Allied Markets cont'd
Time Savings: this may be a tough benefit
 use wages / labor market
 problems with this measure: it's a crude one, difficult to apply in
 many cases.
  retirees may value time somewhat less than the wage they
  were getting when they were working because they've had a lot
  of time cumulatively
  For those who don't get paid, ideally we would ask them how
  much they would have to be paid to stop what they're doing and
  sell some of their time to an employer.
 The idea of using wages as a valuation of an individual's time is
 good under certain assumptions.
  person is a perfect competitor in the labor market;
   can work as much or as little as you like at the
   prevailing wage.
   sufficient bargaining power and job mobility to get the
   wage level you really want

Cross-Market Effects, or Market Linkages, or "General Equilibrium"

Problem arises when price and/or quantity in one market matters for supply or demand in another market.
Properly, general equilibrium looks at all markets in the economy; sounds hard, and it is unless the markets we look at are very simple (only a few inputs and outputs). We're only going to look at two markets at once, and we're not going to claim that those markets are the whole economy, so we're really only in partial equilibrium still.
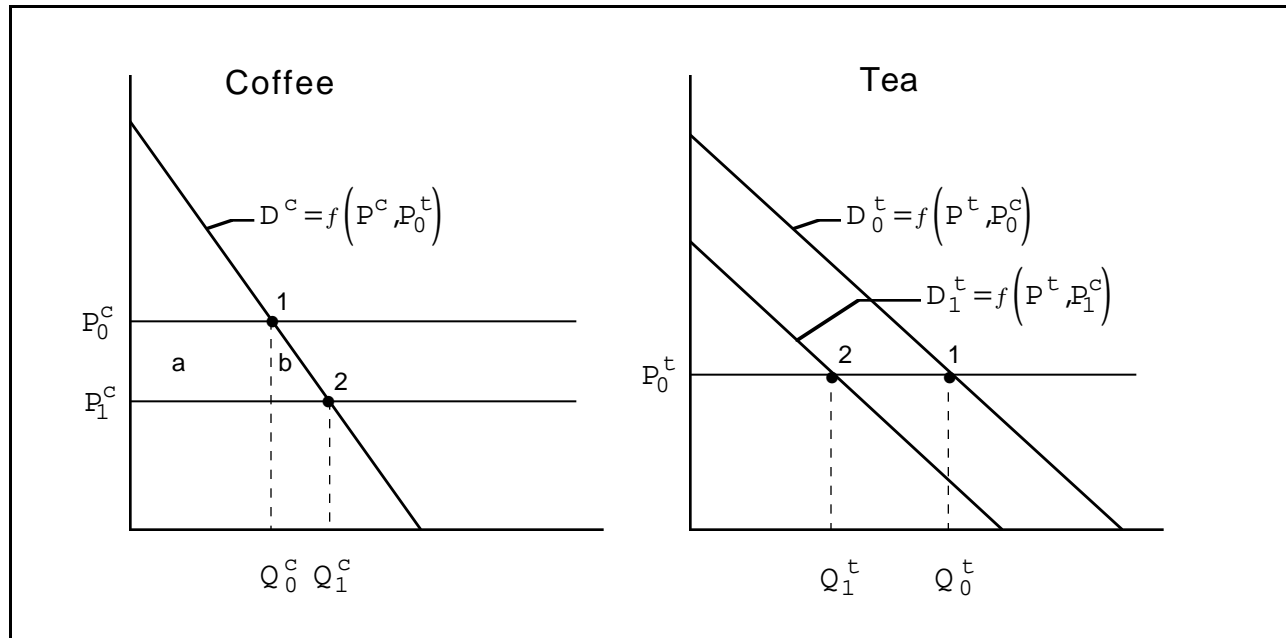
Primary market: the one we're examining directly that has effects elsewhere when the price or quantity changes
Secondary market: the one that has supply or demand that's sensitive to the changes in P or Q elsewhere.

Case: Cheap Coffee; substitute is tea.
Stimulus for changes in coffee market: building an irrigation system.
Constant costs in both markets.

Coffee

$$D^c = f\left(P^c, P_0^t\right)$$

P_0^c ... 1

a ... b ... 2

P_1^c

Q_0^c Q_1^c

Tea

$$D_0^t = f\left(P^t, P_0^c\right)$$

$$D_1^t = f\left(P^t, P_1^c\right)$$

P_0^t ... 2 ... 1

Q_1^t ... Q_0^t

Until now we've been ignoring substitution effects in the tea market. Because coffee has become cheaper relative to tea, some people will cut back/eliminate tea drinking and increase coffee consumption.

Use the initial price of coffee in the initial tea demand function. Note and remember that the partial derivative for this initial demand function will be positive: an increase in coffee prices lead to an increase in tea demand.

When the price of coffee falls (coffee equilibrium moves from 1 to 2), what happens?
$P_c < 0$

Quantity of tea consumed and produced drops, shifting from $D_0^t \rightarrow\rightarrow D_1^t$. Suppliers of tea are not worse off because we assumed perfectly elastic supply, so no welfare effect

DESPITE THE TRIANGLE CHANGE IN THE TEA MARKET, THERE IS NO CONSUMER SURPLUS LOSS IN THE TEA MARKET!!!!!

It's the same people deciding what to consume; they're voluntarily switching markets, so presumably those who move to the coffee market are better off; similarly, those who don't move to the coffee market wouldn't be better off if they did so. These people are voluntarily moving to a different mix of goods along the same indifference curve (not shown here), and utility is constant.

Any time the demand curve shifts in the secondary market along the same price, you can't look at consumer welfare effects in that market.

The end result: old coffee demanders plus new coffee/old tea demanders just gain a+b. We've captured the surplus of old tea drinkers in the coffee market.

Under what circumstances do you not need to look at secondary markets?
- If there are no linkage effects
- If there are constant costs and no distortions IN THE SECONDARY MARKET.

What happens if there are rising costs in the secondary market?
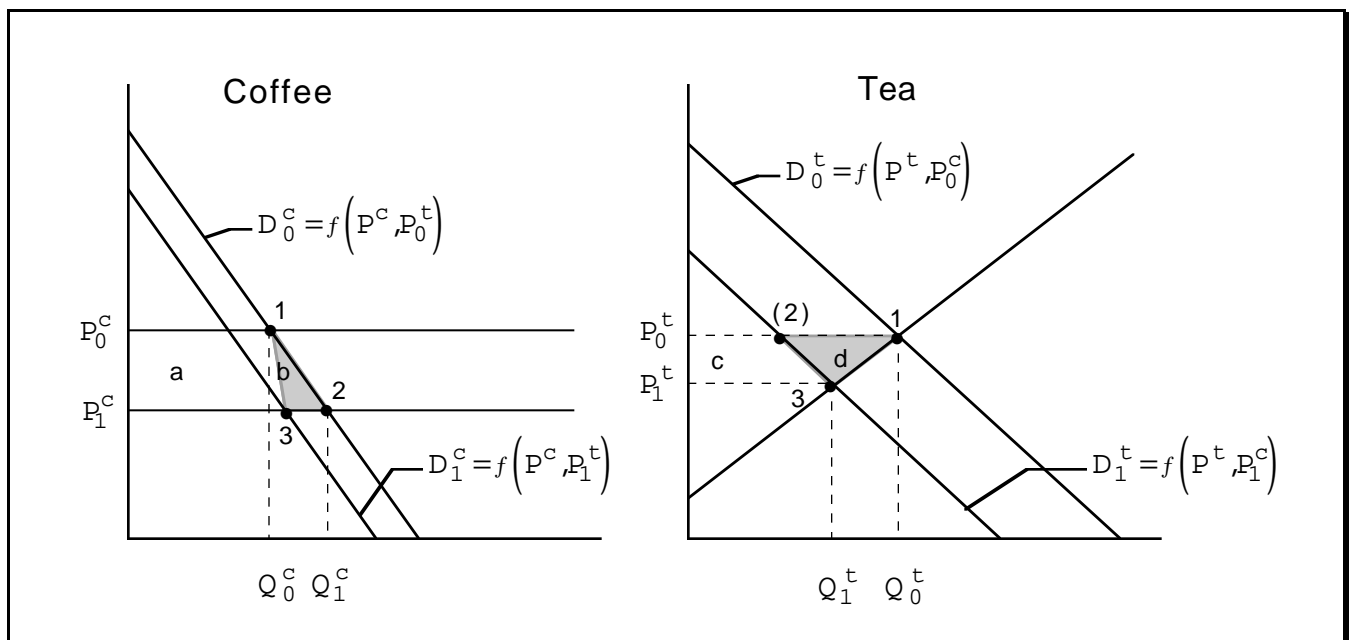
results: suppliers of coffee, no change. tea suppliers lose (c+d). Tea consumers gain c, for a net loss in the tea market of the gray area, d. Since the price of tea has shifted down, though, the demand for coffee drops. The equilibrium shift from 2 to 3 in the coffee market is the same kind of shift in the secondary market from 1-2: no CS effects. The gray areas in the two graphs are equivalent, so a+b-d = the unshaded part of a+b in the coffee market = the net surplus change for this whole system of changes. The line connecting points 1 and 3 in the coffee market is a demand curve that combines changes in coffee and tea prices. If we dropped coffee prices incrementally and traced the movement of final equilibria from 1 to 3, we get a curve of equilibria.