The theory of exchange

API 5100 Economics for Public Management and Policy

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Breaking out of the poverty trap

involved the need for "capital" to promote economic growth term

The Malthusian poverty trap assumed a one-good, closed economy

- since there was only one good we could simplify the discussion by abstracting from exchange, and therefore prices. The way out of the trap was to relax this assumption along both of its dimensions

Save and Invest

- forgo current consumption, save and invest, and accumulate capital, but how should a society's wealth be divided between consumption and saving? We are making a trade between current consumption and future consumption, and the terms of this trade are relfected in a price

Trade

- specialize in production and trade for the capital on international markets. Trade can occur across space, not just across time, but again we need a set of relative prices to govern the terms of the exchange

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Price determination
The theory of value

What determines the rate at which one good will exchange with another, or in other words the price of one good in terms of another?

- Prices are determined in an institution called "the market", which brings buyers and sellers of goods and services to gether to determine how much is traded and at what rate goods exchange
- a "relative" price
- buyers and sellers have conflicting interests
    - how do markets work?
    - can they be manipulated to the benefit of some

Objectives for this block of classes

1. understand the neoclassical theory of value
   - in perfectly competitive markets
   - hint at other market structures
2. to apply our understanding
   - commodity markets
   - public policy directed to producers in these markets

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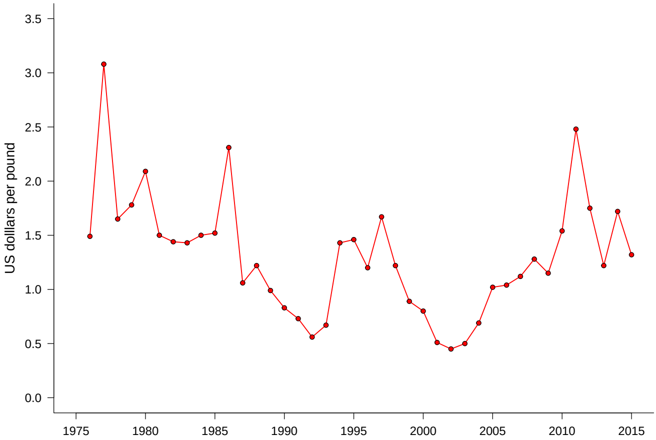
"I like cappuccini !"

1. Is coffee traded at a "fair" price?
2. Is milk?

Coffee prices on the international market
Brazilian Natural Arabicas in US $ per pound



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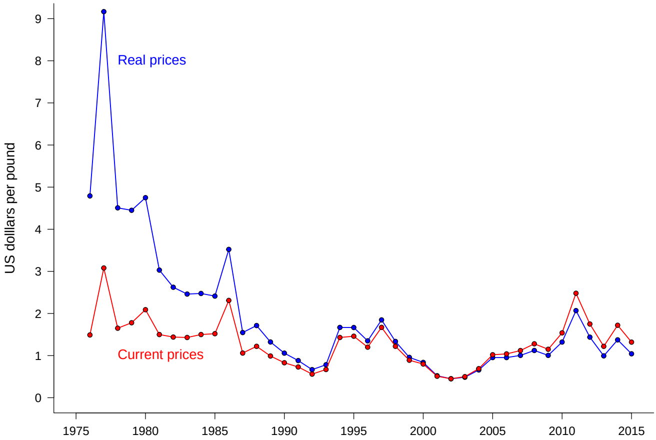
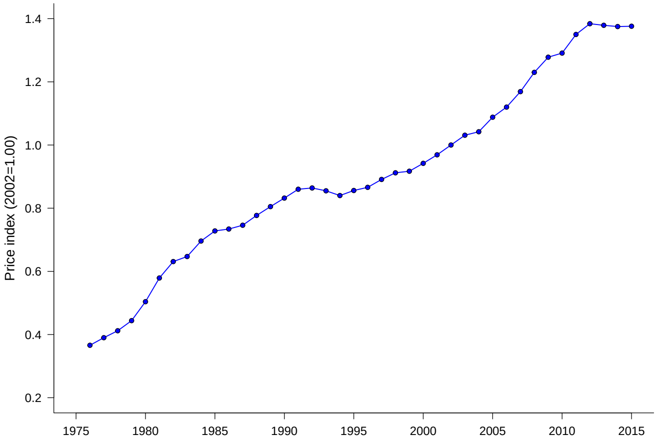


Milk prices in Canada

Partly skimmed, indexed so that 2002 =1.00



Using the Consumer Price Index to calculate inflation rates

Table: Consumer Price Index and the inflation rate

	Consumer Price Index	Inflation Rate (%)
2002	100.0	
2003	102.8	
2004	104.7	
2005	107.7	
2006	109.1	
2007	111.5	
2008	114.1	
2009	114.4	
2010	116.5	

Using the Consumer Price Index to calculate inflation rates

Table: Consumer Price Index and the inflation rate

	Consumer Price Index	Inflation Rate (%)
2002	100.0	
2003	102.8	2.8
2004	104.7	1.8
2005	107.7	2.9
2006	109.1	1.3
2007	111.5	2.2
2008	114.1	2.3
2009	114.4	0.3
2010	116.5	1.8

More about the Consumer Price Index

1. An Overview of Canada's Consumer Price Index https://www.youtube.com/watch?v=qfKmJe3CK6E
2. The Consumer Price Index and Your Experience of Price Change https://www.youtube.com/watch?v=U0xDcqE-zNs

"I like cappuccini !"

1. Is coffee traded at a "fair" price?
2. Is milk?

- Why are coffee producers receiving highly variable prices that are, at best, no higher than 40 years ago?
- How is it that milk producers are able to get stable and steadily increasing prices?

To answer these questions we need to develop a model of how markets work for these types of commodities, and how public policy can influence the equilibrium price and quantity.

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Why trade? Why have markets

There are important advantages to exchange

- in an economy without production individuals can obtain a better distribution of the goods they have, and increase their welfare
- in an economy with production exchange makes specialization in production possible, increases productivity, and increases both the quantity and variety of goods

Adam Smith gave a famous example of this benefit of exchange in recounting his observations of production in a pin factory

Why trade? Why have markets

In *The Wealth of Nations*, published in 1776, Smith wrote:

> *The greatest improvement in the productive powers of labour, and the greater part of the skill, dexterity, and judgement with which it is anywhere directed or applied, seem to have been the effects of the division of labour. . . .*
>
> *. . . a workman not educated to the trade of pin-maker (which the division of labour has rendered a distinct trade), nor acquainted with the use of the machinery employed in it (to the invention of which the same division of labour had probably given occasion), could scarce, perhaps, with his utmost industry, make one pin in a day, and certainly not make twenty. But in the way in which this business is now carried on, not only the whole work is a peculiar trade, but it is divided into a number of branches, of which the greater part are likewise peculiar trades. One man draws out the wire, another straightens it, a third cuts it, a fourth points it, a fifth grinds it at the top for receiving the head; to make the head requires two or three distinct operations, . . .*

[Adam Smith (1776), The Wealth of Nations. New York: Random House, Modern Library edition, page 4.]

Why trade? Why have markets

The advantages of exchange

- The point is that the possibility of exchange permits a society to have access to a larger amount and a wider variety of goods.
- This possibility cuts both ways ... with new goods comes the technical possibility of producing even more new goods, and extends further the possibility of exchange.
- Exchange (trade) takes place in a market.

The "market"

The term market refers not to a particular market-place in which things are bought and sold. Rather a market is a location, or set of locations, in which buyers and sellers of a particular commodity are in regular communication.

- Different locations form a single market according to the potential and actual transfer of transactions from one place to another
  - For example coffee is sold in a number of exchanges across the world, in New York, Berlin . . . .
- In a market buyers and sellers have the capacity to interact
  - Buyers try to make their purchases at the lowest net cost to themselves
  - Sellers try to obtain the highest prices for their goods

The scope of the "market"

Communication and transport costs put limits on the extent or scope of the market

Rational buyers and sellers consider not just the price of the commodity but also the costs in obtaining it. These include costs of transport, tariffs, communication.

- Some commodities have local markets, their costs of transport are high relative to their prices
  - This occurs for bulky items, or perishability
  - Examples?
- Improvements in communications and transport, or in tariffs, may change the scope of the market
  - Examples?

The scope of the "market"

Goods with wide markets have certain characteristics

Easily and exactly described so that they can be bought and sold by people at a distance from one another, and from the commodity

- Examples: commodities like cotton, wheat, iron
- Take coffee: Brazilian, Columbian, Ethiopian . . .
- What about: cement, milk, bread?
- What about manufactured goods?

How is it that the scope of the market is also rather wide for dresses? For shoes?

The size of the "market"

How large is a market?

- There is both a commodity and a geographic dimension to a market
- In reality there may be a certain vagueness to the definition of how large a market is, but we will assume there is no ambiguity

There are four types of markets

1. perfectly competitive
2. monopolistically competitive
3. oligopolistic
4. monopolistic

Prices and quantities are determined differently in each of these market structures. They differ by the extent and nature of "power" the producers and consumers have.

Three conditions for a perfectly competitive market

Perfectly competitive markets are those in which three conditions hold.

1. There are a large number of buyers and sellers.
   - The proportion of market transactions carried out by any single participant is very small, so that each buyer and seller separately has a negligible influence on values in the market
   - Entry into the market must be easy for there to be a large number of buyers and sellers

Three conditions for a perfectly competitive market

Perfectly competitive markets are those in which three conditions hold.

1. There are a large number of buyers and sellers.
2. The commodity is homogeneous

- Each unit of this commodity is identical to every other unit, and buyers and sellers are indifferent – given the price – about whom they buy from or sell to

Three conditions for a perfectly competitive market

Perfectly competitive markets are those in which three conditions hold.

1. There are a large number of buyers and sellers.
2. The commodity is homogeneous
3. All participants must have full knowledge of the price at which market demand is equal to market supply in the particular time period

- implies that all transactions take place at market clearing prices
- full knowledge refers to the present market conditions: buyers and sellers may have different expectations of future market conditions

Summary

- The first main message of this talk in one or two lines.
- The second main message of this talk in one or two lines.
- Perhaps a third message, but not more than that.

- Outlook
    - What we have not done yet.
    - Even more stuff.