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- capital fundamentalism:
  - according to capital fundamentalism, capital is the key to development
  - it was believed that after foreign aid helped western European countries recover after World War II, it could be redirected to developing countries to assist their growth
  - however, capital fundamentalism is no longer a favored approach to development; more emphasis has been placed on human capital (health, education, etc.) and institutional capacity
  - capital is still important to development and is one of the main factors explaining the difference in productivity between rich and poor countries; the inputs to production (land, natural resources, capital) increase worker productivity, but the amount of land and the endowment of natural resources are fixed – thus, only physical capital can be increased to increase per worker output and per worker income
- where do savings come from?
  - an economy can choose to either spend its income on consumption or to save its income – for example, a household can spend its income on consumer goods or save its income in the bank; the savings of the entire economy are channeled through intermediaries (stock markets, banks, etc.) into investment (capital formation); in an economy total saving (the supply of capital) equals total investment (the demand for capital); however, total domestic saving does not necessarily equal total domestic investment because part of the savings for investment could come from abroad
  - the taxonomy of savings (assumes total saving,  $S$ , equals total investment,  $I$ ):

$$\begin{array}{c}
 I = S = S_d + S_f \\
 \swarrow \quad \searrow \\
 I = S = [S_g + S_p] + [S_{fo} + S_{fp}] \\
 \swarrow \quad \searrow \quad \swarrow \quad \searrow \\
 I = S = [(S_{gb} + S_{ge}) + (S_{pc} + S_{ph})] + [S_{fo} + (S_{fpd} + S_{fpe})]
 \end{array}$$

$S_d$  – domestic saving

$S_f$  – foreign saving

$S_g$  – government saving

$S_p$  – private sector saving

$S_{fo}$  – foreign official saving: includes loans from multilateral organizations (such as the World Bank) and foreign governments (including those at concessionary terms), official development assistance, and grants

$S_{fp}$  – foreign private saving: includes loans on commercial terms by banks and foreign direct investment

$S_{gb}$  – government budgetary saving: equals government revenue less government expenditure

$S_{ge}$  – government enterprises' saving: profits earned by firms owned by the government

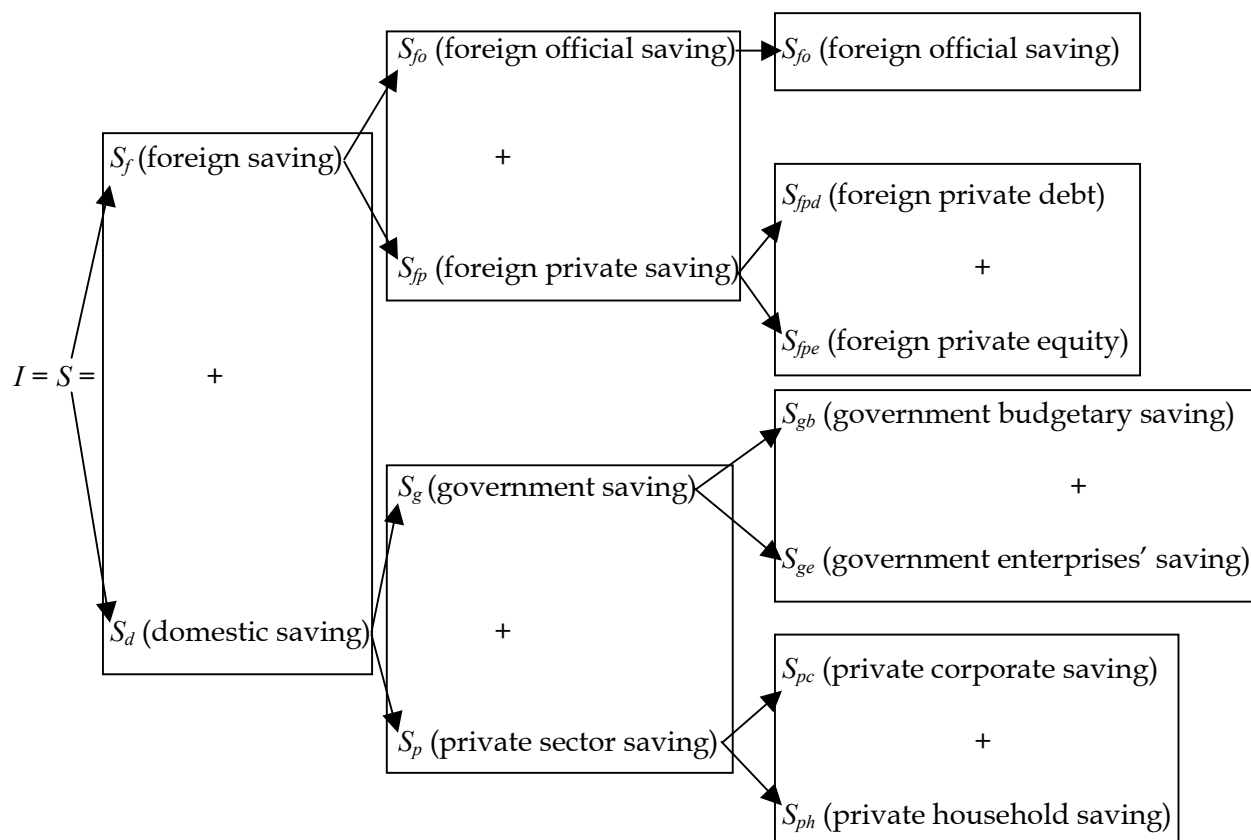
$S_{pc}$  – private corporate saving: saving by private firms

$S_{ph}$  – private household saving

$S_{fpd}$  – foreign private debt: commercial loans from abroad

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$S_{fpe}$  – foreign private equity: direct private ownership of a firm by a foreigner or a foreign firm in the developing country



the most important source of saving in developing countries is private household saving; it is not the case that poor countries cannot afford to save for capital formation – some poor countries have a greater saving rate than some rich countries

• there are 3 stylized facts about saving:

1. in a given country at a given time, the saving rate (saving as a proportion of income,  $s = S/Y$ ) at the household level increases with income (see the Keynesian model below)
2. in a given country, the saving rate does not rise as the country's level of income increases
3. across different countries with different incomes, the saving rate does not vary systematically

• page 394, table 11-3 – saving rates ( $S/GDP = S/Y$ ):

some poor countries have higher saving rates than richer countries

rich countries might not save a greater proportion of their income because they also have a higher expected standard of living; developed countries might have lower saving rates than developing countries because at the same income level, the level of consumption is higher in the developed country

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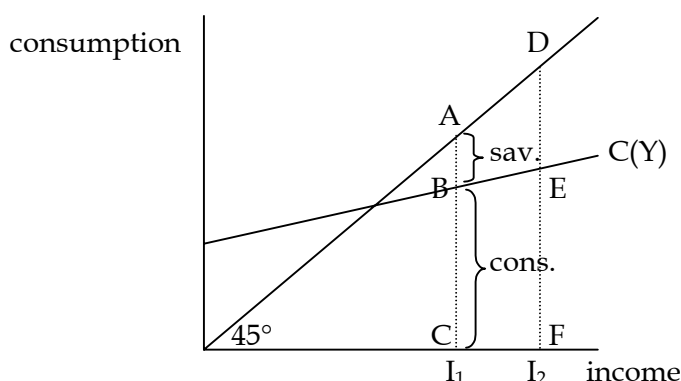
this data also undermines the argument that poor countries cannot save because they are too poor to save and must rely on foreign aid

• there are 4 models of household saving:

1. Keynesian model
2. relative-income hypothesis
3. permanent-income hypothesis
4. class-saving hypothesis

1. the Keynesian model of saving:

this model considers a given country at a given point in time; according to this model, household consumption is a function of income:



on the 45° line, consumption equals to income at all incomes; the C(Y) curve plots the level of consumption at all incomes

at a given income, the distance from the 45° line to the C(Y) curve is the savings and the distance from the C(Y) curve to the x-axis is the consumption; to the left of the intersection of the 45° line and the C(Y) curve, consumption is higher than earnings and saving is negative (the household must borrow or dissave); to the right of the intersection, saving is positive

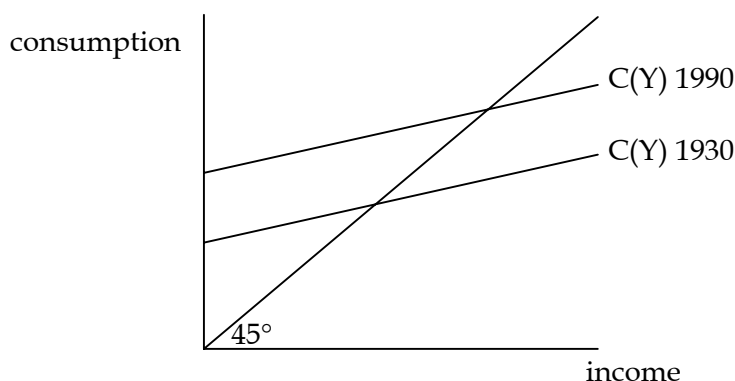
as household income increases, saving increases both absolutely ( $DE > AB$ ) and also as a proportion of total income ( $\frac{DE}{DF} > \frac{AB}{AC}$ ); thus, this model supports stylized fact 1

this model predicts 1) as a country gets richer over time, it will save a larger proportion of its income (because it moves right along the C(Y) curve) and 2) at a given point in time, a richer country will have a higher saving rate than a poor country (because it is further right along the C(Y) curve); thus, this model does not support stylized facts 2 and 3. Thus, something is lacking in the model, and needs to be supplied by another model.

2. the relative-income hypothesis (attributed to James Duesenberry):

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this model is similar to the Keynesian model, except the  $C(Y)$  curve shifts up over time (at all levels of income, the level of consumption rises over time):



as average income increases, the level of consumption rises and the saving rate does not increase

the level of consumption might rise over time because people will try to “keep up with the Joneses” – as people adjust to consumption standards, they are not willing to return to their previous standard of living; thus, there are two determinants to current consumption: 1) income and 2) highest previous consumption

this model could explain stylized fact 2, but does not explain stylized fact 3

3. the permanent-income hypothesis (attributed to Milton Friedman):

this hypothesis suggests that people intend to spend all of their income over their lifetime and save only to smooth out income over their lifetime to maintain a steady level of consumption; thus, people’s propensity to save over their lifetime is 0

people’s propensity to save out of steady, predictable incomes (such as from a steady job) is low, but their propensity to save out of highly variable, unpredictable incomes (such as bonuses, inheritances, lotteries, or unexpected profits) is high

this hypothesis is supported empirically:

- farmers have a higher saving rate than wage-earners, and farmers’ earnings are unstable because they rely on climate, etc.; also, rural people have a higher propensity to save than urban people
- prices of exports from LDCs fluctuate over time and cannot be relied on to be a steady source of revenue; some economists argue that this encourages saving

4. class-saving hypothesis (attributed to Nicholas Kaldor):

according to this hypothesis, different social/economic classes have different propensities to save, and capitalists do nearly all the saving out of profits while lower classes do nearly none; models have been built predicting that if profits rise relative to wages, total saving will increase

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there was a belief in economics that in order to have a high saving rate, there needs to be high inequality so that capitalists can save; alternately, instead of the capitalists, the state could step in and save (which was why socialists supported state-intervention)

because profits tend to be variable, the permanent-income hypothesis predicts profit accounts for more saving than wages; because capitalists do most of the saving, the class-saving hypothesis predicts profit accounts for most of saving; although Kaldor's theory is radical/Marxist and Friedman's hypothesis is conservative, they have the same implications for saving - most saving is done out of profits

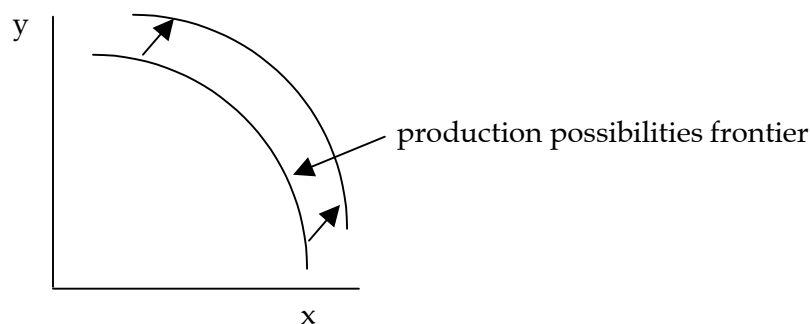
- the 4 theories of saving and the interest rate:

it is expected that as the interest rate increases, the amount of saving will increase (analogous to how the amount of labor supplied will increase if the wage increases); however, none of the 4 theories of saving consider the interest rate which is a major oversight

the financial systems of countries and their interest rates could explain the difference of saving rates among countries

also, structural factors could affect the saving rate; for example, the saving rate might be higher in Japan than in the United States because of the low availability of mortgages and credit in Japan - in order to make large purchases, people in Japan must save, while people in the United States can borrow; in developing countries with the least developed financial systems, it might not be worth the trouble to save in a bank for insurance reasons than a country with a better developed banking system

- saving/investment and the production possibilities frontier:
  - both the Harrod-Domar model and the Solow model predict that higher savings leads to greater capital formation and a higher output per worker
  - the production possibilities frontier (PPF) illustrates the amount of two goods (x and y) that can be produced with a given amount of resources:

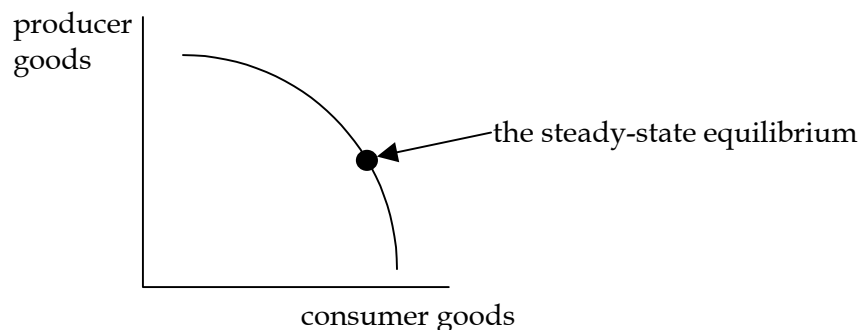


the PPF shifts out if there is 1) an improved technique using the same resources or 2) more resources for production are available

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additional labor will not increase the amount of output per worker, and natural resources are fixed in quantity; however, more capital can shift the curve out and increase output per person

- the PPF can also illustrate the choice between consumption and saving (the choice between producer and consumer goods):



the rate at which the PPF curve shifts out is a function of choice of consumption/saving (producer / consumer goods) today; at the steady-state equilibrium choice of producer goods and consumer goods, capital is created at the rate it wears out – the PPF will not shift out if this point is chosen; if the point of saving/consumption chosen is to the right of the steady-state equilibrium point, then the economy will shrink and the PPF will shrink inward; if the point of saving/consumption is to the left of the steady-state equilibrium point, then the economy will grow and the PPF will shift outward

- corporate saving:
  - firms can earn profits and plow them back into their businesses – this is considered part of saving
  - corporations might be expected to have high saving rates because of the tax system; earnings are not taxed when they are plowed back into investment; however, returns to investment that are paid out as dividends are taxed – thus it is cheaper for investors to reinvest in the same firm without having the money paid out rather than reinvest the payout; however, more people take the dividend than expected, perhaps because firms will then have to continually undergo the scrutiny of the market to earn funds for investment
  - corporate saving is not as important as expected, even in rich countries; corporate saving accounts for about 25% of saving in industrialized countries but is low or negligible in LDCs
  - corporations are not as important to developing country economies because:
    1. businesses are small enough to be run by families or individuals
    2. it is riskier to run corporations in LDCs because the legal and financial systems are not well-developed; corporations are good at raising capital while limiting risk, but require discipline, scrutiny, a good legal system, etc. to function successfully
    3. there is a history of difficulty in establishing corporations in developing countries
- foreign saving:
  - total saving considers capital inflows from saving by foreign entities; thus, investment can be greater than domestic saving because of foreign saving

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- page 380, table 11-1 – domestic investment and saving:

there are several countries for which domestic saving is less than investment, such as Ethiopia and Tanzania

for developing countries as a group, domestic saving is less than investment; in order for poor countries to invest more than they save, the countries lending to developing countries must (as a group, at least) invest less than they save (so the difference can be invested in LDCs)

- page 407, table 11-5 – the breakdown of foreign investment in developing countries:

the overall flow of funds into LDCs has grown over time (77 billion in 1970 to 376 billion in 1997)

the aid component of foreign flows has increased as an absolute amount over time, but has declined as a share of foreign flows

- a stylized fact: the proportion of foreign net resource flow that is aid has been falling over time – it was 2/3 in 1970 and fell to 1/9 in 1997:

	official development finance	net resource flow
1970	\$12 billion	\$19 billion
1997	\$39 billion	\$359 billion

- private finance:

page 407, table 11-5 – the flows of private finance to developing countries:

	total private finance	commercial bank loans	foreign direct investment
1983	36.7	19.8	8.5
1997	320.0	60.1	163.4

private foreign flows have become more important over time relative to official aid; commercial bank loans used to be more important, but after the debt crisis in 1983, foreign direct investment became more important

foreign direct investment includes direct equity shares, where a foreigner buys part of a company and has direct involvement in its operation, and portfolio shares, where a foreigner buys a share of stock but has little to do with the firm's operations

- foreign aid:

- page 409, table 11-6 – official development assistance: from industrialized countries:

in 1997, all industrialized countries sent less than 1% of their GDP to developing countries as aid, and most sent less than 0.5%

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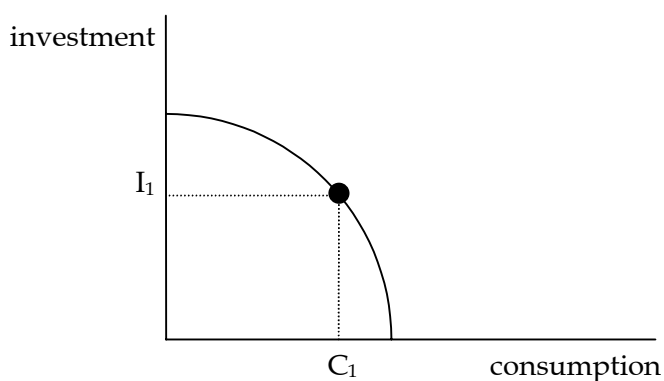
aid as a proportion of the income of donor countries has been falling over time; for example, the proportion of the GDP of the United States sent as aid has dropped from 0.58% (1965) to 0.20% (1991) to 0.09% (1997)

- page 411, table 11-7 - receipts of aid by developing countries:

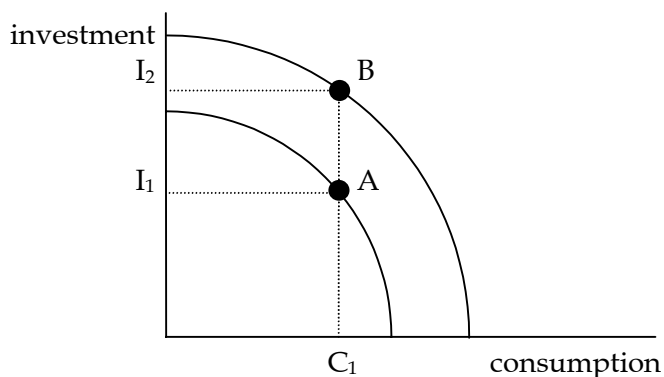
aid is a significant proportion of GNP in some developing countries, especially the poorest ones (Ethiopia, Tanzania, Mali, etc.)

for most countries, aid accounts for less than 0.5% of GNP

- the amount of aid a country would receive can be related to its geographic location; for example, during the cold war, the United States gave aid to friendly countries bordering the Soviet Union
- small poor countries receive more aid than larger poor countries; this could be because a country prefers to give a significant amount of aid to a few countries rather than spreading its aid out over many countries - because a country's aid will be relatively insignificant to a large country, it might choose to give its aid to a few small poor countries; aid might be given in this fashion to acquire political leverage for the donor country
- the fungibility of foreign aid:  
a country starts at an initial combination of consumption and investment,  $C_1$  and  $I_1$ , on the production possibilities frontier:

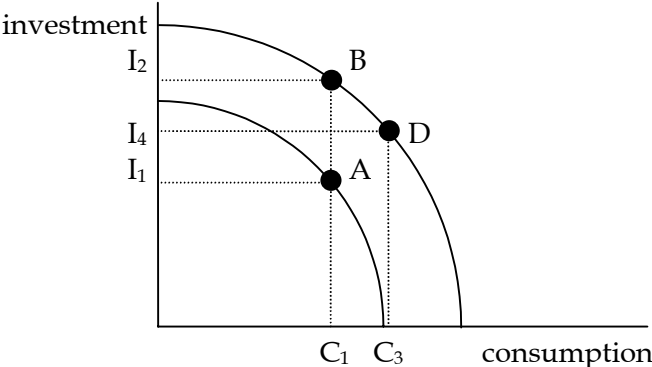


aid pushes the production possibilities frontier outward; because the aid is earmarked for investment, investment rises from  $C_1A$  to  $C_1B$ :



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however, the country could use the foreign aid for projects it was already planning to undertake with domestic funds and use those domestic funds to finance consumption; thus, the country would end up at point D instead of B:



thus, aid, even if it is intended for investment, can increase both investment and consumption because it is fungible