

**The welfare costs of not being part of  
the knowledge economy:  
why rural development needs more  
creative policy strategies**

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# Paul Romer and the Economic Theory of the Knowledge Economy

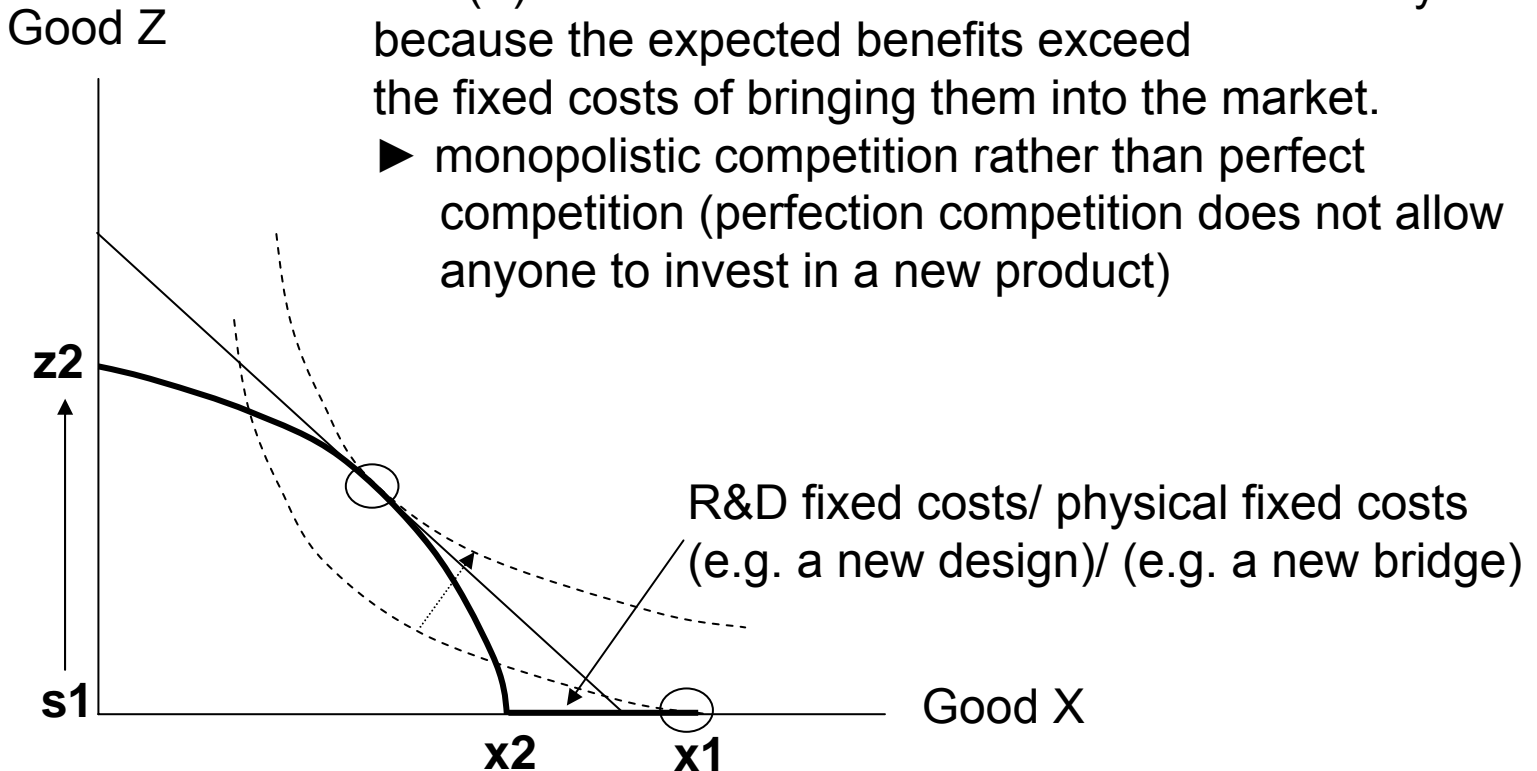
- *Endogenous Technological Change (1990, Journal of Political Economy)*: Knowledge as a non-rival, partially-excludable input factor. A potential source of boundless growth.
- *New Goods, old theory, and the welfare costs of trade restrictions (1994, Journal of Development Economics)*: Welfare effects of new goods are ignored in neoclassical welfare economics.
- *Time lag in economic textbooks and European public policy: where is Paul Romer?*

# Dynamic General Equilibrium Analysis

a new good is produced at the fixed costs of  $x_1$ -  $x_2$  units of good X (probably the rule)

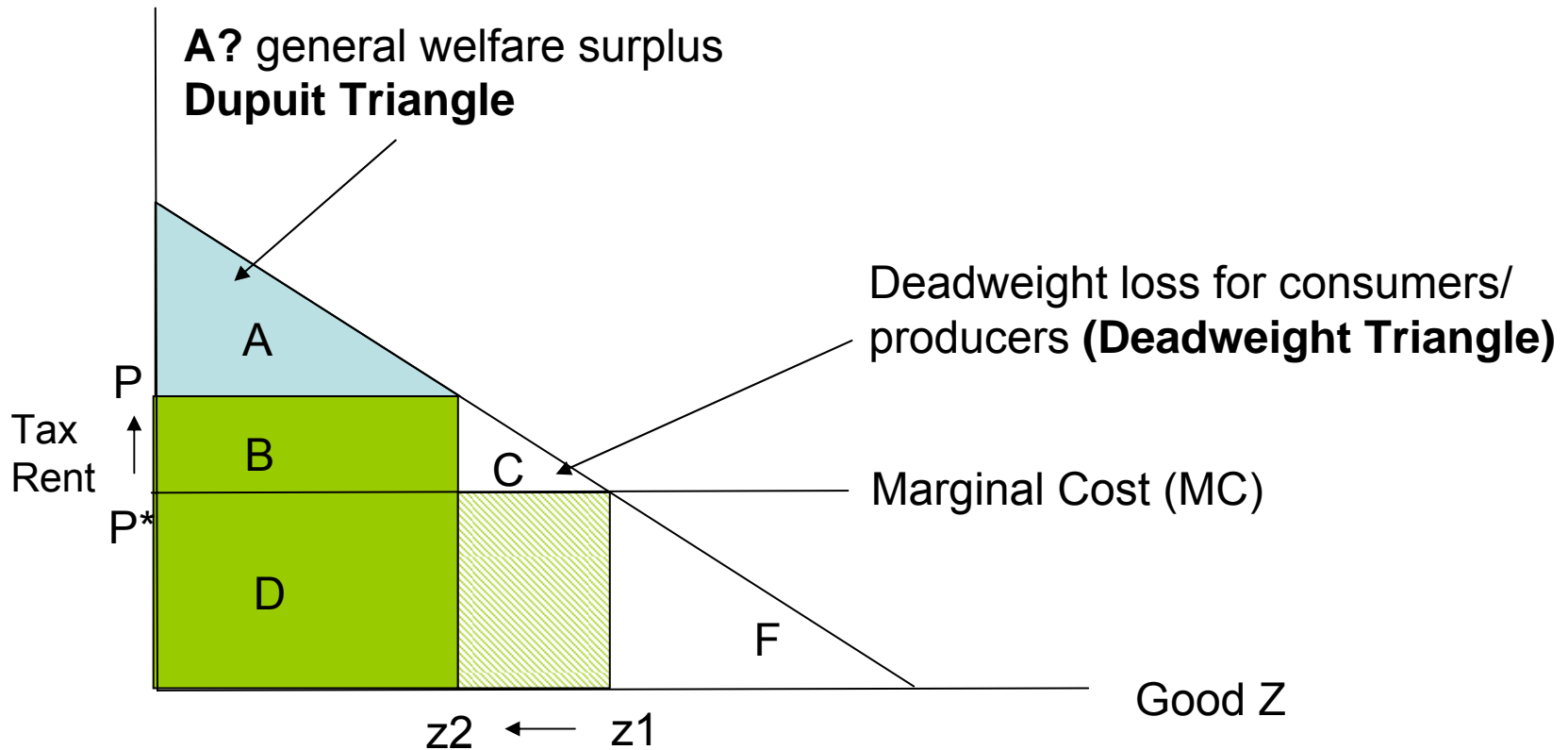
Out of an enormous set of possible new goods S, one (Z) is selected and introduced in the economy because the expected benefits exceed the fixed costs of bringing them into the market.

- ▶ monopolistic competition rather than perfect competition (perfect competition does not allow anyone to invest in a new product)



# Partial Equilibrium Analysis and New Goods Trade/Monopolist Policy

Price Z  
(measured in units of output Z)



# Dupuit (A) versus Deadweight Triangle (C)

- *Jules Dupuit, an 19th century engineer in France, developed a project analysis for goods that did not yet exist (e.g. bridge).*
  - Basic assumption: the maximum net revenue that could be collected by simple monopoly pricing is less than the total social value created by the bridge (monopolist can capture B+D but not A in the graph, which is today called the Dupuit triangle)
- *Hotelling & Meade: bridges should be built by governments because of the large fixed costs and the risk of welfare loss due to monopolist bridge tolls (deadweight triangle)*

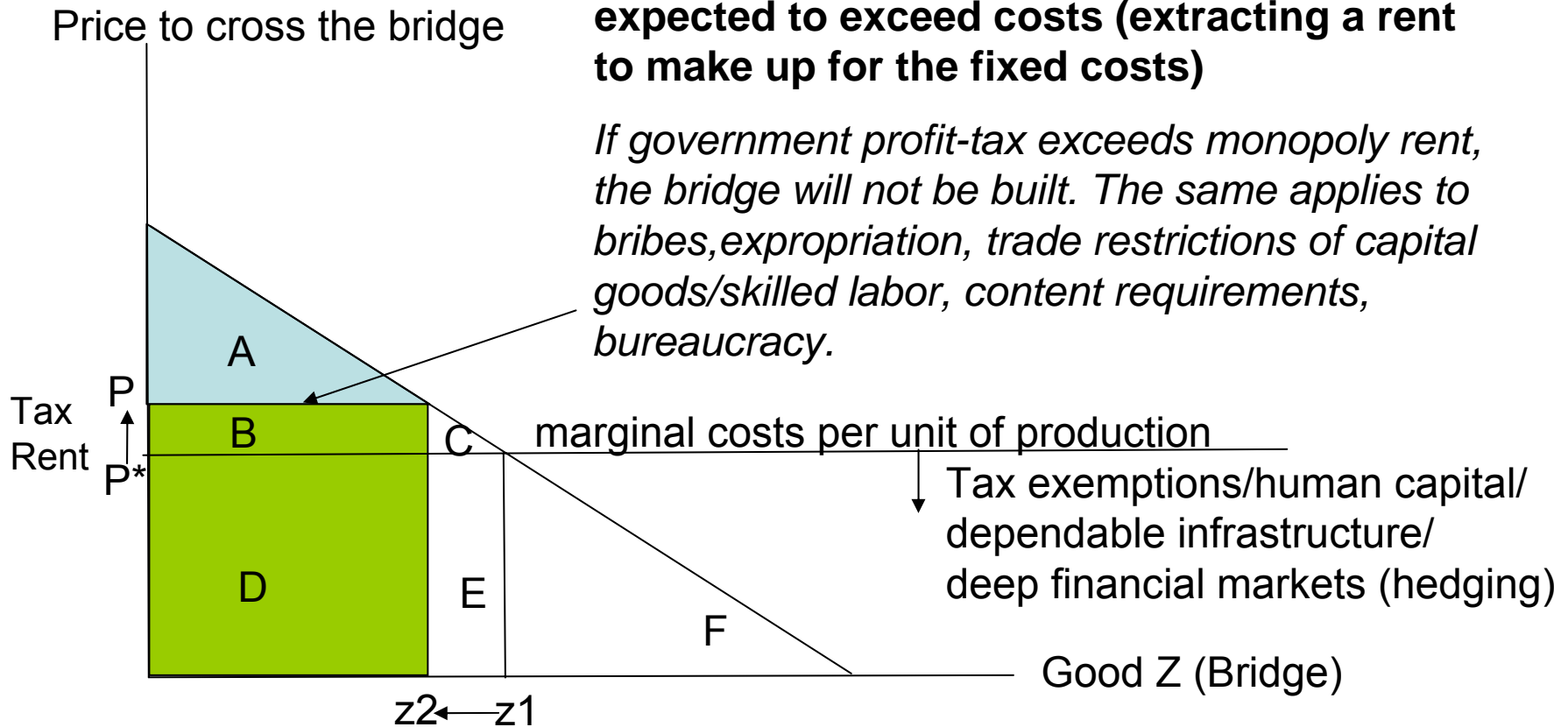
Deadweight triangle and the associated welfare losses became associated with market failure and a justification of government intervention (yet state monopolies may care less about O&M and do not respect the user-pays principle (free rider problem))
- *Harberger: the magnitude of the welfare losses by monopoly practices and trade restrictions is small (deadweight triangle)*

# Puzzle in the Developing World

Some countries opened their economies significantly but remained very poor, others impose high tariffs on certain goods but have grown wealthy over the past three decades. Why?

**An entrepreneur wants to build a bridge in a developing country - as long as revenues are expected to exceed costs (extracting a rent to make up for the fixed costs)**

*If government profit-tax exceeds monopoly rent, the bridge will not be built. The same applies to bribes, expropriation, trade restrictions of capital goods/skilled labor, content requirements, bureaucracy.*



# From Welfare Economics to New Growth Theory

New goods are introduced on a daily basis (due to exponential growth of knowledge that is converted into goods and services). Welfare Economics does not deal with new goods but still shapes public policies worldwide.

The more new goods and technologies the global economy produces, the more fatal become trade restrictions for and lack of access to knowledge/goods/technologies (growing inequality)

Effective development and environmental policies should not just address the potential negative externalities of technological change but also make use of the positive externalities that help empower the poor and improve environmental management.

# Conclusions

Government intervention often increases the cost of doing business

- potential negative effects on social welfare, particularly in poor developing countries and rural regions (lost Dupuit Triangles)

Subsidies/aid/direct payments imply market failure.

Yet, the support discourages innovation/endogenous development.

- migration of the young and skilled people and more poverty
- state failure (state succeeds as regulator but fails as facilitator)

The production of new goods is at the heart of a market economy.

Yet, economists still ignore new goods in their models. This explains why they are not really good at explaining the social benefits of globalization.

- The raise of Asia is a result of endogenous development
- New Zealand successfully applies New Growth Theory to achieve social and environmental goals in rural areas (investing in people)