Chapter 9

consumer's current-period budget constrain: $C+S = y-t$

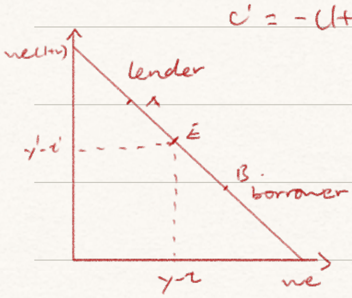
future $c' = y' - t' + (1+r)s$

so, $s = \frac{c'-y'+t'}{1+r}$

so, $C + \frac{c'-y'+t'}{1+r} = y-t$

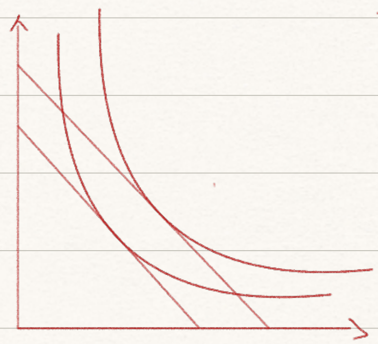
$C + \frac{c'}{1+r} = y-t + \frac{y'-t'}{1+r}$, $C+\frac{c'}{1+r}$ is the lifetime wealth

$c' = -(1+r)C + we(1+r)$



For point A, MRS = 1+r (indiff curve tangent the constrain), and the consumer is a lender.

At point B the consumer is a borrower



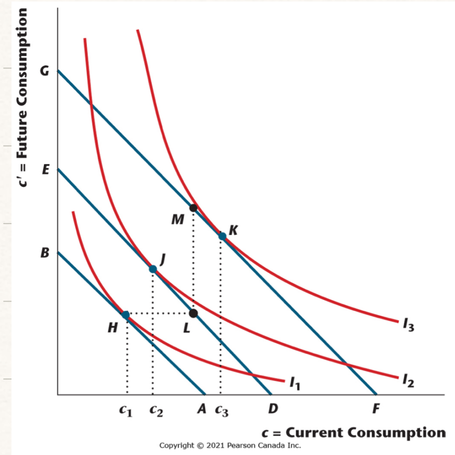
if current income increase, lifetime wealth increase and the curve shift outward. The slope does not change since the interest rate does not change

consumption of durables is more volatile than income. i.e. a larger vary since it is more like investement than consumption.

future income increase ⇒ future consumption ↑ (but less than ↑ in income

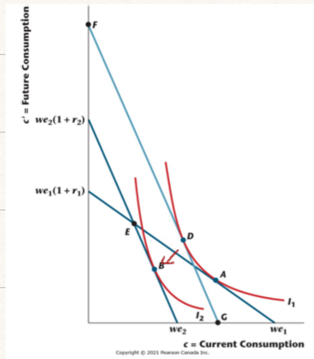
saving ↓ current consumption ↑.

but a consumer would save most of a purly temporary income ↑



For a temporary increase in income AB → ED, consumer would pick H → L that future consump does not change.

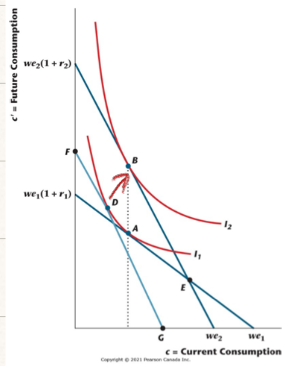
permanent increase: AB → GF : consumer would pick H → K, that is the optimum bundle.



For borrower:

current consumption ↓ saving ↑

Future consumption is uncertain



For lender:

current consumption is uncertain

Future consumption ↑.

with perfect complement, the ratio of future consumption is fix

$c' = ac$. Also, we have $c + \frac{c'}{1+r} = we$

so: $c + \frac{ac}{1+r} = we$, $c' = \frac{awe(1+r)}{1+r+a}$.

$c = \frac{we(1+r)}{a+1+r}$

Since we also have $c + \frac{c'}{1+r} = y - t + \frac{y'-t'}{1+r}$

so $c = \frac{(y-t)(1+r)+y'-t'}{1+r+a}$ $c' = a\left[\frac{(y-t)(1+r)+y'-t'}{1+r+a}\right]$.

For governments, $G = B + T$

$$G' = (1+r)B + T'$$

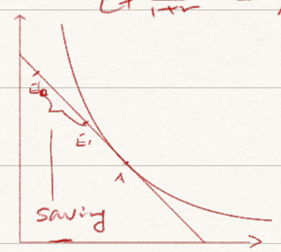
total budget saving equals to government bound: $S^p = B$

Ricardian Equivalence: Consumer's lifetime tax burden depend on consumer's share of the present value of government spending, no matter of time

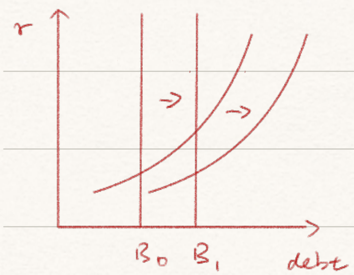
$$t + \frac{t'}{1+r} = \frac{1}{N}\left(G + \frac{G'}{1+r}\right)$$

$$-\left(C + \frac{C'}{1+r} - \left(y + \frac{y'}{1+r}\right)\right) = \frac{1}{N}\left(G + \frac{G'}{1+r}\right)$$

$$C + \frac{C'}{1+r} = y + \frac{y'}{1+r} - \frac{1}{N}\left(G + \frac{G'}{1+r}\right)$$



tax cut does not change consumer's budget constrain, but it change in saving $(E_1 - E_0)$



government debit ↑, credit supply (debt) curve shift right, private saving ↑ the amount of government debt.

However, Ricardial equiv fail in practice because:

1. Tax would have redistribution effects for different consumer
2. Intergeneration: debt issued today would be paid in next gen
3. Tax is not a lump-sum tax.
4. Credit market friction.