Does Scale Define the Winners in Banking?

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Rutgers University

"Ending Too Big to Fail" Policy Symposium

Federal Reserve Bank of Minneapolis

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Costs of Breaking Them Up

Does Scale Define the Winners in Banking?

Costs *But Not The Benefits*

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- And new sources of systemic risk?

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- If so, how large are the economies?
- If technological scale economies exist, is it possible that they can be achieved by smaller institutions than the largest we observe today?

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- Would restricting scale reduce their cost efficiency and global competitiveness?

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- Bigger banks enjoy higher economies of scale – lower average cost of products than smaller banks.
- Then, are there are good business reasons for banks to be big?
- Earlier research did not find economies of scale at big banks.

The Received Wisdom

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- Larger institutions offer financial products not available at smaller institutions.
- Institutions merge and cross borders to create larger institutions.
- But becoming large to obtain too-big-to-fail subsidies may overcome diseconomies.

Who Has Found Evidence of Scale Economies at Large Banks?

- Hughes, Lang*, Mester*, and Moon (*JMCB* 1996)
- Berger* and Mester* (*JBF* 1997)
- Hughes and Mester* (*ReStat* 1998)
- Hughes, Mester*, and Moon (*JBF* 2001)
- Bossone and Lee (*IMF* 2004)
- Wheelock* and Wilson (*JMCB* 2012, 2015)
- Feng and Serletis (*JBF* 2010)
- Hughes and Mester* (*JFI*, 2013)
- Dijkstra (2013)
- Kovner*, Vickery*, and Zhou* (2014)
- Becalli, Anolli, and Borello (*JBF* 2015)

* *Current and former Federal Reserve System economists*

What do some of the critics of the largest financial institutions have to say?

Richard Fisher
former President
of the Federal Reserve Bank of Dallas

- "Hordes of Dodd-Frank regulators are not the solution; smaller, less complex banks are. We can select the road to enhanced financial efficiency by breaking up TBTF banks -- now."

Wall Street Journal, April 4, 2012

Sheila Bair
former chairman
of the Federal Deposit Insurance Corp.

- "The public-policy benefits of smaller, simpler banks are clear. It may be in the enlightened self-interest of shareholders as well."

Fortune, January 18, 2012

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Fortune, January 18, 2012

Phil Purcell

former chief executive-Morgan Stanley

- "Breaking these companies into separate businesses would <u>double</u> to <u>triple</u> the shareholder value of each institution."

Wall Street Journal, June 25, 2012

Richard Ramsden
Analyst, Goldman Sachs

- “The Fed’s recent G-SIB proposal raises JPM’s capital requirements to 11.5%, 100-200bp higher than money center peers, reigniting the debate about whether a <u>breakup could unlock shareholder value</u> given that size is now a regulatory negative.

Goldman Sachs Report, January 2015

Richard Ramsden

Analyst, Goldman Sachs

- "A breakup could create value … as each standalone business would face a lower G-SIB surcharge."
- At the expense of <u>$6-7 billion of net income synergies</u>

Marianne Lake
CFO, JP Morgan Chase

- "... Ms. Lake, the chief financial officer, said JPMorgan should keep its current mix of businesses because it had around $18 billion in **cost** synergies from having all its business lines under the same roof.

- *New York Times*, February 25, 2015

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- “. . . Ms. Lake, the chief financial officer, said JPMorgan should keep its current mix of businesses because it had around <u>$18 billion in **cost** synergies</u> from having all its business lines under the same roof.
- ‘**Scale has always defined the winner in banking**,’ Ms. Lake said.”
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    Economies of scale (increasing returns)
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  - A **more than proportional increase** in cost
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    Diseconomies of scale (decreasing returns)
    - 1 / cost elasticity < 1

What are the technological sources of scale economies?

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  - **spreading the overhead**, especially the costs associated with information technology
  - **diversification of liquidity risk**
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- Relatively fewer resources required to manage liquidity and credit risk
- Network economies in payments

How are scale economies measured?

<u>The relationship of cost to outputs</u>

- Econometric estimation of cost

  Cost=f(outputs, input prices, equity, asset quality)

- Common finding
  - Slight economies of scale at smaller banks

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  - **Scale diseconomies at the largest banks**

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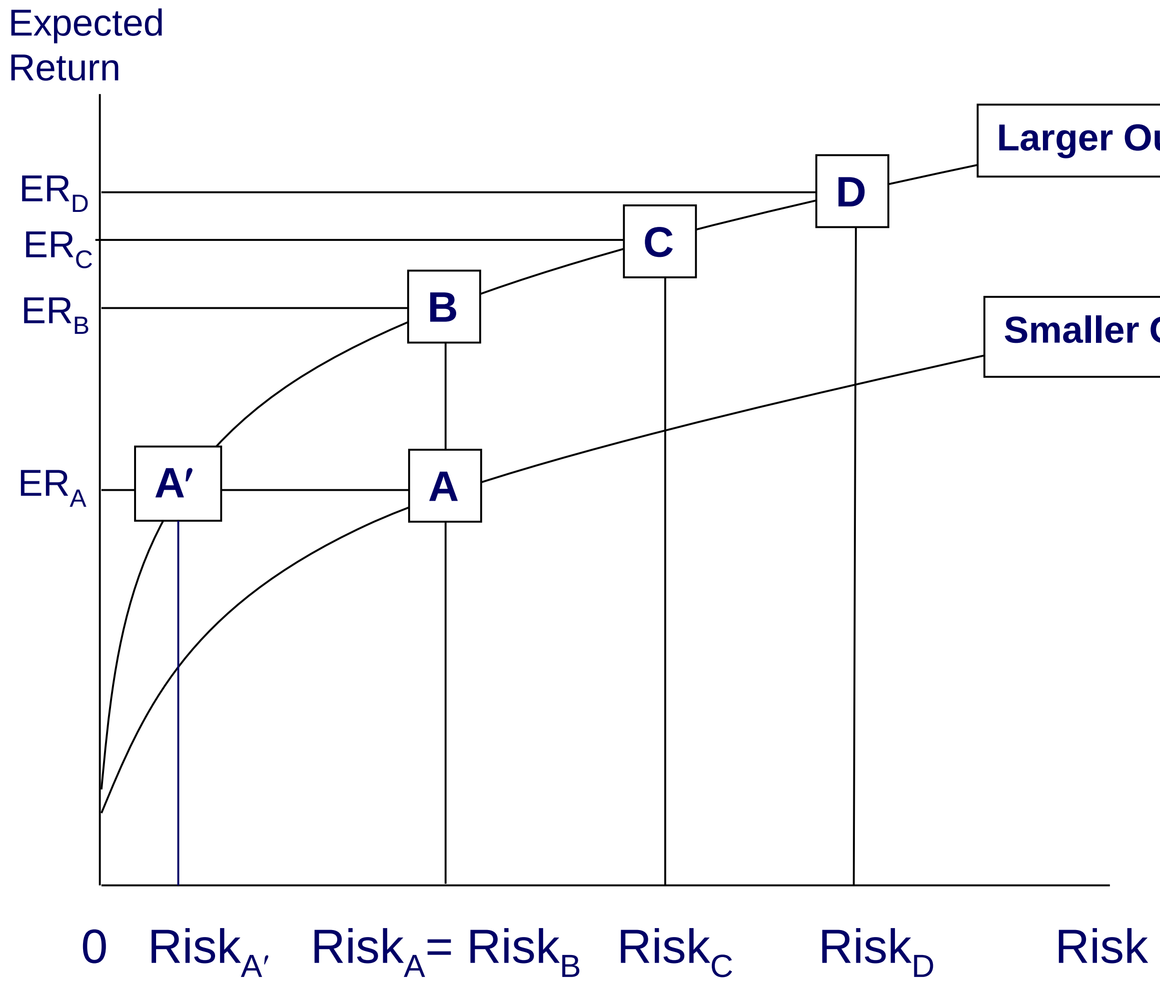
  - Lower marginal cost of risk management
- Larger banks generally take more risk.
- Risk-taking influences cost.

Size-Related Improved Diversification



Source: Hughes and Mester (2015)

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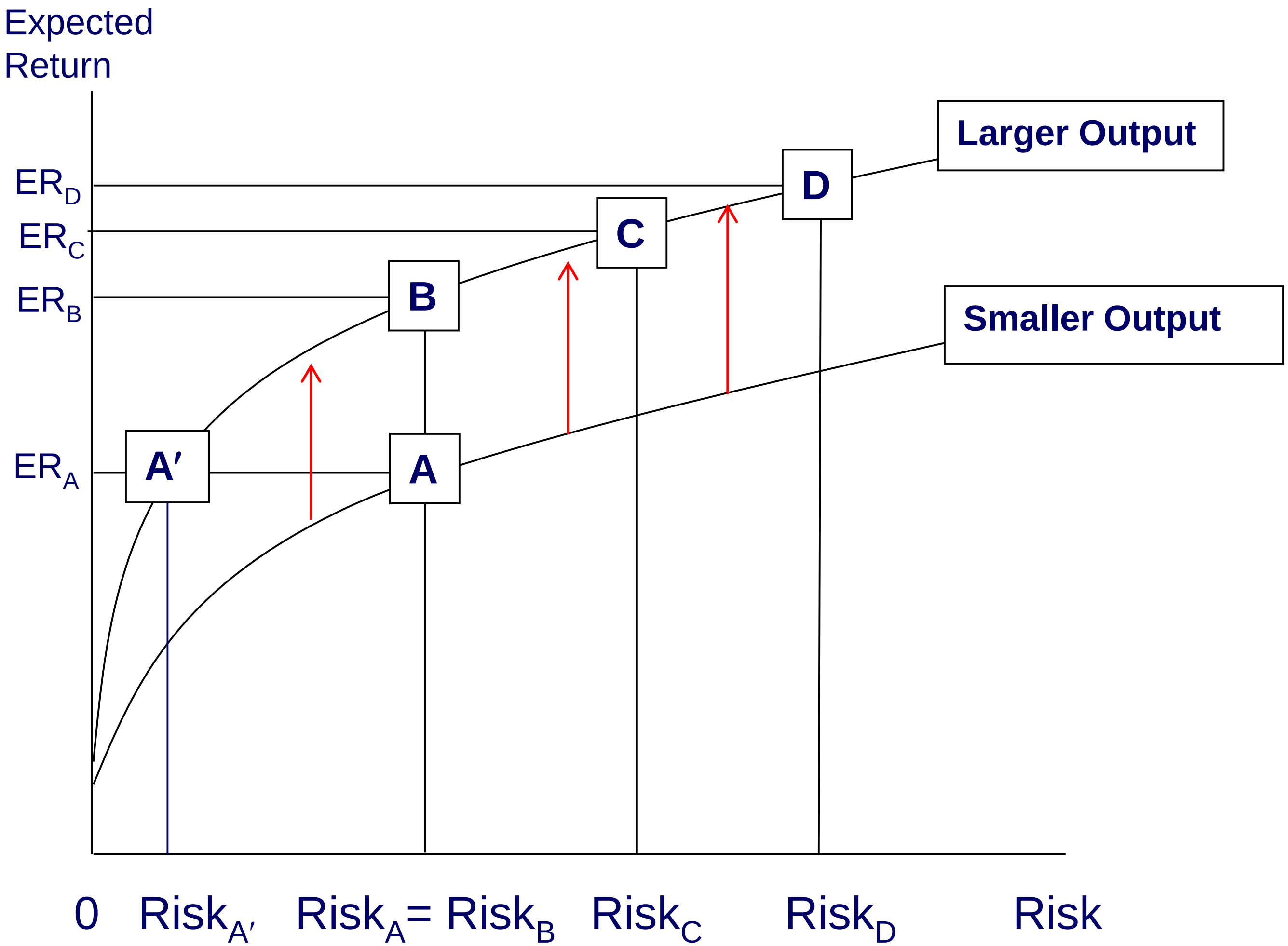

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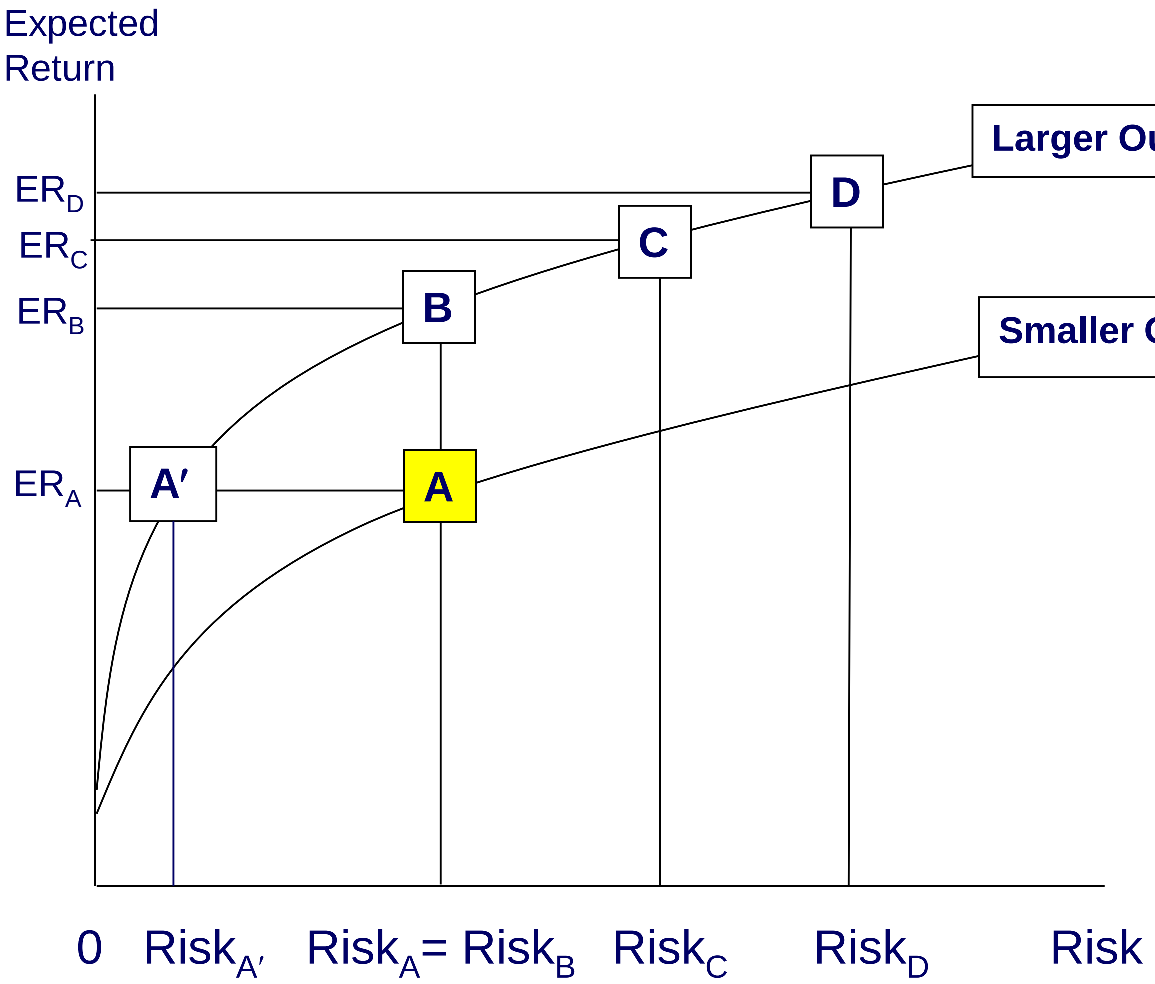

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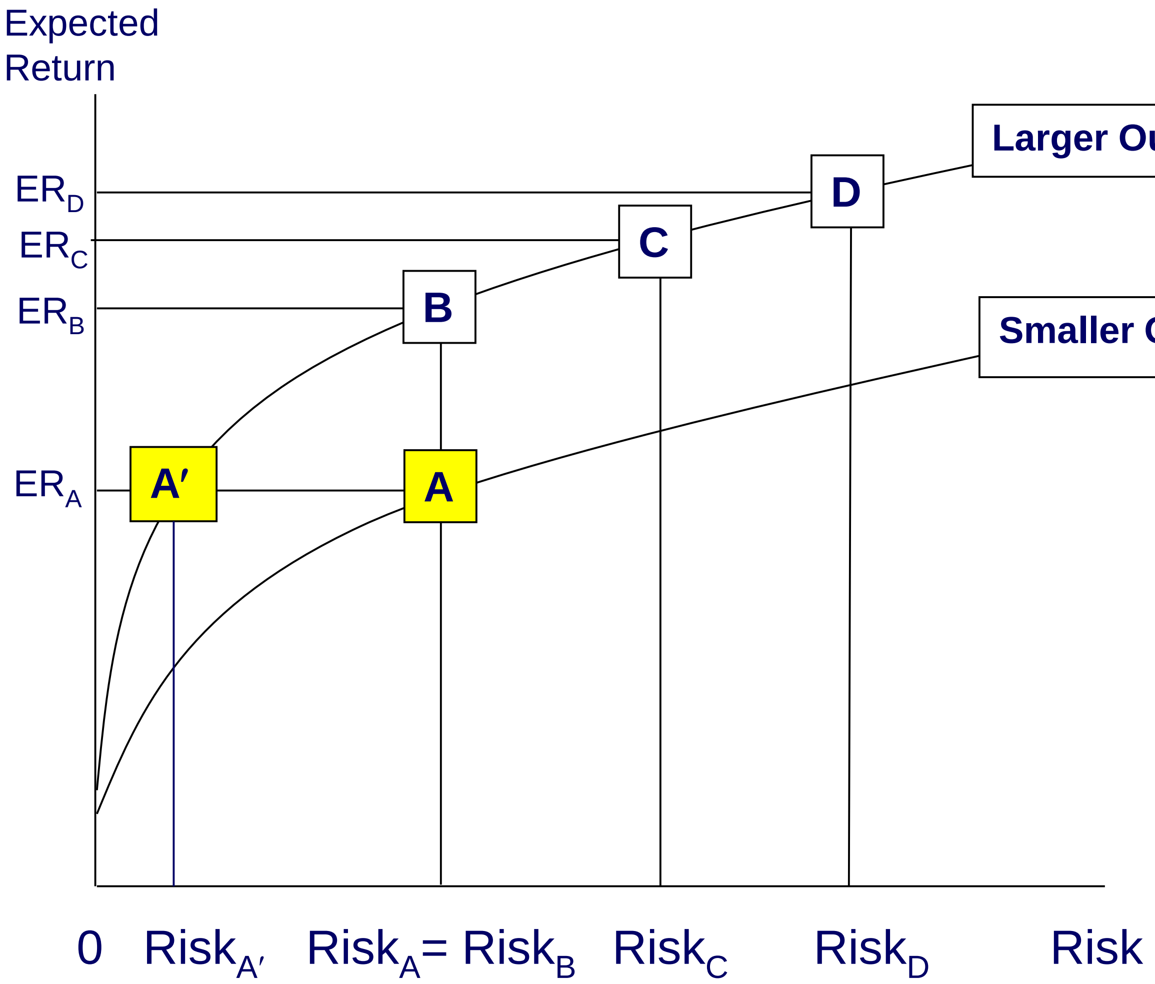

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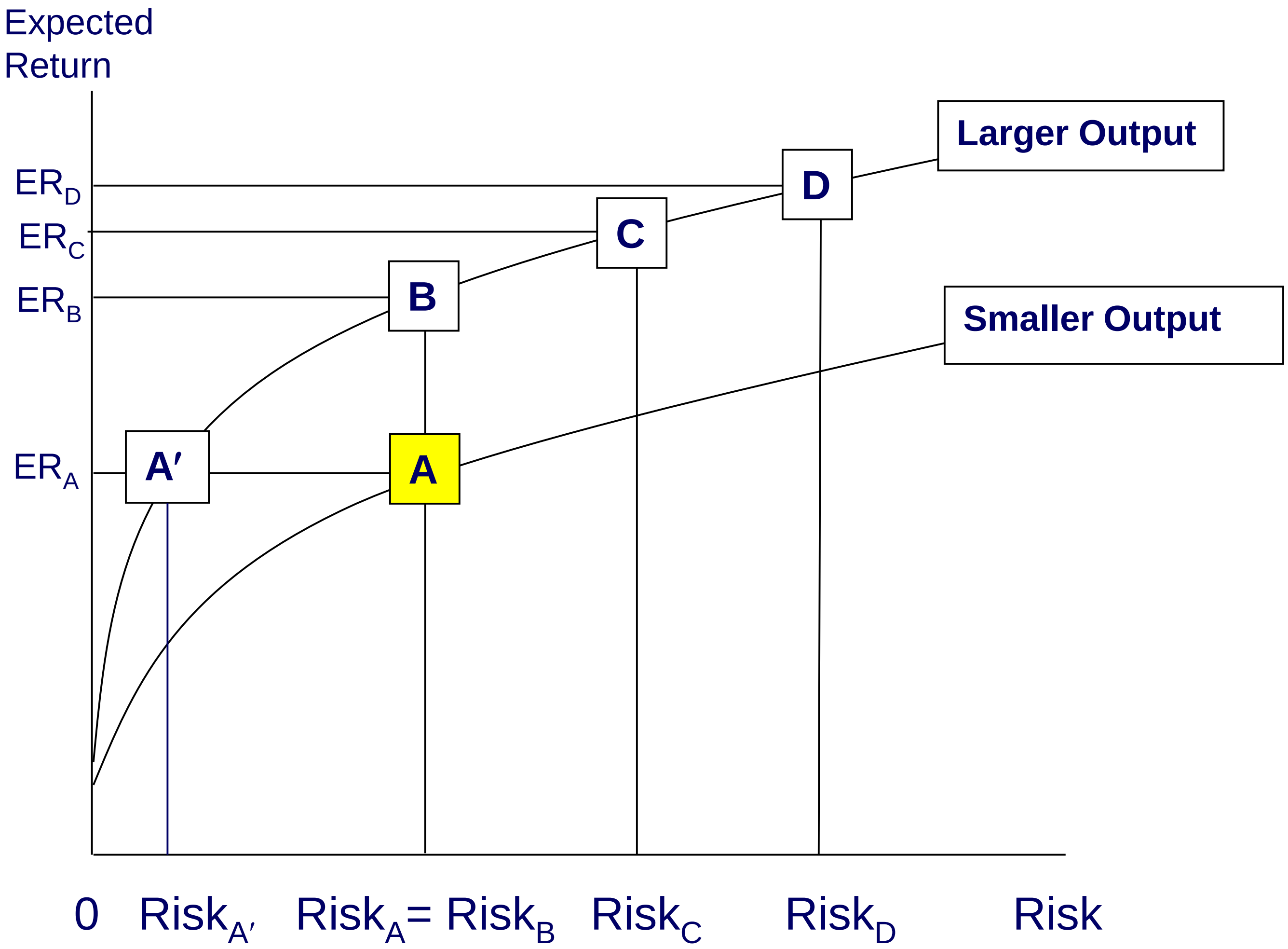

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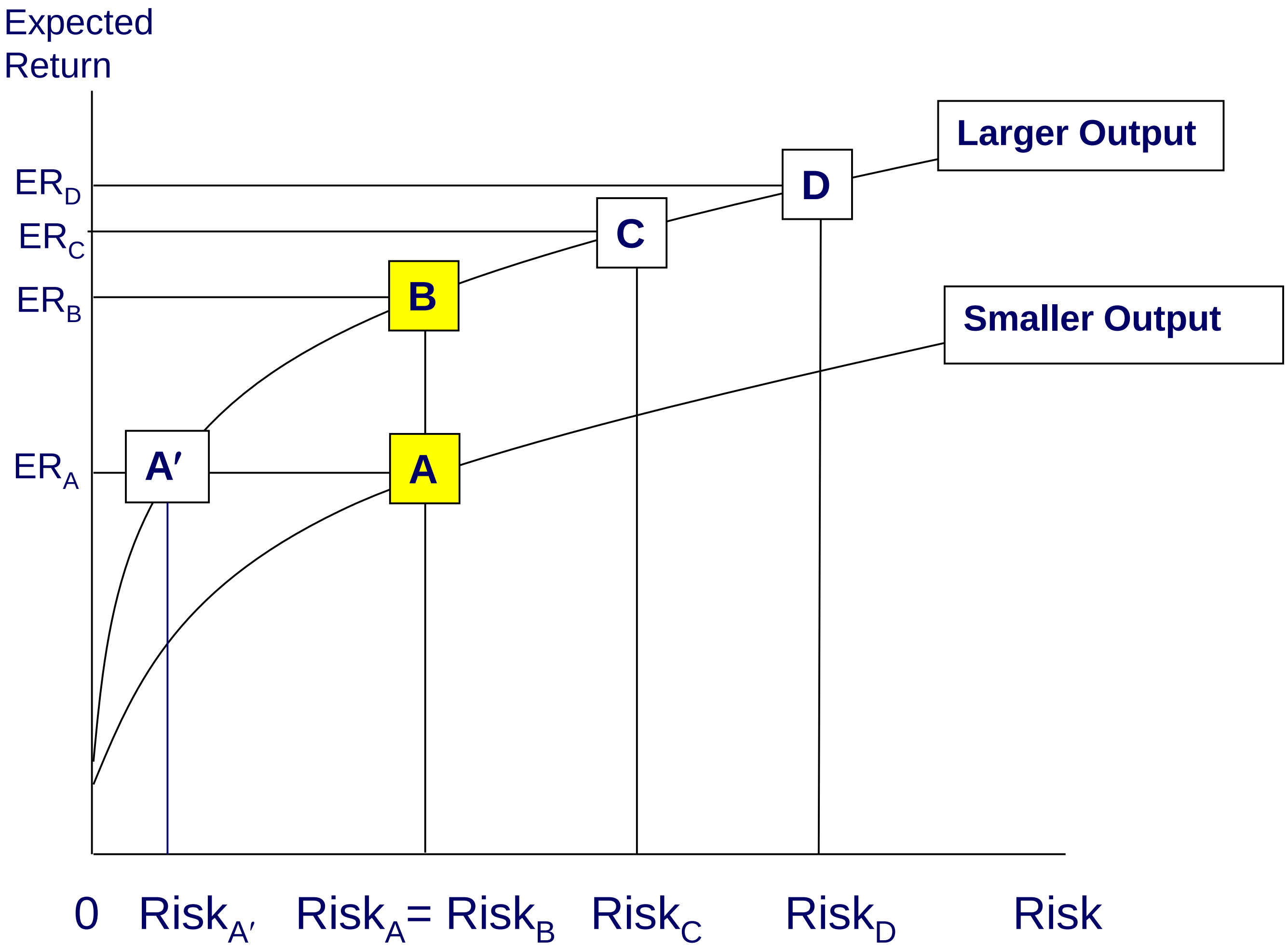
Size-Related Spreading Overhead



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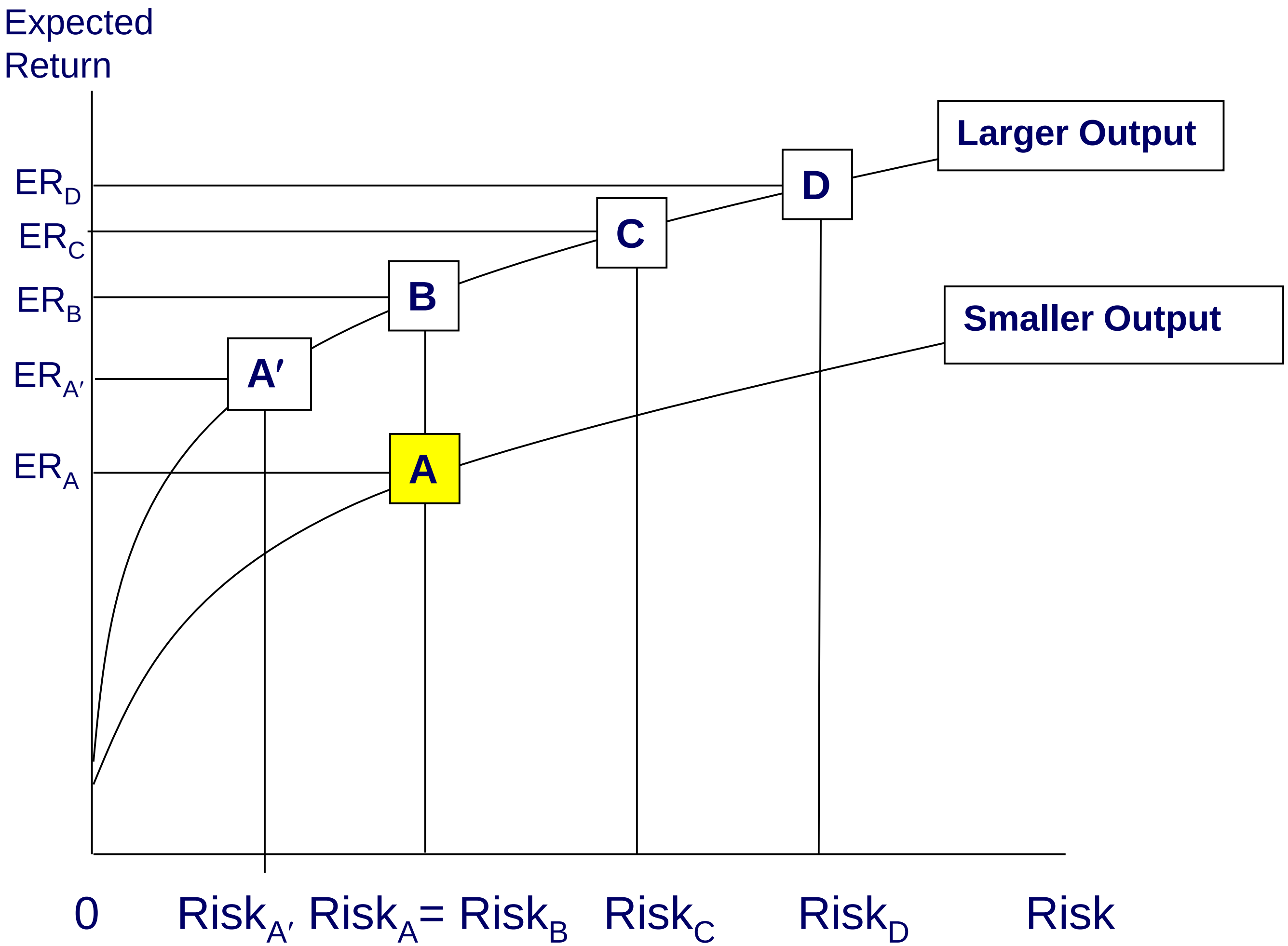

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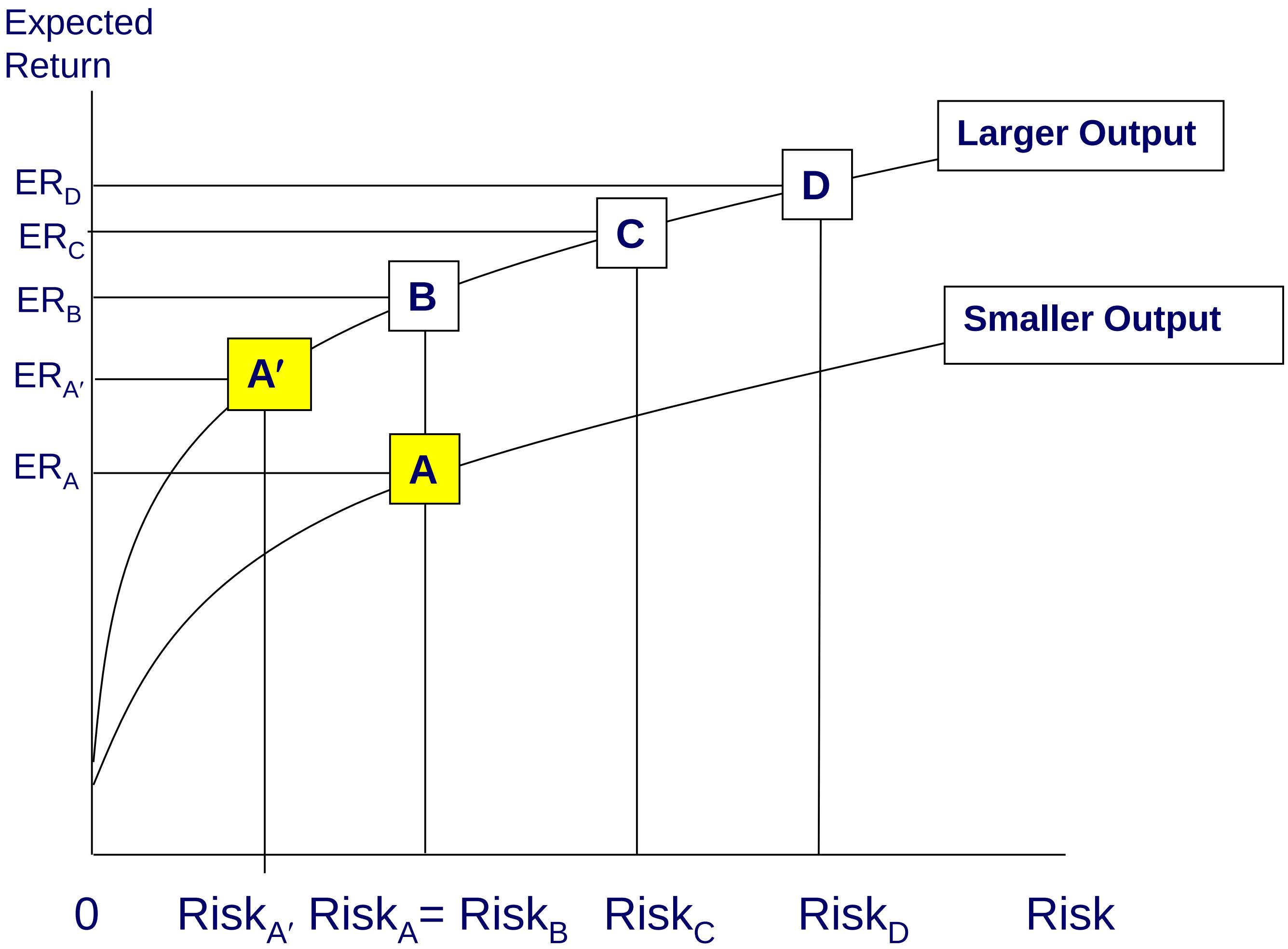

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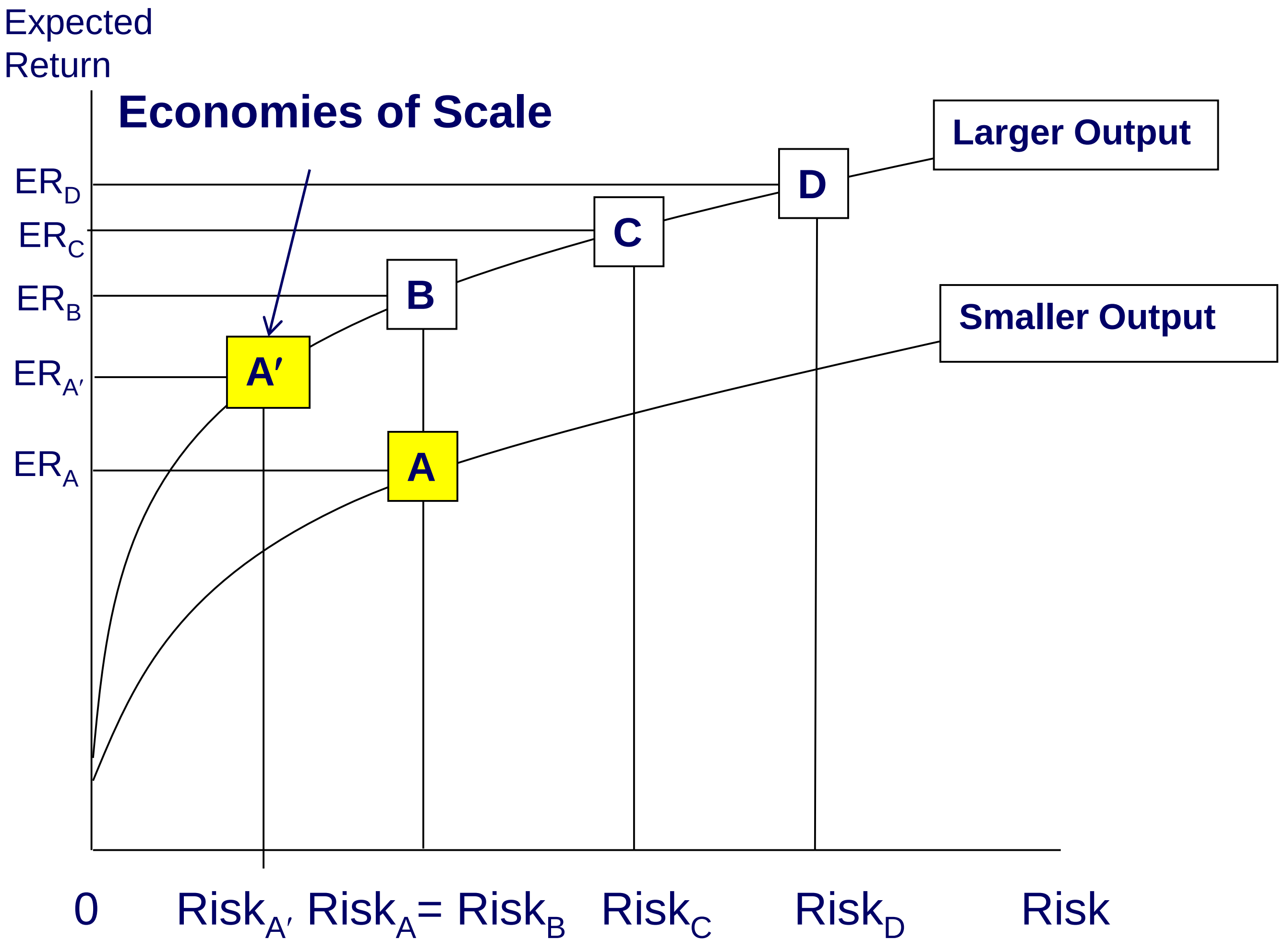

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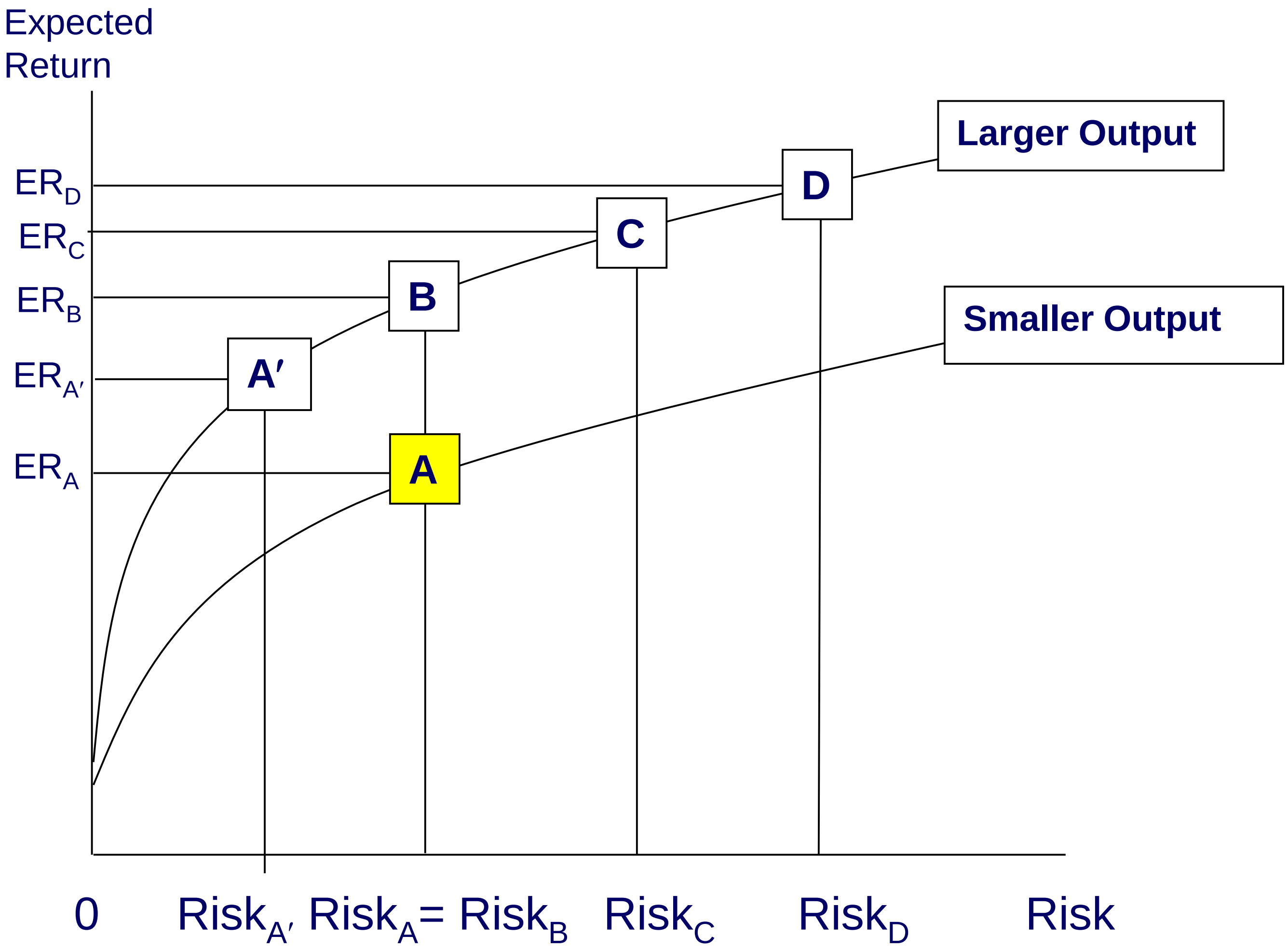

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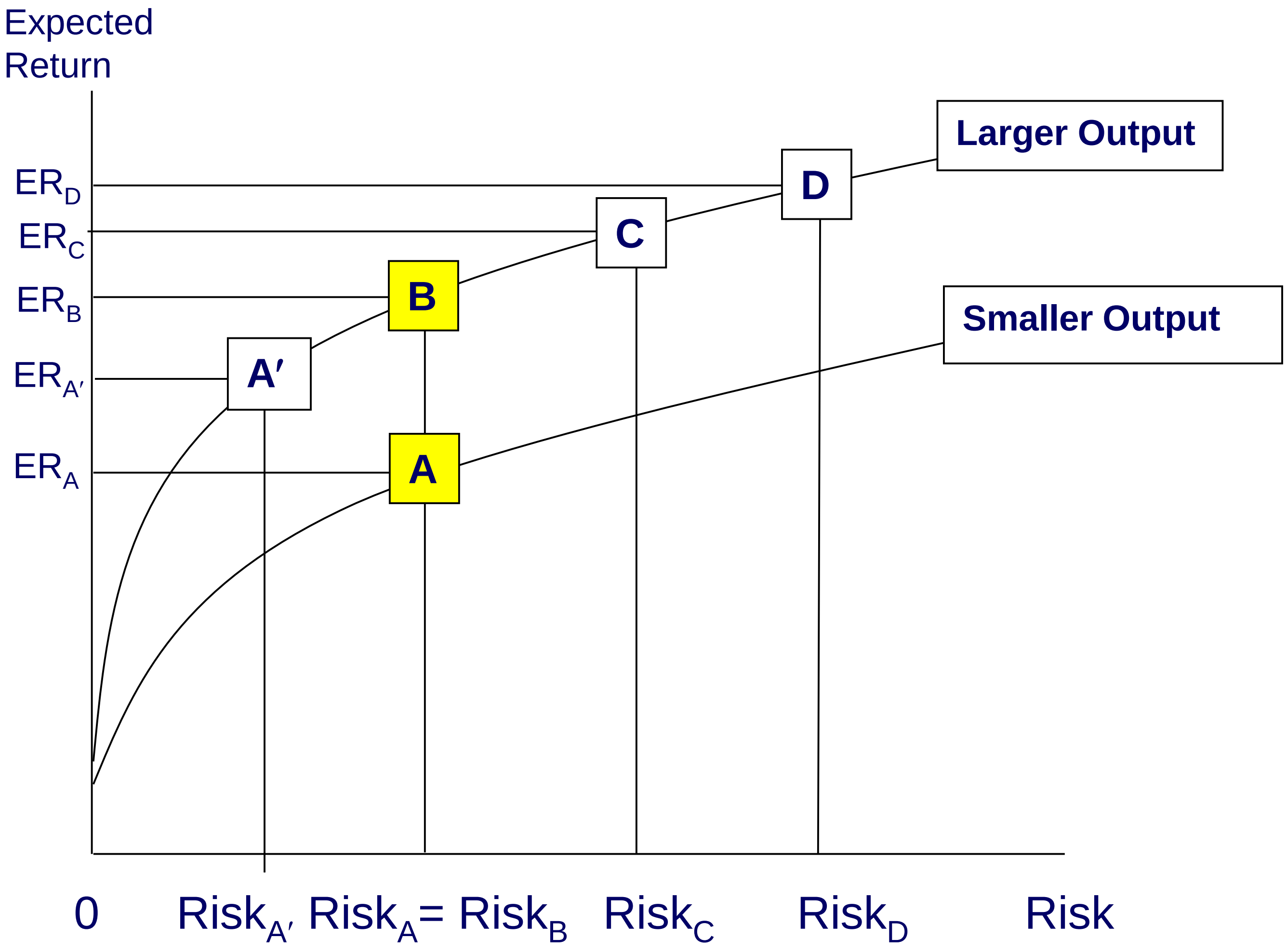

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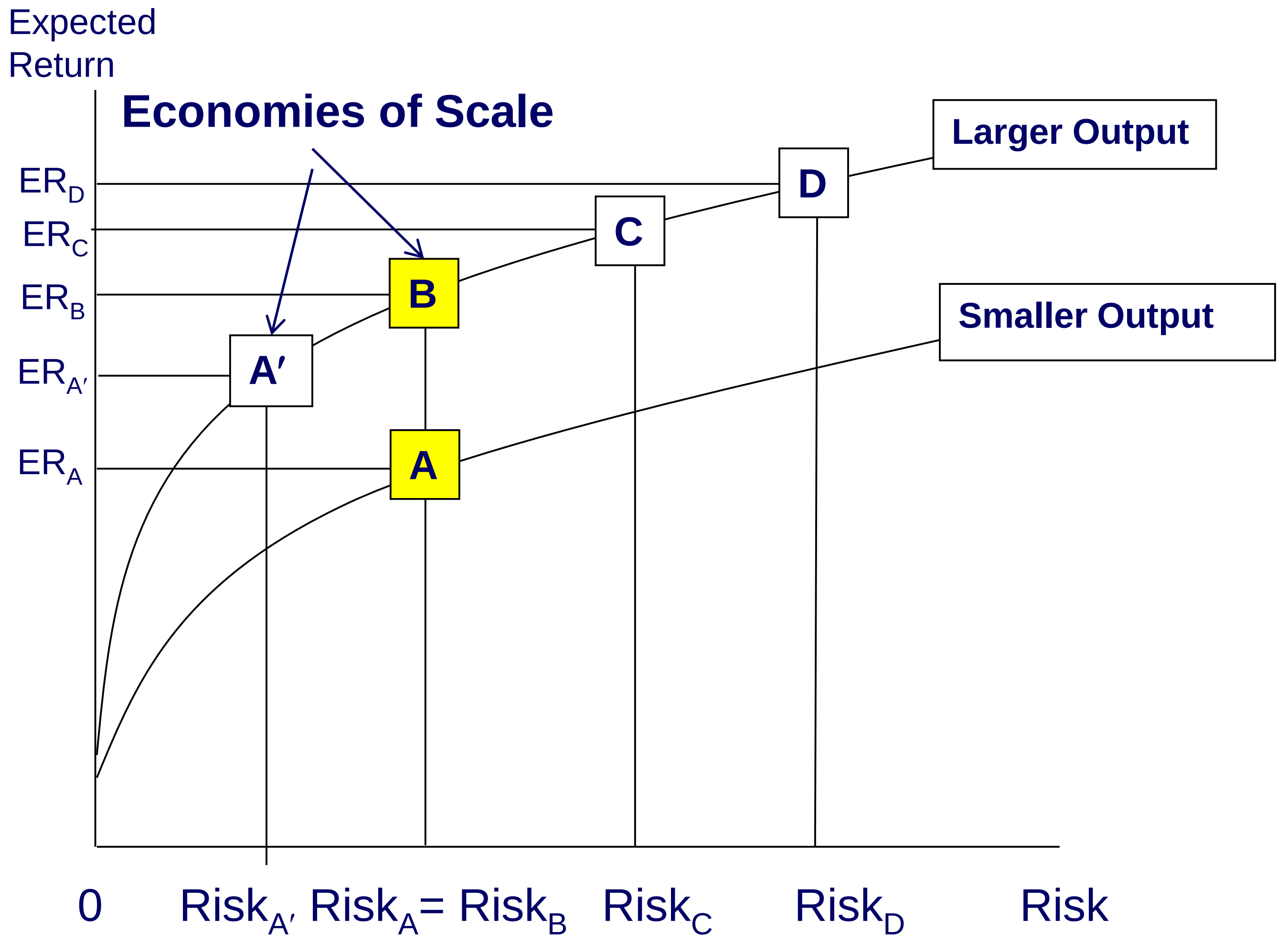

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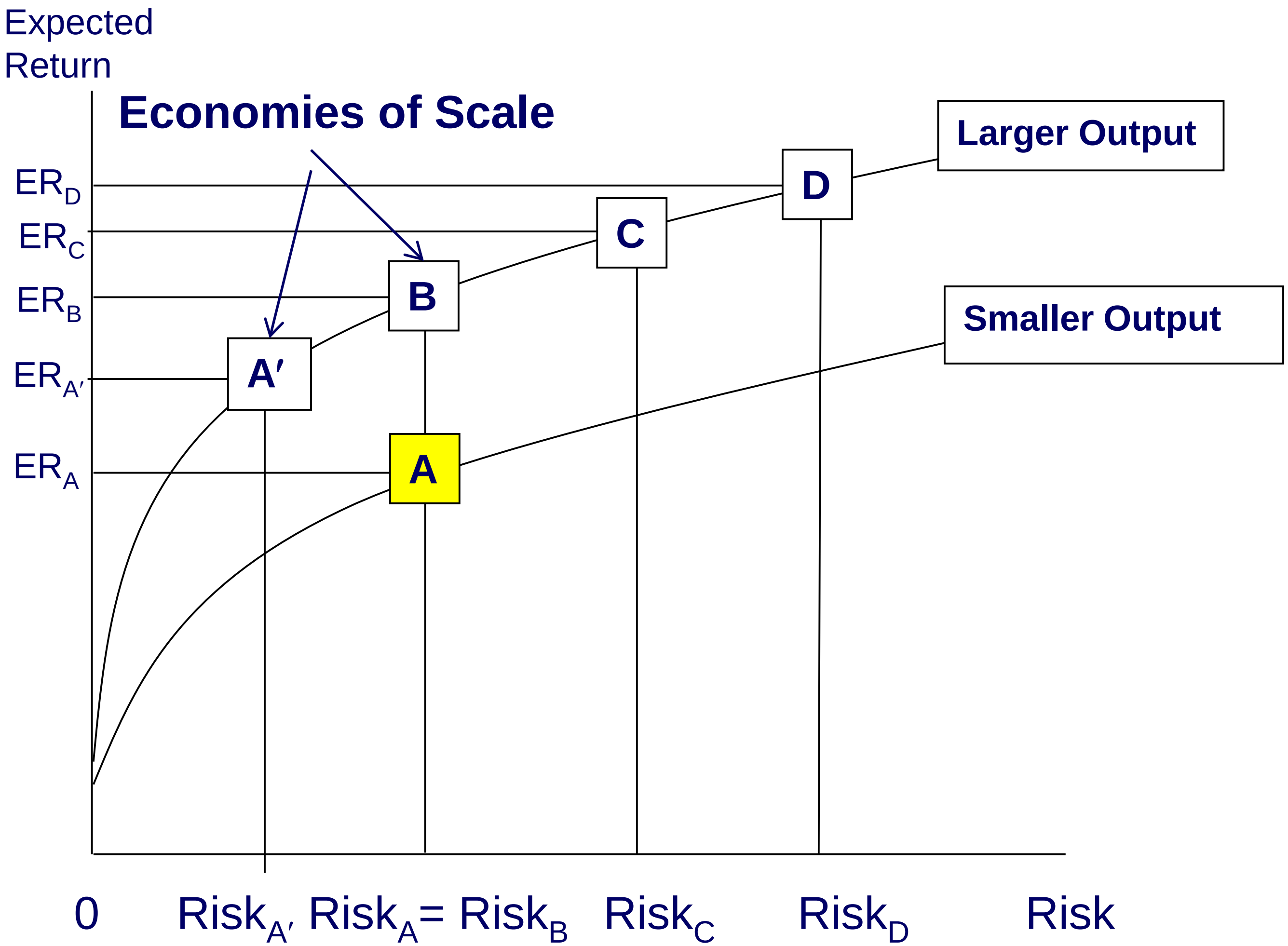

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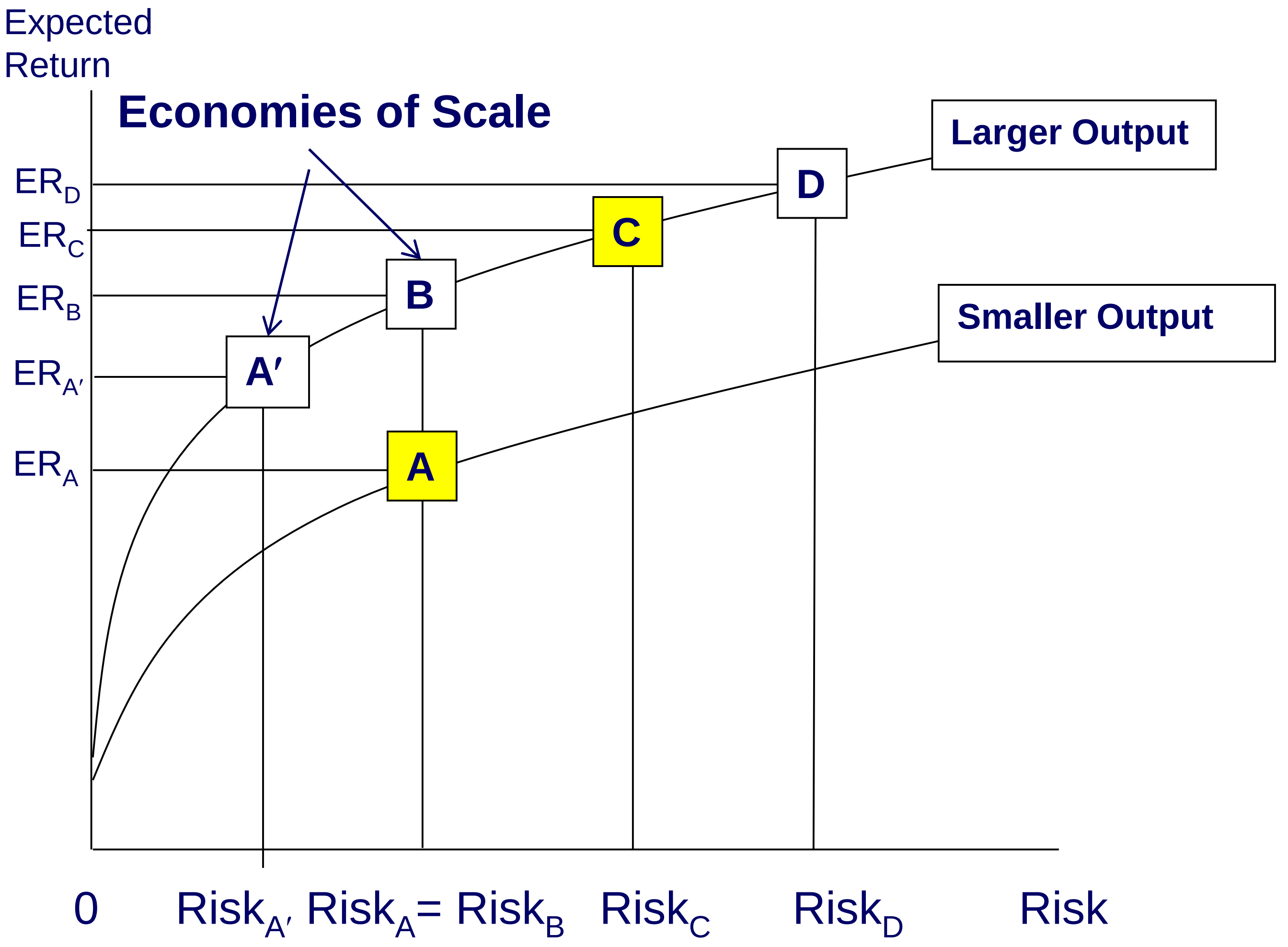

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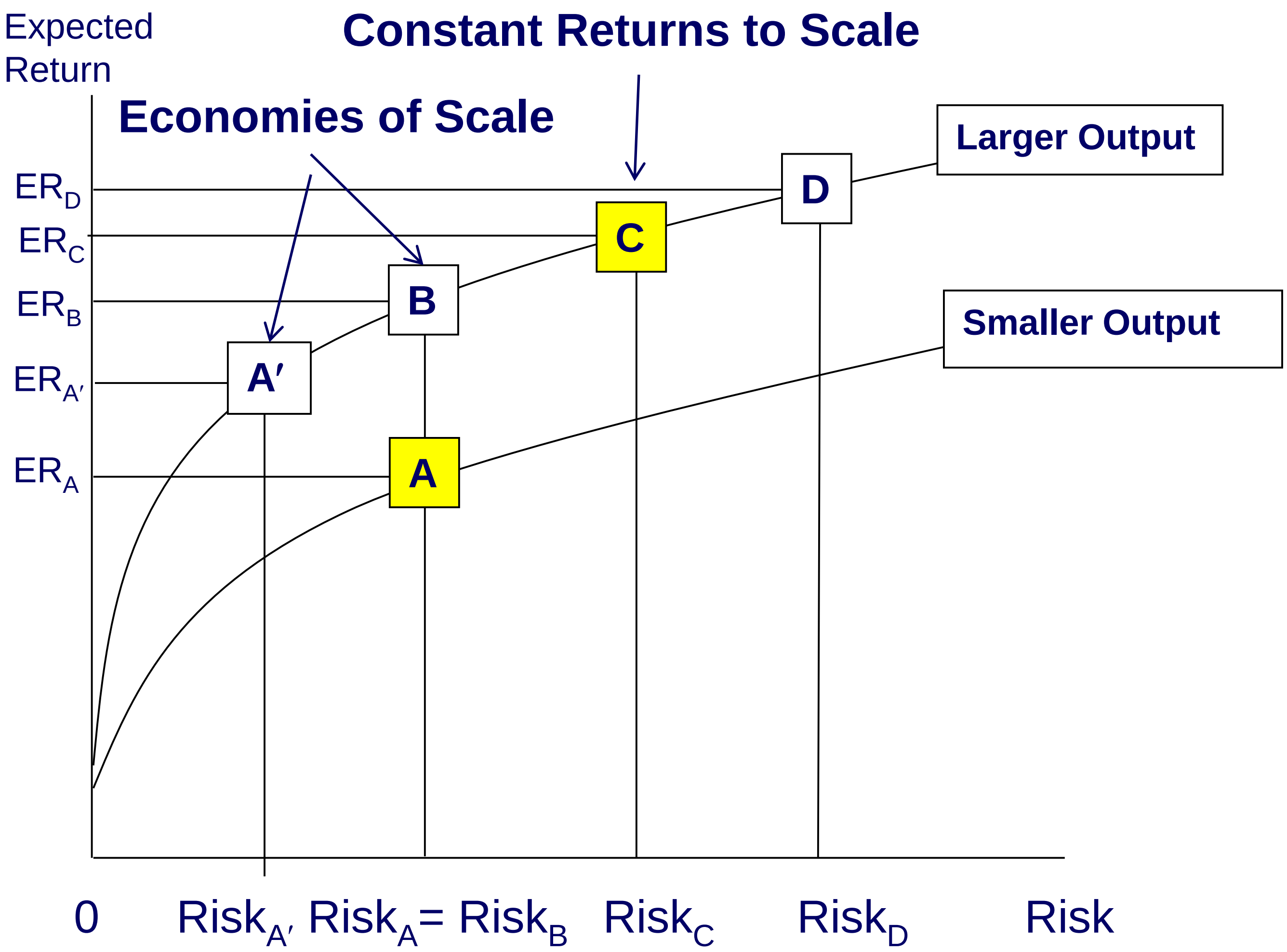

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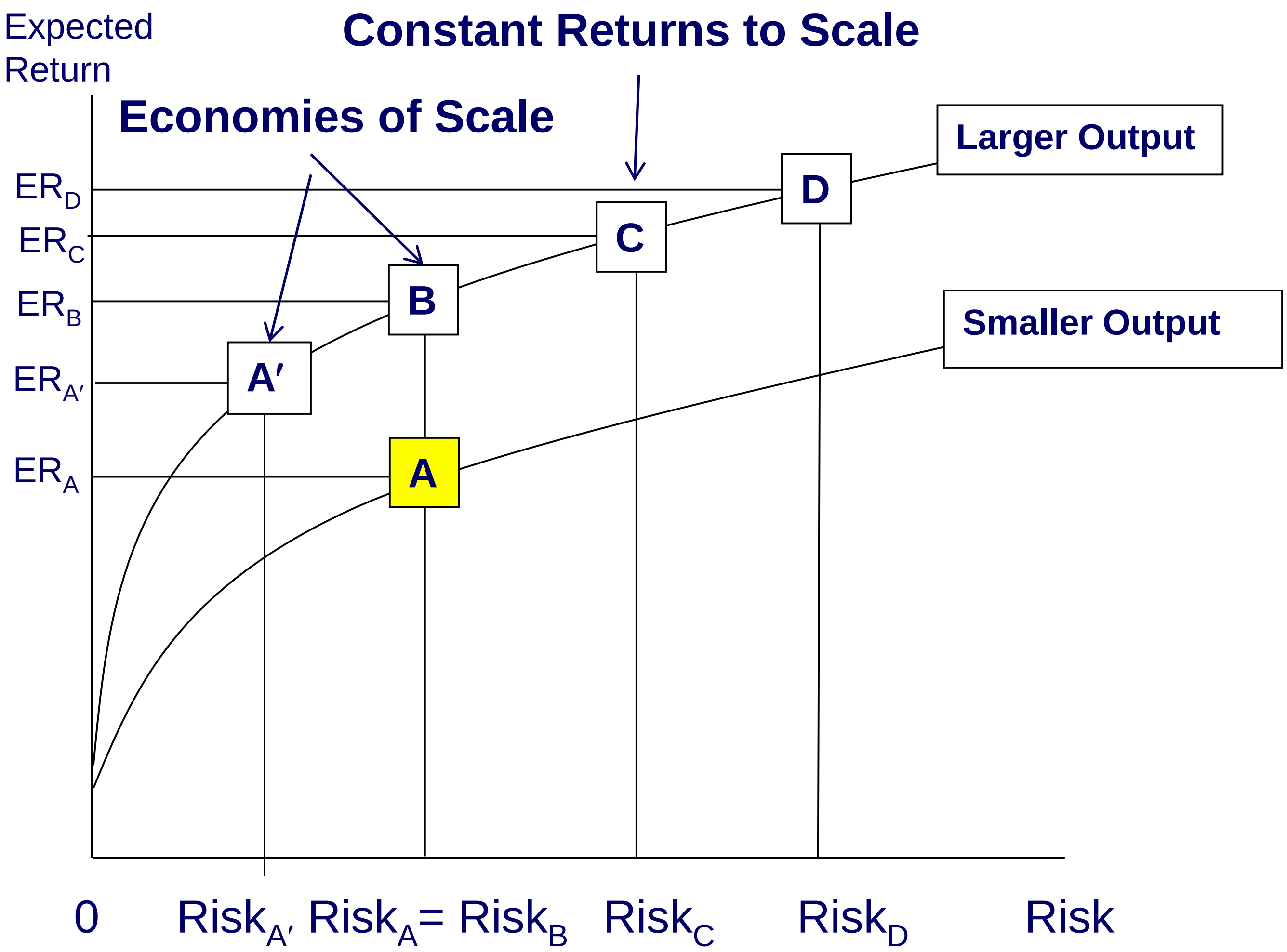

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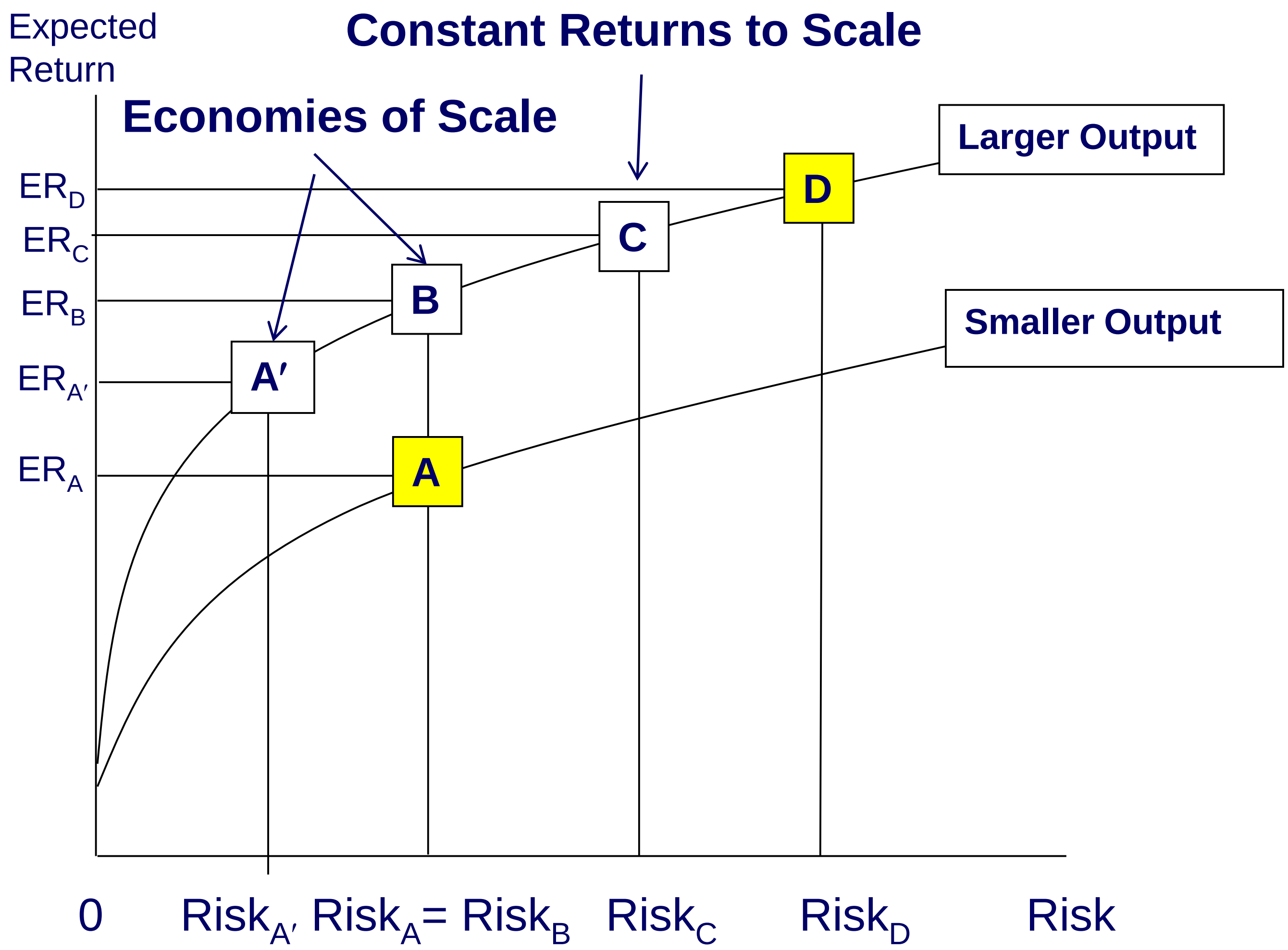

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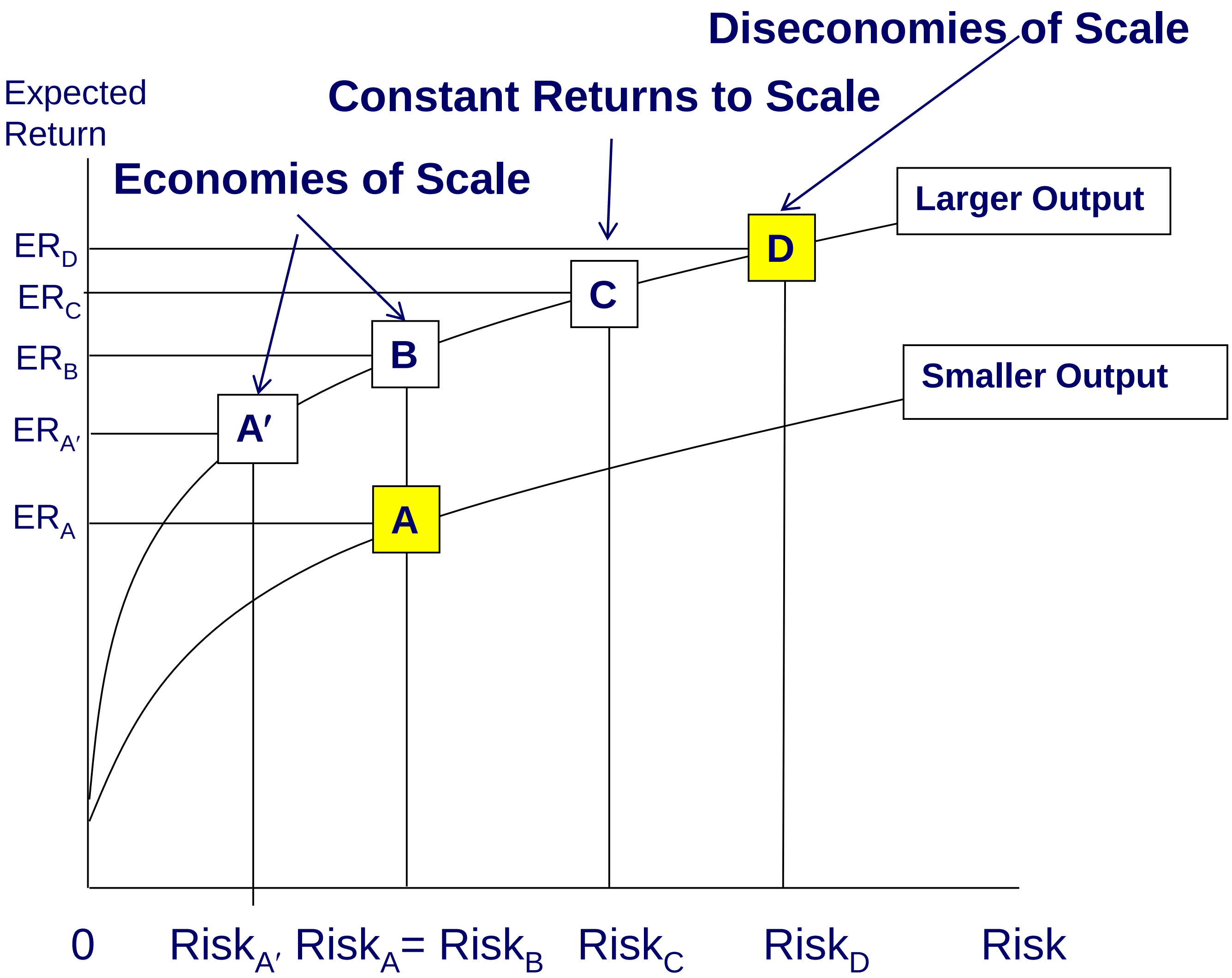

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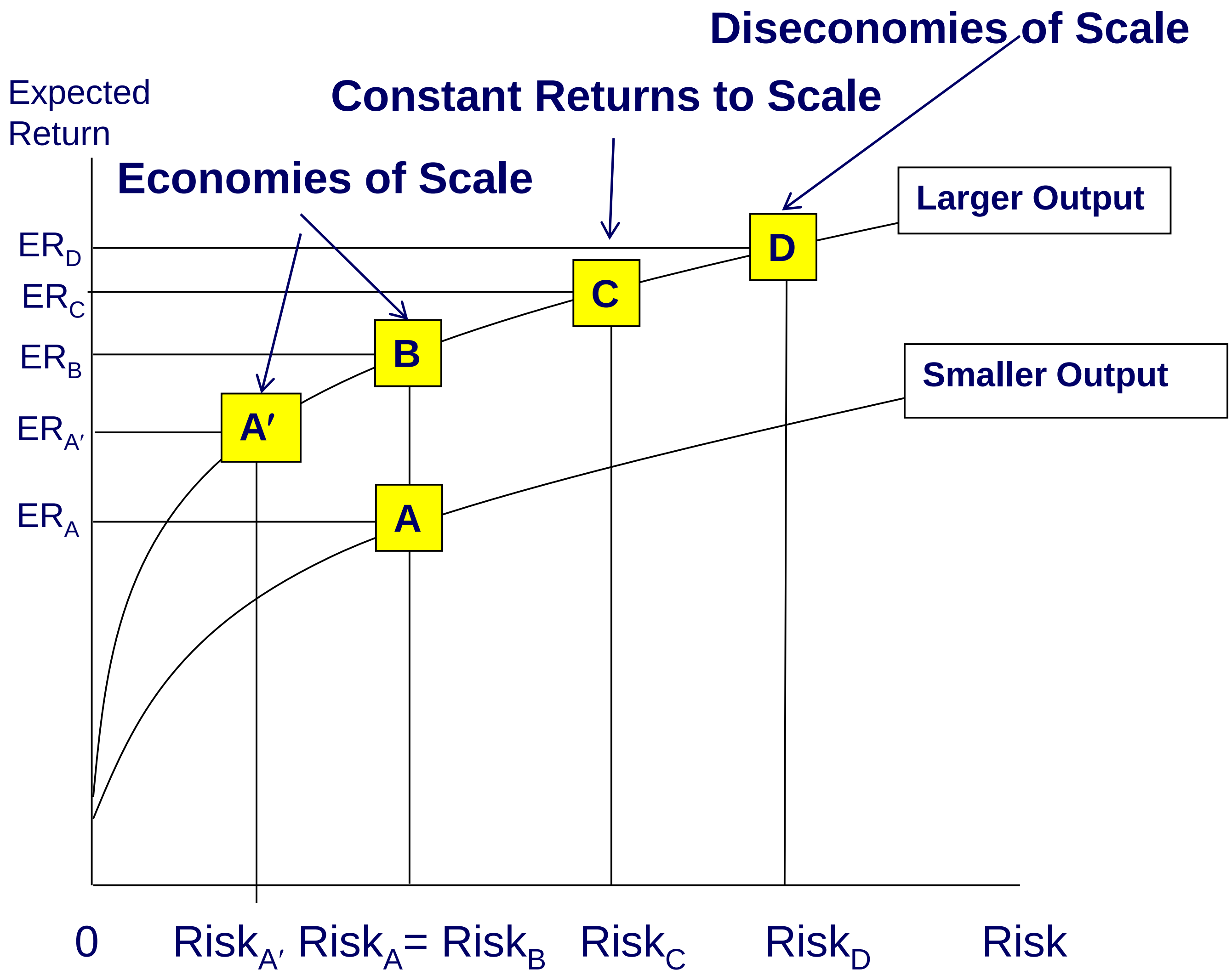

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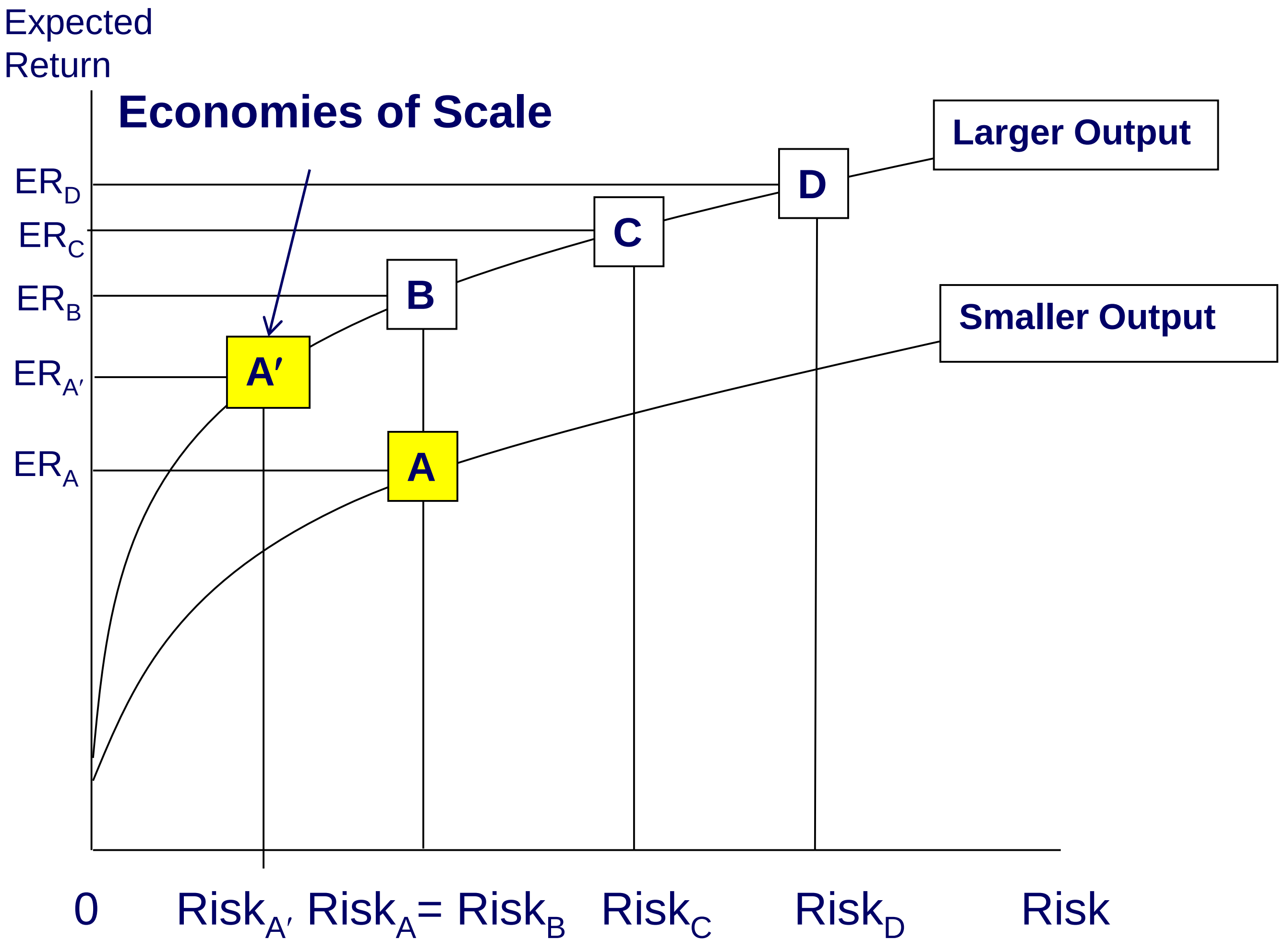

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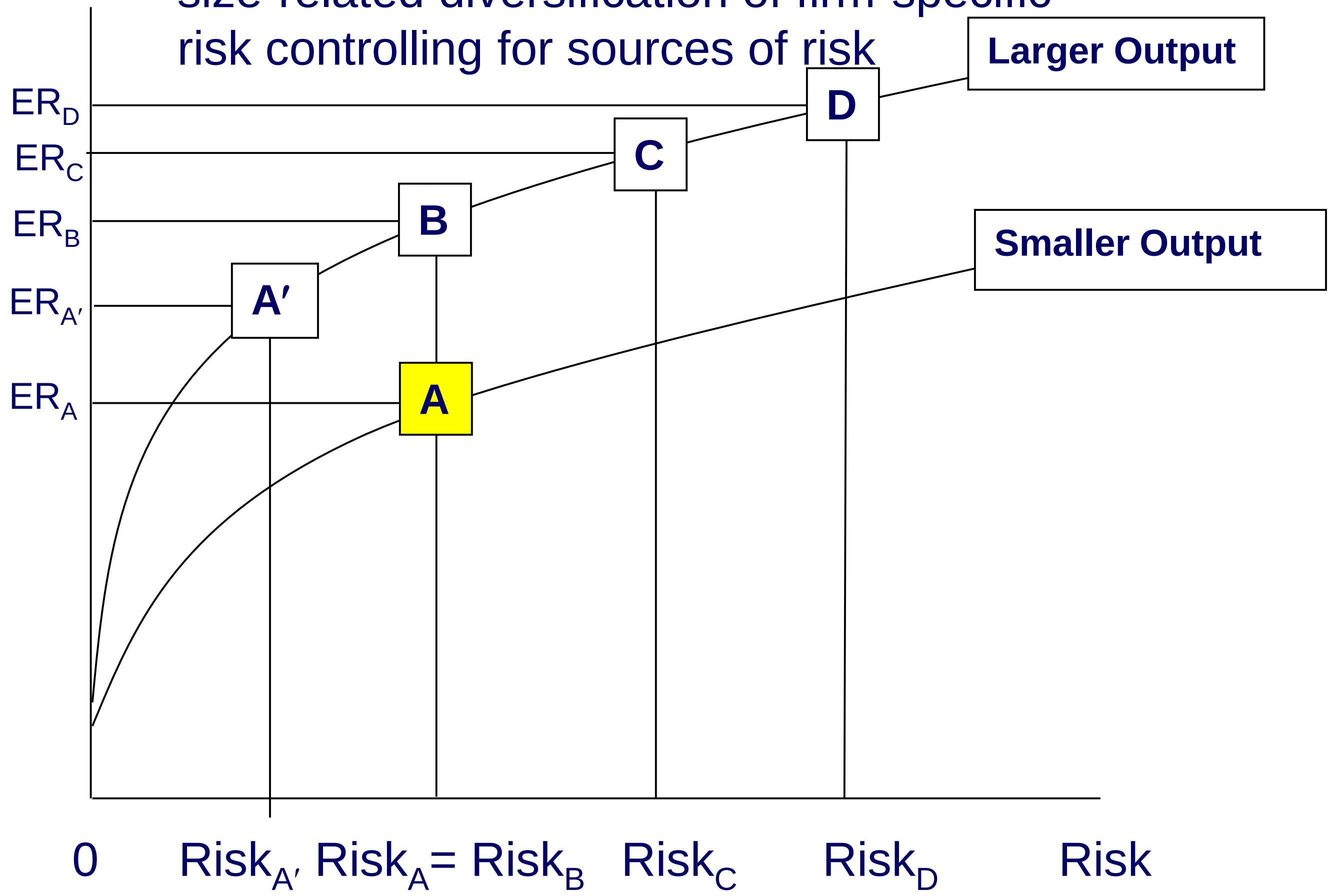

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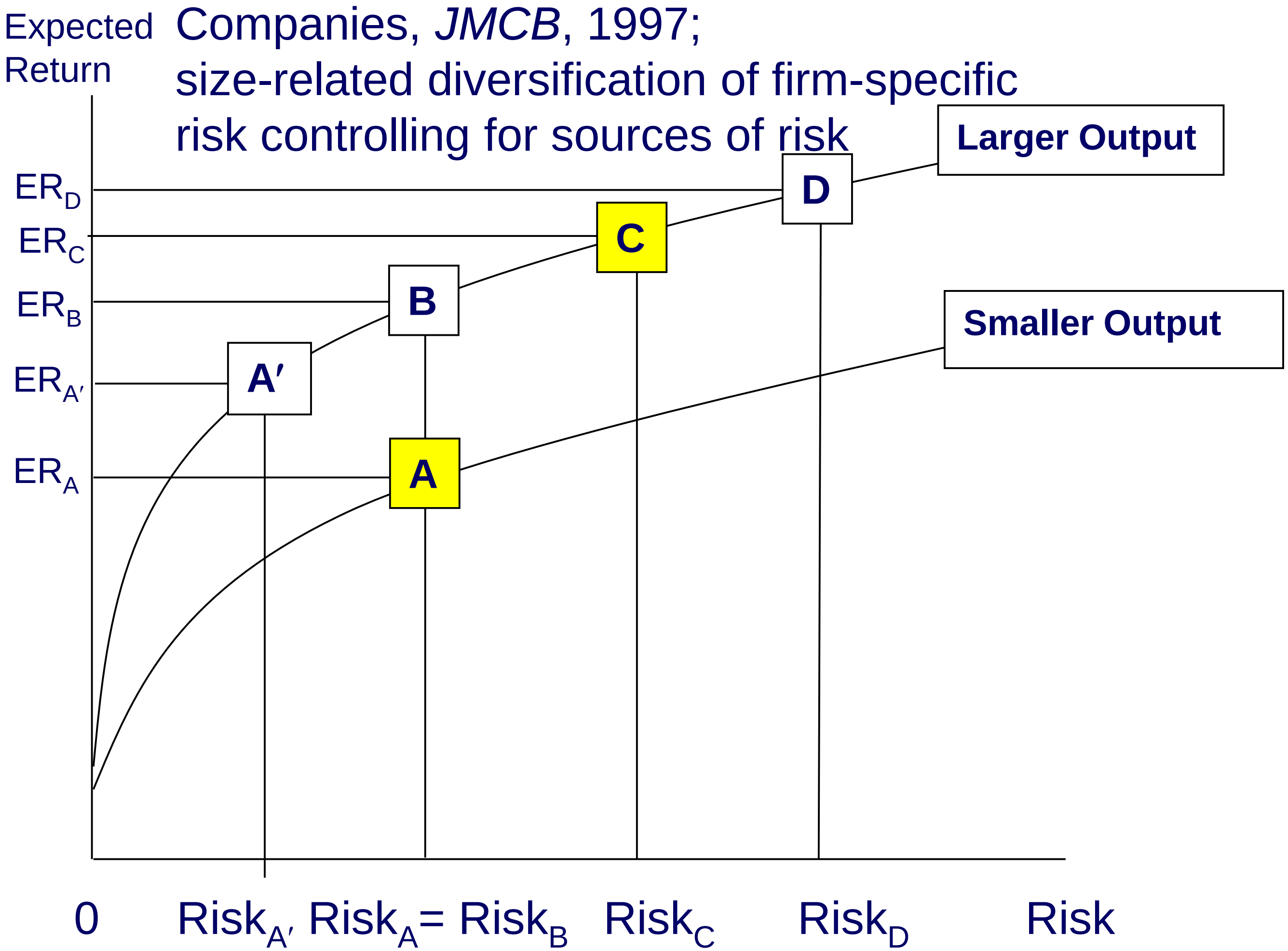

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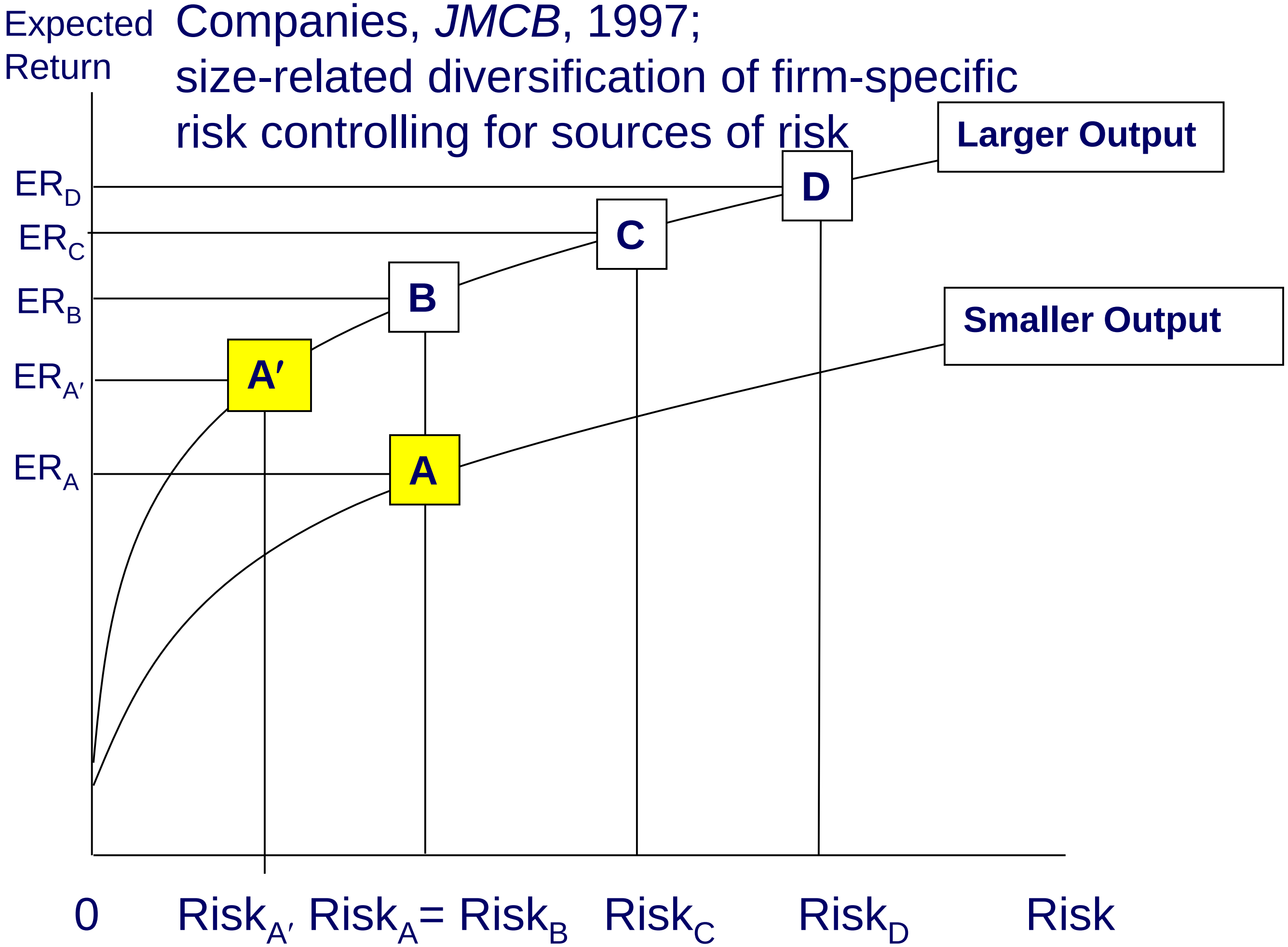

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What is the effect of increased risk-taking on cost?

- **Diversification Effect**
  – Scale-related diversification tends to reduce cost elasticity

but **. . .**

- **Risk-taking Effect**
  – Additional risk-taking tends to increase cost elasticity

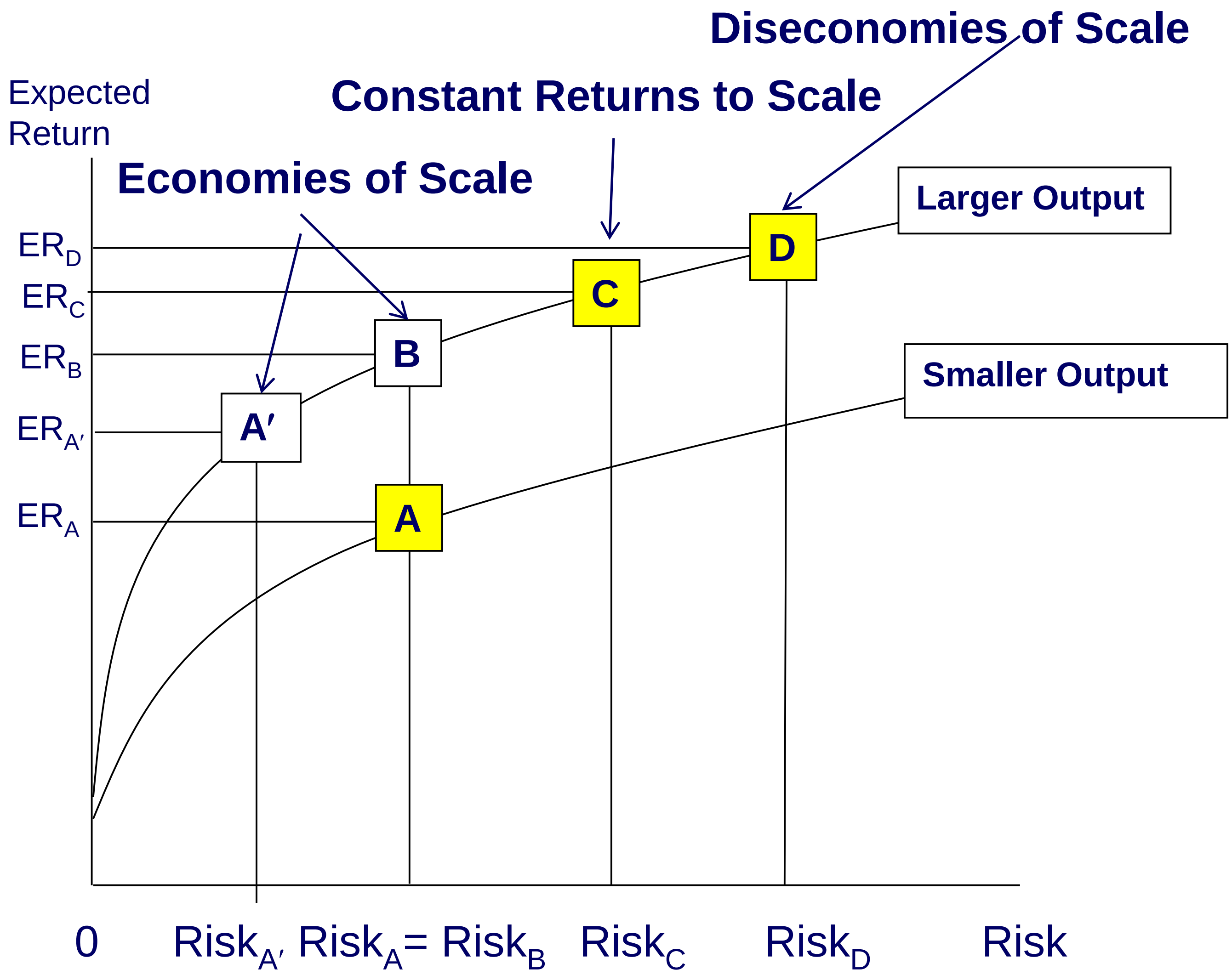
- Does the **risk-taking effect** mask cost economies due to the **diversification**?

Cost as a Function of Risk-Taking Incentives

- Standard minimum cost function
  - Captures technology without controlling for managerial risk preferences and endogenous risk-taking

Cost =f(outputs, input prices, equity, asset quality)

Cost as a Function of Risk-Return Choice



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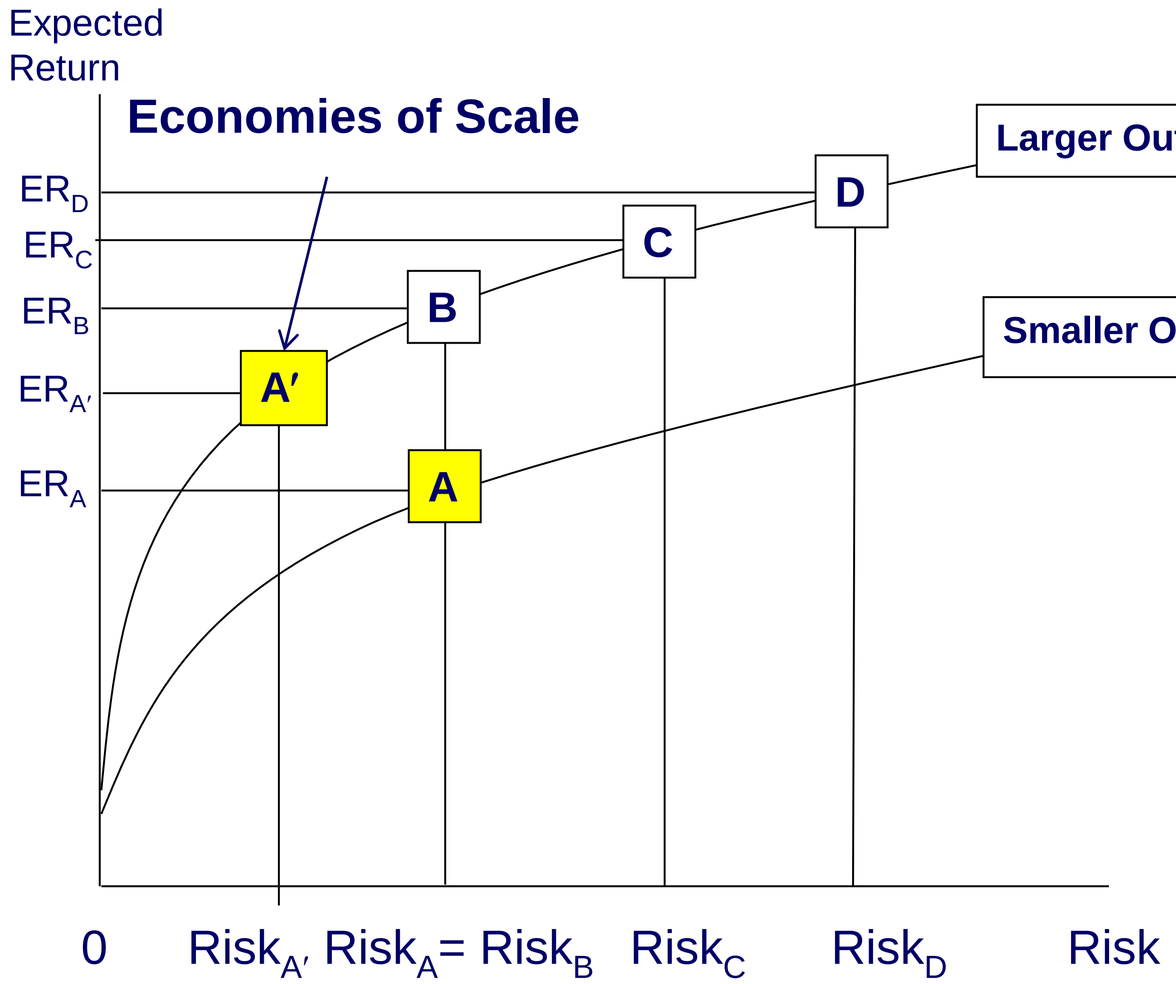

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Finding the Elusive Benefits of Size

- “Do Big Banks Have Lower Operating Costs?”
  - Anna Kovner, James Vickery, and Lily Zhou (Federal Reserve Bank of New York, 2014)
  - What are operating (noninterest) expenses?
    - Corporate overhead (accounting, advertising, auditing, insurance, utilities, etc.)
    - Legal, Consulting, and Advisory
    - Information technology and data processing
    - Compensation and Benefits
    - Expenses for Building and Other Fixed Assets

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- **decreases 4.151%** (controlling for asset allocation, revenue sources, funding structure, business concentration, and organizational complexity

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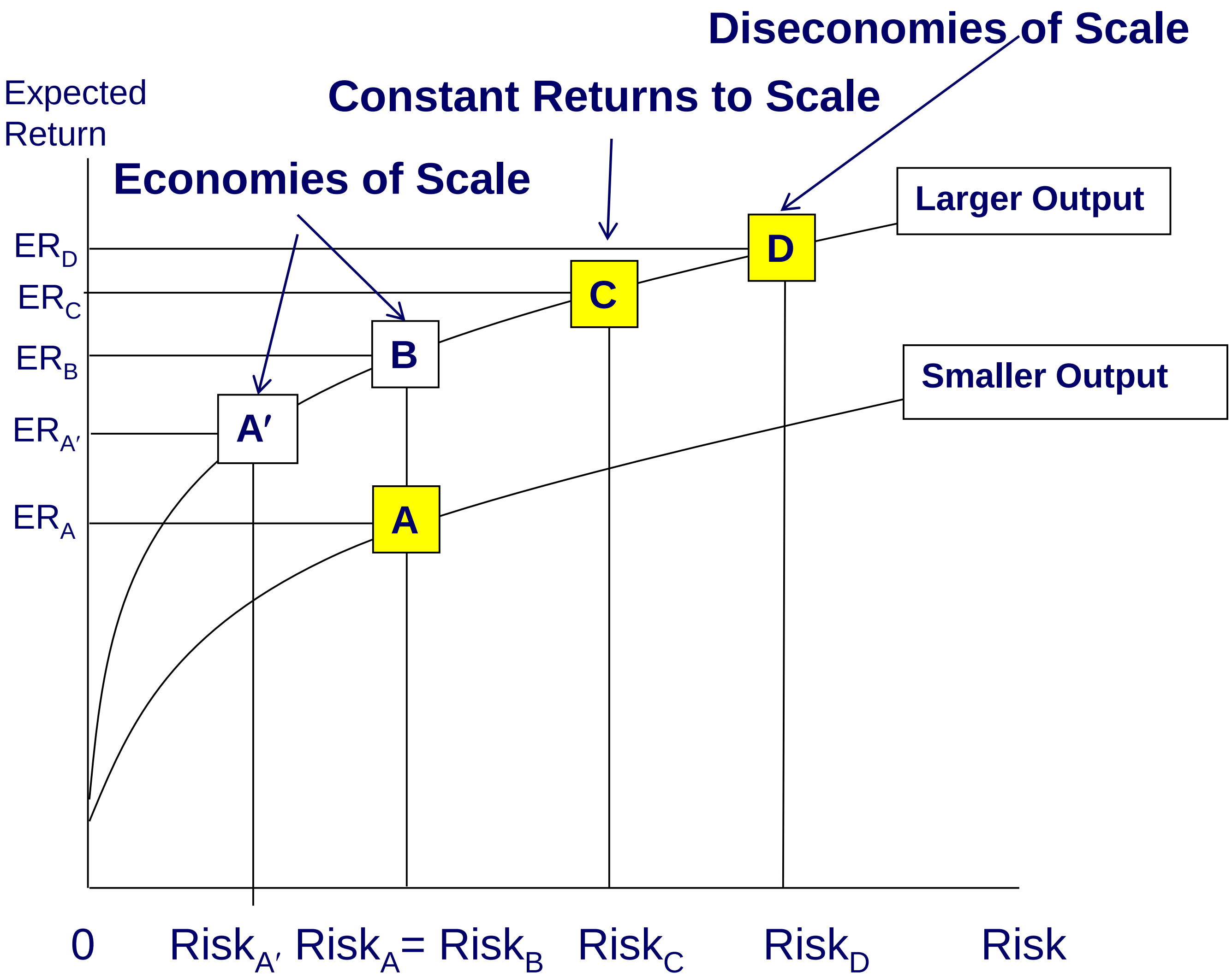

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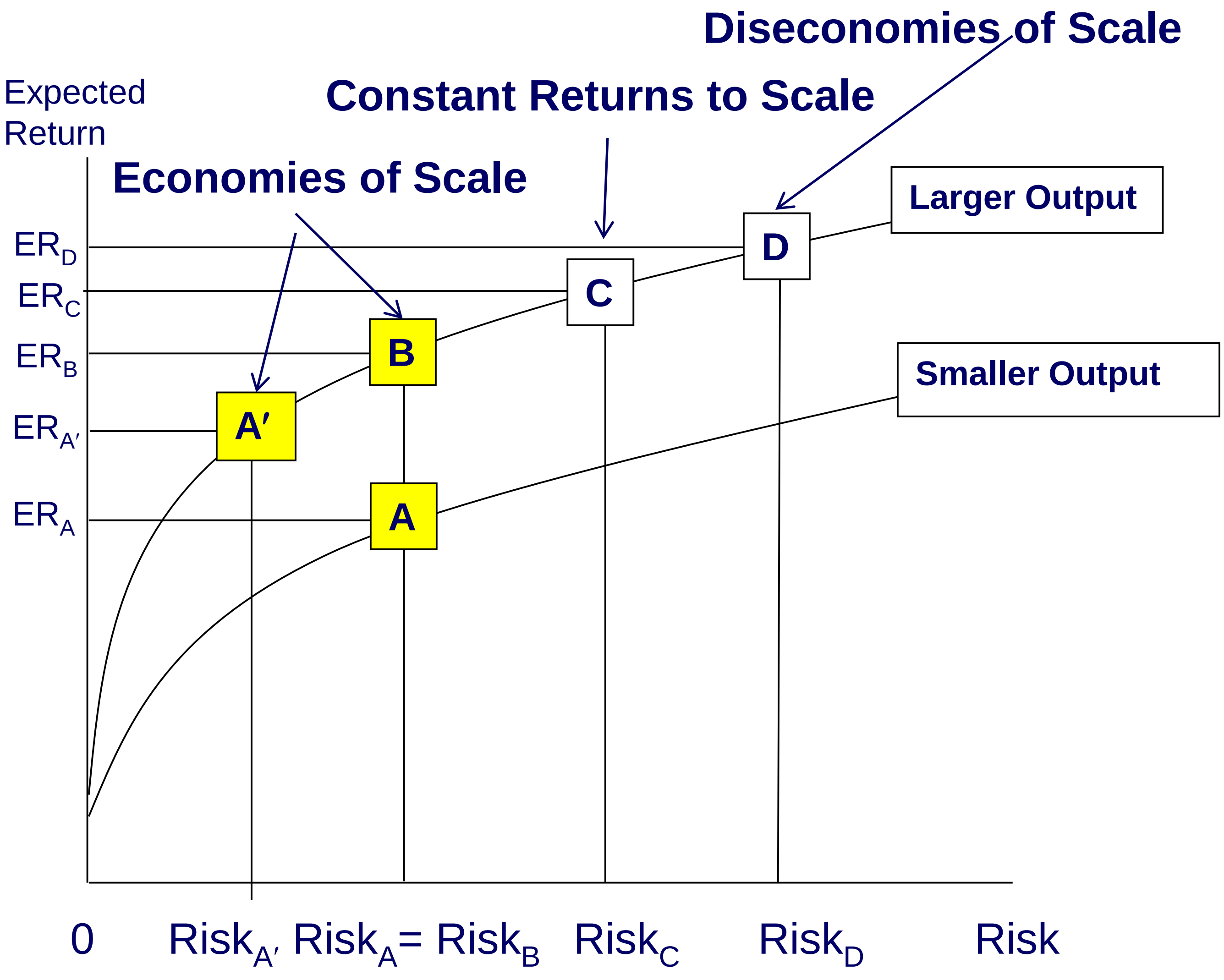

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  - **<u>decreases 5.138%</u>** for 95-99 percentile of banks
  - **<u>decreases 8.018%</u>** **for largest 1% of banks**

Finding the Elusive Benefits of Size

- **Risk-Return Driven Cost Function**
  - Joseph Hughes and Loretta Mester (*JFI* 2013)
  - Mark Dijkstra (2013)
  - Estimation of **total cost elasticity** controlling for risk-expected return trade-off

	Cost Elasticity	**2003**	**2007**	**2010**
Dijkstra	**European Banks**			
	Standard Cost F'n	**0.983**	**0.997**	1.000
	Risk-Return Driven			
Hughes & Mester	**U. S. Banks**			
	Standard Cost F'n	**1.070**	1.026	1.016
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	Standard Cost F'n	**0.983**	**0.997**	1.000
	Risk-Return Driven	**0.856**	**0.830**	**0.820**
Hughes & Mester	**U. S. Banks**			
	Standard Cost F'n	**1.070**	1.026	1.016
	Risk-Return Driven	**0.845**	**0.878**	**0.798**

Finding the Elusive Benefits of Size

- **Risk-Return Driven Cost Function**
  - – Joseph Hughes and Loretta Mester (*JFI* 2013)
  - – Cost Elasticity by Size Groups

Consolidated Assets	2003	2007	2010
< $0.8 billion	0.855	**0.891**	**0.815**
$0.8 - $2 billion	**0.833**	**0.882**	**0.814**
$2 - $10 billion	**0.834**	**0.870**	**0.754**
$10 - $50 billion	**0.731**	**0.846**	**0.763**
$50 - $100 billion	**0.711**	**0.812**	**0.701**
> $100 billion	**0.737**	**0.749**	**0.700**

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* Consistent with approximately $14 - $19 billion in cost synergies at $2.4 trillion in consolidated assets.

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Are the Large-Bank Scale Economies due to Too-Big-To-Fail Subsidies?

- Technology or Too Big To Fail?
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- Technology – not too big to fail

Restrictions on the Size of the Largest Financial Institutions and their Global Competitiveness

- Wheelock and Wilson (2010)
  - Cost comparison of 4 largest institutions in 2009 ($1.244 – 2.225 trillion) with a number of $1 trillion institutions equaling total assets of the four largest
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- Hughes and Mester (2013)
  - Cost comparison of 17 largest institutions (> $100 billion) **scaled back to half their size** with same product mix as larger institution; increase number of banks to equal total assets of the 17 largest
  - **23% higher total cost for the smaller banks**

Conclusions

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- The largest financial institutions experience the largest scale economies.
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- But there may be social costs of large banks: financial stability considerations.

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- But size restrictions may not be effective since they work against market forces and may create incentives for firms to avoid these restrictions.
- May push risk-taking outside the regulated financial sector, without necessarily reducing systemic risk.