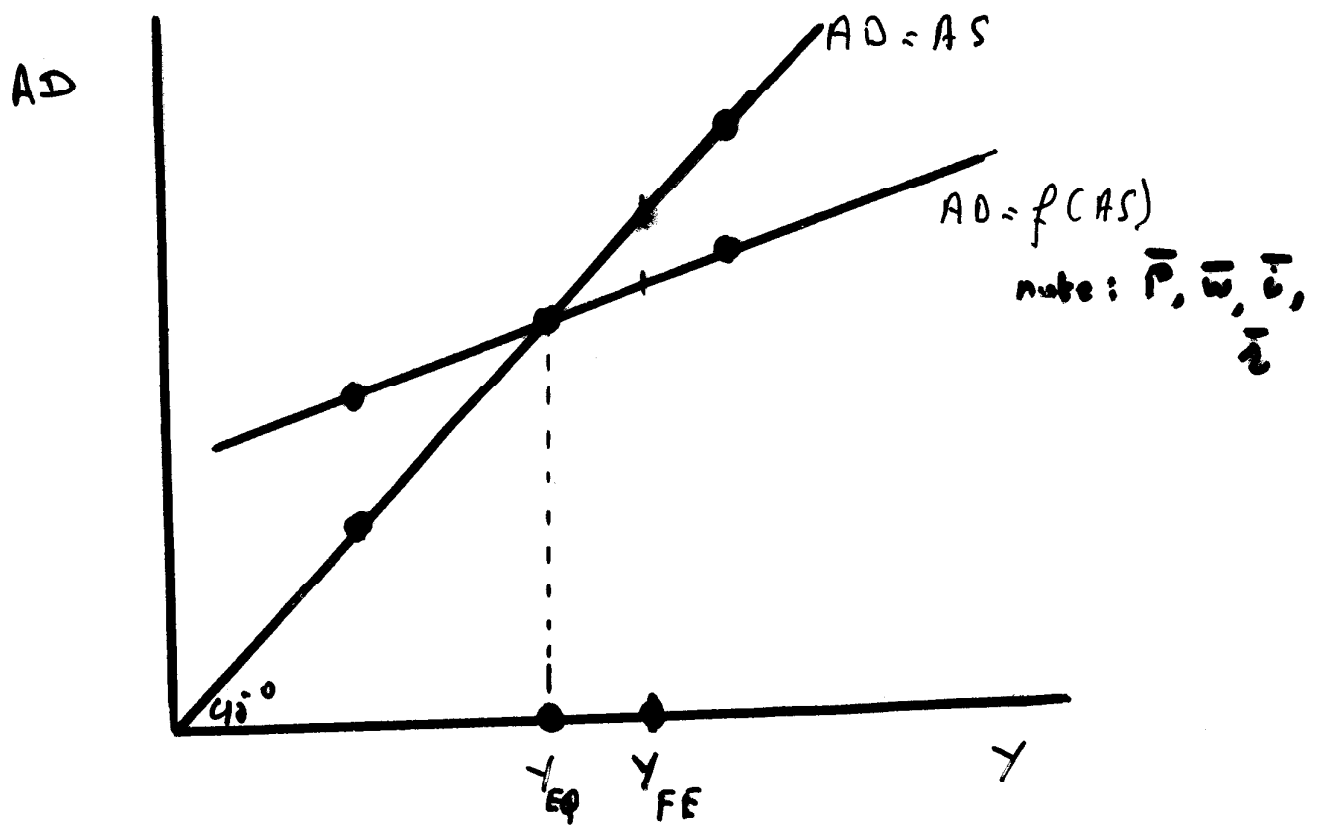
I HAVE called this book the *General Theory of Employment, Interest and Money*, placing the emphasis on the prefix *general*. The object of such a title is to contrast the character of my arguments and conclusions with those of the *classical*¹ theory of the subject, upon which I was brought up and which dominates the economic thought, both practical and theoretical, of the governing and academic classes of this generation, as it has for a hundred years past. I shall argue that the postulates of the classical theory are applicable to a special case only and not to the general case, the situation which it assumes being a limiting point of the possible positions of equilibrium. Moreover, the characteristics of the special case assumed by the classical theory happen not to be those of the economic society in which we actually live, with the result that its teaching is misleading and disastrous if we attempt to apply it to the facts of experience.

¹ "The classical economists" was a name invented by Marx to cover Ricardo and James Mill and their predecessors, that is to say for the founders of the theory which culminated in the Ricardian economics. I have become accustomed, perhaps perpetrating a solecism, to include in "the classical school" the followers of Ricardo, those, that is to say, who adopted and perfected the theory of the Ricardian economics, including (for example) J. S. Mill, Marshall, Edgeworth and Prof. Pigou.

source: John Maynard Keynes, *The General Theory of Employment, Interest and Money*, MacMillan, New York, 1960.

Fundamental Keynesian proposition

$$Y_{EQ} < Y_{FE}$$



- what would happen if P, w, i and z are flexible?

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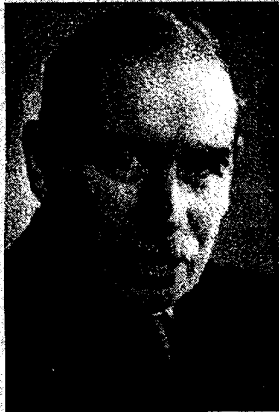
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John Maynard Keynes - Netscape

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John Maynard Keynes, 1883-1946.



JM/Keynes

John Maynard Keynes is doubtlessly one the most important figures in the entire history of economics. He revolutionized economics with his classic book, *The General Theory of Employment, Interest and Money* (1936). This is generally regarded as probably the most influential social science treatise of the 20th Century, in that it quickly and permanently changed the way the world looked at the economy and the role of government in society. No other single book, before or since, has had quite such an impact.

The son of the Cambridge economist and logician John Neville Keynes, John Maynard Keynes was bred in British elite institutions - Eton and then King's College Cambridge. In 1906, he entered the British civil service for a little while, and then returned to Cambridge in 1909.

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Start Screen Shot Deluxe 4.0 Copernic Agent Basic John Maynard Keynes 9:42

• important dates

• chap 9 jmk

Basic Model

- GDP = Value Added = Income = Y
- no public sector
 - no spending $G = 0$
 - no taxes $T = 0$
 - no surplus $(T - G) = 0$
 - no public debt $\sum_{-\infty}^{t-1} (T - G) = 0$

remember

P : fixed

W : fixed

i : fixed

z : fixed

- Closed economy

• no exports $X = 0$

• no imports $M = 0$

• no curr. acct. deficit $(X - M) = 0$

• no foreign debt $\sum_{-\infty}^0 (X - M) = 0$

- the commodity market is in equilibrium

$$AD = AS$$

$$AS = Y$$

$$AD = C + I = \text{sum of private spending}$$

cons. fut. ←
invest. fut.

$$C = \bar{C} + cY$$

$$I = \bar{I}$$

- system of 5 linear equations

- 5 unknowns

$$AD; AS; Y; C; I$$

- 2 knowns

\bar{C} autonomous consumption

\bar{I} autonomous investment.

Task: Solve for Y^{eq}

- $Y = C + I$

- $C = \bar{C} + cY$

- $I = \bar{I}$

| substitute above

$$Y = \bar{C} + cY + \bar{I}$$

$$(1-c)Y = \bar{C} + \bar{I}$$

$$Y^{eq} = \frac{\bar{C} + \bar{I}}{1-c}$$

- National Inc. determination

- Business Cycle

hypothesis

- business cycle is caused by changes in private autonomous expenditures

		$\Delta \bar{C}$	$\Delta \bar{I}$	
explicit	ΔY^{ex}	$\frac{1}{1-c}$	$\frac{1}{1-c}$	← multipliers
implicit (1)	ΔN^{ex}	+	+	
	ΔK^{ex}	+	+	
implicit (2)	ΔP^{ex}	0	0	
	ΔW^{ex}	0	0	
	$\Delta \left(\frac{w}{p}\right)^{ex}$	0	0	

Q: does output vary over the business cycle? Do we have an explanation?

Q: do prices (real and nominal) vary over the business cycle? Do we have an explanation?

What other "agents" spend on goods and services, and have current income to finance those purchases?

Generalizing the Basic Model

- incorporate the public sector
 - spending G
 - transfer payments (net) R
 - taxation T

Chap. 3

- incorporate the R.O.W
 - goods and services
 - exports X
 - imports M

implicit assumption

- accommodating supply of money
- accommodating supply of for. exch. reserves

Basic Assumptions:

- \bar{P} ; \bar{w} ; \bar{c}
- generalized in employment
 - of people
 - of machines
- accommodating money supply

policy
scenario

$$\text{Def: } G - T = \Delta M^S$$

↑
supply of
money

- accommodating for exch. reserves
- $$(X - M) = \Delta R \text{ reserves}$$

- note: if $\Delta M^S \equiv 0$; if $\Delta R \equiv 0$
then I must add these
constraints to my model

Aug 5.1

National Income and Product Accounts
C.N.P.A.'s

Chap. 6)

Public Sector (Fed, State, Local)

Current Account

debts	exped.	credits	income
G (purchases)	a	Taxes	d
Transfers (paid out)	b	Transfers (rec'd)	e
Receipts - Expenditures		c	
+ <u>(a+b+c)</u>		+ <u>(d+e)</u>	

• Three fiscal surpluses

• $(T - G) = (d - a)$

• Net Transfers = $(e - b)$

• Receipts - Expenditures = $c = (d+e) - (a+b)$

Introducing Government sector

representative variables



① $Y = C + I + G$ (C+I) private sector spending

G public sector spending

② $C = c \cdot Y_d$

③ $Y_d = (Y + R - T)$

④ $T = t \cdot Y$

⑤ $I = \text{autonomous}$

⑥ $G = \text{autonomous}$

⑦ $R = \text{autonomous}$

⑧ $c = \text{autonomous}$

⑨ $t = \text{autonomous}$

Variables	
dependent	independent
Y	G
C	I
Y_d	R
T	c
	t

Purpose of exercise

express unknown variables in terms of known variables

		known var.				
		G	I	R	C	t
unknown var.	Y	$\Delta Y / \Delta G$	$\Delta Y / \Delta I$	$\Delta Y / \Delta R$	$\Delta Y / \Delta C$	$\Delta Y / \Delta t$
	Y_d	.	.	.	.	.
	C	.	.	.	.	.
	T	$\Delta T / \Delta G$	.	$\Delta T / \Delta R$	.	.

$$\frac{\Delta \text{Dependent variable}}{\Delta \text{Independent variable}} = \text{multiplier}$$

Policy Matrix:

	$\Delta \bar{I}$	$\Delta \bar{G}$	$\Delta \bar{R}$
ΔY^{ee}	2.08	2.08	1.67
ΔC^{ee}	?	?	?
ΔT^{ee}	?	?	?

• answers are easily found

• example

$$\begin{aligned}
 T &= t \cdot Y \\
 \frac{\Delta T^{ee}}{\Delta \bar{G}} &= t \cdot \frac{\Delta Y^{ee}}{\Delta \bar{G}} \\
 &= t \cdot \frac{1}{(1-c+ct)} \\
 &= (.35)(2.08) = .73
 \end{aligned}$$

if $\Delta \bar{G} = 1.00$ then $\Delta T^{ee} = .73$. The
 fiscal deficit increases by .27

• Europe

• fiscal policy

$$\frac{\Delta Y^{ex}}{\Delta \bar{G}}; \frac{\Delta Y^{ex}}{\Delta \bar{E}}; \frac{\Delta B^{ex}}{\Delta \bar{G}}$$

↑ ↑ ↑

• the autonomous government expenditure multiplier

→ $\frac{\Delta Y^{ex}}{\Delta \bar{G}}$

$$AD = C + \bar{I} + \bar{G}$$

$$\bar{A} = \bar{C} + \bar{I} + \bar{G}$$

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INCOME AND SPENDING

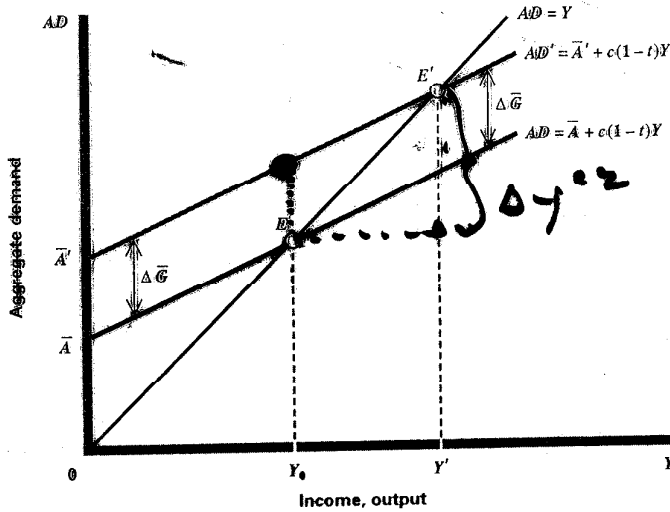


FIGURE 9-5
 THE EFFECTS OF AN INCREASE IN GOVERNMENT PURCHASES. An increase in government spending shifts the aggregate demand schedule up from AD to AD' . Output rises from Y_0 to Y' . The multiplier is smaller now than it was in Figure 9-4.

where we have introduced the notation α_G to denote the multiplier in the presence of income taxes:

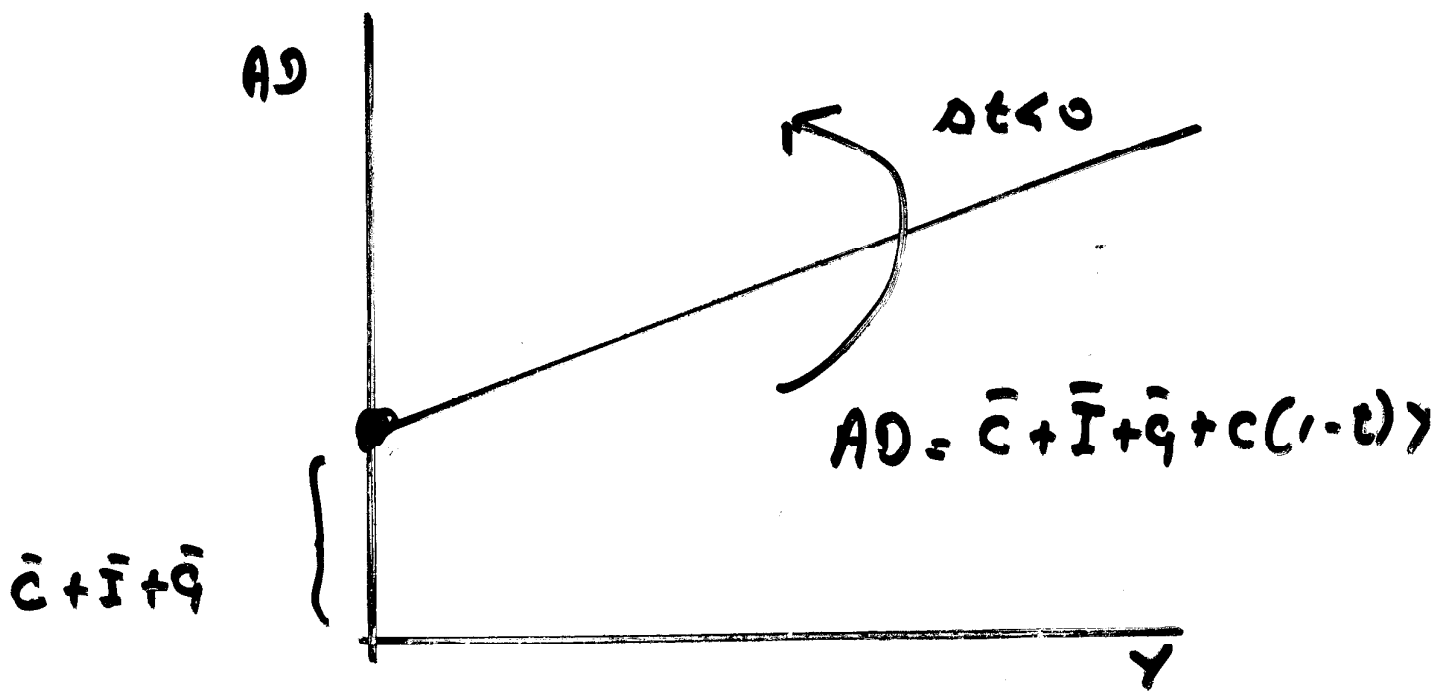
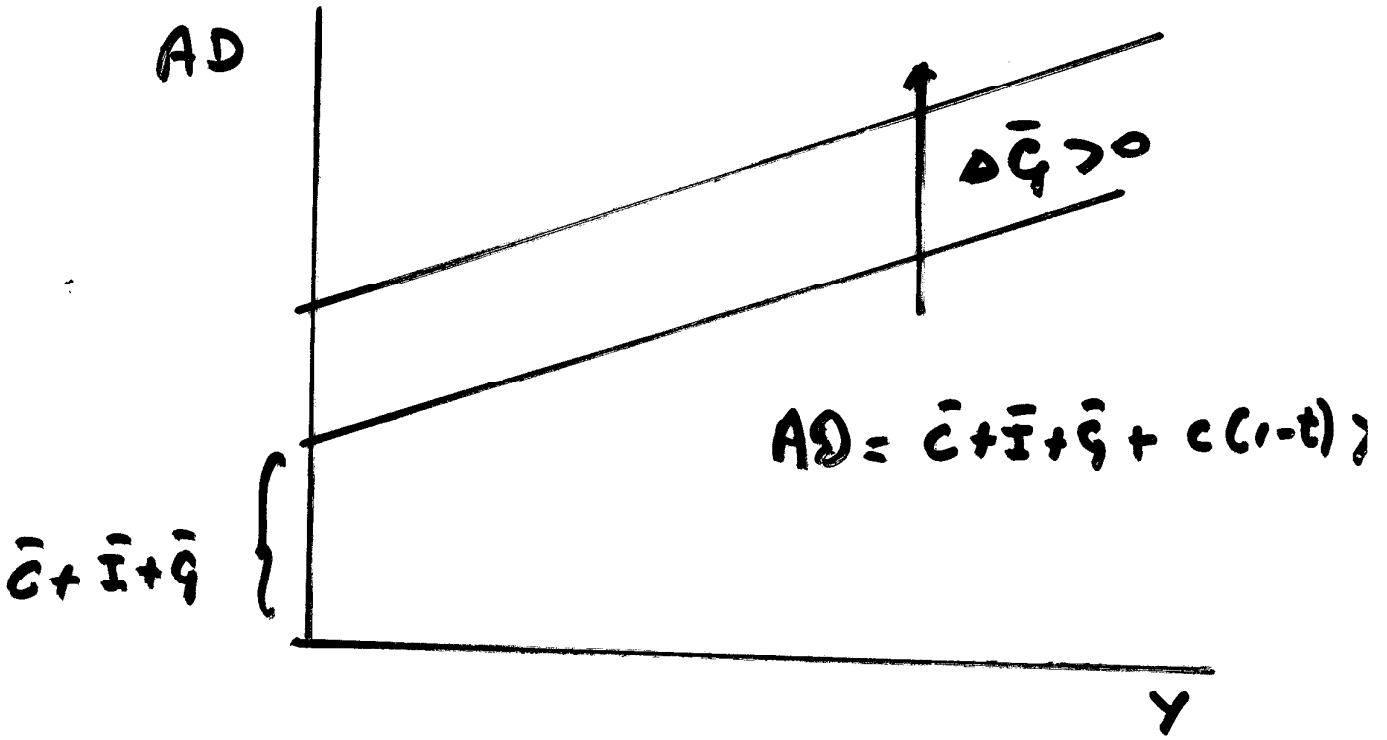
$$\rightarrow \alpha_G = \frac{1}{1 - c(1-t)} = \frac{\Delta Y}{\Delta \bar{G}} \quad (21)$$

	$\Delta \bar{G}$	Δt
ΔY	$\frac{1}{1 - c(1-t)}$	•
ΔC	•	•

• the tax rate multiplier

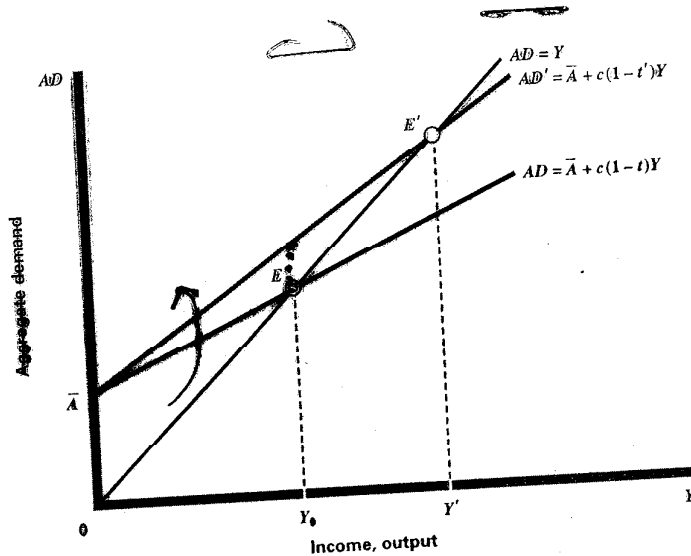
$$\Delta Y^c / \Delta \bar{t}$$

Fig 9.5



Effects of an Income Tax Change

Next consider the effects of a reduction in the income tax rate. This is illustrated in Figure 3-7 by an increase in the slope of the aggregate demand function, because that slope is equal to the marginal propensity to spend out of income, $c(1 - t)$. At the initial level of income, the aggregate demand for goods now exceeds output because



THE EFFECTS OF A DECREASE IN THE TAX RATE. A reduction in the income tax rate leaves the consumer with a larger proportion of every dollar of income earned. Accordingly, a larger proportion of every extra dollar of income is consumed. The aggregate demand curve swings upward, from AD to AD' . It becomes steeper because the income tax cut, in effect, acts like an increase in the propensity to consume. The equilibrium level of income rises from Y_0 to Y' .

To calculate the change in equilibrium income, we equate the change in income to the change in aggregate demand. The change in aggregate demand has two components. The first is the change in spending at the initial level of income that arises from the tax cut. This part is equal to the marginal propensity to consume out of disposable income times the change in disposable income due to the tax cut, $cY_0\Delta t$, where the term $Y_0\Delta t$ is the initial level of income times the change in the tax rate. The second component of the change in aggregate demand is the induced spending due to higher income. This is now evaluated at the new tax rate t' and has the value of $c(1 - t')\Delta Y_0$. We can therefore write⁸

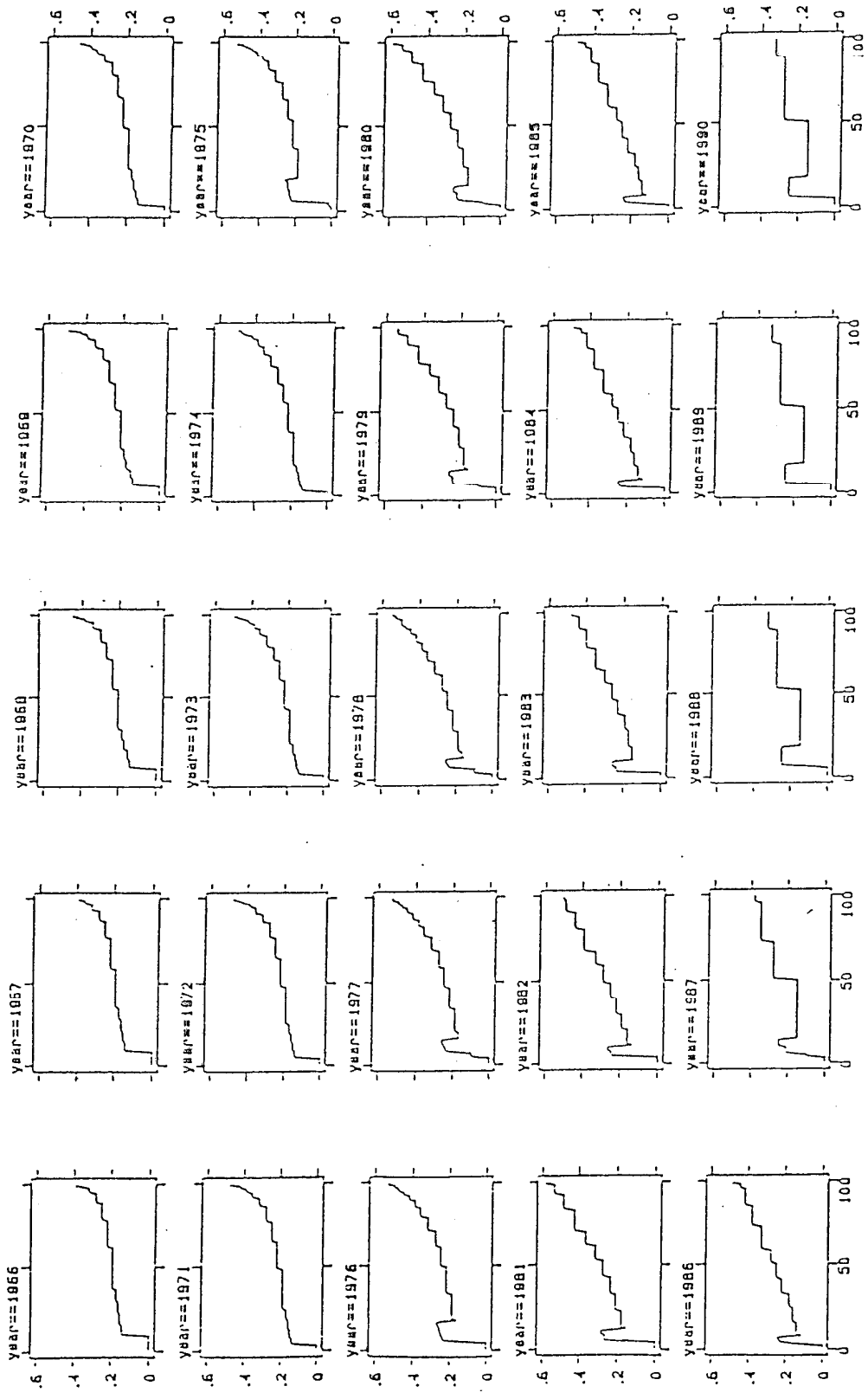
$$\Delta Y_0 = -cY_0\Delta t + c(1 - t')\Delta Y_0 \quad (25)$$

$$\Delta Y_0 = -\frac{cY_0}{1 - c(1 - t')}\Delta t \quad (26)$$

or

⁸You should check equation (26) by using equation (22) to write out Y_0 corresponding to a tax rate of t , and Y_0 corresponding to t' . Then subtract Y_0 from Y_0' to obtain ΔY_0 as given in equation (26).

Chart 2B
 Marginal Tax Rate Schedule: 1966 - 1990



HASKINS, FRANK,
 KANSAS CITY

fiscal policy multipliers

	$\Delta \bar{G}$	$\Delta \bar{T}$	$\Delta \bar{e}$
ΔY^{eq}	$\frac{1}{1-c(1-t)}$	$\frac{t}{1-c(1-t)}$	$\frac{-c\gamma_0}{1-c(1-t)}$
ΔC^{eq}	.	.	.
ΔT^{eq}	\odot	.	\odot

Laffer effect

$$T = t \cdot Y$$

$$\frac{\Delta T^{eq}}{\Delta \bar{G}} = t \cdot \frac{\Delta Y}{\Delta \bar{G}} = \frac{t}{1-c(1-t)} > 0$$

↳ used in (2.3)