

**The migration of venture-capital funded startups from regional entrepreneurial ecosystems:
Comparing Colorado's Front Range and California's Silicon Valley**

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- California's Silicon Valley generates 10x more startups than Colorado's Front Range.
- Startups in Colorado's Front Range and California's Silicon Valley exhibited a similar mix of industries and technologies, rates of failure and success, types of exit, and mean value at exit.
- 51% of successful startups, worth 59% of total disclosed value, remain in the Bay Area after exit.
- 28% of successful startups, worth 14% of total disclosed value, remain in Colorado after exit.

Young high-growth firms in high technology fields account for a disproportionate share of job creation and economic development. It is well documented that the birth and growth of such startups tends to cluster geographically in major metropolitan regions, with the classic example being Silicon Valley in the San Francisco Bay Area. In regions around the world, policymakers, business leaders, and investors have sought to encourage the growth of regional entrepreneurial ecosystems to serve a range of interrelated economic objectives. It is generally assumed that once a region enjoys sufficient levels and the right mix of key factors, including human, intellectual, and social capital, with sufficient financing, then a virtuous cycle of firm birth, growth, and maturation kicks into motion. While some rate of startup failure and attrition is considered natural, those that survive the startup phase contribute to the further accumulation of those key factors as well as financial returns within the region. Policy efforts have tended to focus on supply-side measures, providing those factors that a region is lacking, with emphasis on financing, often in the form of seed or venture capital.

Yet, the extent to which those startups that originate within a region remain and grow there in the long run is crucial. Most startups reach a point in their life cycle when the initial private investors, including the founding entrepreneurs, angels, and venture capital funds, exit their investments, either by selling their shares to an acquiring company or listing them on a stock exchange through an initial public offering (IPO). At this critical juncture, a shift of financial control of the startup to owners outside of the home region can mean that the startup will migrate.

We analyze 20 years of venture-capital funded startups, founded between 1992 and 2011, in the Front Range around Denver, Colorado, and in the Bay Area around San Francisco, California, including Silicon Valley. While Silicon Valley is the classic model for entrepreneurial ecosystems, the Denver Front Range may in fact be more representative of most regional economies. The Bay Area gave rise to 6,938 VC-funded startups in our data over those 20 years, while Colorado gave rise to just 629; however, the two regions' startups exhibited a very similar distribution across industries and almost identical rates of failure and success as well as types of exits. About half of the startup exits in the Bay Area disclosed the amount of the exit transaction (51%) and even fewer in Colorado (41%). The sum of all exit amounts disclosed for the Bay Area was \$247 billion while the sum of all disclosed exits for Colorado was \$14 billion. However, the mean exit amount for startups in the Bay Area (at \$153 million) was only 15 percent higher than the mean exit amount for startups in Colorado (at \$133 million).

The single most significant difference between the two regions is the share of successful exits where financial control of the startup remains within its home region. While we do not have systematic data on actual firm relocations, we can track whether the company or investor acquiring a startup is located

outside that startup's home region or whether the stock exchange on which a startup is listed in an IPO is outside the United States. Very often operations and management of acquired companies get relocated following such a shift in ownership. For the Bay Area 51 percent of successful startups, worth 59 percent of total disclosed exit values, were thus likely to remain in the Bay Area. By contrast, for the Colorado Front Range, only 28 percent of successful startups, worth only 14 percent of total disclosed value, were likely to remain within Colorado (Table 1).

Table 1. Numbers and transaction amounts of startup exits where ownership or effective financial control remains within or leaves the home region where the startup was founded, by region

	SF Bay Area	Colorado
Number of <u>total</u> successful exits	3,140	259
Number with exit amounts disclosed	1,614	107
Percent with exit amounts disclosed	51%	41%
Sum of exit amounts disclosed	\$246,841,771,300	\$14,186,095,000
Mean of exit amounts disclosed	\$152,937,900	\$132,580,327
Exits where control <u>remains</u> in home region	1,606	73
As percent of total successful exits	51%	28%
Sum of amounts disclosed	\$146,248,066,200	\$2,014,890,000
As percent of total amounts disclosed	59%	14%
Exits where control <u>leaves</u> home region	1,473	186
As percent of total successful exits	47%	72%
Sum of amounts disclosed	\$100,192,460,417	\$12,171,205,000
As percent of total amounts disclosed	41%	86%

Not only is a larger share of Colorado startups acquired by owners outside of Colorado, but the Colorado startups thus acquired tend to be the region's most valuable. Of a total disclosed value of \$14.2 billion, financial control of \$12.2 billion worth of Colorado startups left the region, while financial control of only \$2 billion worth remained in the region (Table 1). Moreover, when looking at the migration of post-exit startups between the Bay Area and Colorado, we see that control of 17 Bay Area startups, with combined disclosed value of about \$1 billion, migrated to Colorado upon exit, while control of 47 Colorado startups, with combined disclosed value of over \$3 billion, migrated the other way, to the Bay Area. Indeed, the Bay Area seems to exert a kind of gravitational pull, both retaining its own startups at a much higher rate and attracting more startups from Colorado than it sends to Colorado. Both regions contribute proportionately to economic development in the United States overall, and globally. From the two regions, about 86 percent of successful startups and 85 percent of exit value remains within the United States, while financial control of the remainder migrates to Canada, Europe, Asia, and elsewhere.

Robert Merton, the influential 20th century sociologist of science, described the phenomenon of accumulative advantage as the "Matthew effect," based on the idea that "to him who has, more will be given... but from him who has not, even what he has will be taken away" (from the gospel of Matthew 25:29). There appears to be a Matthew effect at play among regional entrepreneurial ecosystems. Silicon Valley enjoys a virtuous cycle of creating, retaining, and attracting successful startups. In contrast, the more representative Colorado Front Range gives rise to fewer startups, finds it more challenging to retain them, and pulls in fewer from outside. This has serious implications for notions of how regional

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entrepreneurial ecosystems form and grow. Regions like the Front Range are less likely to retain and grow their stocks of human, intellectual, and social capital and to enjoy the financial returns generated by successful startups. As such, their economic development strategies and policies should not attempt to blindly emulate Silicon Valley, but should take account of the reality of startup migration patterns and what it means to be a regional node embedded within a global network of entrepreneurial ecosystems.



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