

Financial Market

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Please Read Me

- Check the message **Welcome greeting** published in the News Bulletin Board.
- Dear student please edit your profile uploading a photo where your face is clearly visible.
- The purpose of the virtual meetings is to answer questions and not to make a summary of the study material.
- This presentation is based on ([Cardenas 2020, chap. 8](#))

Purpose

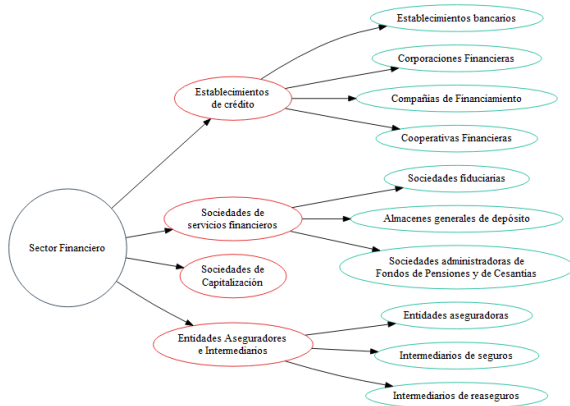
Analyze the functioning of the financial market, identifying the types of intermediaries and instruments that are part of it

Structure of the Colombian financial system

- The financial system is the set of entities whose main function is to channel the money of savers to those who wish to make investments
 - We are only going to focus on supervised financial entities. Therefore entities outside the law or unregulated are not going to be analyzed
 - Also ponzi schemes, pyramids or unregulated investment scheme are not analyzed.
 - However if you are interested in this topic check out ([Carvajal et al. 2009](#)) and ([Hofstetter et al. 2018](#))

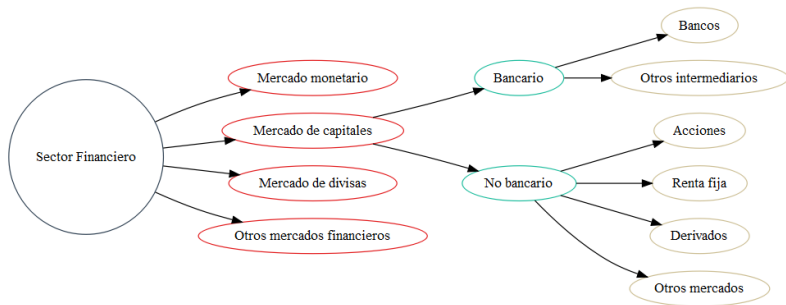
Structure of the Colombian financial system

- By supervised entities (C. de Colombia 1993)



Structure of the Colombian financial system

- By markets (Cardenas 2020, chap. 8, p 264)



Financial depth

- “Financial depth captures the financial sector relative to the economy. It is the size of banks, other financial institutions, and financial markets in a country, taken together and compared to a measure of economic output” ([Bank 2016](#))
- How it is measure using quantity indicators?¹
 - **Domestic credit to private sector (% of GDP)**
 - **Market capitalization of listed domestic companies (% of GDP)**
 - Share price times the number of shares outstanding (including their several classes) for listed domestic companies
- According to the literature the “evidence suggests that both financial intermediaries and markets matter for growth and that reverse causality alone is not driving this relationship” ([Levine 2005](#), p 866)

¹These indicators doesn't measure the quality of financial depth

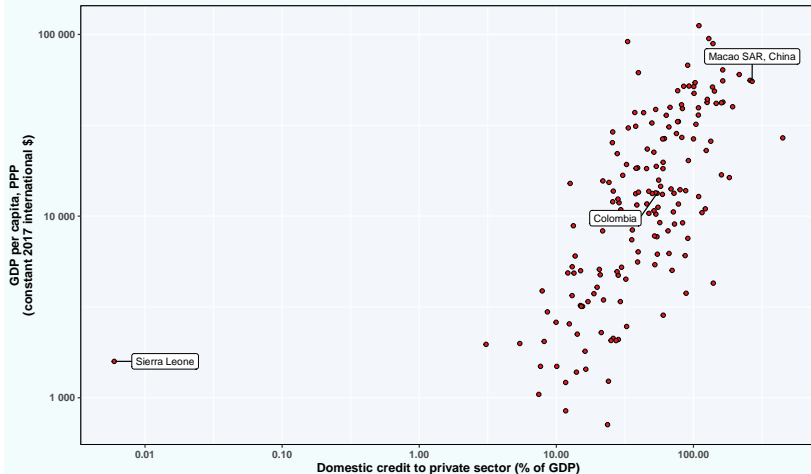
Financial depth

Financial depth vs Gross Domestic Product per-capita

Period: 2020

Axis scales: Logarithmic Base 10

Number of territories: 163



Source: World Development Indicators (WDI) – World Bank
Last update date: 2023-06-29

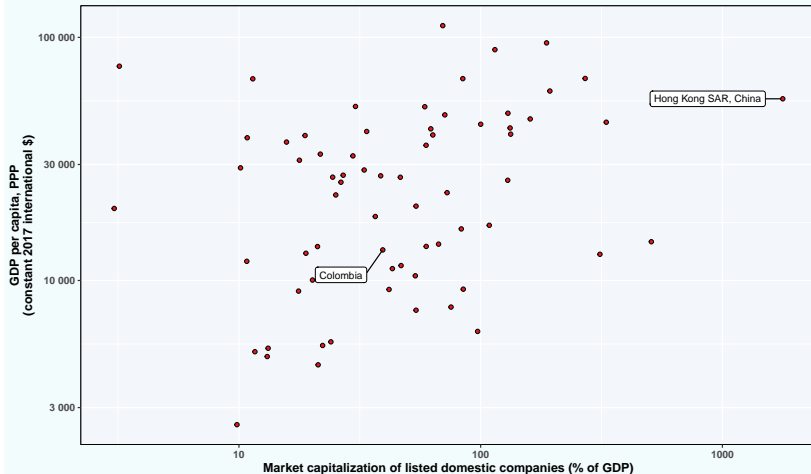
Financial depth

Financial depth vs Gross Domestic Product per-capita

Period: 2020

Axis scales: Logarithmic Base 10

Number of territories: 68



Source: World Development Indicators (WDI) – World Bank
Last update date: 2023-06-29

Uncertainty in financial markets

- Financing is essentially the exchange of a sum of money today for a promise to return more money in the future. Therefore it is not surprising that such exchange can be problematic
 - **Information asymmetry:** in an exchange one party has more or better information than the other
 - **Adverse selection**
 - **Moral hazard**

Uncertainty in financial markets

- **Adverse selection** occurs when it is not possible to identify the quality of a product for a party that participates in a transaction. Therefore bad products are sold with good products where the consequence is that bad products take off good products from the market ([Wilson 1987](#))
 - In the context of financial markets **adverse selection** occurs when an increase in interest rates induces good debtors to stop requesting loans, so that only those individuals with a higher probability of not paying the loan end up requesting loans

Uncertainty in financial markets

- **Moral hazard** is “any situation in which one person makes the decision about how much risk to take, while someone else bears the cost if things go badly” ([Krugman 2009](#), p 63)
 - In the context of financial markets **moral hazard** occurs when debtors take riskier actions that increase the probability of default

Principal instruments “Mercado no intermediado”

- **Fixed income (Renta fija):** provides returns in the form of regular interest payments and repayments of the principal
 - Títulos de tesorería (TES)
 - Debt securities issued by the national government and administered by the Banco de la República.
 - The national government use this instrument to finance its activities
 - Certificados de Depósito a Término (CDT)

Principal instruments “Mercado no intermediado”

Interest rates: TES zero coupon, COP – 10 years

Periodicity: Daily

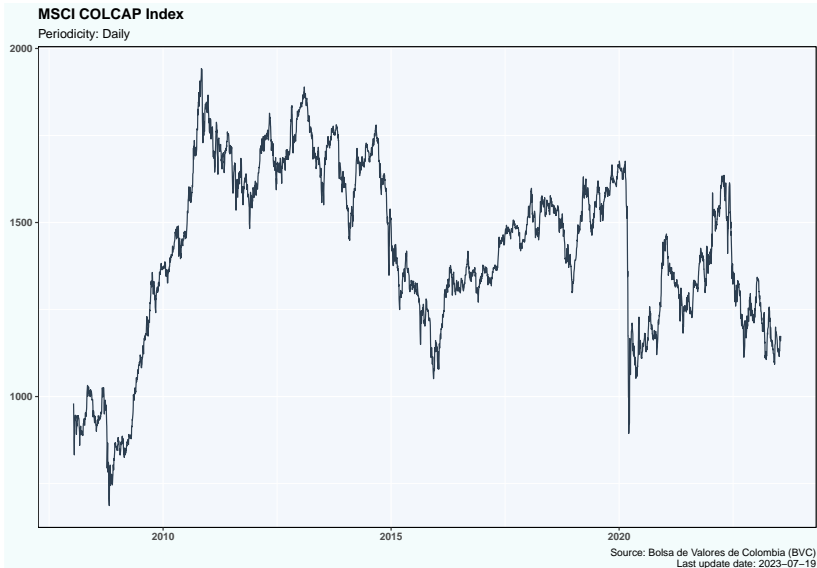


Source: Banco de la Republica
Last update date: 2023-07-14

Principal instruments “Mercado no intermediado”

- **Equity (Renta variable):**
 - Shares/Stocks
 - These instruments are issued by companies to raise funds from the general public
 - They represent a fractional ownership in the company that issue them

Principal instruments “Mercado no intermediado”



Banking market or “Mercado Intermediado”

- **What is a bank?**

- “A bank is an institution **whose current operations** consist in granting loans and receiving deposits from the public” ([Freixas and Rochet 2008](#), p 1)
 - Therefore the core activities of banks are related to deposits and loans

- **What functions banks perform?”** ([Freixas and Rochet 2008](#), p 2)

- Offering liquidity and payment services
- Transforming assets
- Managing risks
- Processing information and monitoring borrowers

Banking market or “Mercado Intermediado”

- **Offering liquidity and payment services** ([Freixas and Rochet 2008](#), p 2-4)
 - Banks offer short term credits to companies and individuals and have created networks that facilitate the transfer of funds between the bank accounts of economic agents
- **Transforming assets** ([Freixas and Rochet 2008](#), p 5-6)
 - **Convenience of denomination:** banks collect small deposits to offer large loans
 - **Quality transformation:** bank deposits offer better risk-return characteristics than direct investments
 - **Maturity transformation:** banks transform securities with short maturities, offered to depositors, into securities with long maturities, which borrowers desire

Banking market or “Mercado Intermediado”

- **Managing risks:**
 - **Credit risk:** it is related to the the probability that a loan is no repaid
 - **Interest rate risk:** it is related to the difference between deposit rates, which change more, and lending rates, which are more stable
 - **Liquidity risk:** it is related to the difficulty a bank has in selling a loan compared to the ease with which a depositor withdraws his savings
- In the case of the Colombian context the framework to manage risks is known as **Sistema Integral de Administración de Riesgos (SIAR)** (S. F. de Colombia 2021, chap. 31)

Banking market or “Mercado Intermediado”

Table 1: Supervised banking establishments

Type	Code	Abbreviate Name	NIT
1	1	Banco de Bogotá S.A.	860002964-4
1	2	Banco Popular	860007738-9
1	6	Itaú; Banco Itaú.	890903937-0
1	7	Bancolombia	890903938-8
1	9	Citibank	860051135-4
1	12	Banco GNB Sudameris	860050750-1
1	13	BBVA Colombia	860003020-1
1	23	Banco de Occidente	890300279-4
1	30	Banco Caja Social S.A.	860007335-4
1	39	Banco Davivienda	860034313-7
1	42	Banco Colpatria	860034594-1
1	43	Banagrario	800037800-8
1	49	AV Villas	860035827-5
1	51	Credifinanciera S.A.	900200960-9

Source: Superintendencia Financiera de Colombia

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Banking market or “Mercado Intermediado”

Table 2: Supervised banking establishments

Type	Code	Abbreviate Name	NIT
1	51	Credifinanciera S.A.	900200960-9
1	52	Bancamía S.A.	900215071-1
1	53	Banco W S.A.	900378212-2
1	54	Bancoomeva	900406150-5
1	55	Finandina Bic o Banco Finandina Bic o Finandina.	860051894-6
1	56	Banco Falabella S.A.	900047981-8
1	57	Banco Pichincha S.A.	890200756-7
1	58	Coopcentral	890203088-9
1	59	Banco Santander	900628110-3
1	60	Banco Mundo Mujer S.A.	900768933-8
1	62	Mibanco S.A.	860025971-5
1	63	Banco Serfinanza S.A.	860043186-6
1	64	Banco J.P. Morgan Colombia S.A., (la “Sociedad”)	900114346-8
1	65	Lulo Bank S.A.	901383474-9
1	66	Banco BTG Pactual Colombia S.A.	901491551-0
1	67	BANCO UNIÓN S.A. (en adelante el “Banco” o la “Sociedad”)	860006797-9

Source: Superintendencia Financiera de Colombia

Last update: 2023-07-20

Banking market or “Mercado Intermediado”

Deposit and lending interest rate in Colombia

Period: 1986–2022



Source: World Development Indicators (WDI) – World Bank
Last update: 2023-06-29

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References I

- Bank, World. 2016. "Financial Depth." *World Bank*.
<https://www.worldbank.org/en/publication/gfdr/gfdr-2016/background/financial-depth>.
- Cardenas, Mauricio. 2020. *Introducción a La Economía Colombiana*. 4th ed. Alfaomega.
- Carvajal, Ana, Hunter Monroe, Brian Wynter, and Catherine A. Pattillo. 2009. "Ponzi Schemes in the Caribbean." {SSRN} {Scholarly} {Paper} ID 1403766. Rochester, NY: Social Science Research Network. <https://papers.ssrn.com/abstract=1403766>.
- Colombia, Congreso de. 1993. "Decreto 663 de 1993." Diario Oficial No. 40.820. http://secretariasenado.gov.co/senado/basedoc/estatuto_organico_sistema_financiero.html.

References II

- Colombia, Superintendencia Financiera de. 2021. "Circular Básica Contable y Financiera (Circular Externa 100 de 1995)." <https://www.superfinanciera.gov.co/jsp/loader.jsf?!Servicio=Publicaciones&ITipo=publicaciones&IFuncion=loadContenidoPublicacion&id=15466>.
- Freixas, Xavier, and Jean-Charles Rochet. 2008. *Microeconomics of Banking*. 2nd ed. Cambridge, Mass: MIT Press.
- Hofstetter, Marc, Daniel Mejía, José Nicolás Rosas, and Miguel Urrutia. 2018. "Ponzi Schemes and the Financial Sector: DMG and DRFE in Colombia." *Journal of Banking & Finance* 96 (November): 18–33. <https://doi.org/10.1016/j.jbankfin.2018.08.011>.
- Krugman, Paul R. 2009. *The Return of Depression Economics and the Crisis of 2008*. New York: W. W. Norton & company.
- Levine, Ross. 2005. "Chapter 12 Finance and Growth: Theory and Evidence." In *Handbook of Economic Growth*, 1:865–934. Elsevier. [https://doi.org/10.1016/S1574-0684\(05\)01012-9](https://doi.org/10.1016/S1574-0684(05)01012-9).

References III

Wilson, Charles. 1987. "Adverse Selection." In *The New Palgrave Dictionary of Economics*, edited by Steven Durlauf and Lawrence E. Blume, 1–4. London: Palgrave Macmillan UK.
https://doi.org/10.1057/978-1-349-95121-5_104-1.