Multinationals and the Globalization of Production

Taxing Multinational Production

Penn State // Fall 2017

Administrative things

- Sign in to Arkaive.com (course code: 84ST)
  - If not working, sign in up front
- Exam II
  - Will be returned on Thursday
- No class 11/21 & 11/23
- Final exam
  - Monday December 11, 8:00AM–9:50AM
  - Osmond Lab 101

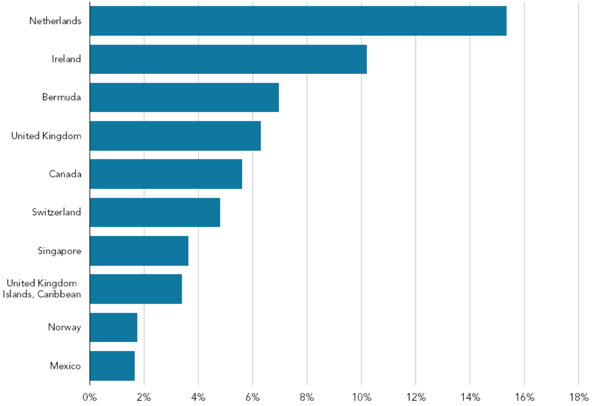
Roadmap

- Past: Production motives for FDI
  - FDI for market access (Horizontal/Export platform)
  - FDI for factor cost savings (Vertical)
- Present: Tax motives for FDI
  - How tax systems influence MNE structure
  - Tax avoidance strategies
  - What is a double Irish with a Dutch sandwich?

FIGURE 1

Top Countries for Non-US Profits of US Multinationals

Profits as a percentage of total, 2012

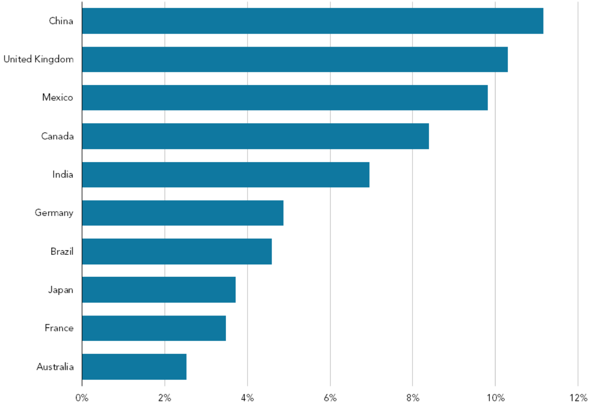


Source: Bureau of Economic Analysis, 2014.

FIGURE 2

Top Foreign Locations for Employment in US Multinationals

Employment as a percentage of total, 2012



Source: Bureau of Economic Analysis, 2014.

Simplifications ahead

- Tax laws differ greatly across countries
- Tax laws are extremely complicated
  - Google "international tax practice"
- We will use simple models to capture ideas
- Focus mostly on the United States
  - Drives most tax-related MNE decisions

Tax principles

Residence principle Taxpayer's residence is the basis for taxation. For firms, this is typically the country in which the firm is incorporated. Walmart's residence in the United States.

Source principle Where the income is earned is the basis for taxation. Walmart earns income in the United States and Mexico.

- US taxes its firms on residency basis and foreign firms on source basis
  - Walmart pays US tax on its total income — wherever it is earned.
  - Toyota only pays US tax on the income it earns in the US.
- Foreign profit is taxed when it is repatriated

Taxing firm profits

- U.S. multinational firm earns profits at home π^H and abroad π^F
- Tax rates are τ^H and τ^F
- U.S. multinational firm pays tax

$$T = \tau^H \left(\pi^H + \pi^F\right) + \tau^F \pi^F$$

- Which taxes the foreign profits twice (double taxation)

$$T = \tau^H \pi^H + \left(\tau^H + \tau^F\right) \pi^F$$

Undoing double taxation

- Foreign tax credits help offset double taxation
- A foreign tax credit allows the firm to deduct tax paid in the foreign country against its U.S. tax bill
- C = the amount of the foreign tax credit

$$T = \tau^{H}\left(\pi^{H} + \pi^{F}\right) - C + \tau^{F}\pi^{F}$$

- Other countries exempt foreign income from taxation

Foreign tax credits

- If $\tau^H \geq \tau^F$, then $C = \tau^F \pi^F$

$$T = \tau^H \left(\pi^H + \pi^F\right) - \tau^F \pi^F + \tau^F \pi^F = \tau^H \left(\pi^H + \pi^F\right)$$

- If $\tau^H < \tau^F$, then $C = \tau^H \pi^F$

$$T = \tau^H \left(\pi^H + \pi^F\right) - \tau^H \pi^F + \tau^F \pi^F = \tau^H \pi^H + \tau^F \pi^F$$

- Why two different rules?

Example

- $\pi^H = 75$, $\pi^F = 25$, $\tau^H = 0.35$, $\tau^F = 0.2$
- What is the value of C?
- What is the firm's total tax rate, $\tau = T/(\pi^H + \pi^F)$?
- What are the tax revenues for F and H?

In-class example

- $\pi^H = 75$, $\pi^F = 25$, $\tau^H = 0.35$, $\tau^F = 0.45$
- What is the value of C?
- What is the firm's total tax rate, $\tau = T/(\pi^H + \pi^F)$?
- What are the tax revenues for F and H?

Tax strategy

- Focus on US tax system

1. Earn profit in low-tax countries: *profit shifting*
   - Transfer pricing
   - Intrafirm financing
   - Inversions
   - Intangible asset location
2. Do not repatriate foreign profit
   - Wait for repatriation tax holiday
   - Use funds to invest outside of United States

Profit shifting: Transfer pricing

- Create foreign affiliate in low-tax country
- U.S. parent sells affiliate inputs
- Within firm transactions happen at *transfer prices*
- How do you set a price for a non-market transaction?
  - Introduces wiggle room into things…

Transfer pricing

- Example: parent produces good b, "sells" it to affiliate who uses it to make a final good
- Parent profits
$$\pi^h = p \times b - costs$$
- Affiliate profits
$$\pi^f = sales - p \times b$$
- Transfer price p does not change total profit $\pi^h + \pi^f$
- Transfer price p changes how profit is split between π^h and π^f
- If $\tau^f < \tau^h$ would like p to be very low

Transfer pricing

- Transfer prices are supposed to be valued at *arms-length*
  - Find similar market transactions, and use that price
  - In our example: find two unrelated firms buying and selling b
- Not often possible to find comparable arms-length transactions
  - Goods and services are unique
  - Goods and services only transacted intra-firm
- Tax laws change to eliminate transfer pricing arbitrage
  - Firms must justify transfer prices
  - Steep penalties for manipulation
  - Like most policy, this is whack-a-mole work
  - Google "transfer pricing jobs"

Profit shifting: Intrafirm financing

- Like transfer pricing, but for loans
- Suppose a foreign MNE has an affiliate in the United States
  1. The parent (in a lower tax country) makes a loan to the affiliate
  2. At what interest rate? A high one.
  3. Interest payments are deductible against U.S. profits
  4. Shifts profits out of United States to foreign parent
  5. Lowers tax bill in the United States
- This tactic is called *interest stripping*
- Most countries have rules, but there is room to maneuver

Chevron in Australia

- Loans to Australian affiliate to build $54 billion "Gorgon" LNG plant
- Australian tax office argued that loans were made at rates that are artificially too high
- Chevron to pay $340 million AUD (August 2017)

Profit shifting: Inversion

- Change the residence of the corporation
- 1992 McDermott Inc “moves to Panama”
  - No longer pays US tax on profits earned outside of US
  - Still pays tax on US earnings
- Sets off wave of inversions
- 2004 law bans inversions, but allows for mergers…
- 2015 US Pfizer ($200 bil. market cap) to merge with Irish Allergan ($80 bil. market cap)
  - Structured so that Allergan buys Pfizer
  - Would create an Irish company, lower tax burden
  - 2016 change in tax law scraps the deal

Profit shifting: Intangible asset location

- Intangible assets — like patents — can be located anywhere
- Locate intangible asset in low-tax country
- Use the intangible asset to produce where it is best to produce
  - This might be a high-tax country
- Pay the royalty to the intangible asset in the low-tax country
- This strategy shifts the patent income to the low-tax country
- Particulary important for "high-tech" companies
- Example: Part of Apple's Irish subsidiaries are owned by Baldwin Holdings Unlimited, located in the British Virgin Islands, where taxes rates are zero

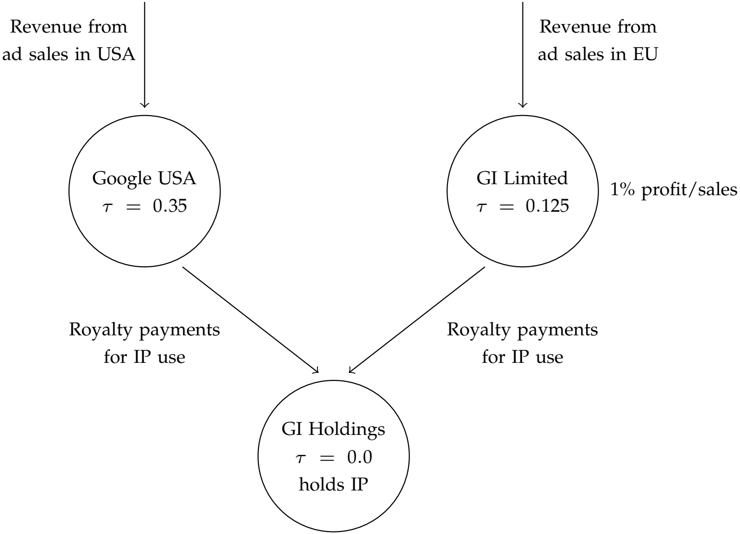
The double Irish

- Strategy used by several intellectual-property heavy firms to avoid taxes on foreign sales (Apple, Google, Microsoft…)
- Relies on the way Ireland taxes companies based on headquarters location
  - If Irish-incorporated firm is controlled from another country, it pays the tax in the controlling country
  - Create an Irish company controlled from a tax-free country (Bahamas, Bermuda…)
  - Route the profits earned in higher tax countries to this Bermuda-based subsidiary

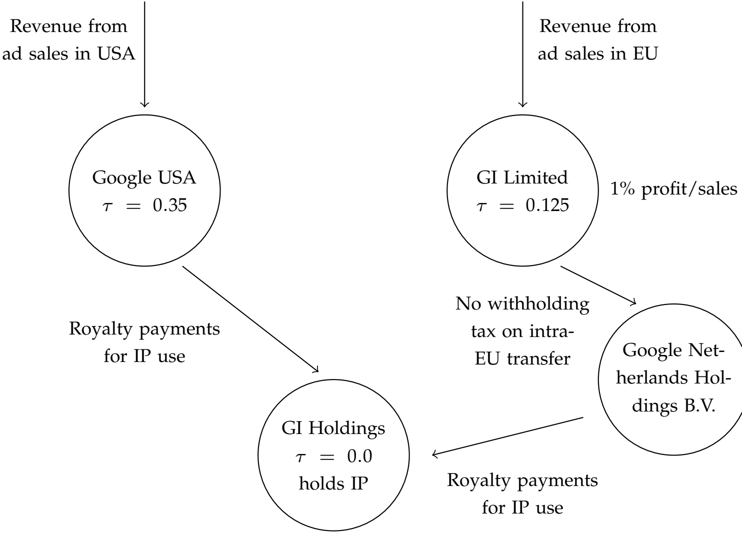
Google's double Irish

- Set up two Irish companies (incorporated in Ireland)
  - Google Ireland Limited: incorporated and controlled in Ireland
  - Google Ireland Holdings: incorporated in Ireland, controlled from an office in Bermuda
- GI Limited pays (low) Irish tax rate of 12.5% on profits
- GI Holdings pays Bermuda tax rate of 0% on profits
- Sell/license Google's intellectual property to GI Holdings in Bermuda
- Sell ads in EU through GI Limited, pay GI Holdings for use of IP

Google's double Irish



…and a Dutch sandwich



Do not repatriate foreign profit

- What to do with all these low-tax profits in foreign affiliates?
- No U.S. tax liability until profit returns to United States
- Hold profits in foreign subsidiaries
- Estimates put current foreign profits abroad at $2.1 tril.

Wait

- Hope (and lobby) for tax holiday
  - 2004 US repatriation tax holiday
  - Firms pay 5.25% tax rate (rather than 35%)
  - Firms repatriated $362 bil.
  - Repatriated profits used for share buy backs & dividends
  - Creates inventive problems (proposed holidays in 2009, 2015)

Make foreign investments

- Use profits to invest abroad
  - Build/update foreign affiliates
  - Invest in R&D in foreign countries
  - E.g., Apple spends bils on manufacturing equipment in China
- Can be used as collateral for loans
  - Use loan proceeds for U.S. investments
  - Use loan proceeds to pay dividends to shareholders
  - Deduct interest payments on U.S. taxes

Summary

- Tax policy also shapes the structure of MNEs
- MNE responses to tax policy include

1. Earn profit in low-tax countries
    - Transfer pricing
    - Intangible asset location
    - Intrafirm finance
    - Inversions
2. Do not repatriate foreign profit
    - Wait for repatriation tax holiday
    - Invest outside of United States

- MNE production location $\neq$ MNE profit location