Clean tech, the production of electricity and fuels with a smaller environmental impact, saw a mini-investment boom in the first decade of the 21st century. This study investigates the degree to which the strategies of clean tech investors varied over time in response to learning from investment successes and failures, and from changes in public policy. The literature on path dependence predicts, all else being equal, that the past character of the investments will continue into the future without much alteration. This model suggests that the pattern can be broken based on the feedback that investors receive from successful or unsuccessful rounds of venture capital funding and from the changes in the clean tech policies of global governments. Thus, learning theory is another theoretical perspective that should be applied to the strategic choices of investors in this domain. It predicts that adjustments in strategic choices will take place based on factors included in the model.

Overview
Clean tech, the production of electricity and fuels with a smaller environmental impact, saw a mini-investment boom in the first decade of the 21st century. This study investigates the degree to which the strategies of clean tech investors varied over time in response to learning from investment successes and failures, and from changes in public policy. The literature on path dependence predicts, all else being equal, that the past character of the investments will continue into the future without much alteration. This model suggests that the pattern can be broken based on the feedback that investors receive from successful or unsuccessful rounds of venture capital funding and from the changes in the clean tech policies of global governments. Thus, learning theory is another theoretical perspective that should be applied to the strategic choices of investors in this domain. It predicts that adjustments in strategic choices will take place based on factors included in the model.

Theory:
Two types of change possible in response to feedback from knowledge of investment successes:
- Investors imitate, or cluster around successes. Investment portfolios contract.
- Investors separate and try to find more promising returns in new domains. Portfolios expand.

In this study, we asked the questions:
- To what extent did the portfolios of investors constrict, in response to the feedback they obtained, and become less diversified?
- To what extent did their portfolios expand and become more diversified?

Minnesota Not Realizing Its Potential!!!

<table>
<thead>
<tr>
<th></th>
<th>Minnesota</th>
<th>Missouri</th>
<th>California</th>
<th>Ontario</th>
<th>Israel</th>
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<td>12</td>
<td>5</td>
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</table>

1999-2010 (May) Minnesota Compared to Missouri, California, Ontario, Israel, and China

- Minnesota is very competitive in patents but weak in startups, venture capitalists, venture investment, mergers and acquisitions and initial public offerings.
- China is weak in patents but strong in venture investment and mergers and acquisitions.
- The highest level of activity is in California, but even California shows how hard it is to translate venture investment into mergers and acquisitions and initial public offerings.

Conclusions:
- More “risky” a technological path (economically or socially), the more “herd-like” the investment – (seen in solar & biofuels)
- More diverse and less “risky” (economically and within public policies) a path, the greater the lock-in (i.e. path dependence) irrespective of changing external circumstances – (efficiency)
- More “mature” a technology path (economically), with the least political support, the more strategic the investments. Perceived as a limited opportunity set – (wind)

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