

Pricing in profit

CASE STUDY: MORTGAGE TRADING ANALYSIS IN POWER BI

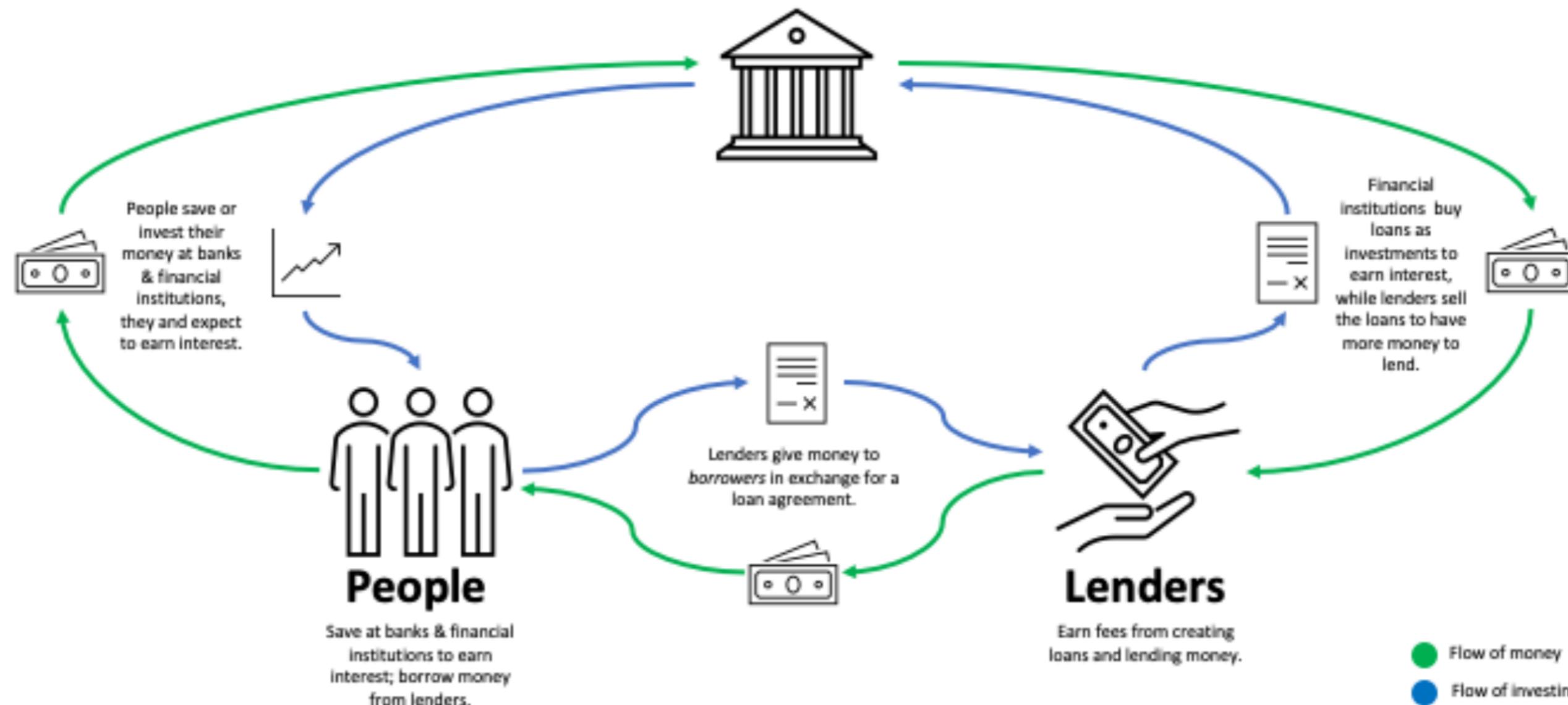


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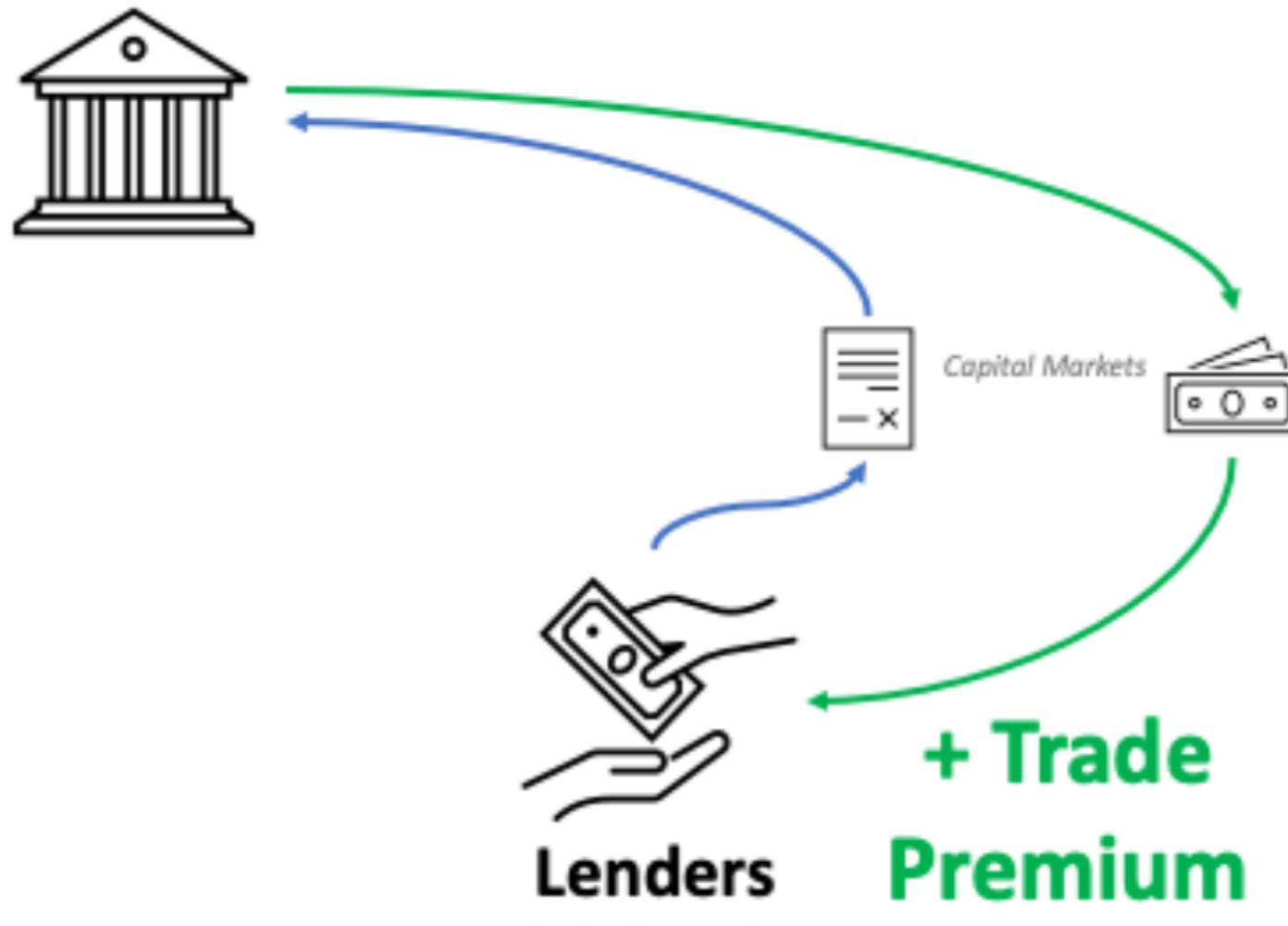
Banks & Financial Institutions

Use deposits from savings accounts to buy investments which earn interest.



Banks & Financial Institutions

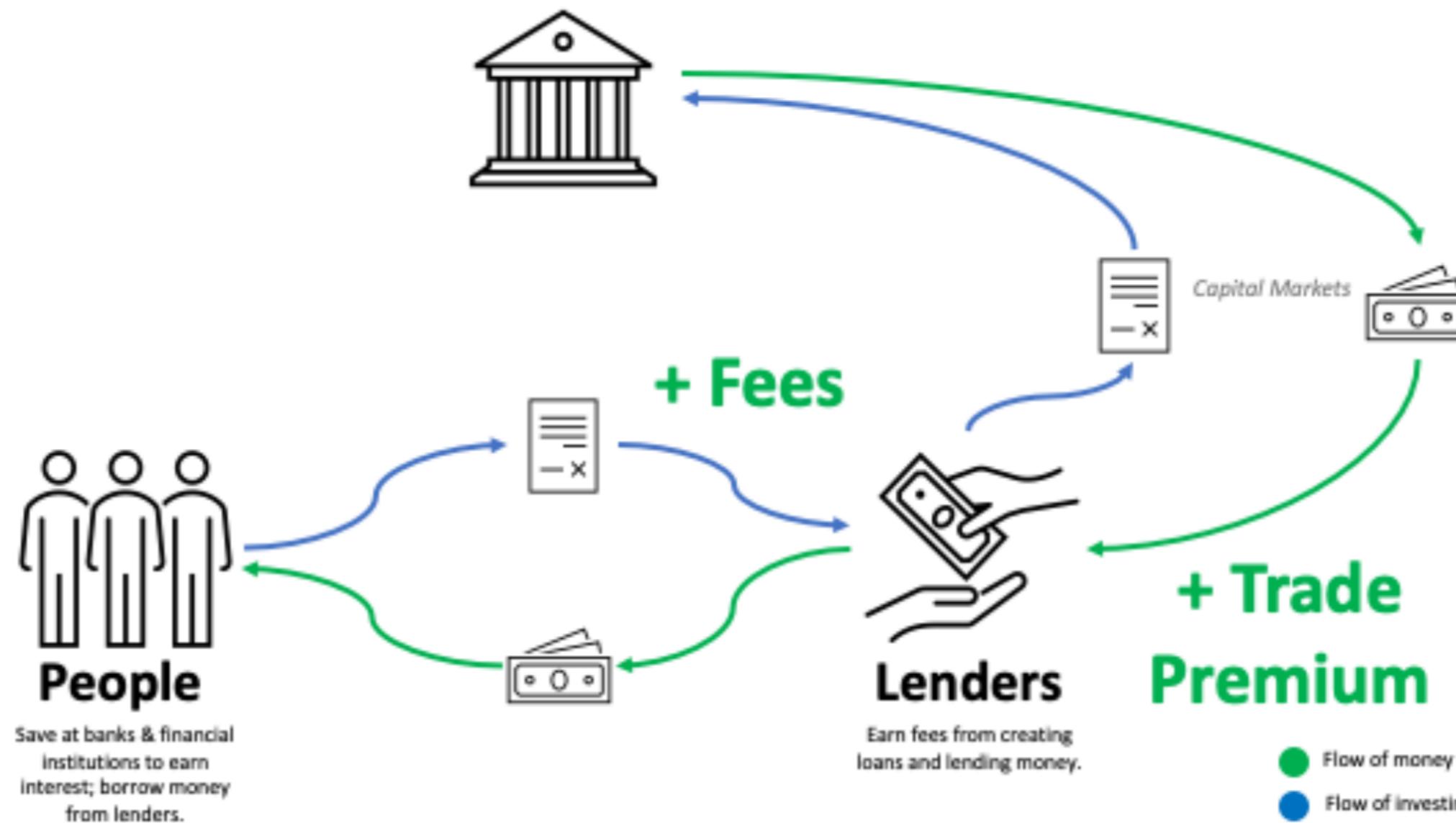
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- Flow of money
- Flow of investing

Banks & Financial Institutions

Use deposits from savings accounts to buy investments which earn interest.



Competitive markets

- A **competitive market** is a market where there are many buyers and sellers for an identical or very similar product
 - 4,338 lenders and 23.3mm loan applications in 2021 (U.S.)
 - No single buyer or seller can set a price



¹ <https://www.consumerfinance.gov/data-research/hmda/summary-of-2021-data-on-mortgage-lending/>

Competitive markets: lenders

- Highly competitive markets are price sensitive!
- Lenders are constantly repricing to be competitive



What is profit?

- Profit money made after all expenses have been paid.
 - Revenue - Expenses
- Revenue is the total money made from doing business
 - i.e., fees, trade premium
- Expenses are the costs of doing business
 - i.e., paying the mortgage banker, office expenses, discounts

Example: If revenue is 50,000 and expenses are 30,000 - what is the profit?

$$\text{Profit} = 50,000 - 30,000 = 20,000$$

What is loan margin?

- **Loan profit margin** is the percent of the profit earned per dollar lent
 - $\text{Profit} \div \text{Loan Amount}$
- **Example:** What is the loan profit margin of a loan with 14,000 in profit and a loan amount of 100,000?
 - $14,000 \div 100,000 = 14\%$

Pricing and target profit

- Business set margin targets
 - Analyze costs and predict revenue



Pricing and target profit

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 - Analyze costs and predict revenue
- Higher than expected margins
 - Not always good in a competitive market
 - Losing market share/customers to competition due to high pricing
 - Need to charge less

Profit is higher than target: lower prices



Pricing and target profit

- Business set margin targets
 - Analyze costs and predict revenue
- Higher than expected margins
 - Not always good in a competitive market
 - Losing market share/customers to competition due to high pricing
 - Need to charge less
- Lower than expected margins
 - Risks going out of business!
 - Need to charge more
- Financial markets impact lenders' profit!

Profit is higher than target: lower prices



Profit is lower than target: raise prices

Let's analyze!

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Congratulations!

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This was tough!

- Advanced case study
 - Complex concepts in the **financial system**
 - Advanced *Power BI* skills
- You became a trader in the **capital markets**

In chapter 1 you...

- Learned how money moves from **people**, **banks**, and **lenders** in the financial system
- Learned the basics of **mortgage** and **loan agreements**
- Used *Power Query* to prepare the datasets
- Created complex `IF()` statements

Banks & Financial Institutions

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People

Save at banks & financial institutions to earn interest; borrow money from lenders.



Lenders

Earn fees from creating loans and lending money.

- Flow of money
- Flow of investing

In chapter 2 you...



- Learned about trading mortgages in the **capital markets**
 - **Whole loan and Mortgage-backed securities**
- Created a **benchmark** based on **UMBS prices**
- Used *Power Query* and M to transform multiple datasets into a usable format for trade analysis
- Calculated **trade premiums** to determine the **total revenue** earned on the trade
- Calculated the **weighted average trade**

In chapter 3 you...

- Learned about **competitive markets**
- Calculated **loan profit margin**
- Used AI-driven tools to find influencers in the data
- Determined what kind of pricing decisions should be made



Best of luck!

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