Economics of Innovation in Markets

Macroeconomic gains
- Improved competitiveness of producers
  - Growth potential in fast-growing export markets
  - Protects and develops comparative advantage
- Higher productivity (output per worker)
  - Faster trend growth
  - Potential for higher wages
- Job creation?
  - Some jobs are lost (labour-saving technology)
  - New jobs in training & other services
  - Expansion of new markets from new products
- Lower inflation from improved efficiency and greater competition
- Positive externalities
  - New health treatments
  - Safer forms of transport
  - Technological spillover effects
  - Improvements in quality of life (time-saving products)

Promoting innovation is a supply-side strategy

Government policy intervention and promoting innovation
- A role for government policy in promoting innovation?
  - Fiscal Policy: Tax credits and other subsidies for R&D
  - Rigorous competition policy to control market dominance
  - Protection of intellectual property rights
    - Encouraging licensing
    - Encouraging open source
  - Encouraging entrepreneurship
    - Encouraging markets for venture capital
    - Bankruptcy procedures
    - Taxation of business income / profits
  - Believe in open trade
    - Promote knowledge absorption
    - Liberal approach to labour migration
    - Policies to attract FDI from businesses with strong innovation record
  - Investment in education and human capital
    - Improving core skills in Maths and Science
    - Affects the ability of people to adapt to and exploit new technologies
    - Promotes the adoption and diffusion of innovation
    - Improved funding for higher education in science and technology
  - Promoting business parks and 'innovation clusters'

Market Structures and the Incentive to Innovate
- Market forces versus the state
  - Incentives in the private sector
    - Profits
    - Market dominance
    - Lower costs
  - Many ground-breaking innovations have come from public research e.g. the WWW
- Oligopoly
  - Innovation a key form of non-price competition
    - Quality of product
    - Innovation in customer service
    - Harnessing new technology
  - William Baumol - oligopoly may be optimum
    - Supernormal profits can finance R&D
    - Interdependence between firms
    - Collusive behaviour in joint research projects is legal
- Pure Monopoly
  - monopoly profits
  - absence of competition
- Contestable Markets
  - Potential for entry of new firms and products affects behaviour
  - Failure to innovate may prompt new rivals to come in
  - Supernormal profits for successful firms
- Perfect Competition
  - No long run supernormal profits
  - Perfect knowledge
    - spill-over of new ideas
  - Homogeneous products

What is innovation?
- "The process of making changes to something established by introducing something new"
- Public goods
  - Knowledge is essentially a public good
  - Many scientific advances have a public good nature if knowledge of them is widely dispersed
  - But there has to be a reward to developing ideas

Product innovation
- A driving dynamic in a market
  - telecommunications
  - pharmaceuticals
  - transport
  - audio-visual products
  - knowledge industries
  - household goods
- New and improved products and services
  - product life-cycles
    - Creates new markets
    - synergy demand (e.g. razors and batteries!
  - product evolution
  - digitization
    - cameras
    - phones
    - pre-recorded music
    - television & radio
    - personal organizers
  - Gains in dynamic efficiency
    - Helps to satisfy emerging needs and wants
- A barrier to entry?
  - First mover advantage for successful innovators
    - Build a customer base
    - Build brand loyalty
  - Linked to R&D investment
    - patent races
    - technological alliances between firms
  - Innovation may make markets more contestable

Process innovation
- Cost reducing innovations
  - Outward shift in supply
  - Scope for higher profit margins
- More efficient use of resources
  - Gains in productive efficiency
  - Higher factor productivity
- Lower prices for consumers?
  - real-income gains
  - less pressure for higher wages