1. INTRODUCTION TO MICROECONOMICS

ECON1005 Principles of Economics I (Microeconomics)

1. WHAT IS ECONOMICS?

- Economics is a discipline that studies how people make choices under the problem of scarcity and how those choices affect society.

  - **Scarcity**: a situation in which the amount of resources available is insufficient to satisfy wants.
    - Individuals face a scarcity of *spending power* and *time*.
    - Societies face a scarcity of *resources*: labor, capital, land and entrepreneurship.

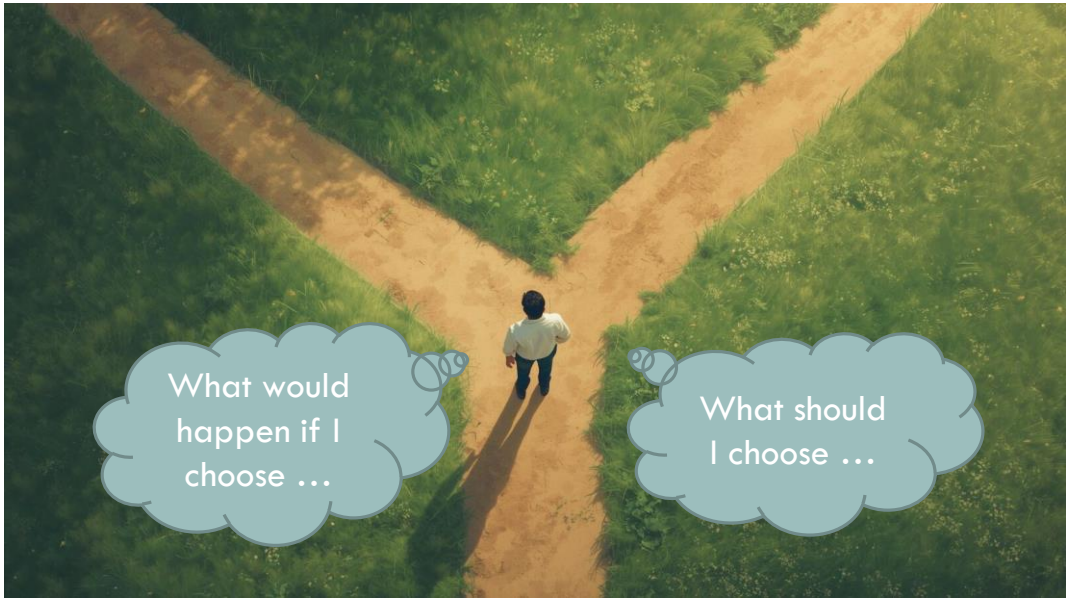
  - The problem of scarcity means forces people to make *choices* and to face *tradeoffs*.

  - Economics is often called *the science of constrained choices*.

1. WHAT IS ECONOMICS?

- Understanding people's choices is practically useful for us to:
  - Describes what *would* happen: **positive economics**
  - Recommends what people, including society, *ought to* do: **normative economics**

- Economics can be divided into two broad fields of study:
  - **Microeconomics**: the study of how *individual* economic units make choices and their interaction in *individual* markets.
  - **Macroeconomics**: the study of the *aggregate* behavior of the overall economy *as a whole*.



APPLICATION: TRADE-OFFS ARE NEEDED TO SOLVE HK'S HOUSING PROBLEMS

- **Housing** stands out as one of the most critical social problems haunting HK today.
  - The ultimate solution to the current affordability crisis lies in increasing housing supply continuously with sufficient scale, so as to break the vicious cycle built up over the years.

- **Hard choices and social trade-offs have to be made amid diverse interests and objectives**.
  - "We do not have the luxury of "zero impact" solutions. If we shelve large-scale new developments, avoid increasing density, give up rezoning, reclamation and land resumption, then where can we look for releasing the much-needed land to meet our target of 480,000 new housing units in the coming decade?"

- Why live in HK with high living cost? **HK expats also focus on trade-offs.**
  - The price to pay: Hong Kong expats weigh expensive costs against opportunities for jobs, chance to live the good life.

(Source: Trade-offs are needed to solve Hong Kong's housing problems, *SCMP*, 17 December, 2014; The price to pay: Hong Kong expats weigh expensive costs against opportunities for jobs, chance to live the good life, *SCMP*, 25 Jun, 2023.)



South China Morning Post 南華早報

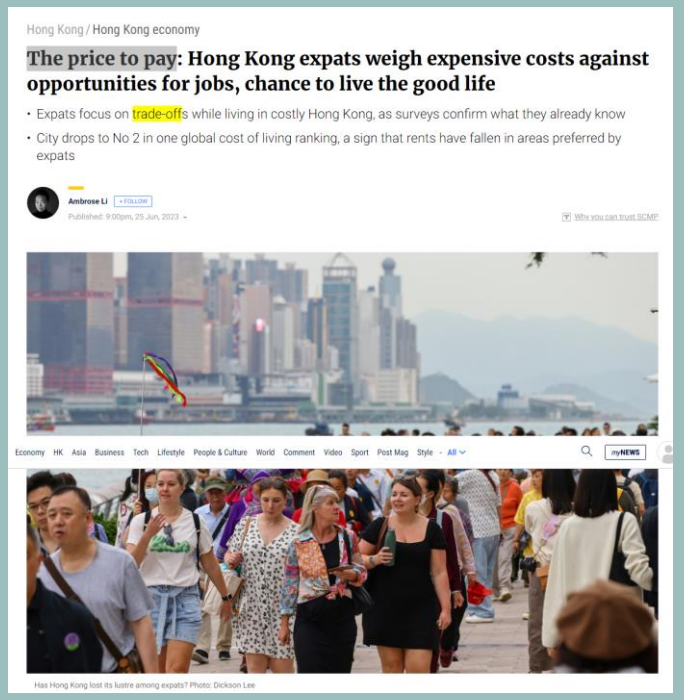
Trade-offs are needed to solve Hong Kong's housing problems

PUBLISHED : Wednesday, 17 December, 2014, 5:56pm
UPDATED : Wednesday, 17 December, 2014, 8:06pm
Comment › Insight & Opinion
Anthony Cheung

Anthony Cheung says while not all in Hong Kong agree with the government's housing strategy, sitting on our hands is not an option. This is a critical juncture and much can be done, if we accept trade-offs

Housing stands out as one of the most critical social problems haunting Hong Kong today. Our "housing crisis" is characterised by a serious imbalance in supply and demand, housing prices and rents at a level beyond the affordability of the general public and out of line with our economic fundamentals, the proliferation of inadequately housed households and subdivided units, and long queues for public rental housing.

This administration accords high priority to housing. Our three-pronged objectives are: to provide public rental housing to the grass roots; to assist lower- to middle-income households realise their home-ownership aspirations; and, to maintain a healthy and stable private housing market. In 2012 and 2013, we introduced two rounds of demand-management measures which helped to contain market exuberance.



Hong Kong / Hong Kong economy

The price to pay: Hong Kong expats weigh expensive costs against opportunities for jobs, chance to live the good life

- Expats focus on trade-offs while living in costly Hong Kong, as surveys confirm what they already know
- City drops to No 2 in one global cost of living ranking, a sign that rents have fallen in areas preferred by expats

Ambrose Li + FOLLOW
Published: 9:00pm, 25 Jun, 2023

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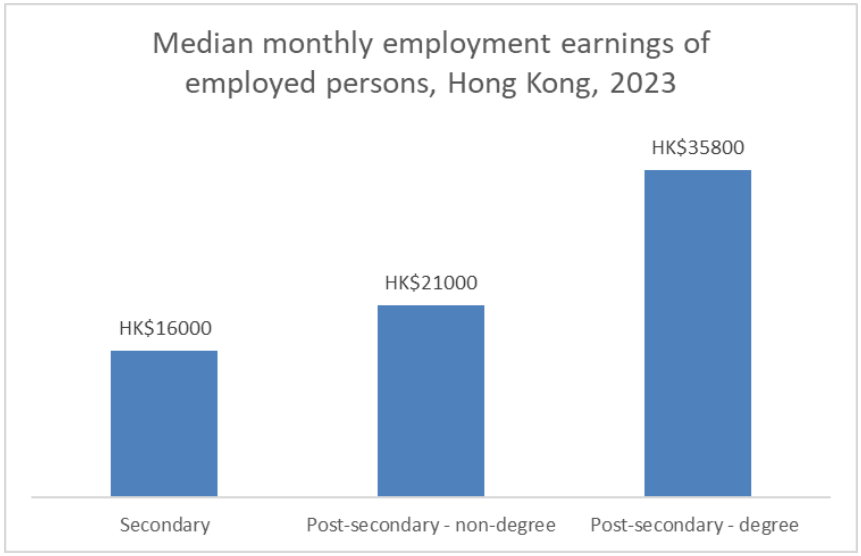
Has Hong Kong lost its lustre among expats? Photo: Dickson Lee

2. OPPORTUNITY COST

- Making a choice requires us to identify all feasible alternatives and compare their benefits and costs.
- The **opportunity cost** of any choice is what we have to forgo when we make the choice.
- When the alternatives to a choice are *mutually exclusive*, only *the best alternative forgone* is included in the opportunity cost.
- Suppose that you are considering what to do with an upcoming Sunday morning. Here are your options, from *least to most* preferred:
  - (1) studying for economics;
  - (2) joining a zoom career webinar;
  - (3) staying in bed;
  - (4) playing mobile games.
  - *What is the opportunity cost of a decision to play mobile games?*

  - *What is the opportunity cost of pursuing a full-time degree?*
    - The opportunity cost of any choice includes both *explicit costs* and *implicit costs*.

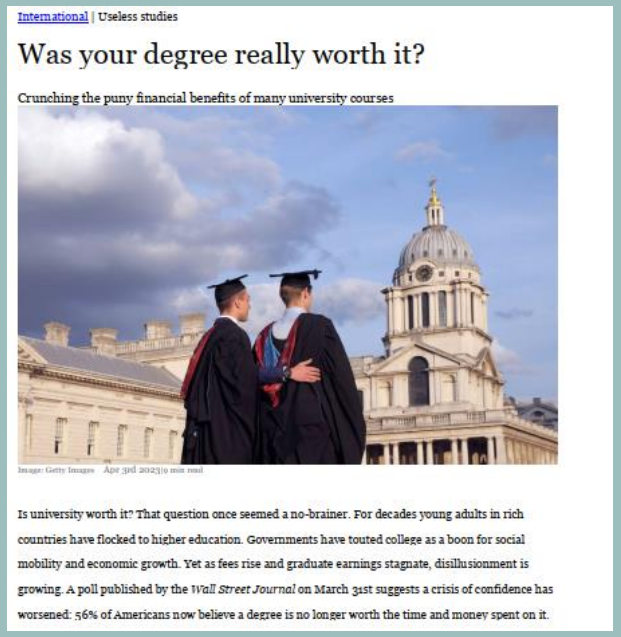
APPLICATION: WAS YOUR DEGREE REALLY WORTH IT?



(Source: Census and Statistics Department)

- In 2019, economists roughly estimated the annual financial returns on investing in a bachelor's degree in America.
  - The average annual rate of return: around 14%
  - Their calculations include not only fees but also the money individuals might expect to earn if they were working full-time instead.

(Source: Useless studies, *The Economist*, 2 April, 2023.)

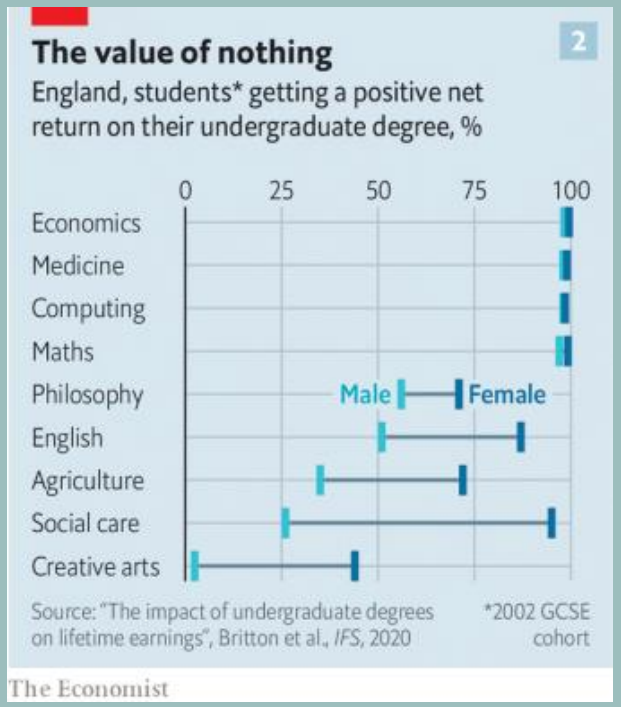


International | Useless studies

Was your degree really worth it?

Crunching the puny financial benefits of many university courses

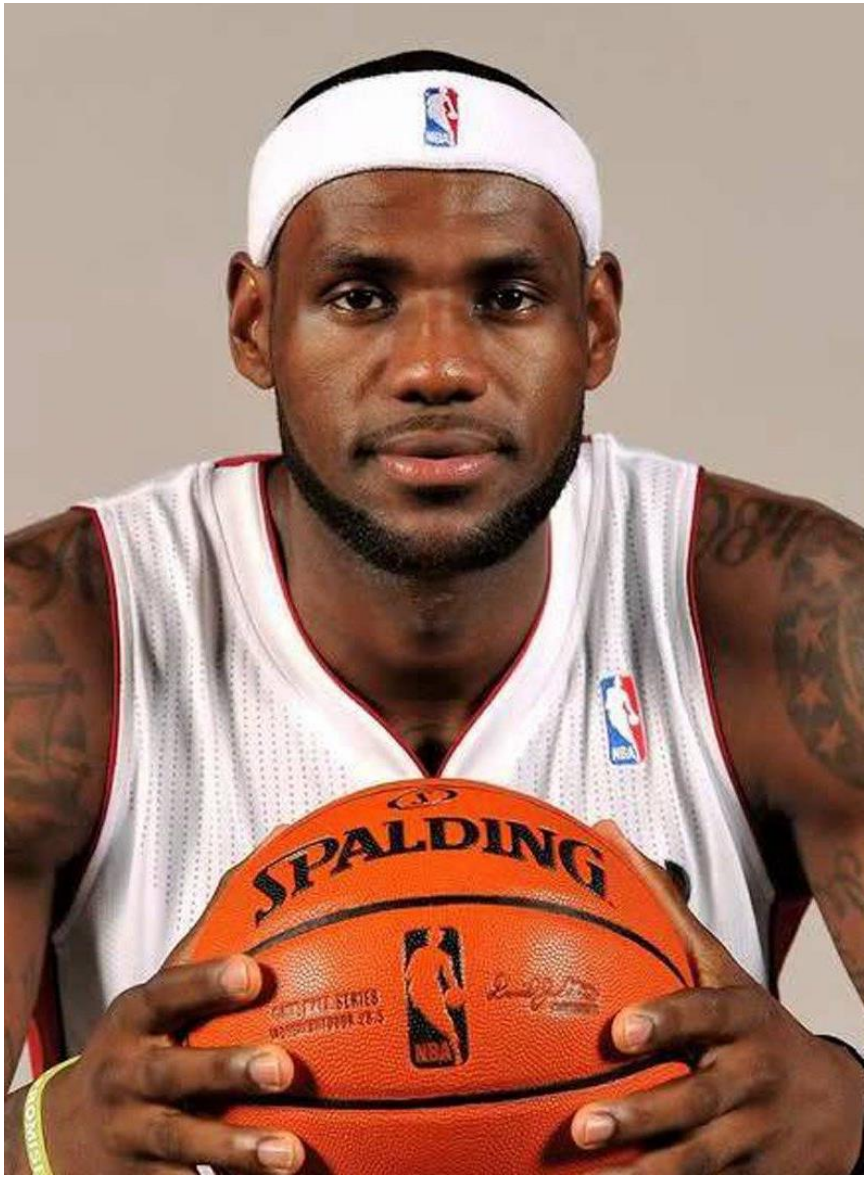
Is university worth it? That question once seemed a no-brainer. For decades young adults in rich countries have flocked to higher education. Governments have touted college as a boon for social mobility and economic growth. Yet as fees rise and graduate earnings stagnate, disillusionment is growing. A poll published by the *Wall Street Journal* on March 31st suggests a crisis of confidence has worsened: 56% of Americans now believe a degree is no longer worth the time and money spent on it.



2. OPPORTUNITY COST

- **LeBron James** was selected with the first overall pick in the 2003 NBA Draft by the Cleveland Cavaliers, *directly out of high school at the age of 18*.

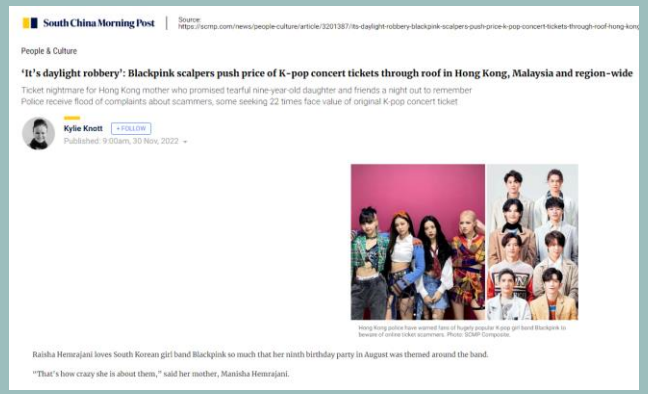
- Overnight he became a very wealthy teenager - *signing several endorsement deals totaling nearly 100 million dollars*. James had then agreed in 2007-08 *a contract for three years worth $60 million*.



2. OPPORTUNITY COST

- BlackPink held three concerts in HK in 2022.
- Tickets had sold out in less than two hours. **Scalpers** inevitably emerge at times like these, turning fans' dreams into a financial nightmare. They were **selling BlackPink tickets for HK$15,000 – 22 times their original price**.
- Second-hand ticket reseller StubHub was selling them for between **HK$3,338 and HK$116,827 (US$15,000)** while Viagogo prices have been scalped up to **HK$102,222** for a ticket to the Jan 15 show.
- Suppose you just get BlackPink concert ticket **for free**. *What is the opportunity cost of using the ticket yourself?*





South China Morning Post | Source: https://scmp.com/news/people-culture/article/3201387/its-daylight-robbery-blackpink-scalpers-push-price-k-pop-concert-tickets-through-roof-hong-kong

People & Culture

'It's daylight robbery': Blackpink scalpers push price of K-pop concert tickets through roof in Hong Kong, Malaysia and region-wide

Ticket nightmare for Hong Kong mother who promised tearful nine-year-old daughter and friends a night out to remember
Police receive flood of complaints about scammers, some seeking 22 times face value of original K-pop concert ticket

Kylie Knott + FOLLOW
Published: 9:00am, 30 Nov, 2022

Hong Kong police have warned fans of hugely popular K-pop girl band Blackpink to beware of online ticket scammers. Photo: SCMP Composite

Raisha Hemrajani loves South Korean girl band Blackpink so much that her ninth birthday party in August was themed around the band.

"That's how crazy she is about them," said her mother, Manisha Hemrajani.

(Source: 'It's daylight robbery': Blackpink scalpers push price of K-pop concert tickets through roof in Hong Kong, Malaysia and region-wide**,** *SCMP*, 30 November, 2022)

2. OPPORTUNITY COST





Many spectators leave Sha Tin event early

Dressage more bore than draw for some

Celine Soo, Phoebe Cheng, Tiffany Lam and Yau Chui-yan

They braved a predawn start – some arriving in Sha Tin at midnight – all hoping to revel in Hong Kong's first taste of the Olympic experience.

Yet by the end of the first dressage session in the eventing competition yesterday morning, the initial euphoria stirred in many by the spectacular opening ceremony in Beijing had ebbed to boredom, and most spectators

"The horses walked from one side of the arena to the other and then back again. I thought they were just going through the warm-up exercises, but the commentator said the [round] was over," said Ms Wong, who is in her twenties.

Although she and her family listened to the commentary, they still found it hard to enjoy the dressage movements.

"To be honest, I don't think equestrianism is an appealing sport

Spectators said the dressage event at the Sha Tin venue was boring, mystifying and soporific. Organisers said it would get more interesting

impressed and cited the sport, but they can

(Source: Dressage more bore than draw for some, *SCMP*, 10 August, 2008.)

- Many people had bought the tickets and attended the Olympic dressage in summer 2008. On 10 August, 2008, The South China Morning Post's headline was "Dressage more bore than draw for some" and showed people napping.
- While many spectators decided to leave early, some spectators stayed there until the end of the event. A person mentioned he stayed there because he paid a high price for the admission ticket.
- *What mistake did he make when he made his choice (regarding the concept of opportunity cost)?*

2. OPPORTUNITY COST

- A **sunk cost** is one that has already been incurred and cannot be recovered, regardless of any future choice to be made.
  - It should be irrelevant when making decisions.

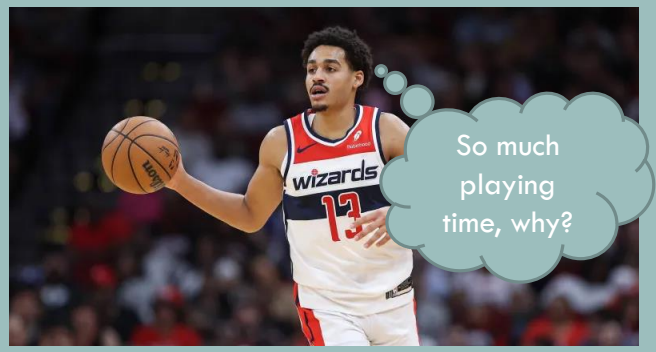
- You have already paid $80 to watch a movie. Thirty minutes into the movie, you realize that the movie is dreadful. Now you have to make a choice between staying and leaving. Is the $70 paid for the admission ticket irrelevant to your decision?



APPLICATION: THE SUNK-COST FALLACY IN THE NBA

- Hinton & Sun (2020) investigated if NBA teams give more playtime to players with higher salaries, regardless of their performance.
- Controlling for individual differences of players (e.g. performance stat…), and other possible impacts of other players' performance (e.g. experience, coach, …), they find **positive and significant effects of salary on playing time**.
- If sunk-cost fallacy can persist in an environment such as the NBA, with its performance feedback are available for constantly review, it is not hard to believe that sunk costs will be affecting decisions at other industries, where performance feedback is less accurate and updated much less regularly.

(Source: Hinton, A., & Sun, Y. (2020). The sunk-cost fallacy in the National Basketball Association: evidence using player salary and playing time. *Empirical Economics*, *59*(2), 1019-1036.)



Empirical Economics
https://doi.org/10.1007/s00181-019-01641-4

The sunk-cost fallacy in the National Basketball Association: evidence using player salary and playing time

Alexander Hinton[1] · **Yiguo Sun**[1]

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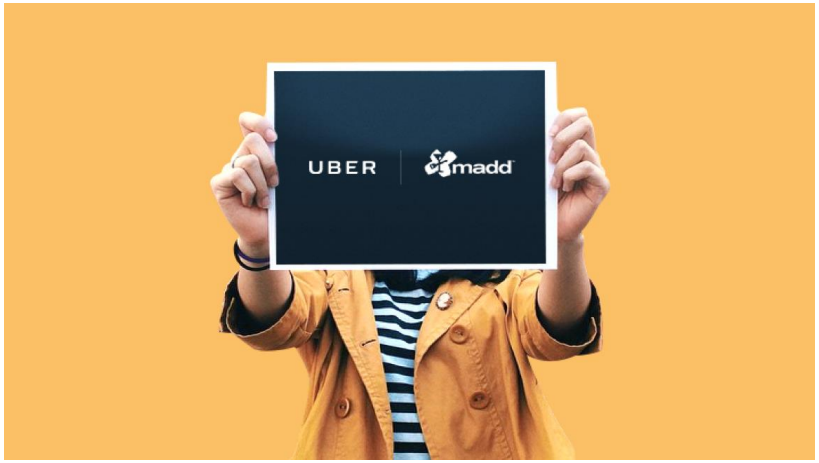
Abstract
We analyze the effect of player salary, a sunk cost, on player utilization in the National Basketball Association (NBA). According to economic theory, rational agents make decisions based on marginal expected benefits and costs, and non-recoverable costs should not influence decision-making. Therefore, NBA teams should be playing their most productive players, regardless of salary. Whether decision-makers in the real world uphold this normative theory and ignore sunk costs has been the topic of much empirical work. Previous similar studies have looked at whether NBA teams irrationally escalate commitment to their highest drafted players by giving them more playing time than their performance warranted, coming to mixed conclusions. We build upon these studies by using salary to measure the impact of financial commitment on playing time, by using a fixed-effect panel data model to control for unobserved individual heterogeneity which may have been biasing previous results, and by using a spatial econometric model for a robust check of playing time dependence among players within each team. Our results indicate that a small but significant sunk-cost effect is found.

Keywords NBA · Panel data model with fixed effects · Performance statistics · Playing time · Salary · SLX model · Sunk-cost fallacy

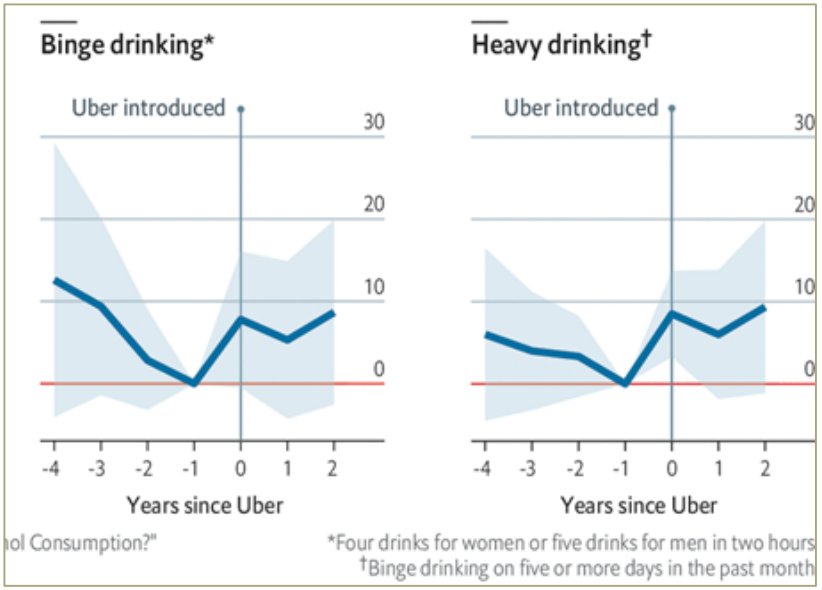
UBER AND HEAVY DRINKING

- *How does the introduction of Uber affect drinking habit?*
- A study by three economists (Burgdorf et al., 2019) finds that. the widespread availability of ride-sharing apps has tempted people to drink to excess.
- On average alcohol consumption rose by 3%, binge drinking (in which a person downs four or five drinks in two hours) increased by 8%, and heavy drinking (defined as three or more instances of binge drinking in a month) surged by 9% within a couple of years of the ride-hailing company coming to town. Increases were even higher in cities without public transport. *Why?*
- Uber has made it far easier for party-goers to get home safely. One study published in 2017 found that after Uber's arrival in Portland, Oregon, alcohol-related car crashes declined by 62%.

(Source: After Uber arrives, heavy drinking increases, *The Economist,* Nov 19th, 2019.)



Partnering with Mothers Against Drunk Driving (MADD)
Two out of 3 people in the United States will be involved in a drunk-driving crash in their lifetime. Uber and MADD are working together to help save lives by **encouraging people to leave the keys at home and take a safe ride**.



APPLICATION: INDIA'S BIRTH CONTROL IDEAS

- India is expected to surpass China as the world's most populous nation by 2029 and the population is predicted to be 1.5 billion by 2050.
- As a novel idea of controlling its soaring population, India's health minister, Mr. Azad, made an impassioned plea last month for India *to bring electricity to all its villages* (*Why?*)
- "When there is no electricity, there is nothing else to do but produce babies, … If there is electricity in every village, then people will watch TV until late at night and then fall asleep. They won't get a chance to produce children."

(Source: India may need more than TV to control its soaring population, *SCMP*, 2 August, 2009.)



SUNDAY, AUGUST 2, 2009 SUNDAY MORNING POST

Commuters scuffle to get inside a packed train in New Delhi. The fast-growing country is expected to become the world's most populous by 2028. Photo: AFP

India may need more than TV to control its soaring population

INDIA

Agence France-Presse in New Delhi

India's health minister believes late-night TV makes for good birth control. Family-planning experts fear he has simply run out of ideas for curbing India's potentially catastrophic population growth.

It is still unclear how serious Health and Family Welfare Minister Ghulam Nabi Azad was being when he made an impassioned plea last month for India to bring electricity to all its villages.

"When there is no electricity, there is nothing else to do but produce babies," Mr Azad said at a function to mark World Population Day.

"If there is electricity in every village, then people will watch TV until late at night and then fall asleep. They won't get a chance to produce children," he said.

Whether the minister was being flippant – he insists not – the issue of population growth in India is deadly serious. Since independence in 1947, the population has tripled to nearly 1.2 billion and now grows by 18 million every year.

भारत की जनसंख्या INDIA'S POPULATION

2009

The latest estimate of India's population is shown in Mumbai. Photo: AFP

India is expected to surpass China as the world's most populous nation by 2028 and the population is predicted to top 1.5 billion by 2050.

Family planning in India was held back for decades by the fallout from a disastrous sterilisation programme introduced in the mid-1970s.

The programme targeted men with more than two children but, to meet quotas, officials forced large numbers of unmarried, poor men to submit to vasectomies.

The policy was discontinued after less than two years, but its legacy was a long-lasting aversion to any government control programme that even hinted at coercion. That, and the democratic principles upon which the Indian state was founded, prevented any emulation of China's one-child policy.

"Asking people to have fewer kids in India is just like telling them to change their religion. It is a very sensitive issue," said Veena Rawat, who runs an all-women organisation that advocates family planning.

For Mr Azad's television theory, she had nothing but scorn. "Such bizarre ideas are only suggested when the government has no intentions or is too scared to find solutions."

While the minister himself has said India is "sitting on a volatile volcano", some demographic experts question the premise of the population doomsday scenario.

They point to evidence that population growth decreases as the economic and social status of people, especially women, improves.

Shyamt Kumari, a mother of five who distributes free condoms in the New Delhi slum where she lives, is an example of how disadvantaged Indian women who understand and appreciate family planning are often unable to practise it.

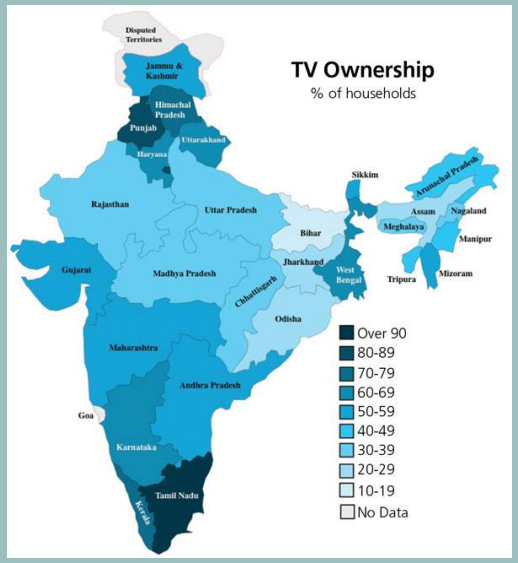
"Some women mock me and say I should give my husband a condom too, but he refuses to use it and believes children are God's gift," said Ms Kumari, 32. "One day, I suggested he undergo a vasectomy, but he abused me and said I was a witch, as no wife would ever take away her husband's manhood."

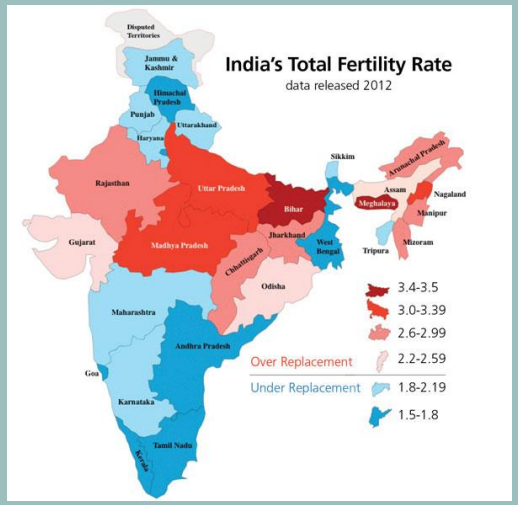
APPLICATION: TV AS BIRTH CONTROL

- Stanford human geographer Martin Lewis found that TV ownership tallied well with fertility across India.
  - Not perfectly, but as well as or better than the more standard indicators, e.g. GDP per capita and female literacy.

- Jensen and Oster, development economists, reported compelling direct evidence from Indian villages that TV empowers women.
  - Game shows, soap operas, and reality shows instantly became villagers' main source of information about the outside world – especially India's emerging urban ways of life.
  - When the new TV services arrived, women's autonomy increased while fertility and the acceptability of domestic violence toward women significantly decreased.

(Source: TV As Birth Control, *MAHB* (Stanford University), 24 March, 2015.)





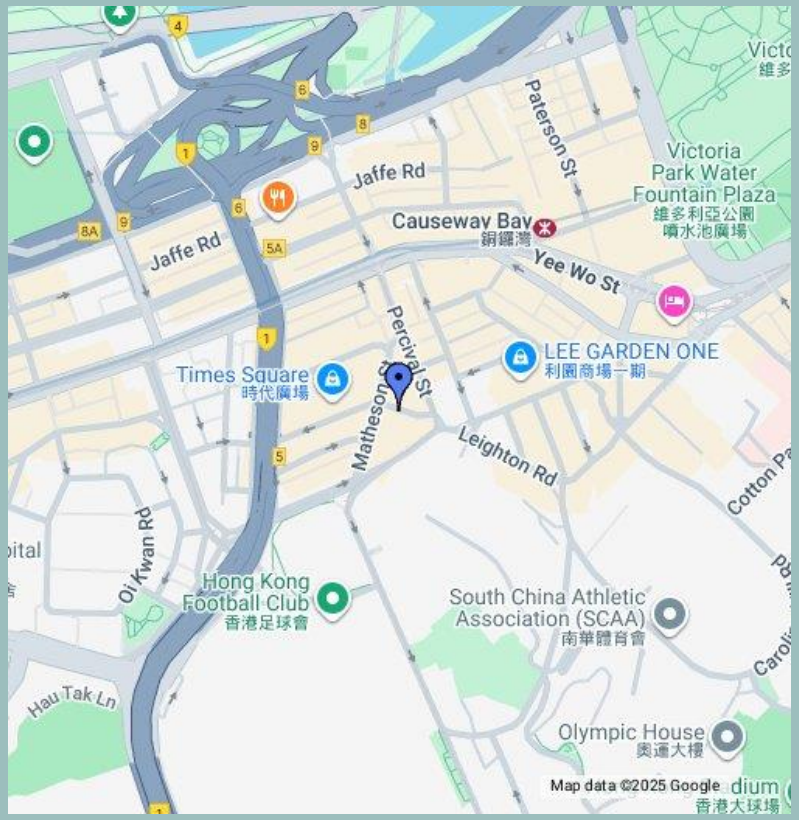
3. PRODUCTION POSSIBILITY FRONTIER (PPF)

- Due to the complexities of the real world, economists rely on **models** (or **theories**), i.e. a simplified description of reality, to explain and predict individuals' and societies' behaviors and their outcomes.

Is a simplified description of reality useful?

A model is only an approximation. It is used to make predictions that can be tested with empirical evidence (data)!

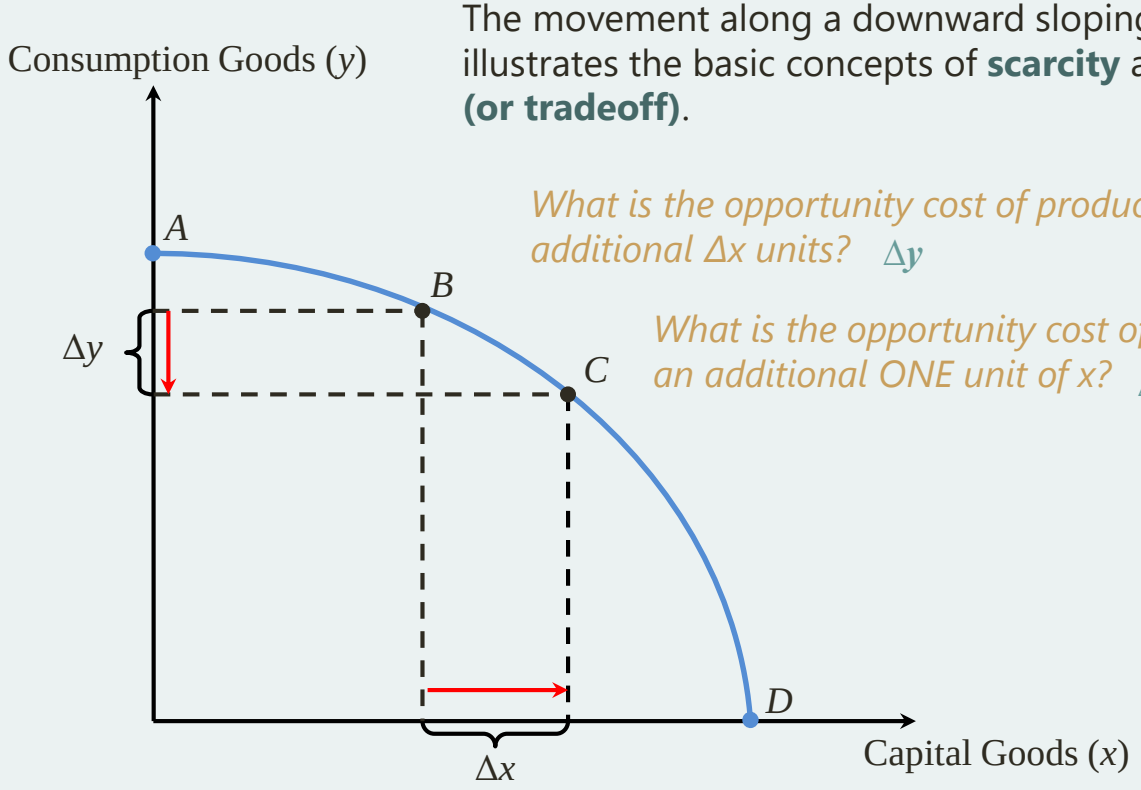
- How does the introduction of Uber affect drinking habit?
- Sunk-cost fallacy in NBA?
- TV ownership affect fertility in India?



3. PRODUCTION POSSIBILITY FRONTIER (PPF)

- **Production possibilities frontier (PPF)**: a curve that shows all combinations of two goods that can be produced with a given amount of resources and current technology level.

- The simple model that illustrates the fundamental issues in economics.
- It can be applied at individual level or society level.
- An example of a typical PPF (*from a society's perspective*):



The movement along a downward sloping PPF illustrates the basic concepts of **scarcity** and **choice (or tradeoff)**.

What is the opportunity cost of producing additional Δx units? Δy

What is the opportunity cost of producing an additional ONE unit of x? $\Delta y / \Delta x$

3. PRODUCTION POSSIBILITY FRONTIER (PPF)

- The (magnitude or absolute value of) *slope of the PPF*, i.e. $\Delta y / \Delta x$, *approximately* measures the opportunity cost of producing an extra unit of good *x*.

- A typical PPF is *concave to the origin* (bowed outward from the origin). The concavity indicates that the *increasing opportunity cost* of producing a good.
  - *Why would opportunity cost of producing a good increase when more of it is produced?*

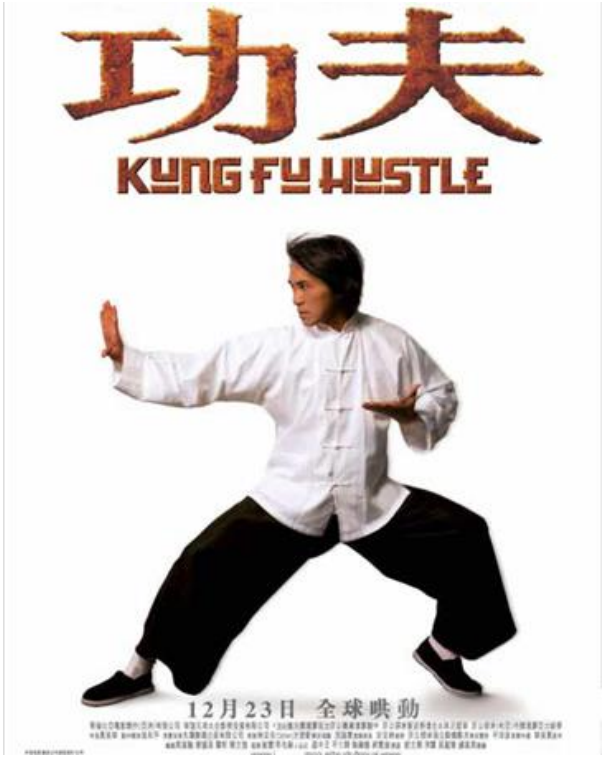
- The increasing opportunity cost occurs because the available *resources are not identically good in producing both goods.*

INCREASING OPPORTUNITY COST?

- Imagine that you are the boss of an entertainment company, producing both ***movies*** (*measured by box office receipts*) and ***music*** (*measured by music sales, including albums, singles, or music videos through physical or digital music stores…*).

- There are three artists (resources) in your company.

- *Suppose initially, you put **all the resources** in producing music. And now you want to start producing movie, which artist will you use?*





(A) Stephen Chow, actor & comedian
Movie: ******
Music: *

(C) Ronald Cheng, singer & actor
Movie: ***
Music: ***



(B) Hins Cheung, singer & songwriter
Movie: *
Music: ******

(A) Stephen Chow, actor & comedian
Movie: ******
Music: *



Resource most suitable to produce movie: Big increase in box office receipts and small decrease in music sales



(C) Ronald Cheng, singer & actor
Movie: ***
Music: ***

Music (music sales)

A

B

C

D

PPF

Resource least suitable to produce movie: Small increase in box office receipts and big decrease in music sales

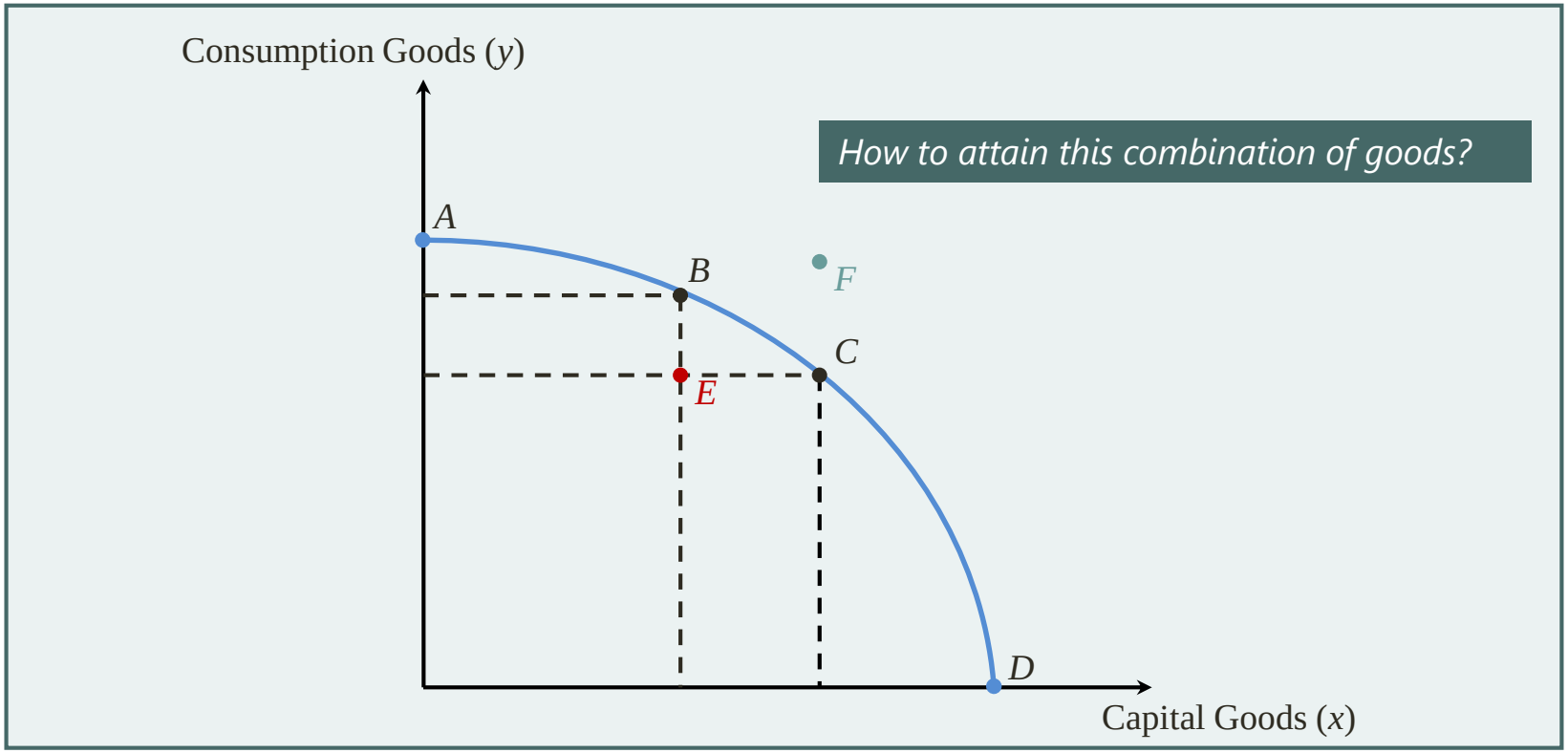


(B) Hins Cheung, singer & songwriter
Movie: *
Music: ******

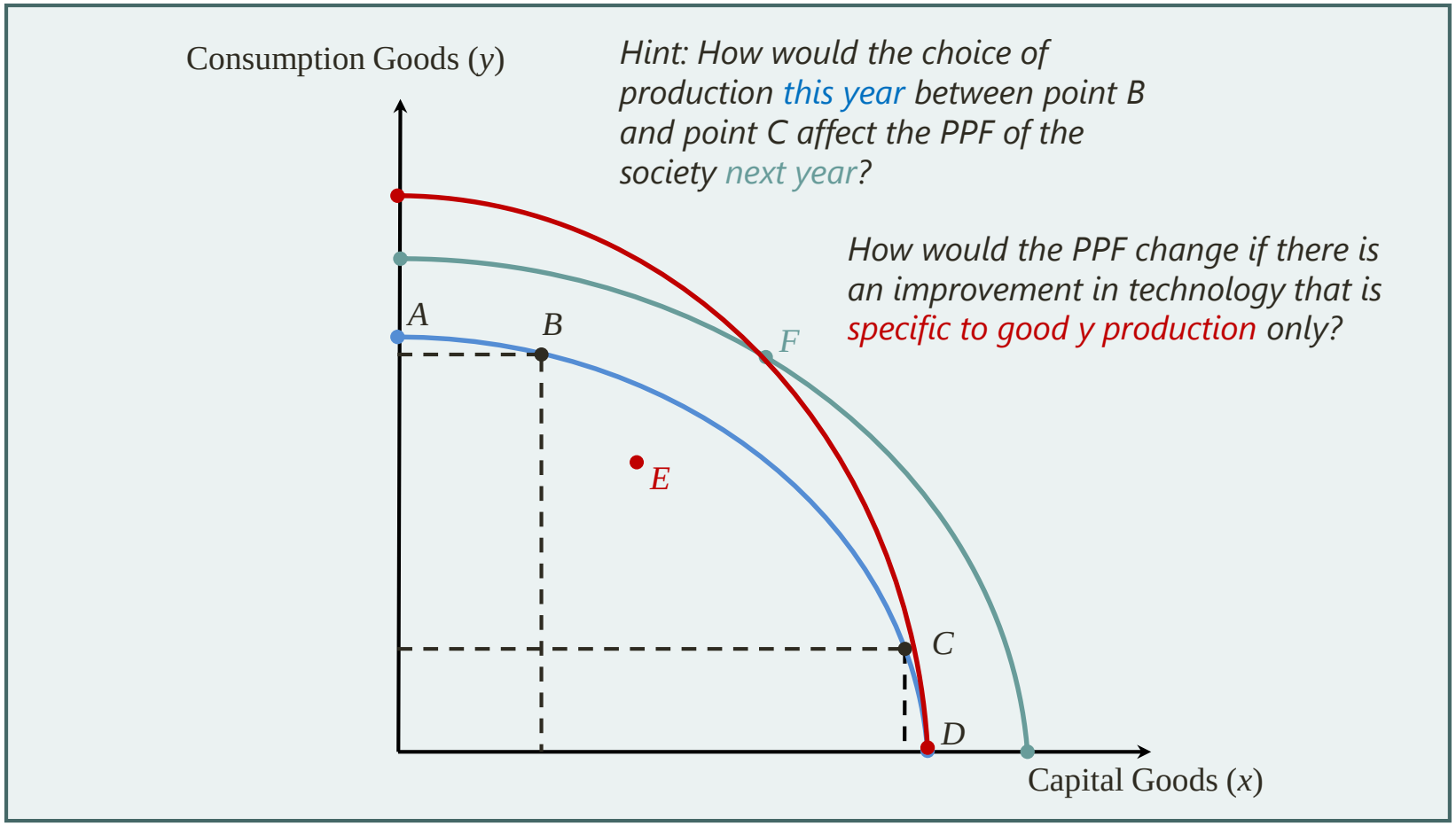
Movie (box office receipts)

The increasing opportunity cost occurs because the available *resources are not identically good in producing both goods*.

- Points inside the PPF (point *E*): A combination of goods that the economy is *feasible to produce but productive inefficient.*
  - Due to *unemployment of resources (unused resources)* and/or *misallocation of resources*.
- Points outside the PPF (point *F*): A combination of goods that the economy is *infeasible to produce* with given available resources and technology level.



- The PPF shifts outward (economic growth from society perspective) when *more resources are available* or there is a *technological progress*.
  - *Is there any way to promote economic growth? What is the cost of promoting faster economic growth this way?*



5. ECONOMIC SYSTEMS

- Three fundamental questions regarding allocation of scarce resources:
  - What goods and services to be produced?
  - How to produce?
  - Who gets the goods and services?

- Societies generally rely on two mechanisms (economic systems) to allocate resources:
  - Command economy (centrally planned economy)
  - Market economy

- In a *command economy*, the central authority (government) determines the resources allocation.

APPLICATION: NORTH KOREA'S FASHION POLICE (GYUCHALDAE)

North Koreans could face up to six months of labor sentences for sporting 'rooster' hairstyles or see-through sleeves under new fashion ban regulations.

It was reported that both and women have a choice of 15 state-approved haircuts after illustrated guides were spotted in Pyongyang hair salons in 2018.





(Source: North Korea bans 'rooster' hairstyles and see-through sleeves with women told they will be jailed and have their heads shaved if they flout new fashion rules, *Daily Mail*, 28 August, 2024.)

Source: Daily Mail, 28 August 2024

North Korea bans 'rooster' hairstyles and see-through sleeves with women told they will be jailed and have their heads shaved if they flout new fashion rules

By NATASHA ANDERSON, SENIOR US NEWS REPORTER
PUBLISHED: 22:56 BST, 28 August 2024 | UPDATED: 01:48 BST, 29 August 2024

North Koreans could face up to six months of labor sentences for sporting 'rooster' hairstyles or see-through sleeves under new fashion ban regulations.



5. ECONOMIC SYSTEMS

- In a *market economy*, individuals are freely interacting in markets to determine resources allocation.
  - The simple *circular flow diagram* illustrates how individuals interact in a market economy.
  - *Prices* pay an important role in the allocation of resources. (*How are prices determined?*)

