Telecom Service/Policy
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Information, the Internet and Economic Activity

1. Introduction to Economics

- Transaction costs
- Internet and efficiency: basic micro-economy model
- Creating value with e-commerce (Reduce t-cost)
- Indirect benefits

2. Perfect competition, Imperfect information and Transaction cost

Perfect competition (Assumptions)

- Price takers: all consumers/seller are price takers
  no one individual influences market prices
- Homogenous good
- Perfect information
  - Location of the good
  - Price of the good
  - Quality of the good

2. Perfect competition, Imperfect information and Transaction cost

- Supply-Demand framework
  - Predicts P, Q, CS, PS and W
  - Efficient price: price = MC
  - Efficient price is unique
- Unique price seldom observed
  - Asymmetric information: need to search information (location, price and quality)

2. Perfect competition, Imperfect information and Transaction cost

Transaction cost

Expenses that arise when economic agents find other agents with whom

to exchange goods and services

to reach agreement about price, quality and other aspects of the exchange

to ensure the terms of the agreement are fulfilled

2. Perfect competition, Imperfect information and Transaction cost

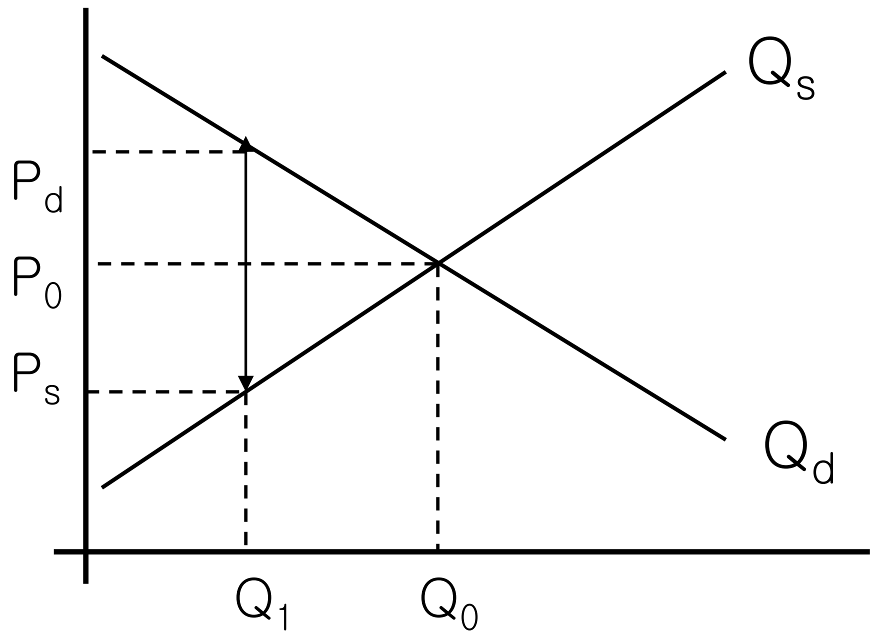
↑ Price paid above cost of production

- Cost of advertising
- Transport, communication and brokerage costs
- Opportunity cost of time and effort
- Inconvenience costs:
  - How to use the new technology?
  - Switching cost
- Cost of delivery, insurance and contract

3. Imperfect information, Internet intermediaries and Efficiency

t-costs impede efficiency and welfare
Supply-demand model for standard PC
Consumers incur t-costs

3. Imperfect information, Internet intermediaries and Efficiency



Q_0: w/o transaction cost

Q_1: with transaction cost, t: $P_s + t = P_d$

3. Imperfect information, Internet intermediaries and Efficiency

CS, PS and W at Q_0

CS, PS, and W at Q_1

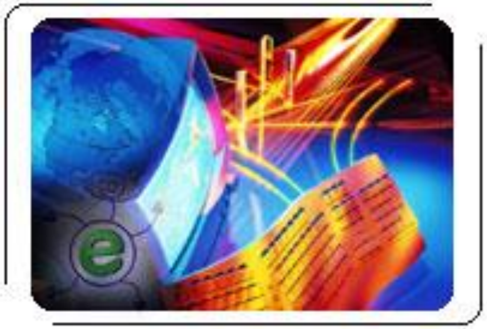
No efficiency: price > cost of production

transaction cost to intermediary (3rd party)

Lower quantity: $Q_1 < Q_0$

4. Creating value through Intermediaries and e-commerce

Supply side
Demand side
S-D side
Internet related cost savings



4. Creating value through Intermediaries and e-commerce

Reduced t-cost by e-commerce

(i) Supply side

External distribution

- Supply goods directly to customer
- No physical location of store
- Reduction of handling cost, sales tax, rent, sales persons

Supply coordination

- Coordinate activity along the supply chain can reduce costs

4. Creating value through Intermediaries and e-commerce

Organizational structure

- Use high quality, low cost labor with different time zone

(ii) Demand side

Matching buyer preferences with supply

- Consumer information available
- Direct marketing

Economics of centralized inventories

- Standard products
- Non-standard and new products

4. Creating value through Intermediaries and e-commerce

(iii) S-D side

Synergies with production, distribution and marketing

ex: Dell

Dell business Model

- Lower costs
- Stimulates demand
- Differentiates the product/manufacturer

4. Creating value through Intermediaries and e-commerce

(iv) Internet-related cost savings in 2005 (USA)

Finance: $19-20B

Health: $40B

Manufacturing (motor vehicles): $100B

5. Indirect Benefits for the Macro-Economy

- Indirect benefits
- Production possibilities frontiers (PPF)
- Empirical estimates

5. Indirect Benefits for the Macro-Economy

(i) Indirect benefits

↓ distance between buyers and sellers

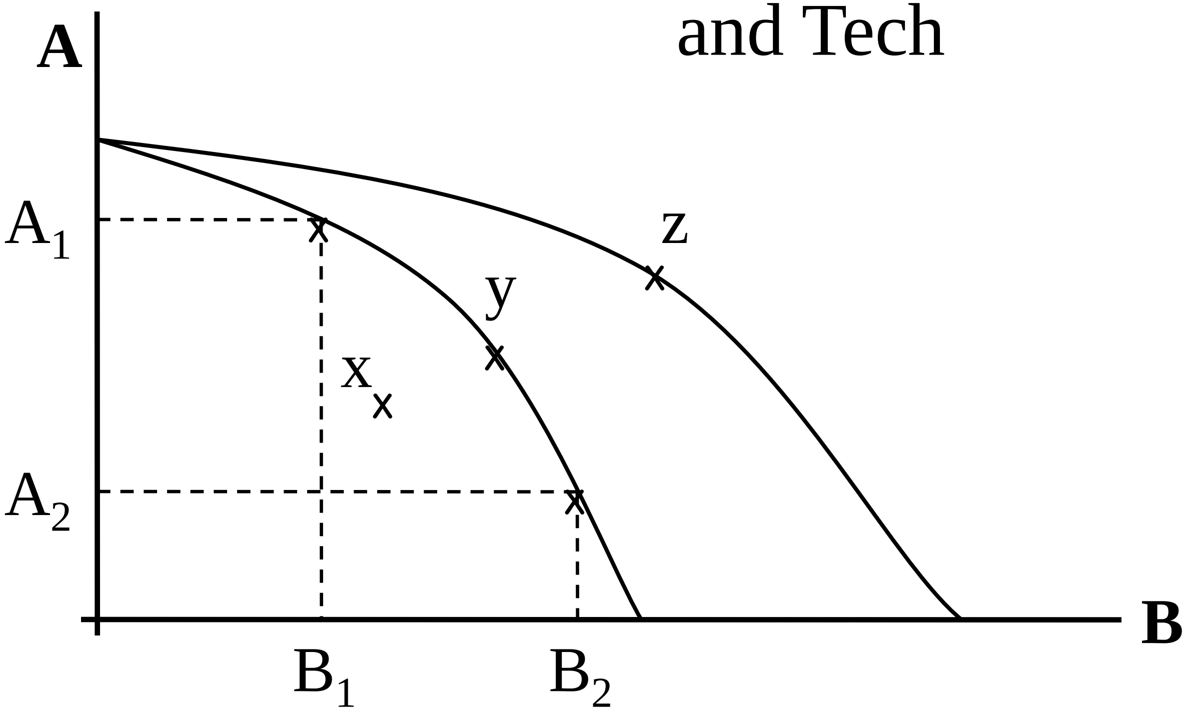
Promote competition: expand/integrate market

Expand stock of entrepreneurial talent (human capital)

Rapid diffusion of information, knowledge and research

5. Indirect Benefits for the Macro-Economy

(ii) PPF of two goods (A and B) with given K, L, and Tech



x (inefficient) << y (efficient)

< z (expanded PP due to economic growth)

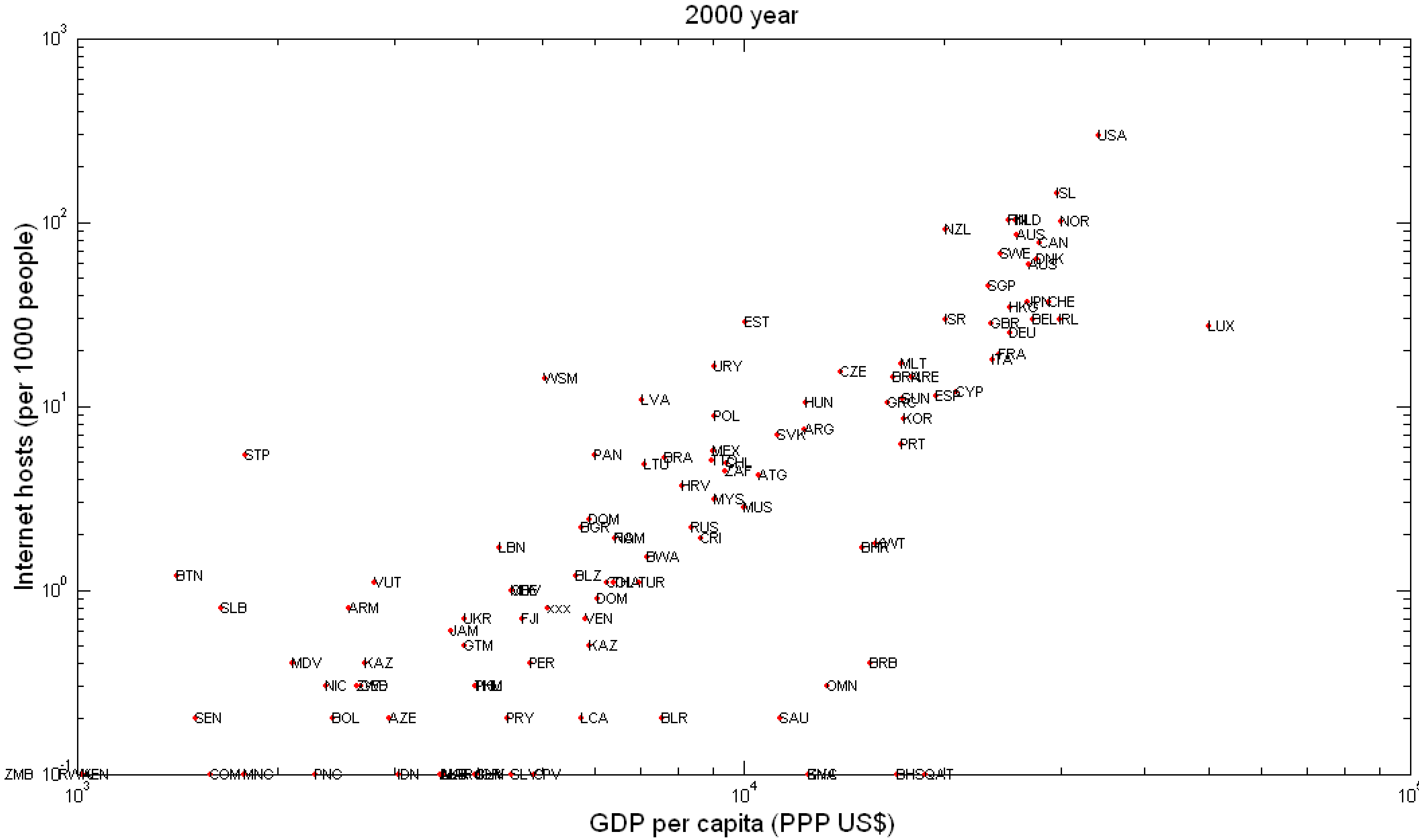
5. Indirect Benefits for the Macro-Economy

(iii) Empirical estimates

Many studies on ITT and growth

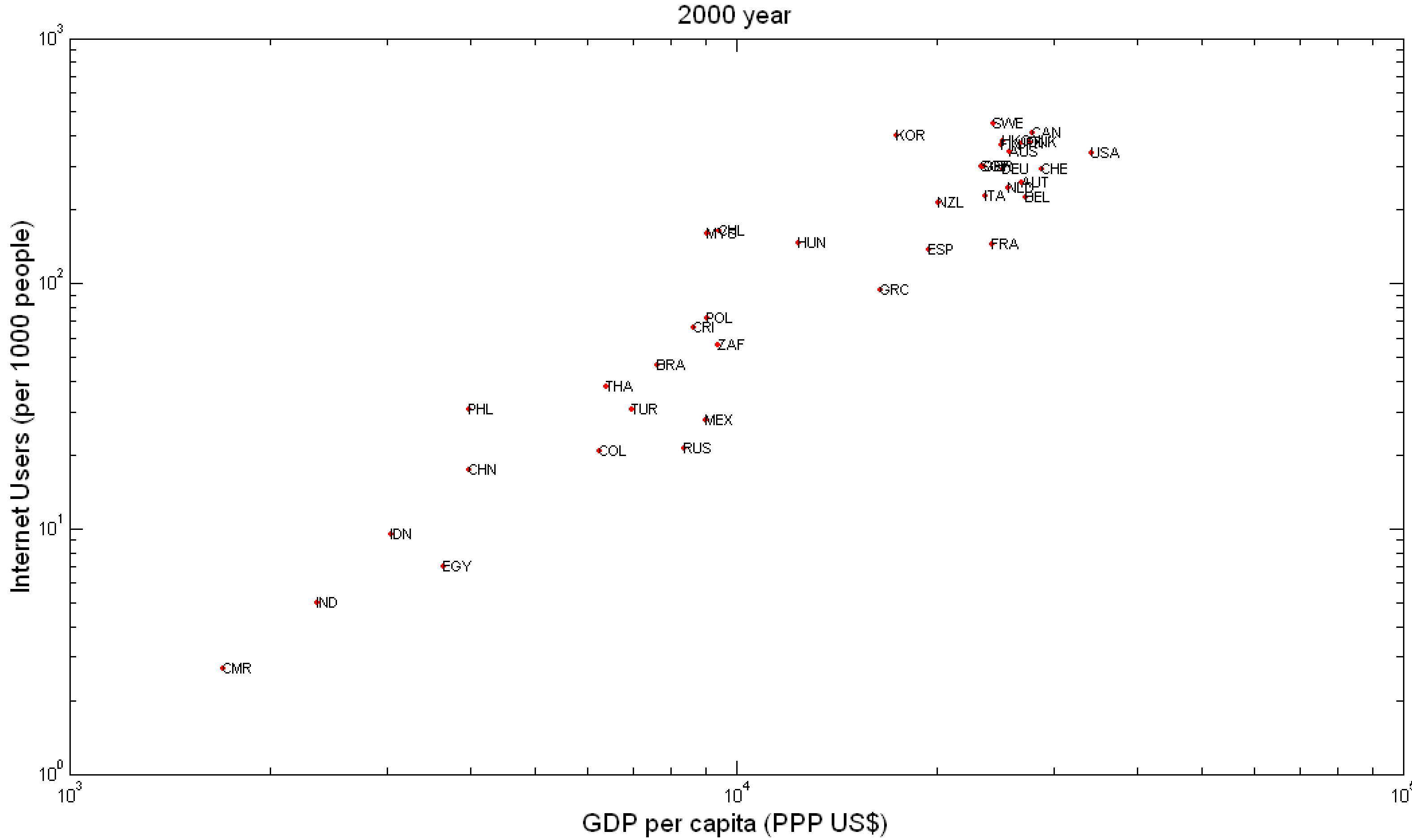
- Positive relationship:
  - GDP per capita vs. telephones
  - GDP per capita vs. Internet hosts
- Mutual causality between ITT and economic growth

Internet Hosts per 1000 people / GDP per capita



UNDP (United Nations Development Program): http://www.undp.org/

Internet Users per 1000 people / GDP per capita



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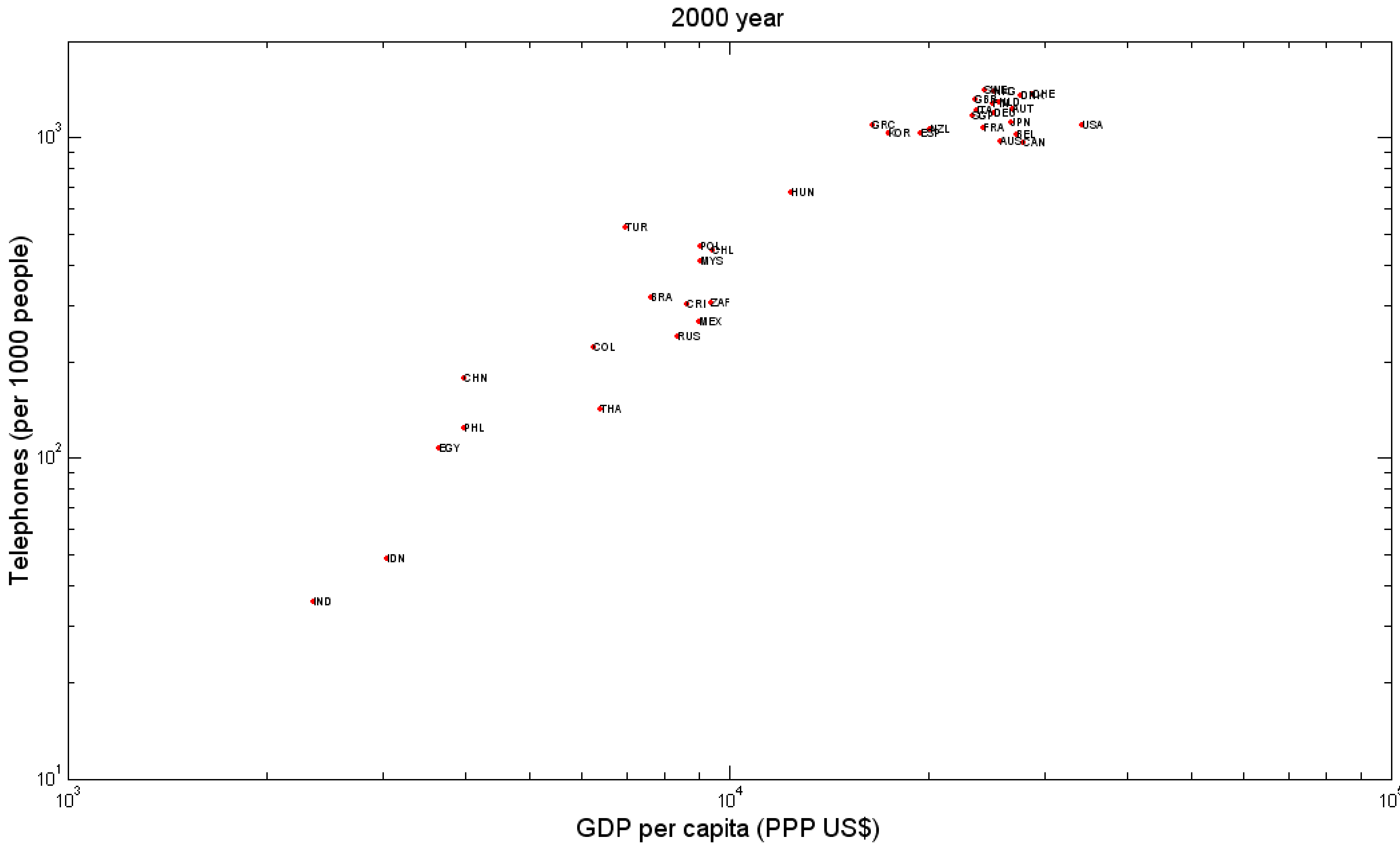
Number of Telephone per 1000 people / GDP per capita



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Summary

- t-costs impede efficiency and welfare
- Reduced t-cost by e-commerce
  - Supply goods directly to customer
  - No physical location of store
  - Matching buyer preferences with supply
  - Economics of centralized inventories
  - Synergies with production, distribution and marketing
- Indirect benefits for the macro-economy