

We grow inventions into innovation.



Developing a Culture of [^]Appropriate Risk Taking [^]and Management

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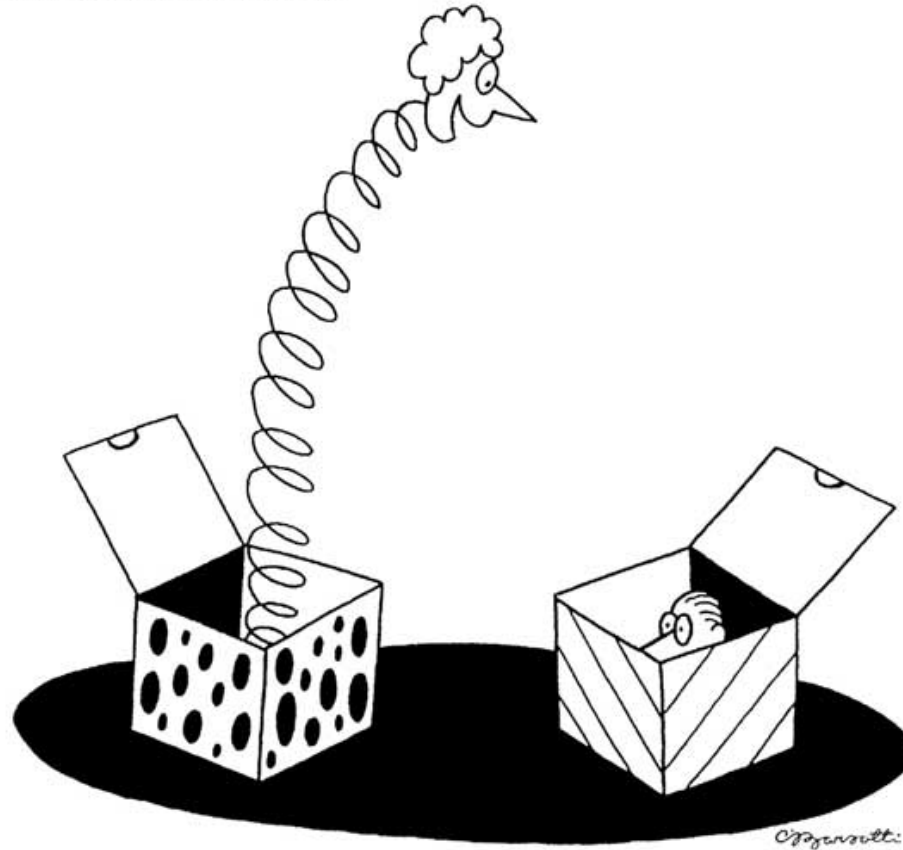
A ***decision*** means the ***investment*** of a scarce resource in order to achieve a desired ***outcome***.

The ***risk*** of a decision is a function of (a) the investment amount and (b) the ***uncertainty*** of the outcome.

A *decision* means the *investment* of a scarce resource in order to achieve a desired *outcome*.

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"Come on, Louis. No risk, no reward."

Risk and Reward May Be Unevenly Distributed



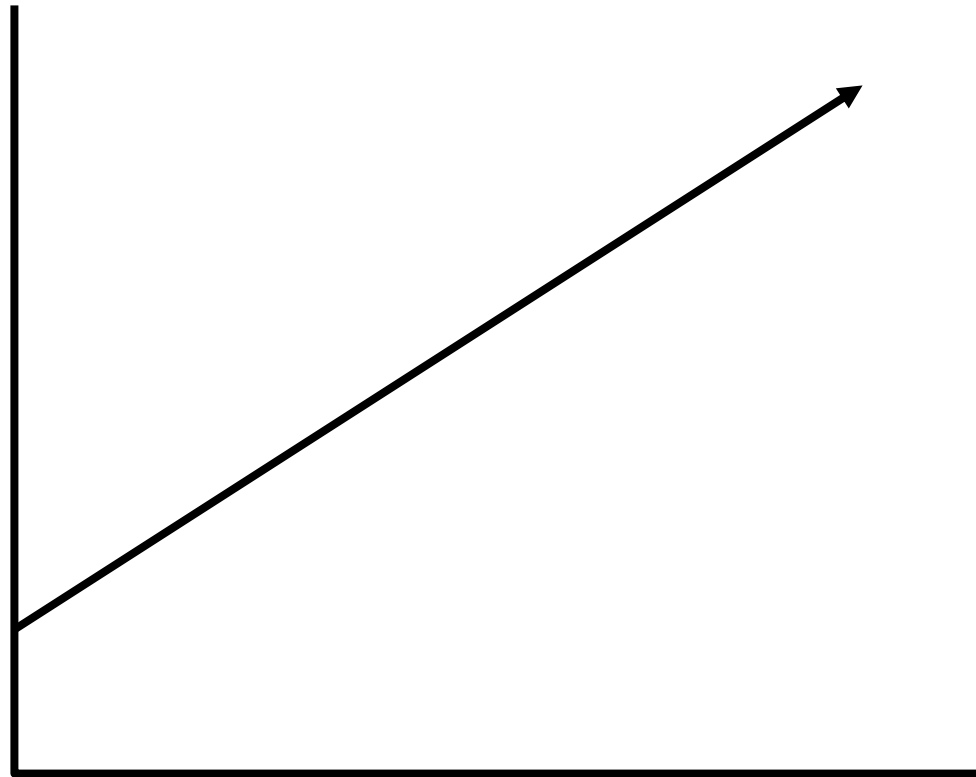
Henry Hudson

- 1611: Henry Hudson presumed dead after his fourth voyage of discovery in search of the Northwest Passage
- 1670: By royal charter, the exclusive right to trade in all of the lands of Hudson Bay watershed is granted to the Hudson Bay Company

There's More Than One Kind of Uncertainty

Total Uncertainty = Analyzable
Uncertainty + *Residual
Uncertainty*

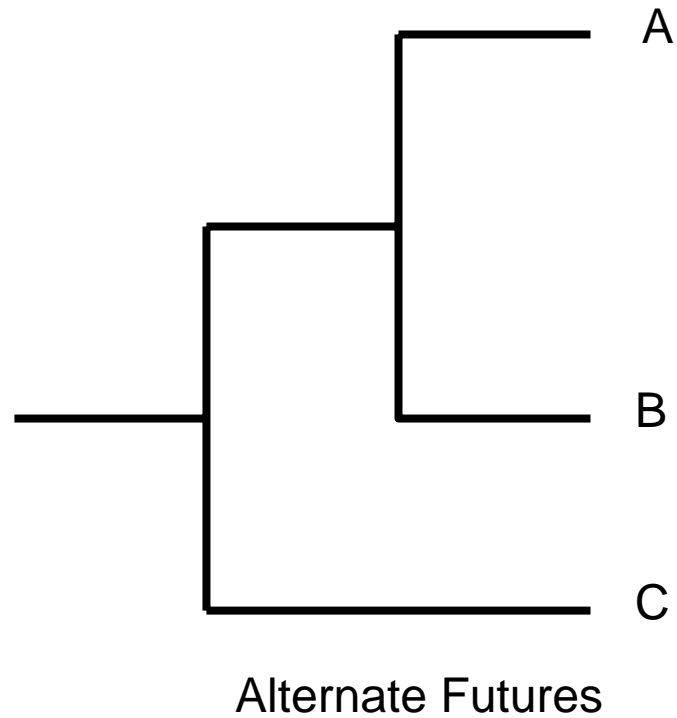
Level 1 Residual Uncertainty



The Future is Clear Enough

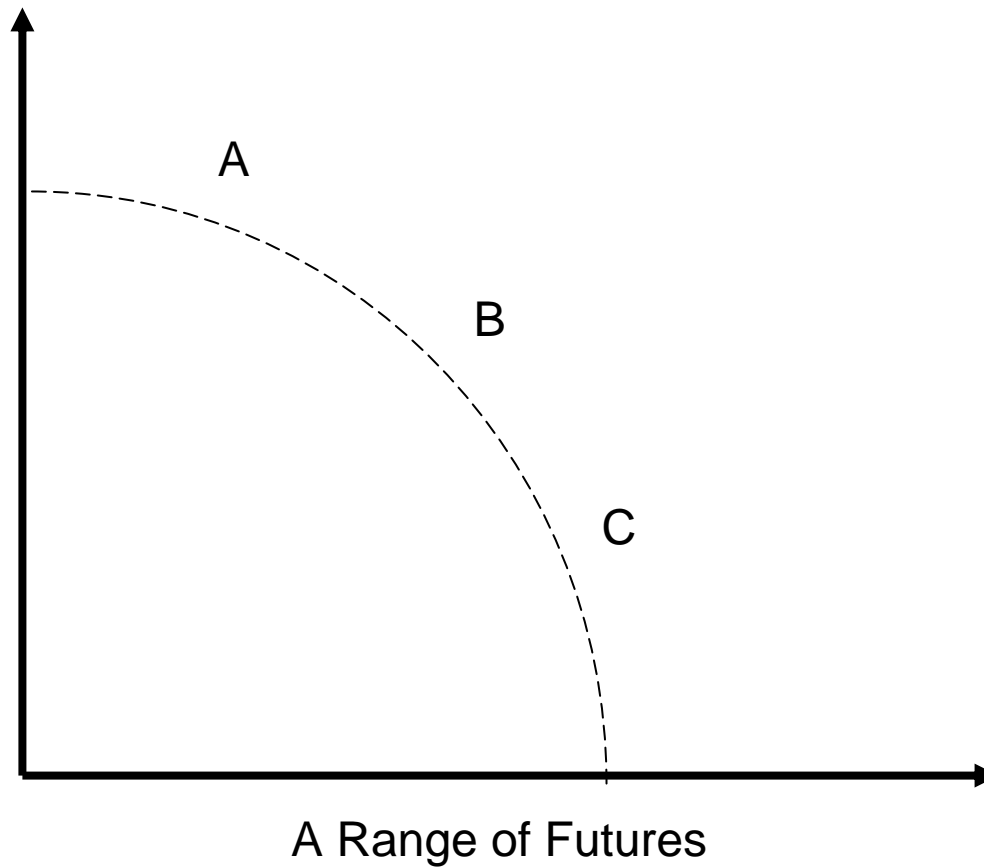
Source: *20/20 Foresight*, Hugh Courtney

Level 2 Residual Uncertainty



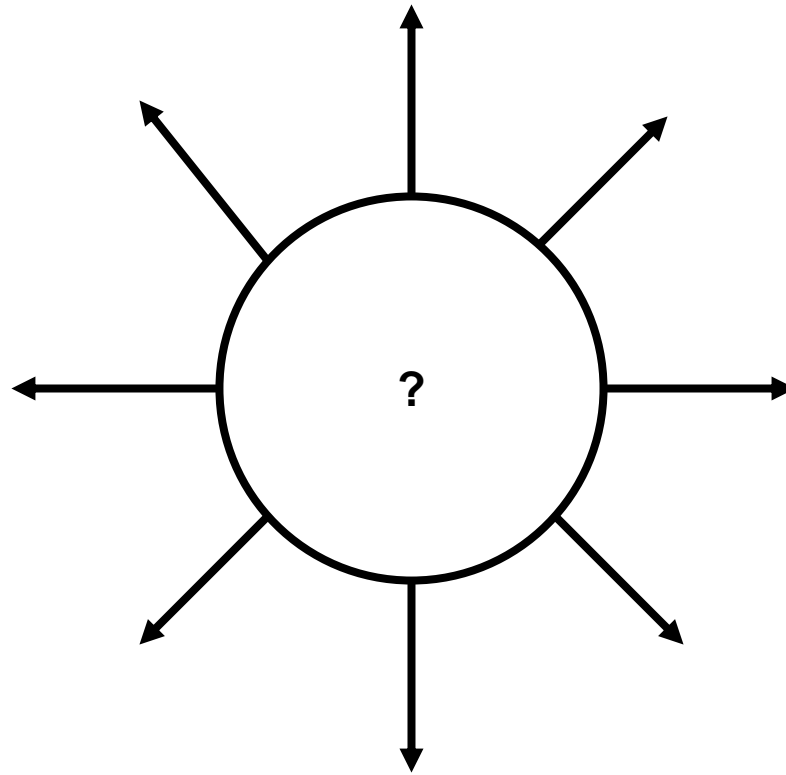
Source: *20/20 Foresight*, Hugh Courtney

Level 3 Residual Uncertainty



Source: *20/20 Foresight*, Hugh Courtney

Level 4 Residual Uncertainty

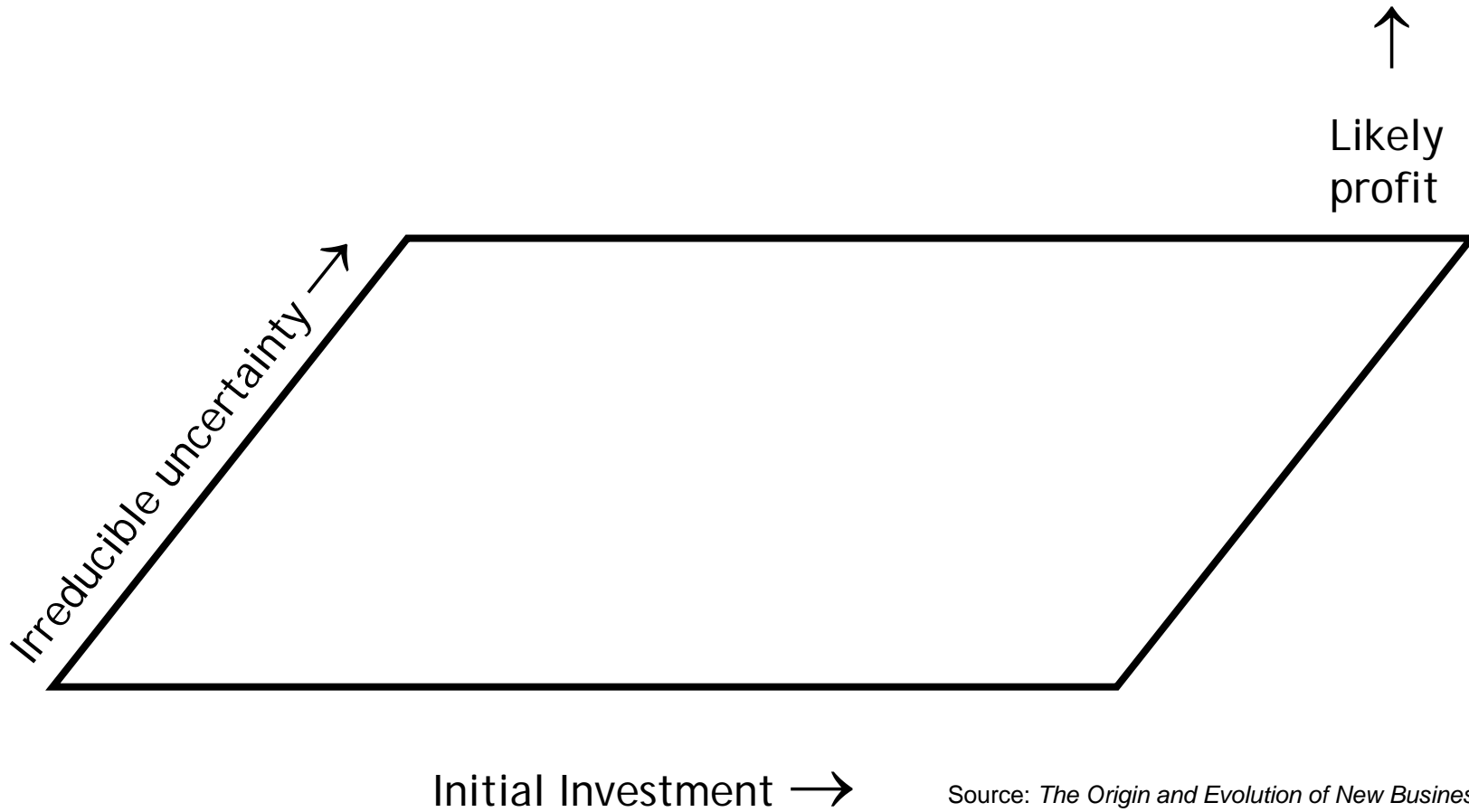


True Ambiguity

Source: *20/20 Foresight*, Hugh Courtney

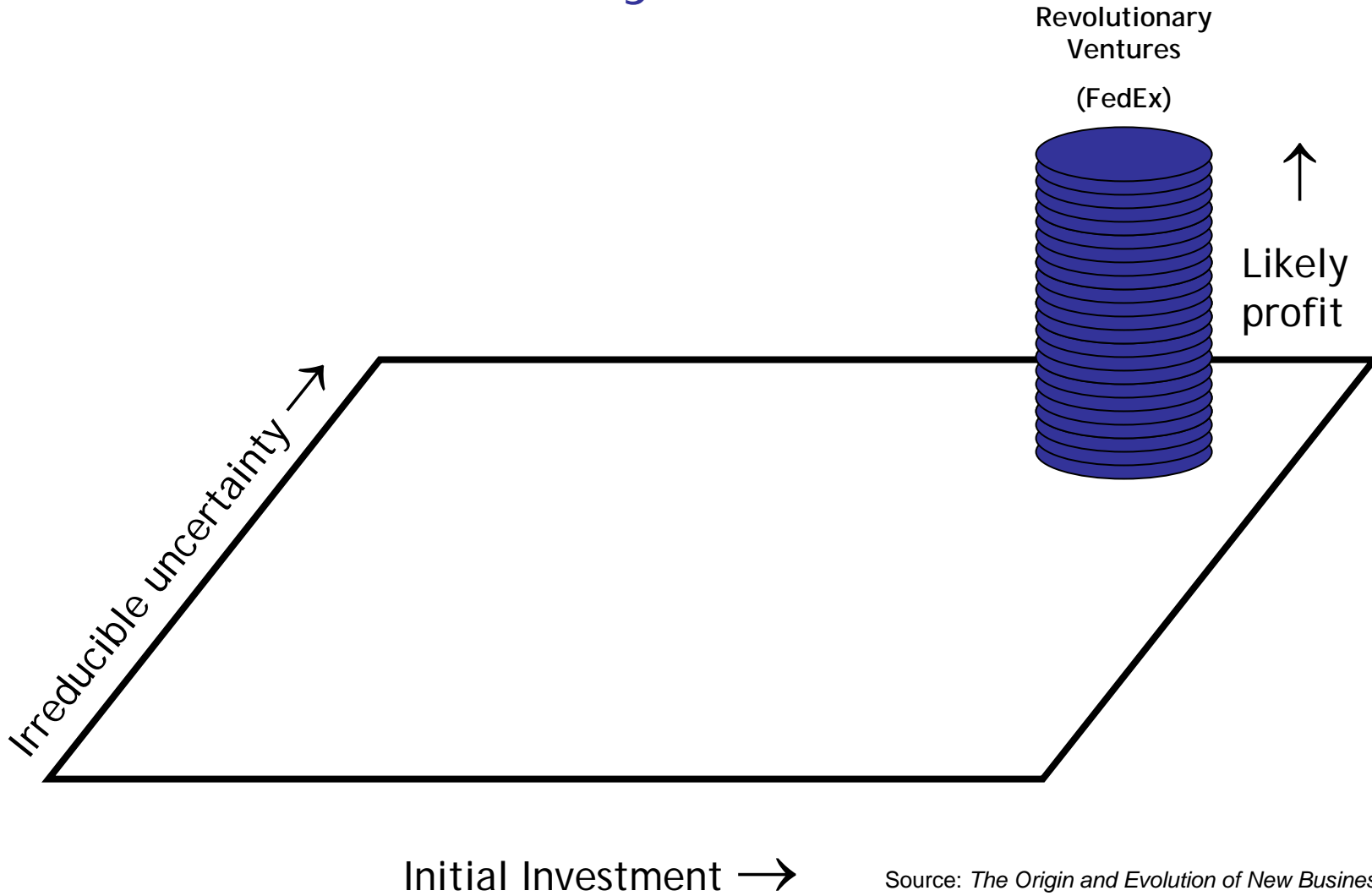
- Neither risk nor uncertainty are all-or-nothing affairs—there are gradations of both
- The level of residual uncertainty is firm-specific
- Uncertainty and risk are dynamic

The Landscape of Startup Risk



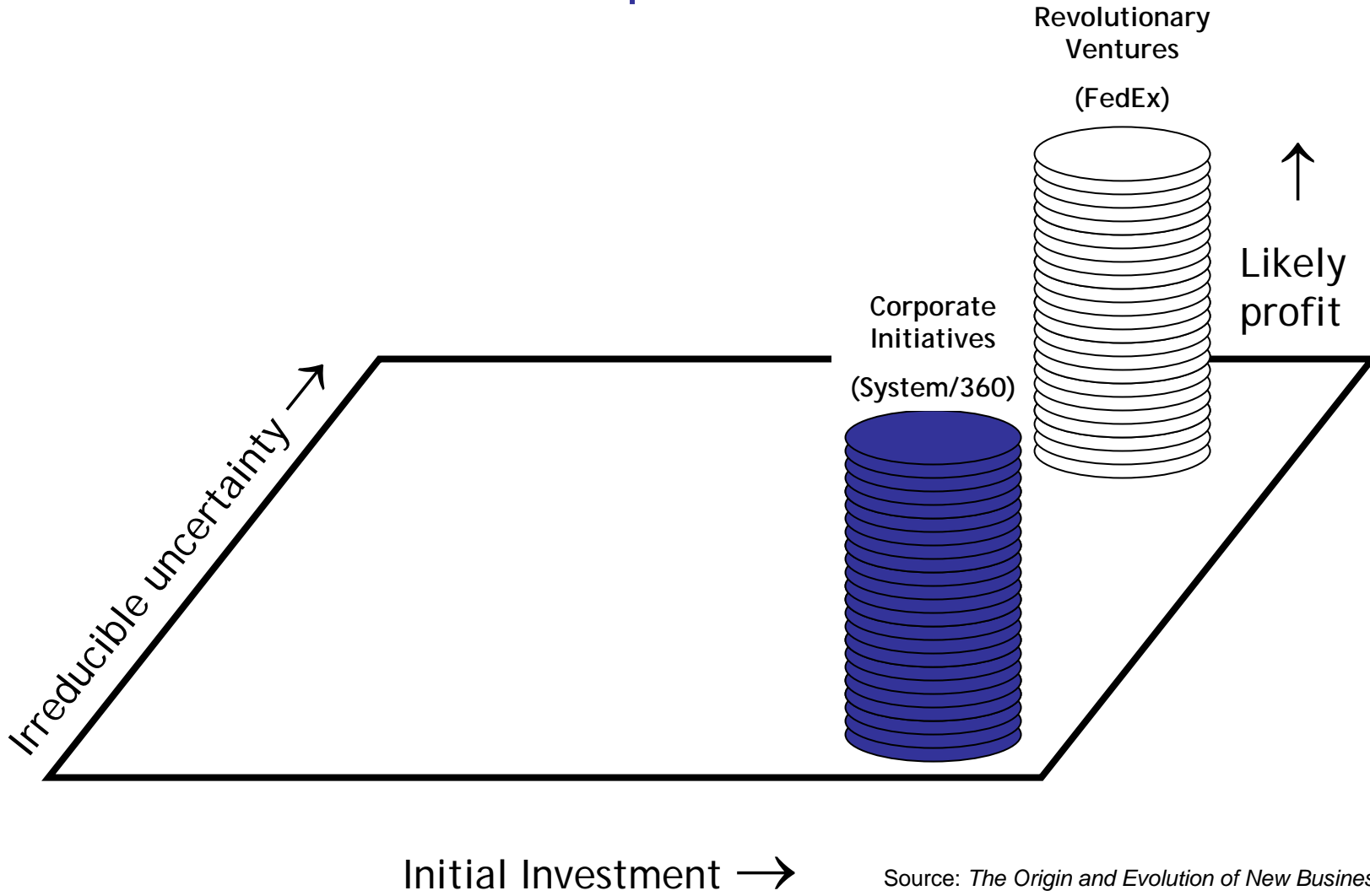
Source: *The Origin and Evolution of New Businesses*

Revolutionary Ventures Are Rare



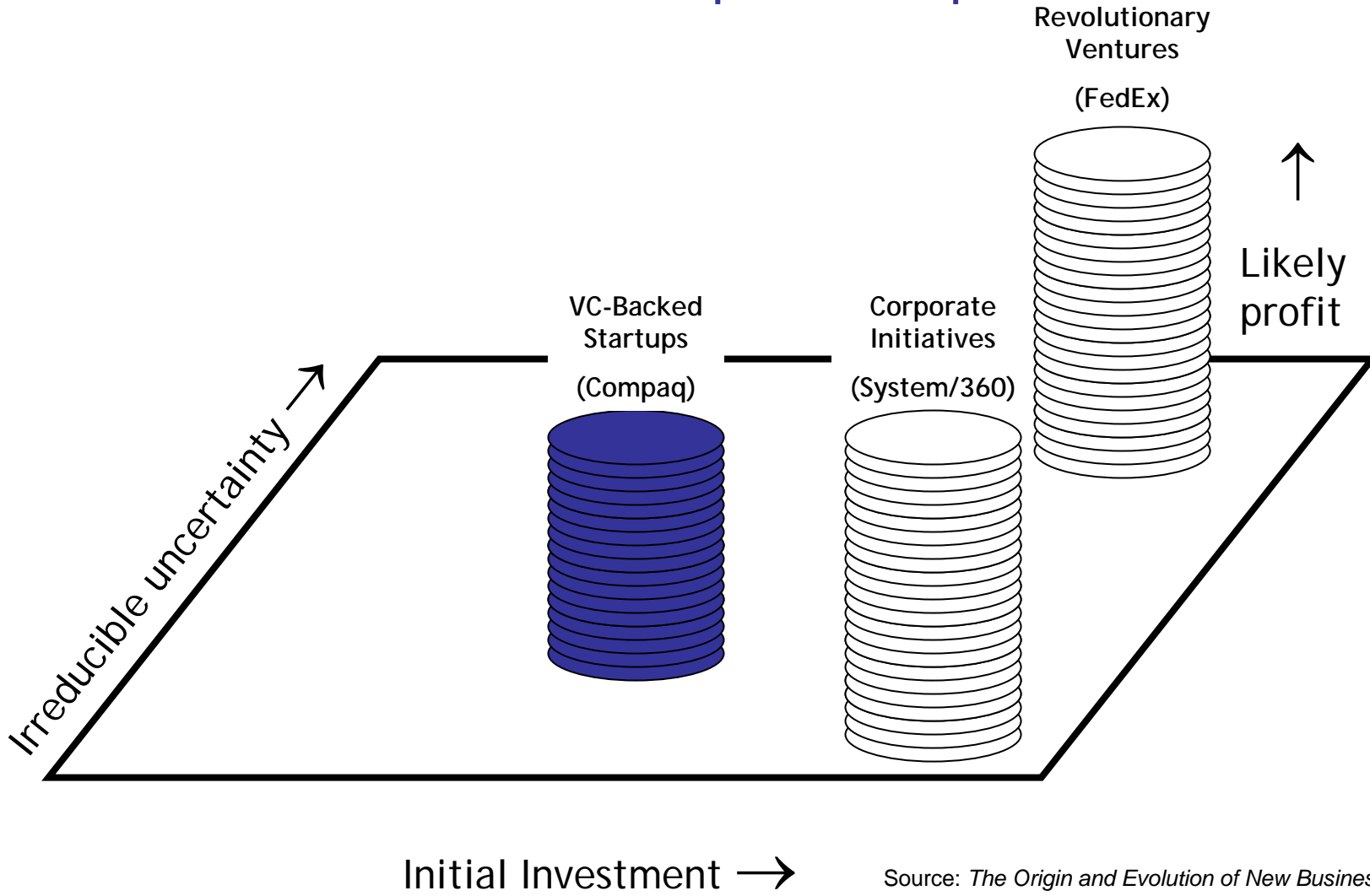
Source: *The Origin and Evolution of New Businesses*

Access to Capital—with a Catch



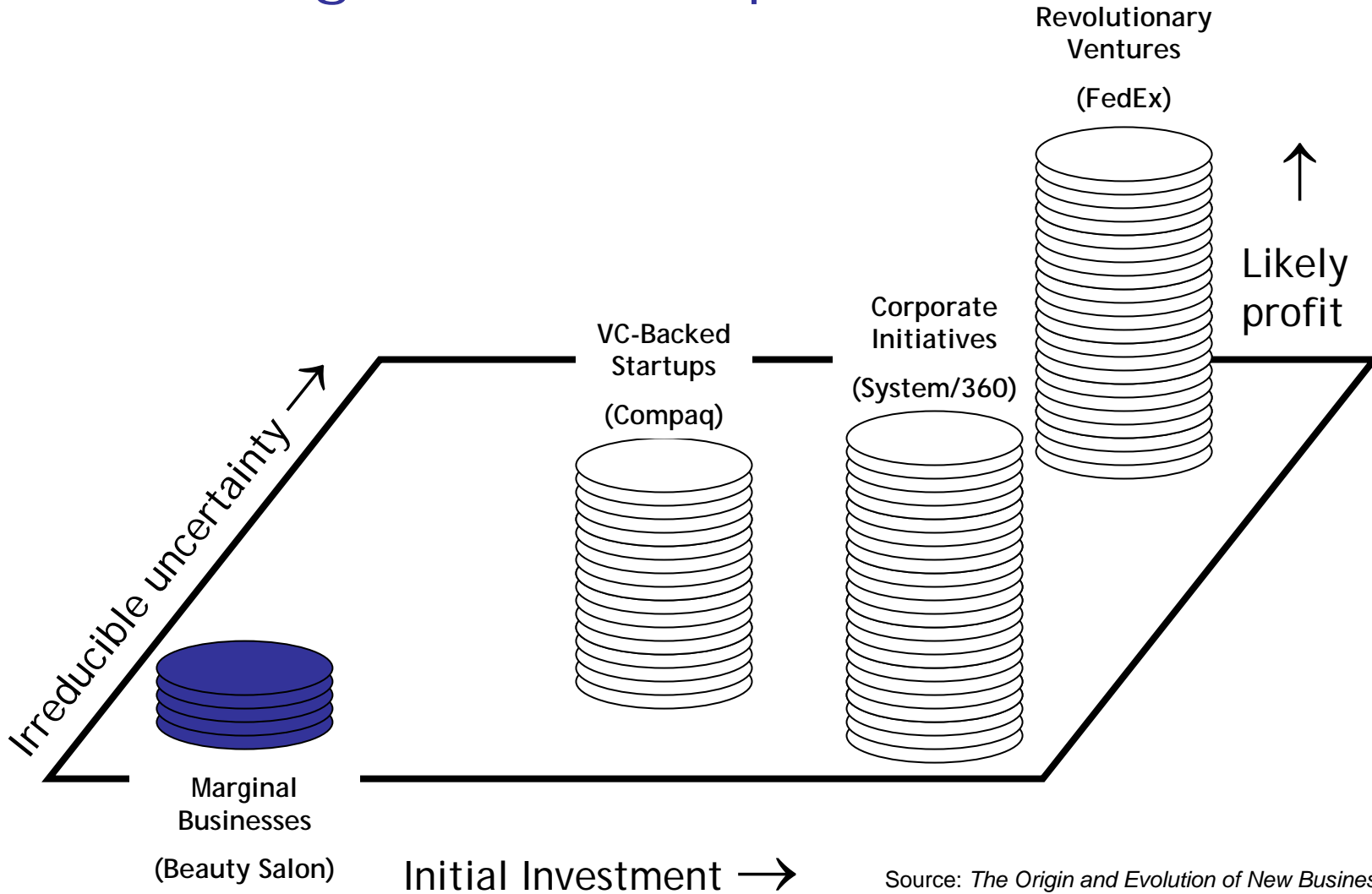
Source: *The Origin and Evolution of New Businesses*

VC-Backed Startups: A Special Case

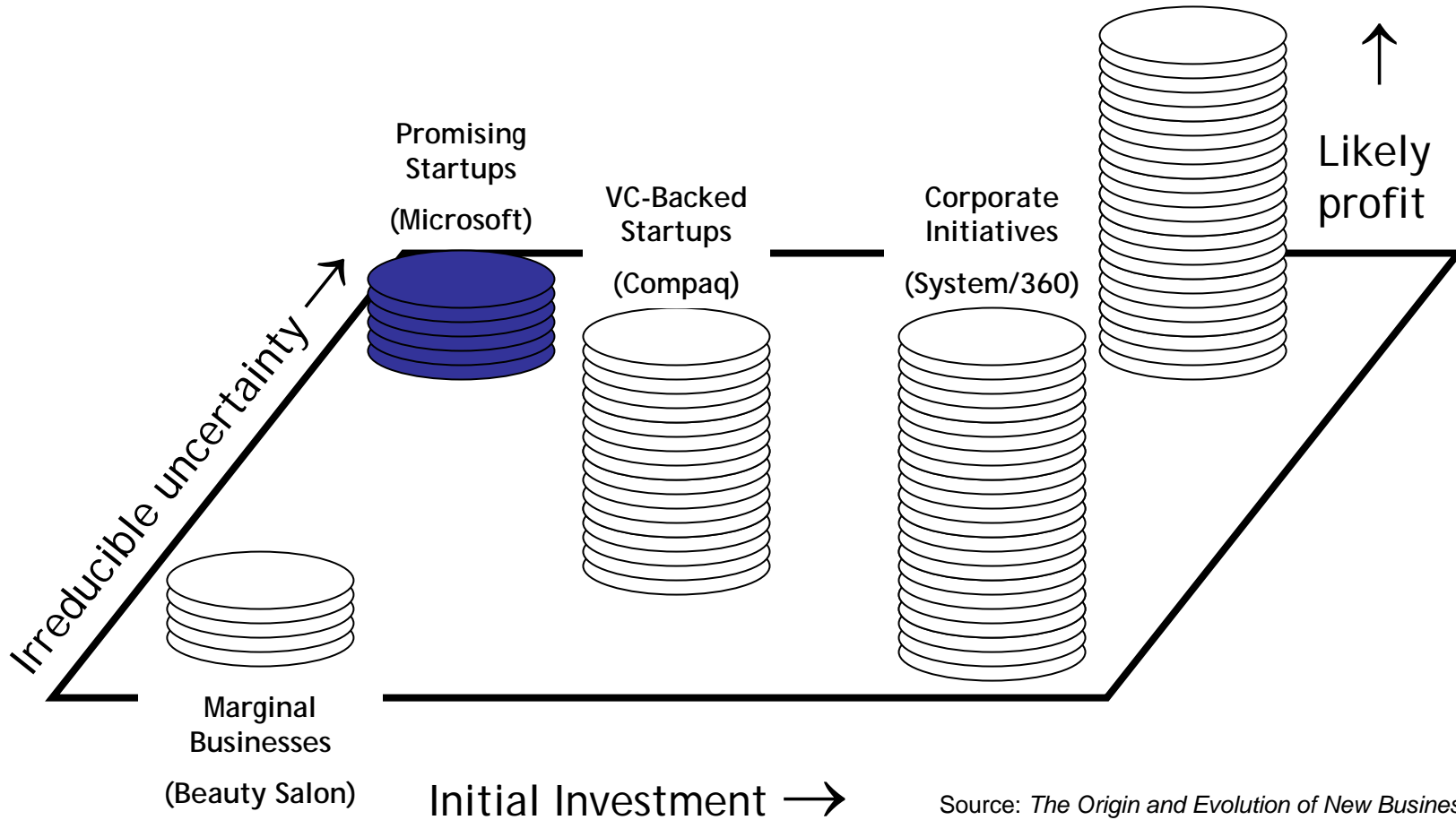


Source: *The Origin and Evolution of New Businesses*

“Marginal” Startups are the Norm

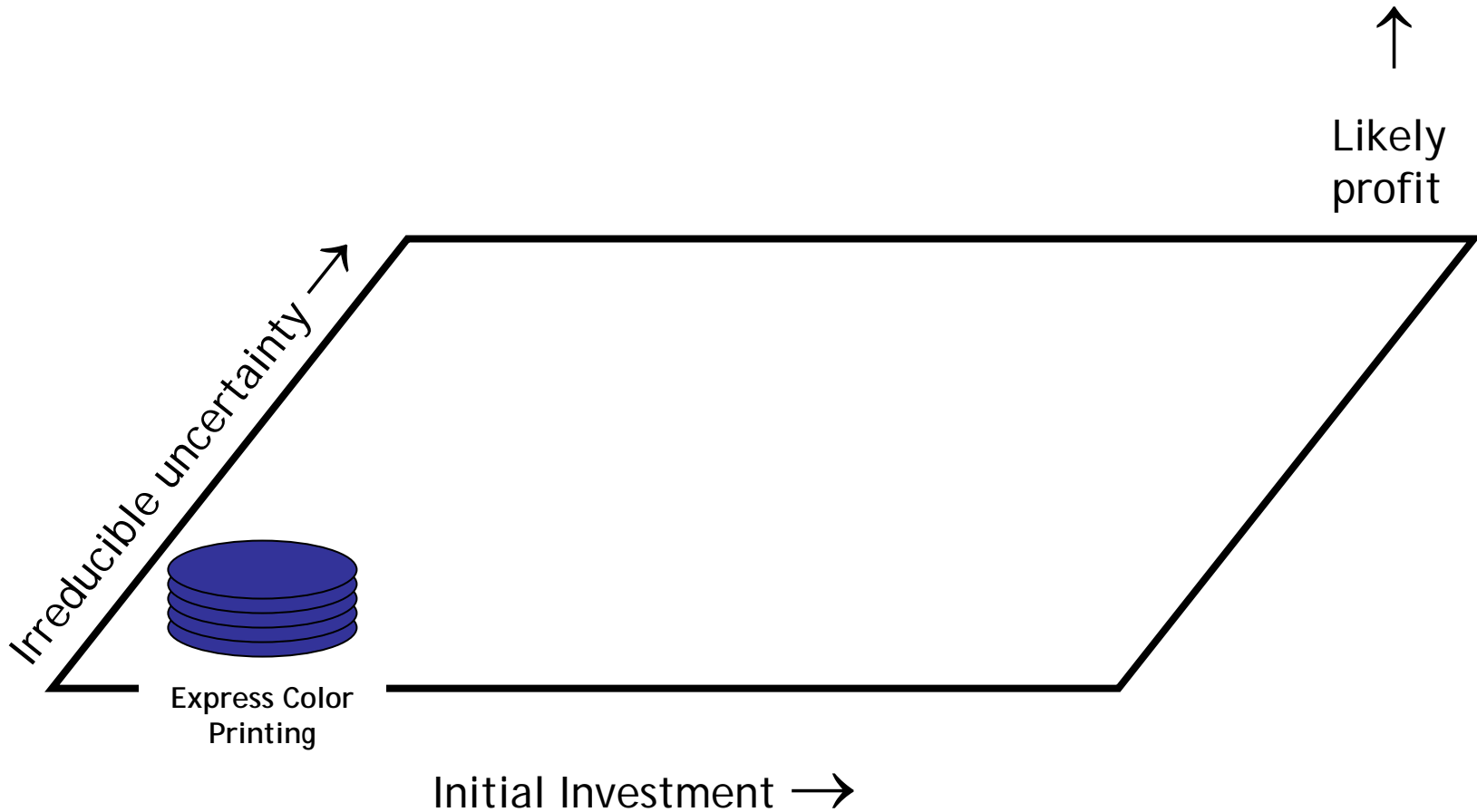


Promising Startups Have at Least a Small Chance of a Big Upside

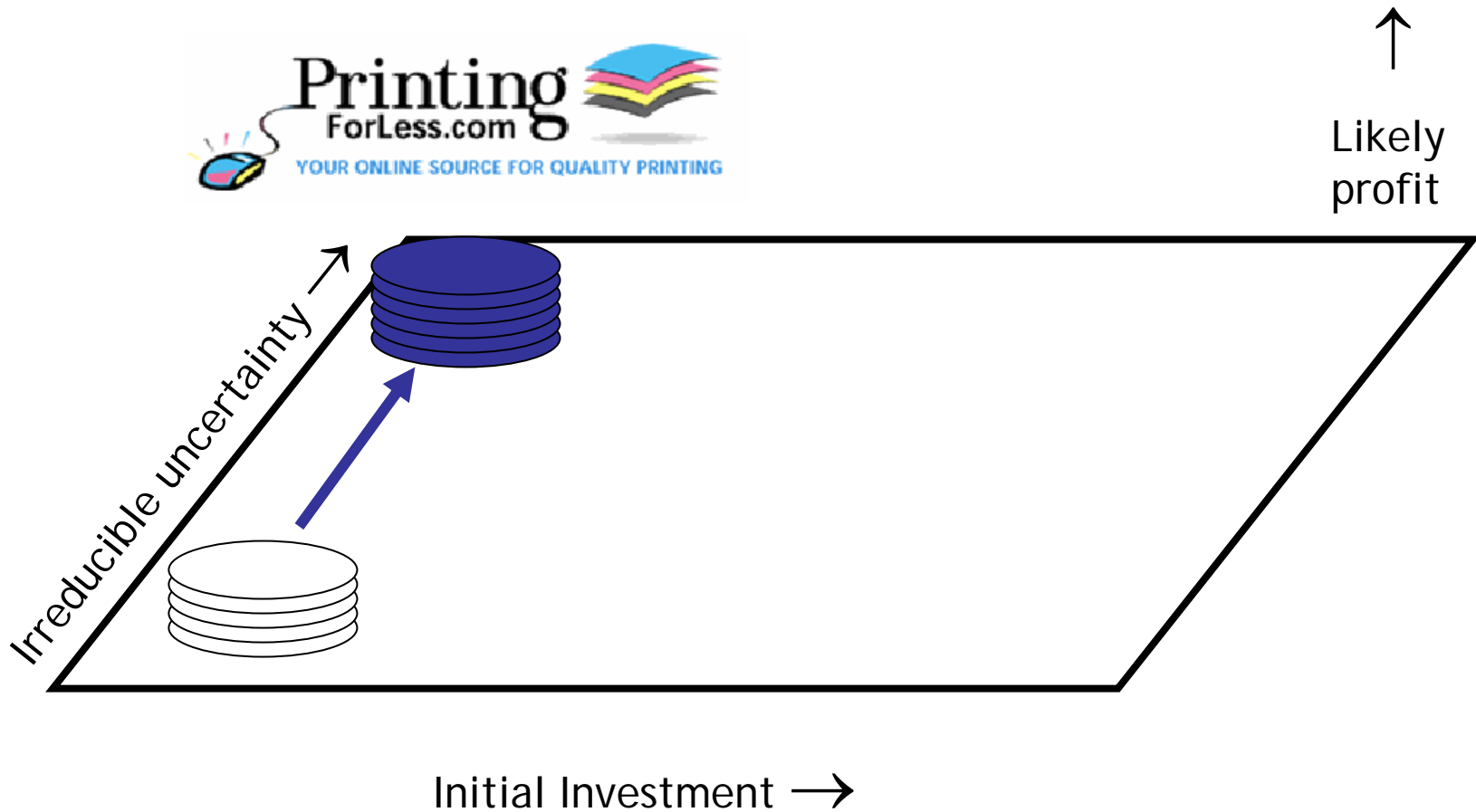


Source: *The Origin and Evolution of New Businesses*

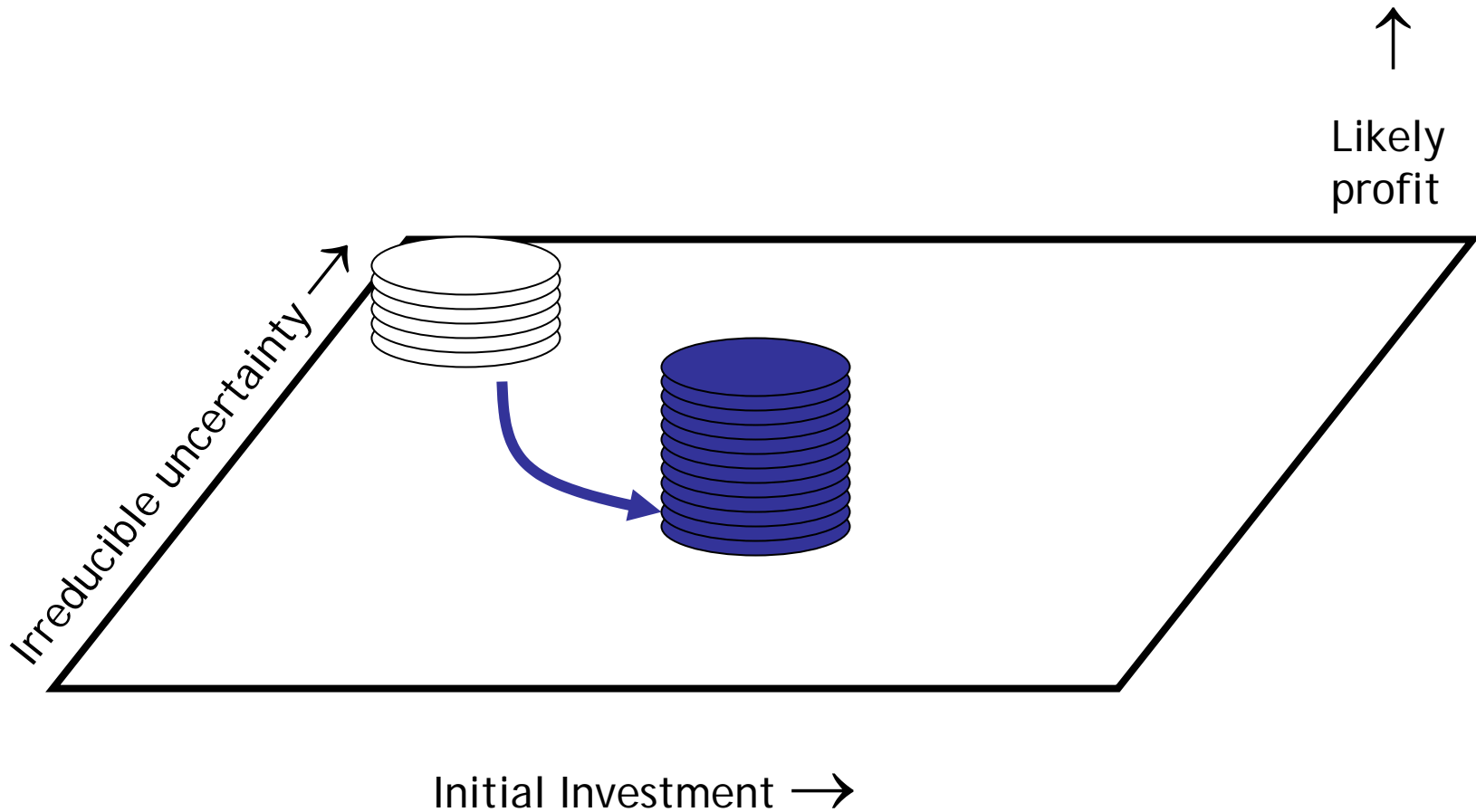
Case Study: Express Color Printing



ECP Transformed Itself Into PFL



There's No Risk without Reward



- Promising startups are key engines of economic development
- Promising startups are characterized by relatively high degrees of residual uncertainty
- Risk can, and very often does, *increase* as residual uncertainty *declines*

Risk Can't Be Avoided but Can Be Managed

- Select the *appropriate* tools to explore the boundaries of the knowable and the unknowable
- *Syndicate*—rather than underwrite—risk
- *Experiment iteratively*; invest in phases

Don't Throw Away Your Existing Tools

Level 1 Residual Uncertainty	Level 2 Residual Uncertainty
<i>Linear</i>	<i>MECE</i>
Market research Cost benchmarking SWOT analysis DCF/NPV ...	Decision trees Scenario planning ...



If the only tool
you've got is a
hammer, everything
tends to look like a
nail.

Higher Levels of Residual Uncertainty Require a Different Set of Tools

Level 3 Residual Uncertainty	Level 4 Residual Uncertainty
<i>Dynamic Complexity</i>	<i>Ambiguity</i>
System dynamics modeling and simulation Real options valuation ...	Future search "Flight" simulators ...

Why These Tools Aren't Common

- Propensity to act
- Historical effectiveness of opportunistic adaptation
- Perceived opportunity cost
- Expedience of relying on “conventional wisdom”

Expect to See Increased Use of These New Tools

“Because the informational component of products *can* change faster, it *will* change faster. Because information *can* be rapidly disseminated, it *will* be rapidly acquired by others. As a result, product life cycles will continue to shrink, and the pace of change will continue to accelerate.”

Source: *Adaptive Enterprise*

Who Really Bears the Risk of a Startup?

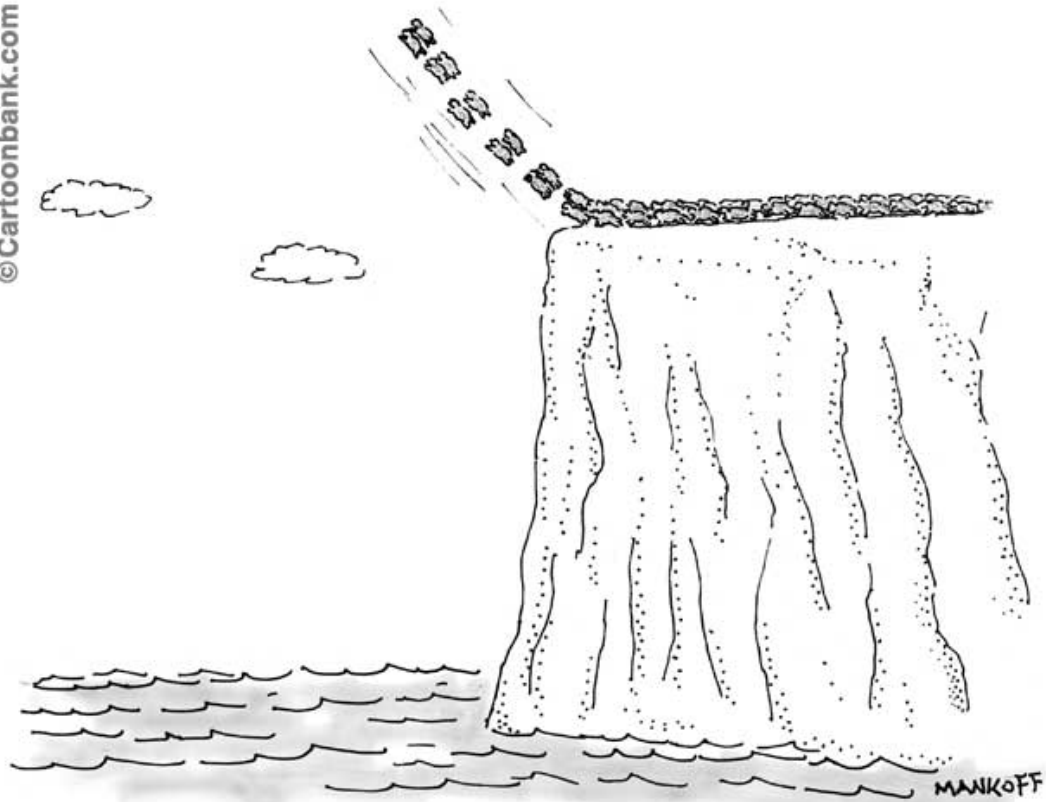
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*"I was spreading some risk around, and apparently
it all wound up in your portfolio."*

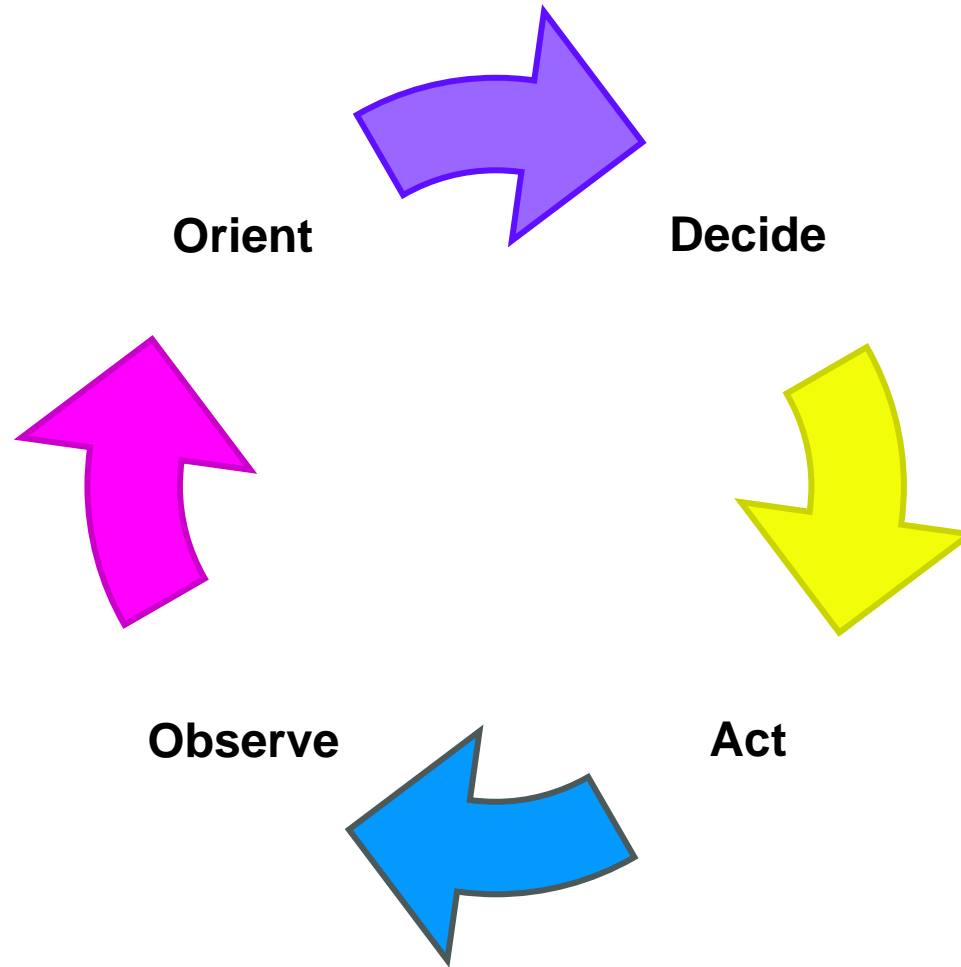


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WHAT LEMMINGS BELIEVE

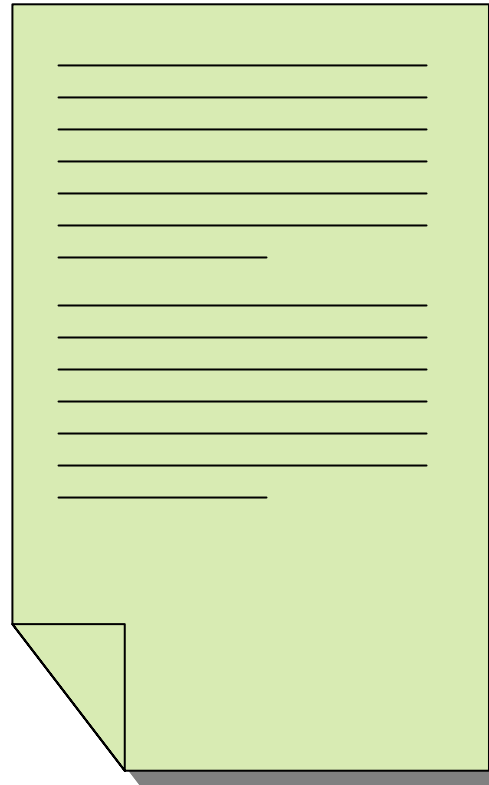
Invest, Act, and Adapt Iteratively



The 8 ½ x 11 Inch Prototype



RIGHT
NOW
TECHNOLOGIES



Here's What We've Covered

- Risk, investment, and uncertainty
- Different startups have different risk profiles
- Tools for guiding decisions in the face of different kinds of uncertainty
- Managing the unknowable through risk syndication and iterative experimentation

Key Points

- Risk is unavoidable, and uncertainty can be a *good* thing
- Promising startups face high uncertainty before they face significant risk
- Uncertainty and risk is manageable
- If you help entrepreneurs understand the preceding, your entrepreneurs will be better equipped to help your communities

Thank You

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