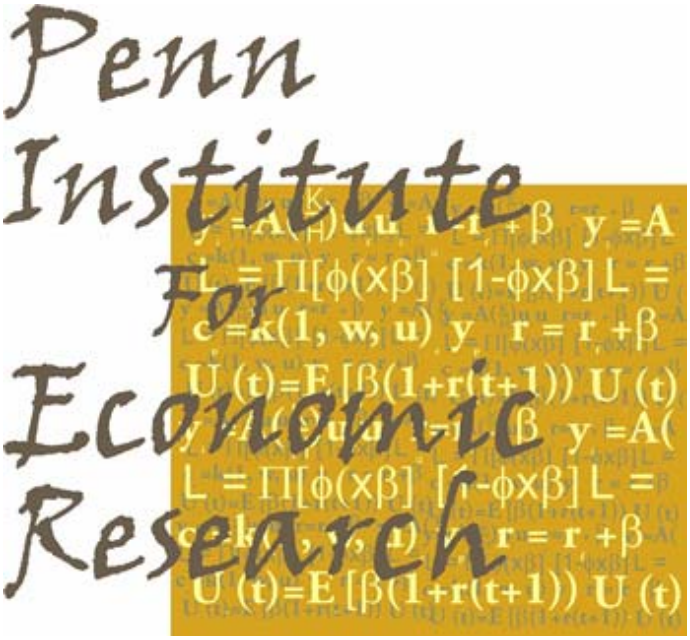

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"Location, Location, Location: Entrepreneurial Finance Meets Economic Geography"

by

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Location, Location, Location: Entrepreneurial Finance Meets Economic Geography

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Abstract

Economic Geography maintains that economic activities are not randomly distributed across space. This paper examines the impact of industrial and regional characteristics on venture capital activities in the United States from 1995 until 2009. The unique database allows for stratifications into seventeen industries within nineteen regions of the United States. This study affirms the significance of both Location and industry in venture capital investment. Both statistical and graphical methods are employed in order to better ascertain the dynamic nature of the data.

JEL Classification: C12, D81, D92, E22, G12, G24, G3, M13, M21, O16, O3

Keywords: Venture Capital; Economic Geography; Location; Biotechnology; Business Products and Services; Computers and Peripherals; Consumer Products and Services; Electronics and Instrumentation; Financial Services; Healthcare Services; Industrial and Energy; Information Technology Services; Media and Entertainment; Medical Devices and Equipment; Networking and Equipment; Retailing and Distribution; Semiconductors; Software; Telecommunications.

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Location, Location, Location: Entrepreneurial Finance Meets Economic Geography

I. Introduction

Recently, economic geography has risen to the frontier of research due to the works of the 2008 Nobel laureate, Paul Krugman, who was awarded the prize for his "analysis of trade patterns and location of economic activity." Although economic geography is a focus of both international economists and industrial organization researchers, it has received limited consideration in the venture capital literature. It is easy to observe that population and economic activities are clustered rather than spread evenly across space. Figure 1 shows the population distribution in the world, Figure 2 shows the population under the age of 15, indicating future clustering of the World's population, and Figure 3 shows how language varies with location. All the maps of the world are courtesy of www.theodora.com/maps.

This paper examines the impact of industrial and regional characteristics on venture capital activities in the United States from 1995 to 2009. Analyzing venture capital data, this study affirms the significance of both geography and industry in venture capital investment. *The Money Tree Survey*, a reliable data source that publishes quarterly studies on venture capital investment activity in the United States, is used as the basis for the data referred to in this paper. The information published in this database extends from Quarter 1 of 1995 through Quarter 1 of 2009 and allows for stratifications into seventeen industries within nineteen regions of the United States.

In addition, this paper analyzes the effects of certain key macroeconomic indicators on venture-backed investment, such as Nominal Gross Domestic product (NGDP), Real Gross Domestic Product (RGDP), Consumer Price Index (CPI), and Producer Price Index (PPI). The United States interest rates considered in this study are the Federal Funds Rate, and the three,

five and ten-year interest rates. The Consumer Confidence Index is used as well, in order to take into account expectations of the future prospects of the economy.

Both statistical and graphical methods are employed in order to better ascertain the dynamic nature of the data. Pearson correlation coefficients and regression parameter estimates are used to explore the effects of different variables on investment in the venture capital market. Both the dollar size of the investment and number of deals are analyzed in order to provide a robust check for the findings presented in this paper.

Geographical economics maintains that economic activities are not generally distributed across space randomly. The seminal book on this topic is by Fujita, Krugman and Veables (1999) entitled The Spatial Economy, which opens the field of the "new economic geography." Geographical economics has its roots in modern international trade, economic growth and industrial organization. These research areas are augmented by explicit considerations of space and location.

Of course, the significance of location is not new. For example, the Nobel Laureate for the year 1977, Ohlin entitles his book "Interregional and International Trade" (Ohlin, 1933), emphasizing the role of location in international trade. The Nobel Prize in economics, given to Paul Krugman in 2008 for his work on international trade and economic geography, indicates the scientific recognition of the importance of geographical economics.

The statistical analysis illustrates that for the whole sample database after all other variables are held constants, that an increase in Real Gross Domestic Product increases the flow of investment in venture capital. Furthermore, the effects of the three, five and ten year interest rates are statistically significant, for the whole period of analysis. While one might expect for these coefficients to be negative, the five-year interest rate is positively correlated with the

amount of venture capital investment with a large coefficient. However, upon adding the three coefficients for three, five and ten annual interest rates, as expected, the sum is a statistically significant negative coefficient.

In addition to the effects of Gross Domestic Product and interest rates, both regions and industry sectors are significant factors in explaining investment in the venture capital market of the U.S. economy. Thus, this paper confirms the significance of both geography and the choice of industry in affecting venture capital investment.

Next, the database is divided into four sub-samples in order to verify the robustness of the analysis that is based on the entire sample. The dataset is split into four sub-periods: the boom years of 1995Q1 to 2000Q1, the bust period of 2000Q2 to 2003Q4, the boom years of 2004Q1 to 2007Q3, and the bust period of 2007Q4 to 2009Q1. Generally, the same conclusion can be reached with regards to the importance of both industry choice and locations in explaining venture capital investment in the United States for each of these sub-periods.

The remainder of the paper is organized as follows: Part II presents a brief literature review, Part III introduces the data, Part IV describes the empirical results, and Part V concludes on the basis of these findings and offers suggestions for further research.

II. Literature Review

The pioneering works in this area are authored by Krugman (1991A, 1991B, 1998), Venables (1996, 1998, 2003), Fujita, Krugman and Venables (1999), and Fujita and Krugman (2004). Krugman (1991A) sheds light on the significance of economic geography by illuminating its ramifications on the divergence of regional economic growth and development. Krugman (1991B) analyzes the model of a country that endogenously transforms into an industrialized “core”, surrounded by an agricultural “periphery.” Krugman (1998) discusses the

emergence of a new area of research, labeled as the "new economic geography". The "new economic geography" distinguishes itself from conventional work in this area by implementing the rigorous technical and mathematical tools traditionally used in discourses such as theoretical microeconomics, industrial organization and international trade. Furthermore, these models utilize recent developments in industrial organization and international trade literature that explicitly modeled economies of scale which were previously implemented in the "new trade" and the "new growth" theories.

This line of research has opened the door to additional contributions developed in a few notable publications. Some of the most influential research books on geographical economics include: The Economics of Agglomeration by Fujita and Thisse (2002), Economic Geography and Public Policy by Baldwin, Forslid, Ottaviano and Nicoud (2003), Economic Geography by Combes, Mayer, and Thisse (2006, 2008) and The New Introduction to Geographical Economics, by Brakman, Garretsen and Marrewijk (2009).

Another crucial source for research performed in this area is *The Handbook of Regional and Urban Economics*, Volume IV, which is devoted to geographical economics (Henderson and Thisse, 2004). Of particular importance are the chapters in this handbook by Duranton and Puga, 2004; Ottaviano and Thisse, 2004, and Head and Mayer, 2004. A critical and comprehensive assessment of geographical economics is found in Neary (2001). Behrens (2005) investigates the importance of market size as a determinant for industrial location patterns. Overman, Venables and Midelfart (2003) estimate a model of industrial locations across countries. Additionally, they also combine factor endowments with geographical considerations to determine the location of production as a function of interaction between industry and country characteristics.

Studies have begun exploring how physical distance affects the ways in which contracts are written between the venture capitalists and the funded firms. Tian (2009) shows that when firms are closer to their investing venture capitalists, they are given longer duration between investment rounds, and receive a larger amount per investment round. Additional studies by Wang and Zhou (2004) show how venture capitalists incur high costs in monitoring their firms and how upfront financing serves as a more cost effective option. A shorter distance between venture capitalists and firms reduces the costs of monitoring these firms.

Bengtsson and Ravid (2009) demonstrate how specific venture capital companies have a bias towards venture capital markets in closed proximity. They show that contracts include significantly fewer investor-friendly cash flow contingencies if the company is located in California or if the lead venture capital firm (VC) is more exposed to the California market. The regional differences in contract design can be explained by the level of concentration of local VC markets. California's concentration of VC's is associated with a varied contract environment. This is similar to the way VCs often invest locally (Stuart and Sorensen, 2001) and also form strong syndication networks with other local VCs. This allows for coordination among VCs in close proximity. Bengtsson (2008) finds that venture capitalists with more information about a founder of the enterprise are significantly more likely to engage in relational financing, but the likelihood of repeated relationships is lower when the new company is in a geographically distant location. Similarly, Babcock-Lumish (2008) reinforces this observation in a study that includes both American and British firms.

Cumming and Dai (2009) find that more reputable venture capitalists i.e., older, larger, more experienced, with stronger Initial Public Offer (IPO) track record and with broader networks exhibit less local bias. Moreover, they conclude that venture capitalists exhibit

stronger local bias when they act as the leading or sole investor. Furthermore, a study by Alonso-Villar (2005) shows how transport costs impact the choice of industrial locations. Alonso-Villar also examines the location decisions of upstream and downstream industries when transport costs in each sector are analyzed separately. He concludes that the effects of cost reductions in transporting final goods are different from that of intermediate goods. Similarly, Shachmurove and Spiegel (1995, 2005) relate transportation costs and country sizes to the welfare of small and large countries. Knight (2010) studies the localization of clean tech innovation and finds that the geography of clean tech venture capital is more decentralized than in other sectors.

In addition to geographical location, another important consideration is industry choice. The pioneering study in the venture capital literature on industry choice is Murphy (1956), which is based on one hundred start-up firms. The importance of industry choice in achieving start-up success has also been studied by others, such as Shachmurove A. and Shachmurove Y. (2004). One such study includes the analysis of annualized and cumulative returns on venture-backed public companies categorized by industry. Annual and cumulative returns of publicly traded firms who were backed by venture capital are also studied in series of papers by Shachmurove, Y. (2001, 2006, 2010), and Shachmurove, E. and Shachmurove, Y (2004, 2009A, 2009B, 2009C). Furthermore, Shachmurove Y. (2007) relates issues in international trade to entrepreneurship, innovation, and the growth mechanism of the free-market economies. A short table summarizing the papers in the literature review is presented in Exhibit 1.

III. Data

The data on venture capital investment activity in the United States are from *The Money Tree Survey*. This survey is a quarterly study of venture capital investment activity in the United States, providing data on cash for equity investments by the professional venture capital

community for private emerging U.S. companies. The survey is collaboration between PricewaterhouseCoopers and the National Venture Capital Association based upon data from Thomson Reuters and is the only industry-endorsed research of its kind. *The Money Tree Survey* is conceived to be the definitive source for information on emerging companies receiving financing and the venture capital firms providing it. The survey is considered a staple of the financial community, entrepreneurs, government policymakers and the business press worldwide.

The *Money Tree Survey* includes the investment activity of professional venture capital firms within the U.S and abroad, Small Business Investment Companies (SBICs), venture arms of corporations, institutions, investment banks and similar entities whose primary activity is financial investing. In cases where there are other participants such as angels, corporations, and governments in a qualified and verified financing round, the entire amount of the round is included. Qualifying transactions include cash investments by these entities either directly or by participation in various forms of private placement. All recipient companies are private and may have been newly created or derived from existing companies.

The survey excludes debt, buyouts, recapitalizations, secondary purchases, Initial Public offerings (IPOs), and investments in public companies, such as Private Investments in Public Entities **(**PIPES). It also excludes investments for which the proceeds are primarily intended for acquisition, such as roll-ups. In addition, it does not include change of ownership and other forms of private equity that do not involve cash, such as services-in-kind and venture leasing. The database allows for stratifications into seventeen industries within nineteen regions of the United States.

The macroeconomic data used in this study includes the Consumer Price Index (CPI), the Producer Price Index (PPI), Nominal Gross Domestic Product (NGDP), and the Real Gross Domestic Product (RGDP). The data source for these variables is the U.S. Bureau of Economic Analysis (BEA). The very short Federal Fund interest rate, and the three, five and ten-year interest rates are all taken from the Federal Reserve Statistic Release. The Consumer Confidence Index is published monthly by the Conference Board. The Index is constructed using the Consumer Confidence Survey which is based on a representative sample of 5,000 U.S. households. All the data are from 1995 through the first quarter of 2009. All monthly data are converted to quarterly data to match the observations for number of deals and investment backed by venture capital.

IV. Empirical Results

Table 1 presents summary statistics for the variables used in this study based on 10,732 observations for the time period 1995Q1 to 2009Q1. Note that IR3, IR5 and IR 10 stand for interest rates for 3, 5 and 10 years. The mean of venture capital investment is about 39 million dollars and has a standard deviation of approximately 104 million dollars.

Table 2 presents the annual U.S. venture capital investment and the number of deals for this study. Table 3 indicates the number of deals for each of the nineteen regions and the seventeen industries in terms of both frequency and proportion of total deals. Silicon Valley has the highest venture capital investment with a frequency of deals that is more than twice the amount of any other region. It is also notable that the software sector accounts for the greatest proportion of deals of any industry, representing 27 percent of all deals in the venture capital market, an impressive figure.

Figure 4 shows the annual number of venture capital deals from 1995 until 2009Q1 in the United States. Figure 5 represents the annual average venture capital investment in Unites States in millions of dollars for the period of the study. Figure 6 displays total annual venture capital investment by year. Figures 7 and 8 show the total number of venture-capital deals for the whole period by regions and by industry, respectively. Figure 9 presents the relative shares of venture capital by regions. Figure 10 illustrates the relative shares of total number of deals by industries.

As one might expect, the effect of the current recession on venture capital investment has been dramatic. The year 2008 was the first year in which venture capital investment had declined since 2003. In the fourth quarter of 2008, investment in dollar terms plummeted by 47 percent and the number of deals decreased by 37 percent, resulting in the lowest quarterly venture capital investment activity since 1997. In the first quarter of 2009, only three billion dollars was invested in a meager 549 deals throughout the U.S. The financial crisis negatively impacted investment in all regions and all industries. This era of a bust economy is displayed in greater detail in Figures 12, presenting the data for the quarters of 2008Q1 until 2009Q1 and in Figure 13 where the data for this time period is presented by regions. Although there are significant variations across industry and region during the current economic crisis, geography and industry remain highly important determinants of venture capital investment. This is further reinforced by examining the data collected during the boom years, known as the "internet bubble" i.e., the period of 1998Q1 to April 2000. Figures 14 and 15 depict the data for these boom years, 1998 until April 2000. One observes how an economic boom such as the dot com bubble of the 90's positively affected the financial activity of all geographic regions. Thus, geography and industry are important determinants of venture capital investment during both booms and busts.

Table 4 presents the Pearson coefficients and their corresponding significant values for the variables used in the study. The table shows that investment by the venture industry is highly correlated with the number of venture capital deals, with a correlation coefficient of 0.86. As one might expect, real GDP is positively correlated with total venture capital investment and number of deals, although the correlation coefficients are low (0.045 and 0.033, respectively). Every measure of GDP is negatively associated with all four interest rates. The short-run overnight Federal Funds Rate is more correlated with IR3 than IR5 and IR10 (which are 0.92, 0.87, and 0.77 respectively). The correlation between IR3 and IR5 is high (0.99). The correlation coefficients between capital venture investment and each interest rate measure decreases as the length of the interest rate term increases.

Next, Table 5 presents the regression results. The dependent variable is the natural log of venture capital investment. The independent variables are the quarter of the transaction denoted as observation, number of deals, denoted by NUOFDEALS, the sixteen dummy variables for the different industries, measured relative to the biotech industry, and the eighteen dummies for the different regions, measured relative to the Alaska/Hawaii/Puerto Rico region. The estimated equation includes Real Gross Domestic Product and the three, five, and ten year interest rates.

As shown in Table 5, the Adjusted R^2 is equal to 0.44. As expected, a rise in the number of deals increases the amount of venture capital invested. All industries are highly statistically significant, with only the telecommunication industry being significant at the 0.10 level. Furthermore, all regional coefficients are statistically significant except for the Unknown region.

Table 5 also shows the effect of real GDP on venture-capital investment. With all other variables held constant, an increase in GDP raises the amount of investment in venture capital.

The effects of the interest variables are also noteworthy and statistically significant. While one expects the coefficients of the three, five and ten years' interest rates to be negative, the five-year interest rate is positively affecting the amount of venture capital investment with a large coefficient. However, upon adding the coefficients for the three, five and ten annual interest rates, as expected one obtains a statistically significant coefficient of negative 0.101. Thus, Table 5 affirms the significance of both geography and the choice of industry in affecting venture capital investment in addition to the macroeconomics variables.

Further exploration of this dataset reinforces our previous predictions, but for short term periods such as booms and busts. By dividing the dataset into four sub-periods, the previous conclusions with regards to the importance of geography and industries are still valid. The sub-periods are the boom years of 1995Q1 to 2000Q1, the bust period of 2000Q2 to 2003Q4, the boom years of 2004Q1 to 2007Q3, and the bust period of 2007Q4 to 2009Q1.

Table 6 presents the results for the boom period of 1995Q1 and 2000Q1. The Adjusted R^2 is equal to 0.45, very similar to the Adjusted R^2 for the whole time period described above. All industries and geographical regions are statistically significant except for the Media and Entertainment sector, and the Unknown region. While IR3 and IR10 turn out to be insignificant for this time period and thus omitted from the regression, the macro variables of real GDP and IR5 are statistically significant, with IR5 remaining positive as shown before.

Table 7 describes the results of the regression for the period 2000Q2 and 2003Q4. The Adjusted R^2 is 0.49, higher than the one for the whole sample. However, for this time period of bust years, few industries are not statistically significant. Out of nineteen sectors, three industries Networking and Equipment, Software, and Telecommunication are not statistically significant. All geographical regions are statistically significant except the South Central region.

As far as the macroeconomic variables, as expected, real GDP continues to have a positive effect on investment in venture capital. For this time period, IR10 is found to be the statistically significant variable.

Table 8 shows the regression results for the boom years of 2004Q1 to 2007Q3. The Adjusted R^2 is 0.47. All industries and regions are statistically significant except the South Central region. It is interesting to note that for this time period both Real GDP and the interest rates are not statistically significant. Table 9 presents the results for the period 2007Q4 to 2009Q1. The Adjusted R^2 is 0.49 similar to the period of 2000Q2 and 2003Q4. Interestingly, the trend variable, OBSERVATION is not significant for this time period. All industries and regions are statistically significant except the two industries of Industrial/ Energy and Medical Device and Equipment. Similar to the results for Table 8, for the period 2004Q1 to 2007Q3, Real GDP and the interest rates are not statistically significant. These last results are maybe due to the small sample size. In summary, the sub-period results reinforce the significance of both sectors and regions in explaining investment in the venture capital industry in the United States.

V. CONCLUSION

Although it is a common knowledge that population and economic activities are clustered rather than spread evenly across space, as Figures 1 through Figure 3 demonstrate by showing that, for example, the population distribution in the world, the population under the age of 15 and the use of languages are all clustered and are functions of location, the venture capital literature has only recently began to address the relationship between geography and entrepreneurial investments.

This paper examines the investment activity of venture capital in the United States stratified by both geography and choice of industries, and evaluates the effects of certain key

macroeconomic variables. The entire period covered in this study extends from 1995 until 2009, Quarter 1. In addition, the dataset is split into four sub-periods: the boom years of 1995Q1 to 2000Q1, the bust period of 2000Q2 to 2003Q4, the boom years of 2004Q1 to 2007Q3, and the bust period of 2007Q4 to 2009Q1. For the entire period as well as the sub-periods, the statistical results confirm the importance of both region and industry in explaining investment in venture capital in the United States. These is true fro all sub-periods, even when faced with a multitude of effects caused by the current recession, industry and region are still the dominating causes of venture capital investment activity.

This paper opens the door for additional research on investments within the venture capital industry in the United States. A future research issue is a careful investigation of the relationship between language clustering and investment in venture capital. Another extension of this study might look at specific industries, such as investment in the clean-technology industry by venture capitalists. Another research project may aim at entrepreneurial activities outside the United States, such as China, India, Brazil and Israel. Another possibility is investigating the effects of increased regulation and taxation on the decisions of American firms to outsource entrepreneurial activity to offshore locations.

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Table 1: Simple Statistics, 1995 – 2009Q1

Variable	N	Mean	Std Dev	Sum	Minimum	Maximum
date	10723	28.91644	16.13467	310071	1	57
Investment	10723	39458420	95952931	4.23E+11	0	2641099200
Number of Deals	10723	4.989	8.8066	53497	1	207
Real GDP	10723	10015	1110	1.07E+08	7974	11727
Nominal GDP	10723	10643	2145	1.14E+08	7298	14413
GDPDeflator	10723	105.23422	9.7193	1128427	91.53	124.113
Federal FundI Rate	10723	4.03199	1.84038	43235	0.23333	6.52
IR3	10723	4.46074	1.51637	47832	1.27	7.26667
IR5	10723	4.72967	1.2852	50716	1.76333	7.39333
IR10	10723	5.09344	0.99879	54617	2.73667	7.4833

Table 2: U.S. Venture Capital Investment and Number of Deals by Year 1995-2009Q1

Company Disbursement Year	Number of Deal	Avg. per Deal (USDMil)	Sum Investment (USD Mil)
1995	1837	4.19	7691
1996	2469	4.36	10762.3
1997	3080	4.74	14591.99
1998	3550	5.84	20718.89
1999	5396	9.91	53487.98
2000	7812	13.36	104379.88
2001	4451	9.11	40537.78
2002	3053	7.11	21692.68
2003	2876	6.82	19613.81
2004	2991	7.28	21768.86
2005	3027	7.35	22261.59
2006	3616	7.32	26485
2007	3967	7.77	30841
2008	3984	7.09	28227

Source: The MoneyTree Survey

Table 3: Number of Deals by Regions and by Industries 1995 – 2009Q1

Region	Region	Frequency	Percent	Industry	Industry	Frequency	Percent
1	Alaska, Hawai, and Puerto Rico	103	0.19	1	Biotech	4786	8.95
2	Colorado	1452	2.71	2	Business Products and Services	1964	3.67
3	DC Metroplex	2882	5.39	3	Computers and Peripherals	1158	2.16
4	LA Orange County	3044	5.69	4	Consumer Products and Services	1772	3.31
5	Midwest	3346	6.25	5	Electronics/ Instrumentation	925	1.73
6	NY Metro	6701	12.53	6	Financial Services	1497	2.80
7	New England	1263	2.36	7	Healthcare Services	1346	2.52
8	North Central	2408	4.50	8	IT Services	2733	5.12
9	Northwest	4189	7.83	9	Industrial/ Energy	3358	6.28
10	Philadelphia Metro	1671	3.12	0	Media and Entertainment	4511	8.43

11	Sacramento/ N. Cali	200	0.37	11	Medical Devices and Equipment	3963	7.41
12	San Diego	1837	3.43	12	Networking and Equipment	2788	5.21
13	Silicon Valley	15527	29.02	13	Other	101	0.19
14	South Central	378	0.71	14	Retailing/ Distribution	1200	2.24
15	Southwest	4089	7.64	15	Semiconductors	2483	4.64
16	Southeast	1085	2.03	16	Software	14219	26.58
17	Texas	2884	5.39	17	Tele-communications	4693	8.77
18	Unknown*	70	0.13				
19	Upstate NY	368	0.69				

*Through 2005 only. Source: The MoneyTree Survey

Table 4: Pearson Coefficients and their corresponding significant Values

	Date	Investment	Number of Deals	Real GDP	Nominal GDP
Date	1	0.01816	0.0159	0.99125	0.99434
		0.06	0.0997	<.0001	<.0001
Investment	0.01816	1	0.85745	0.04529	0.01863
	0.06		<.0001	<.0001	0.0537
NUOFDEALS	0.0159	0.85745	1	0.03286	0.01694
	0.0997	<.0001		0.0007	0.0794
ReaGDP	0.99125	0.04529	0.03286	1	0.98781
	<.0001	<.0001	0.0007		<.0001
NominalGDP	0.99434	0.01863	0.01694	0.98781	1
	<.0001	0.0537	0.0794	<.0001	
GDPDeflator	0.98639	-0.00179	0.00443	0.96795	0.99492
	<.0001	0.853	0.6462	<.0001	<.0001
FederalFundIR	-0.55397	0.08401	0.05236	-0.49088	-0.48331
	<.0001	<.0001	<.0001	<.0001	<.0001
IR3	-0.71767	0.07325	0.0434	-0.66201	-0.65911
	<.0001	<.0001	<.0001	<.0001	<.0001
IR5	-0.77451	0.06637	0.03812	-0.72425	-0.72284
	<.0001	<.0001	<.0001	<.0001	<.0001
IR10	-0.84012	0.0459	0.02425	-0.80377	-0.79758
	<.0001	<.0001	0.012	<.0001	<.0001
	GDP Deflator	**Federal Fund Rate**	**IR3**	**IR5**	**IR10**
Date	0.98639	-0.55397	-0.71767	-0.77451	-0.84012
	<.0001	<.0001	<.0001	<.0001	<.0001
Investment	-0.00179	0.08401	0.07325	0.06637	0.0459
	0.853	<.0001	<.0001	<.0001	<.0001
NUOFDEALS	0.00443	0.05236	0.0434	0.03812	0.02425
	0.6462	<.0001	<.0001	<.0001	0.012
Real GDP	0.96795	-0.49088	-0.66201	-0.72425	-0.80377
	<.0001	<.0001	<.0001	<.0001	<.0001
NominalGDP	0.99492	-0.48331	-0.65911	-0.72284	-0.79758
	<.0001	<.0001	<.0001	<.0001	<.0001
GDP Deflator	1	-0.49237	-0.66517	-0.72737	-0.79568
		<.0001	<.0001	<.0001	<.0001
Federal FundI Rate	-0.49237	1	0.91755	0.86931	0.77413
	<.0001		<.0001	<.0001	<.0001
IR3	-0.66517	0.91755	1	0.98962	0.93959
	<.0001	<.0001		<.0001	<.0001
IR5	-0.72737	0.86931	0.98962	1	0.97784
	<.0001	<.0001	<.0001		<.0001
IR10	-0.79568	0.77413	0.93959	0.97784	1
	<.0001	<.0001	<.0001	<.0001	

Table 5: Regression Results for Log Investment by Venture Capital 1995 – 2009Q1

Dependent Variable: loginvestment1

Number of Observations Read	10723
Number of Observations Used	10597
Number of Observations with Missing Values	126

Analysis of Variance

Source	DF	Sum of Squares	Mean Square	F Value	Pr > F
Model	40	15271	381.778	204.43	<.0001
Error	10556	19714	1.868		
Corrected Total	10596	34985			

Root MSE	1.36658
Dependent Mean	16.1799
Coeff Var	8.44618
R-Square	0.4365
Adj R-Sq	0.4344

Variable	Label	Parameter Estimate	Standard Error	t Value	Pr > |t|
Intercept	Intercept	1011.5588	60.10978	16.83	<.0001
observation		-0.05075	0.00306	-16.6	<.0001
NUOFDEALS		0.06871	0.00197	34.85	<.0001
industry2	Business Products and Services	-0.96206	0.07306	-13.17	<.0001
industry3	Computers and Peripherals	-1.27021	0.08175	-15.54	<.0001
industry4	Consumer Products and Services	-1.0949	0.07375	-14.85	<.0001
industry5	Electronics/Instrumentation	-1.47294	0.0795	-18.53	<.0001
industry6	Financial Services	-0.89351	0.07695	-11.61	<.0001
industry7	Healthcare Services	-1.02356	0.07502	-13.64	<.0001
industry8	IT Services	-0.6386	0.07016	-9.1	<.0001
industry9	Industrial/Energy	-0.65936	0.06801	-9.7	<.0001
industry10	Media and Entertainment	-0.51571	0.06859	-7.52	<.0001
industry11	Medical Devices and Equipment	-0.34542	0.06838	-5.05	<.0001
industry12	Networking and Equipment	-0.40205	0.07296	-5.51	<.0001
industry13	Other	-1.8861	0.16751	-11.26	<.0001
industry14	Retailing/Distribution	-1.28064	0.0791	-16.19	<.0001
industry15	Semiconductors	-0.73332	0.07443	-9.85	<.0001
industry16	Software	-0.17044	0.06925	-2.46	0.014
industry17	Telecommunications	-0.11042	0.06795	-1.63	0.104
region2	Colorado	1.77834	0.15762	11.28	<.0001
region3	DC Metroplex	1.84964	0.1563	11.83	<.0001
region4	LA Orange County	2.3755	0.15541	15.29	<.0001
region5	Midwest	1.94898	0.1553	12.55	<.0001
region6	NY Metro	2.37295	0.15533	15.28	<.0001

region7	New England	2.5539	0.15512	16.46	<.0001
region8	North Central	1.42049	0.15832	8.97	<.0001
region9	Northwest	2.02496	0.15615	12.97	<.0001
region10	Philadelphia Metro	1.38931	0.15759	8.82	<.0001
region11	Sacramento/ N. California	0.84746	0.18091	4.68	<.0001
region12	San Diego	1.95993	0.15815	12.39	<.0001
region13	Silicon Valley	2.9134	0.15793	18.45	<.0001
region14	South Central	0.56546	0.16926	3.34	0.0008
region15	Southwest	1.35348	0.15926	8.5	<.0001
region16	Southeast	2.31693	0.15525	14.92	<.0001
region17	Texas	2.16084	0.15555	13.89	<.0001
region18	Unknown	-0.23708	0.23984	-0.99	0.32
region19	Upstate NY	0.49801	0.16876	2.95	0.003
Real GDP		0.00195	0.00010862	17.98	<.0001
IR3		-1.09307	0.18378	-5.95	<.0001
IR5		2.23657	0.36968	6.05	<.0001
IR10		-1.24462	0.21724	-5.73	<.0001

Table 6: Regression Results for Log Investment by Venture Capital 1995Q1 – 2000Q1

Dependent Variable: loginvestment1	
Number of Observations Read	4006
Number of Observations Used	3952
Number of Observations with Missing Values	54

Analysis of Variance

Source	DF	Sum of Squares	Mean Square	F Value	Pr>F
Model	38	6015.398	158.29994	85.82	<.0001
Error	3913	7217.624	1.84452		
Corrected Total	3951	13233			

Root MSE	1.35813
Dependent Mean	15.97123
Coeff Var	8.50362
R-Square	0.4546
Adj R-Sq	0.4493

Variable	Label	Parameter Estimates	Standard Error	t Value	Pr > |t|
Intercept	Intercept	418.80613	205.4611	2.04	0.0416
observation1		-0.02106	0.01041	-2.02	0.0431
NUOFDEALS		0.05925	0.00327	18.1	<.0001
industry2	Business Products and Services	-0.53504	0.11985	-4.46	<.0001
industry3	Computers and Peripherals	-1.07582	0.13042	-8.25	<.0001
industry4	Consumer Products and Services	-0.41927	0.11657	-3.6	0.0003
industry5	Electronics/Instrumentation	-1.34292	0.13374	-10.04	<.0001
industry6	Financial Services	-0.58853	0.12424	-4.74	<.0001
industry7	Healthcare Services	-0.32484	0.11745	-2.77	0.0057
industry8	IT Services	-0.37064	0.11762	-3.15	0.0016
industry9	Industrial/Energy	-0.57546	0.11369	-5.06	<.0001
industry10	Media and Entertainment	-0.11207	0.11234	-1	0.3185
industry11	Medical Devices and Equipment	-0.32571	0.11424	-2.85	0.0044
industry12	Networking and Equipment	-0.30128	0.12306	-2.45	0.0144
industry13	Other	-1.12713	0.25294	-4.46	<.0001
industry14	Retailing/Distribution	-0.58812	0.12622	-4.66	<.0001
industry15	Semiconductors	-0.88038	0.13085	-6.73	<.0001
industry16	Software	0.21647	0.11499	1.88	0.0598
industry17	Telecommunications	0.36623	0.11275	3.25	0.0012
region2	Colorado	1.85115	0.29847	6.2	<.0001
region3	DC Metroplex	2.07881	0.29778	6.98	<.0001
region4	LA Orange County	2.55637	0.2963	8.63	<.0001

region5	Midwest	2.29399	0.29559	7.76	<.0001
region6	NY Metro	2.64214	0.29615	8.92	<.0001
region7	New England	2.64032	0.2956	8.93	<.0001
region8	North Central	1.5784	0.29781	5.3	<.0001
region9	Northwest	2.12036	0.29781	7.12	<.0001
region10	Philadelphia Metro	1.4489	0.29851	4.85	<.0001
region11	Sacramento/ N. Cali	0.78841	0.33083	2.38	0.0172
region12	San Diego	1.91753	0.30012	6.39	<.0001
region13	Silicon Valley	3.22136	0.29899	10.77	<.0001
region14	South Central	1.19146	0.31642	3.77	0.0002
region15	Southwest	1.41457	0.30178	4.69	<.0001
region16	Southeast	2.64879	0.29548	8.96	<.0001
region17	Texas	2.18673	0.29622	7.38	<.0001
region18	Unknown	-0.09377	0.37625	-0.25	0.8032
region19	Upstate NY	0.5953	0.32102	1.85	0.0638
Real GDP		0.00168	0.000285	5.9	<.0001
IR5		0.17762	0.03631	4.89	<.0001

Table 7: Regression Results for Log Investment by Venture Capital 2000Q2 – 2003Q4

Dependent Variable: loginvestment1					
Number of Observations Read			2954		
Number of Observations Used			2881		
Number of Observations with Missing Values			73		
Analysis of Variance					
Source	DF	Sum of Squares	Mean Square	F Value	Pr>F
Model	38	4883.217	128.5057	75.13	<.0001
Error	2842	4861.36	1.71054		
Corrected Total	2880	9744.577			
Root MSE		1.30788			
Dependent Mean		16.44395			
Coeff Var		7.95354			
R-Square	0.5011				
Adj R-Sq	0.4945				

Variable	Label	Parameter Estimate	Standard Error	t Value	Pr>|t|
Intercept	Intercept	936.2186	176.87	5.29	<.0001
observation1		-0.04652	0.00895	-5.2	<.0001
NUOFDEALS		0.05215	0.00321	16.24	<.0001
industry2	Business Products and Services	-0.98214	0.13224	-7.43	<.0001
industry3	Computers and Peripherals	-1.36547	0.156	-8.75	<.0001
industry4	Consumer Products and Services	-1.49884	0.14065	-10.66	<.0001
industry5	Electronics/Instrumentation	-1.89021	0.15105	-12.51	<.0001
industry6	Financial Services	-0.95045	0.14173	-6.71	<.0001
industry7	Healthcare Services	-1.5573	0.14053	-11.08	<.0001
industry8	IT Services	-0.64459	0.12967	-4.97	<.0001
industry9	Industrial/Energy	-1.01128	0.12646	-8	<.0001
industry10	Media and Entertainment	-0.48752	0.12685	-3.84	0.0001
industry11	Medical Devices and Equipment	-0.59854	0.12785	-4.68	<.0001
industry12	Networking and Equipment	-0.02876	0.12935	-0.22	0.8241
industry13	Other	-2.64763	0.29625	-8.94	<.0001
industry1	Retailing/Distribution	-1.8358	0.1437	-12.78	<.0001

4					
industry15	Semiconductors	-0.60458	0.13136	-4.6	<.0001
industry16	Software	0.02923	0.13058	0.22	0.8229
industry17	Telecommunications	0.0499	0.12443	0.4	0.6884
Region2	Colorado	1.7268	0.28379	6.08	<.0001
Region3	DC Metroplex	1.79629	0.27986	6.42	<.0001
Region4	LA Orange County	2.28207	0.27871	8.19	<.0001
Region5	Midwest	1.88975	0.27824	6.79	<.0001
Region6	NY Metro	2.20544	0.27893	7.91	<.0001
Region7	New England	2.58765	0.27828	9.3	<.0001
Region8	North Central	1.23429	0.28324	4.36	<.0001
Region9	Northwest	1.69793	0.28005	6.06	<.0001
Region10	Philadelphia Metro	1.60711	0.28463	5.65	<.0001
Region11	Sacramento/ N. Cali	0.58467	0.3175	1.84	0.0657
Region12	San Diego	1.72037	0.28327	6.07	<.0001
Region13	Silicon Valley	2.92513	0.2834	10.32	<.0001
Region14	South Central	0.31444	0.30267	1.04	0.2989
Region15	Southwest	1.09165	0.28569	3.82	0.0001
Region16	Southeast	2.20493	0.2784	7.92	<.0001
Region17	Texas	2.19882	0.2788	7.89	<.0001
Region18	Unknown	-1.18437	0.40012	-2.96	0.0031
Region19	Upstate NY	0.57829	0.3033	1.91	0.0567
Real GDP		0.000919	0.000324	2.83	0.0047
IR10		0.15692	0.08648	1.81	0.069

Table 8: Regression Results for Log Investment by Venture Capital 2004Q1 – 2007Q2

Dependent Variable: loginvestment1

Number of Observations Read	2769
Number of Observations Used	2679
Number of Observations with Missing Values	90

Analysis of Variance

Source	DF	Sum of Squares	Mean Square	F Value	Pr > F
Model	38	3755.69	98.83394	62.99	<.0001
Error	2640	4142.029	1.56895		
Corrected Total	2678	7897.718			

Root MSE	1.25258
Dependent Mean	16.22776
Coeff Var	7.71873
R-Square	0.4755
Adj R-Sq	0.468

Variable	Label	Parameter Estimate	Standard Error	t Value	Pr > |t|
Intercept	Intercept	-393.793	221.1078	-1.78	0.075
observation1		0.02067	0.01123	1.84	0.0658
NUOFDEALS		0.06684	0.00425	15.71	<.0001
Industry2	Business Products and Services	-1.55523	0.13608	-11.43	<.0001
Industry3	Computers and Peripherals	-1.48683	0.15057	-9.87	<.0001
Industry4	Consumer Products and Services	-1.81024	0.1377	-13.15	<.0001
Industry5	Electronics/Instrumentation	-1.55041	0.13916	-11.14	<.0001
Industry6	Financial Services	-1.49829	0.14231	-10.53	<.0001
Industry7	Healthcare Services	-1.46972	0.14329	-10.26	<.0001
Industry8	IT Services	-1.11162	0.12479	-8.91	<.0001
Industry9	Industrial/Energy	-0.85903	0.1204	-7.14	<.0001
Industry10	Media and Entertainment	-1.03264	0.12542	-8.23	<.0001
Industry11	Medical Devices and Equipment	-0.37767	0.12011	-3.14	0.0017
Industry12	Networking and Equipment	-0.91606	0.13235	-6.92	<.0001
Industry13	Other	-4.10918	0.63625	-6.46	<.0001
Industry14	Retailing/Distribution	-1.94396	0.14962	-12.99	<.0001
Industry15	Semiconductors	-0.95434	0.12869	-7.42	<.0001
Industry16	Software	-0.46871	0.12353	-3.79	0.0002
Industry17	Telecommunications	-0.68338	0.12116	-5.64	<.0001
region2	Colorado	2.06442	0.25797	8	<.0001
region3	DC Metroplex	2.06685	0.25378	8.14	<.0001
region4	LA Orange County	2.6176	0.25171	10.4	<.0001
region5	Midwest	2.02823	0.25242	8.04	<.0001
region6	NY Metro	2.6243	0.25121	10.45	<.0001
region7	New England	3.01301	0.25167	11.97	<.0001

region8	North Central	1.78047	0.26205	6.79	<.0001
region9	Northwest	2.54887	0.25243	10.1	<.0001
region10	Philadelphia Metro	1.52194	0.25577	5.95	<.0001
region11	Sacramento/ N. Cali	1.30659	0.3308	3.95	<.0001
region12	San Diego	2.58648	0.2572	10.06	<.0001
region13	Silicon Valley	3.34857	0.26056	12.85	<.0001
region14	South Central	0.31243	0.28553	1.09	0.274
region15	Southwest	1.88202	0.2592	7.26	<.0001
region16	Southeast	2.49287	0.25188	9.9	<.0001
region17	Texas	2.53124	0.25224	10.03	<.0001
region18	Unknown	4.15193	0.98851	4.2	<.0001
region19	Upstate NY	0.66379	0.27201	2.44	0.0147
Real GDP		-0.00061	0.000417	-1.45	0.1463
IR5		0.11789	0.0965	1.22	0.221

Table 9: Regression Results for Log Investment by Venture Capital 2007Q3 – 2009Q1

Dependent Variable: loginvestment1

Number of Observations Read	1165
Number of Observations Used	1085
Number of Observations with Missing Values	80

Analysis of Variance

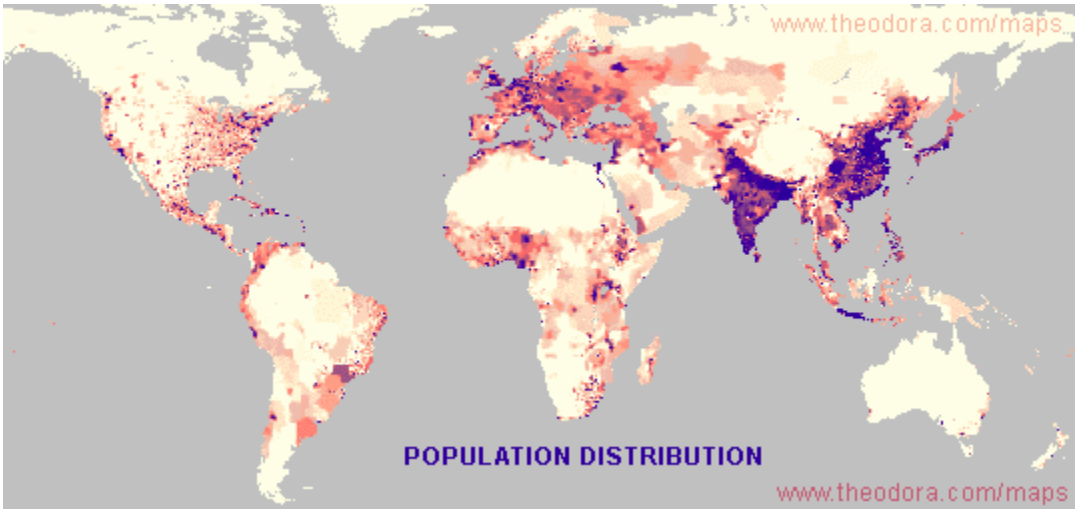
Source	DF	Sum of Squares	Mean Square	F Value	Pr > F
Model	37	1876.095	50.70527	28.69	<.0001
Error	1047	1850.645	1.76757		
Corrected Total	1084	3726.74			

Root MSE	1.3295
Dependent Mean	16.12064
Coeff Var	8.24719
R-Square	0.5034
Adj R-Sq	0.4859

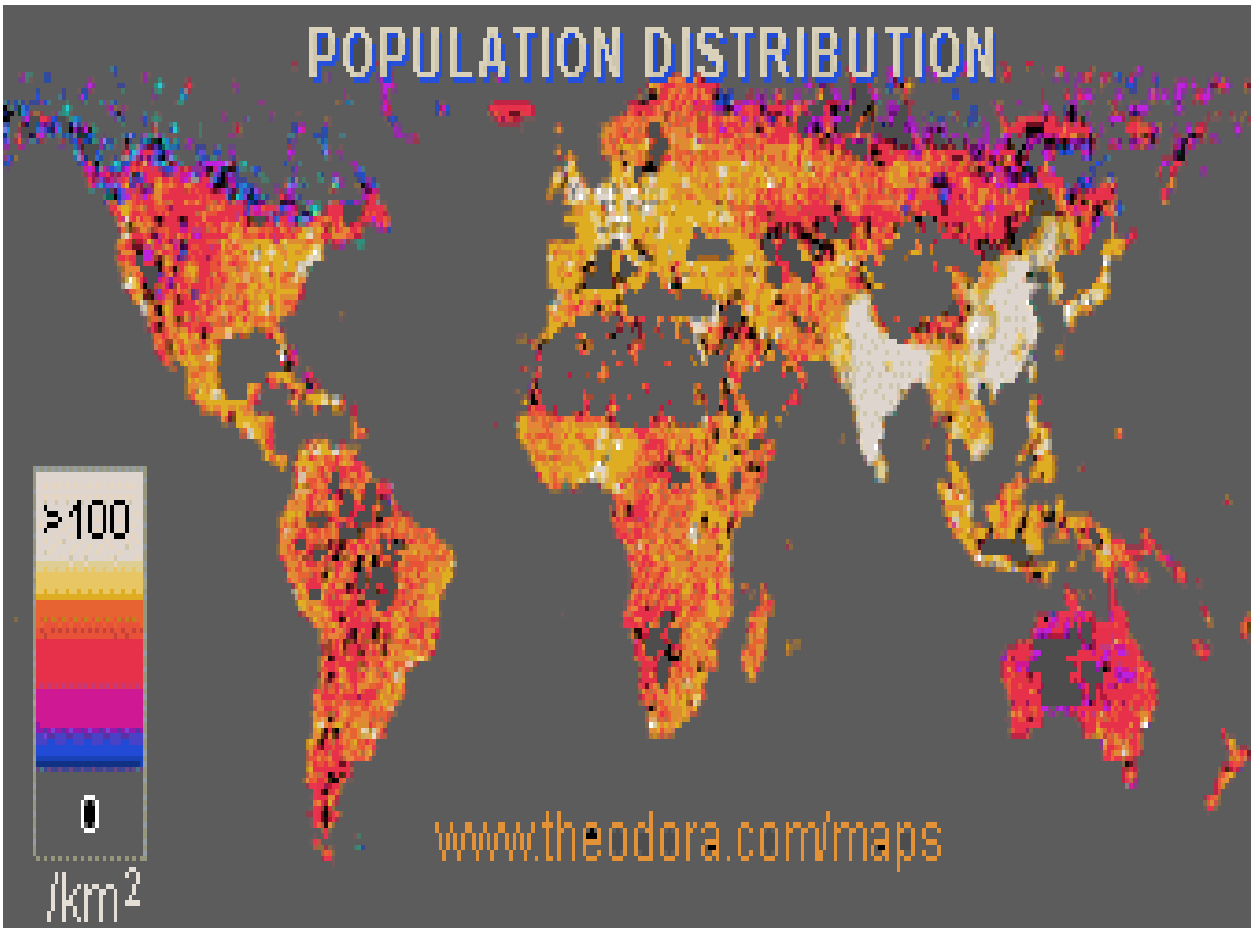
Variable	Label	Parameter Estimate	Standard Error	t Value	Pr > |t|
Intercept	Intercept	338.7324	351.6146	0.96	0.3356
observation1		-0.01642	0.01751	-0.94	0.3485
NUOFDEALS		0.07551	0.00737	10.25	<.0001
industry2	Business Products and Services	-1.47737	0.22558	-6.55	<.0001
industry3	Computers and Peripherals	-1.49078	0.2487	-5.99	<.0001
industry4	Consumer Products and Services	-1.23131	0.23164	-5.32	<.0001
industry5	Electronics/Instrumentation	-1.2644	0.23024	-5.49	<.0001
industry6	Financial Services	-0.81212	0.24471	-3.32	0.0009
industry7	Healthcare Services	-1.81248	0.24395	-7.43	<.0001
industry8	IT Services	-0.55852	0.20867	-2.68	0.0076
industry9	Industrial/Energy	0.15673	0.20095	0.78	0.4356
industry10	Media and Entertainment	-0.78359	0.20752	-3.78	0.0002
industry11	Medical Devices and Equipment	0.21874	0.20183	1.08	0.2787
industry12	Networking and Equipment	-1.057	0.23101	-4.58	<.0001
industry13	Other	-2.62576	0.40802	-6.44	<.0001
industry14	Retailing/Distribution	-1.42229	0.26266	-5.41	<.0001
industry15	Semiconductors	-0.6152	0.23274	-2.64	0.0083
industry16	Software	-0.37099	0.20146	-1.84	0.0658
industry17	Telecommunications	-0.76369	0.21308	-3.58	0.0004

region2	Colorado	1.28593	0.45416	2.83	0.0047
region3	DC Metroplex	1.2739	0.45339	2.81	0.0051
region4	LA Orange County	2.03937	0.45055	4.53	<.0001
region5	Midwest	1.3152	0.45074	2.92	0.0036
region6	NY Metro	2.0479	0.44947	4.56	<.0001
region7	New England	2.16971	0.45084	4.81	<.0001
region8	North Central	0.76213	0.47677	1.6	0.1102
region9	Northwest	1.722	0.4513	3.82	0.0001
region10	Philadelphia Metro	0.73271	0.45684	1.6	0.109
region11	Sacramento/ N. Cali	0.4583	0.51874	0.88	0.3772
region12	San Diego	1.55553	0.46129	3.37	0.0008
region13	Silicon Valley	2.57505	0.46396	5.55	<.0001
region14	South Central	-0.39391	0.48159	-0.82	0.4136
region15	Southwest	0.77784	0.46213	1.68	0.0926
region16	Southeast	1.85182	0.45149	4.1	<.0001
region17	Texas	1.7359	0.45179	3.84	0.0001
region19	Upstate NY	-0.42728	0.49009	-0.87	0.3835
Real GDP		0.000496	0.000455	1.09	0.276
IR3		0.1065	0.12598	0.85	0.398

Figure 1: The Distribution of Population in the World

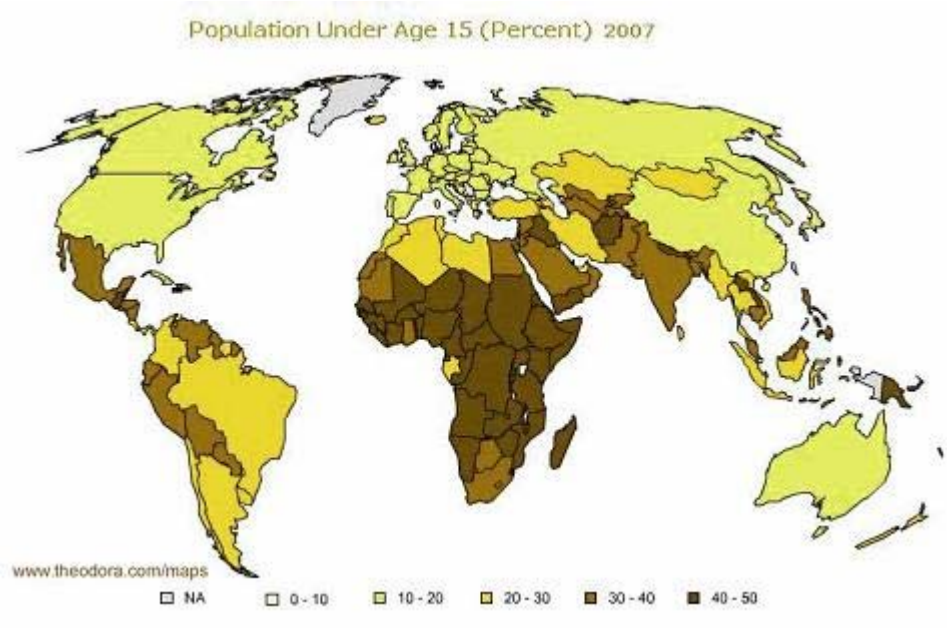


Maps courtesy of www.theodora.com/maps used with permission



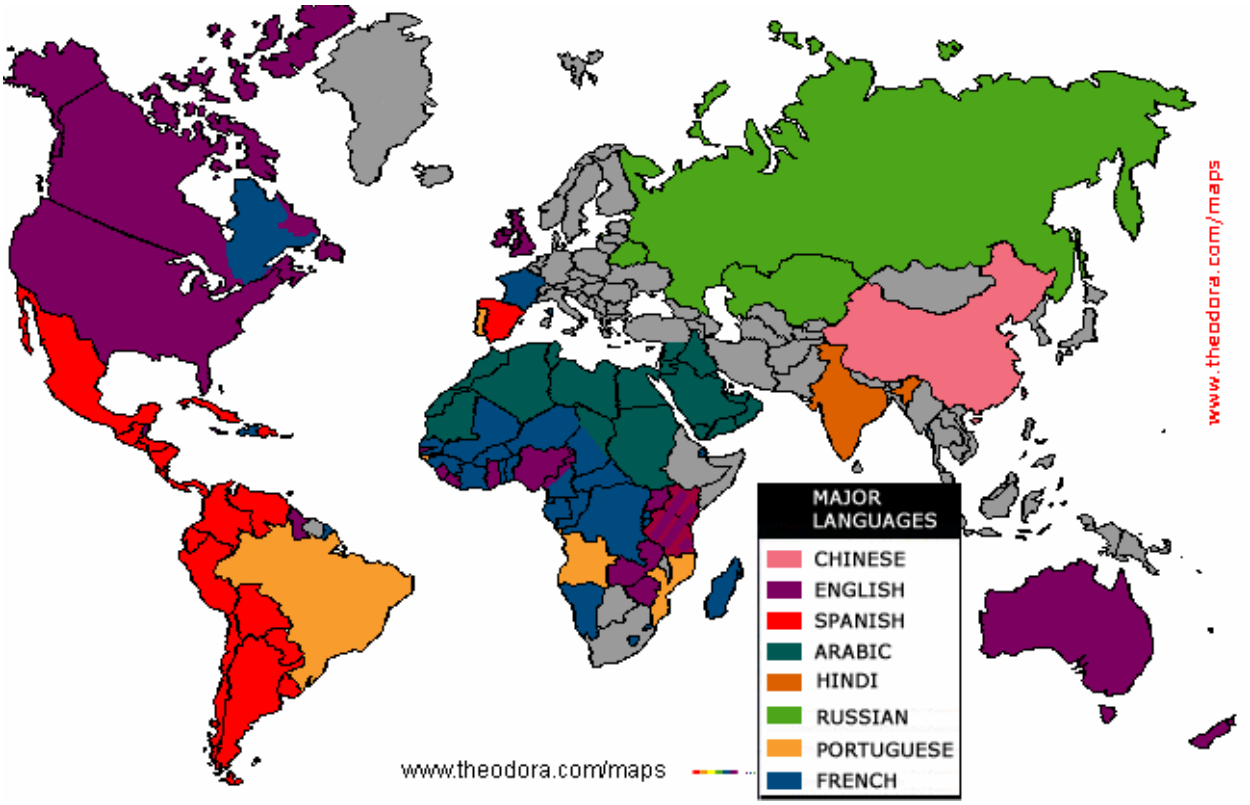
Maps courtesy of www.theodora.com/maps used with permission

Figure 2: Population of the World Under 15 Years in Percent



Maps courtesy of www.theodora.com/maps used with permission

Figure3: Major Languages Used in the World



Maps courtesy of www.theodora.com/maps used with permission

Figure 4: The United States Annual Number of Venture Capital Deals: 1995 - 2009Q1

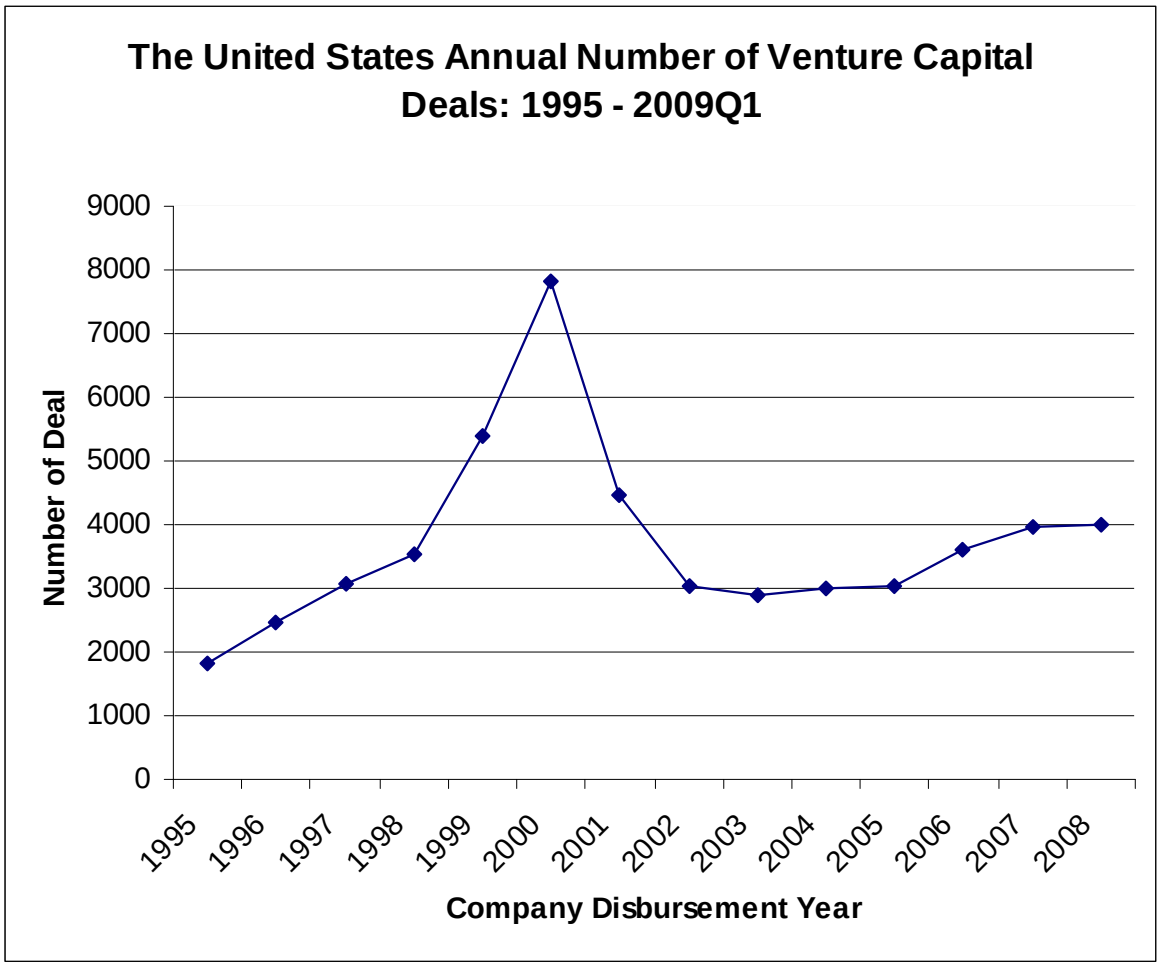


Figure 5: The Annual Average Venture Capital Investment in Unites States in millions of dollars: 1995-2009Q1

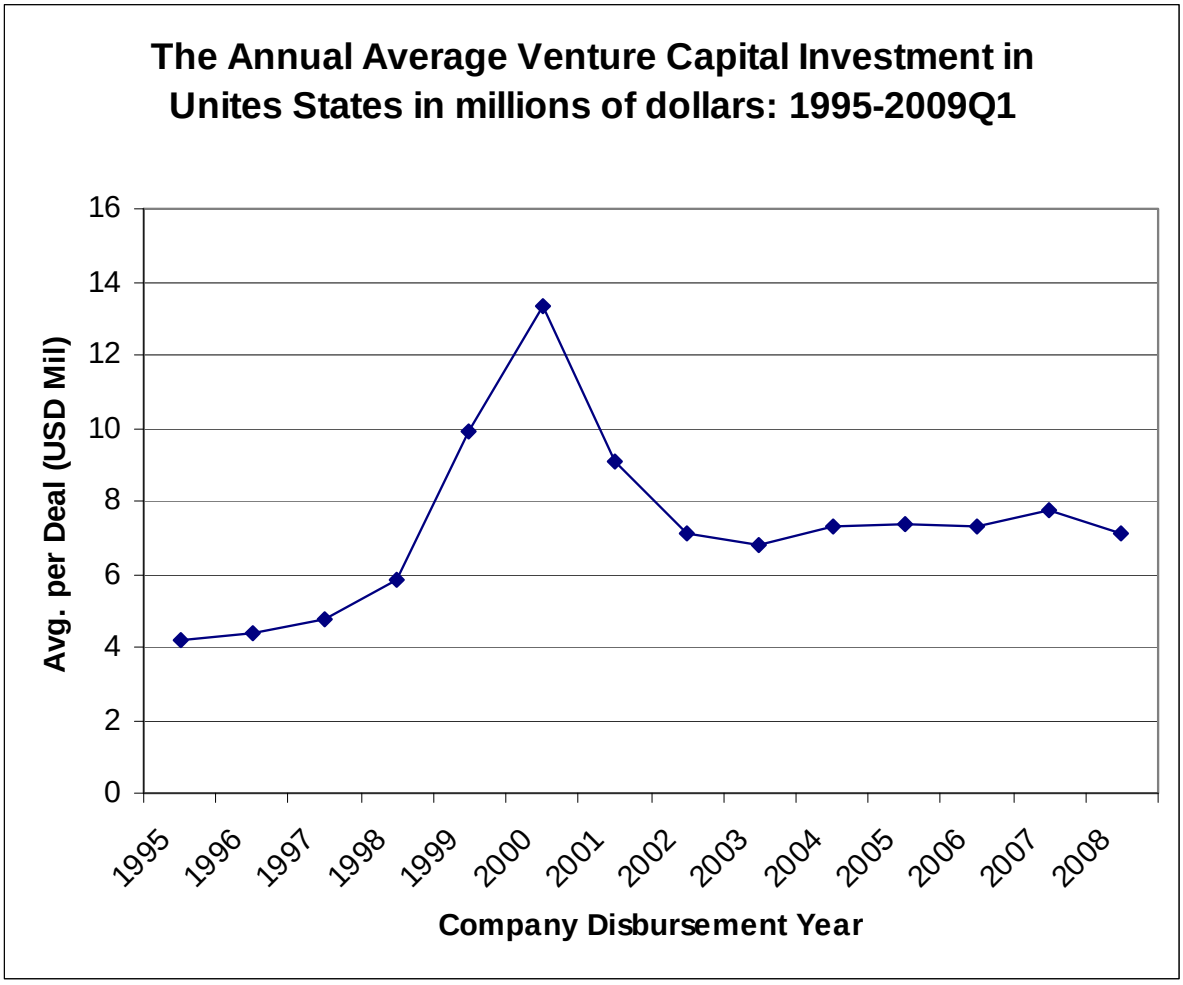
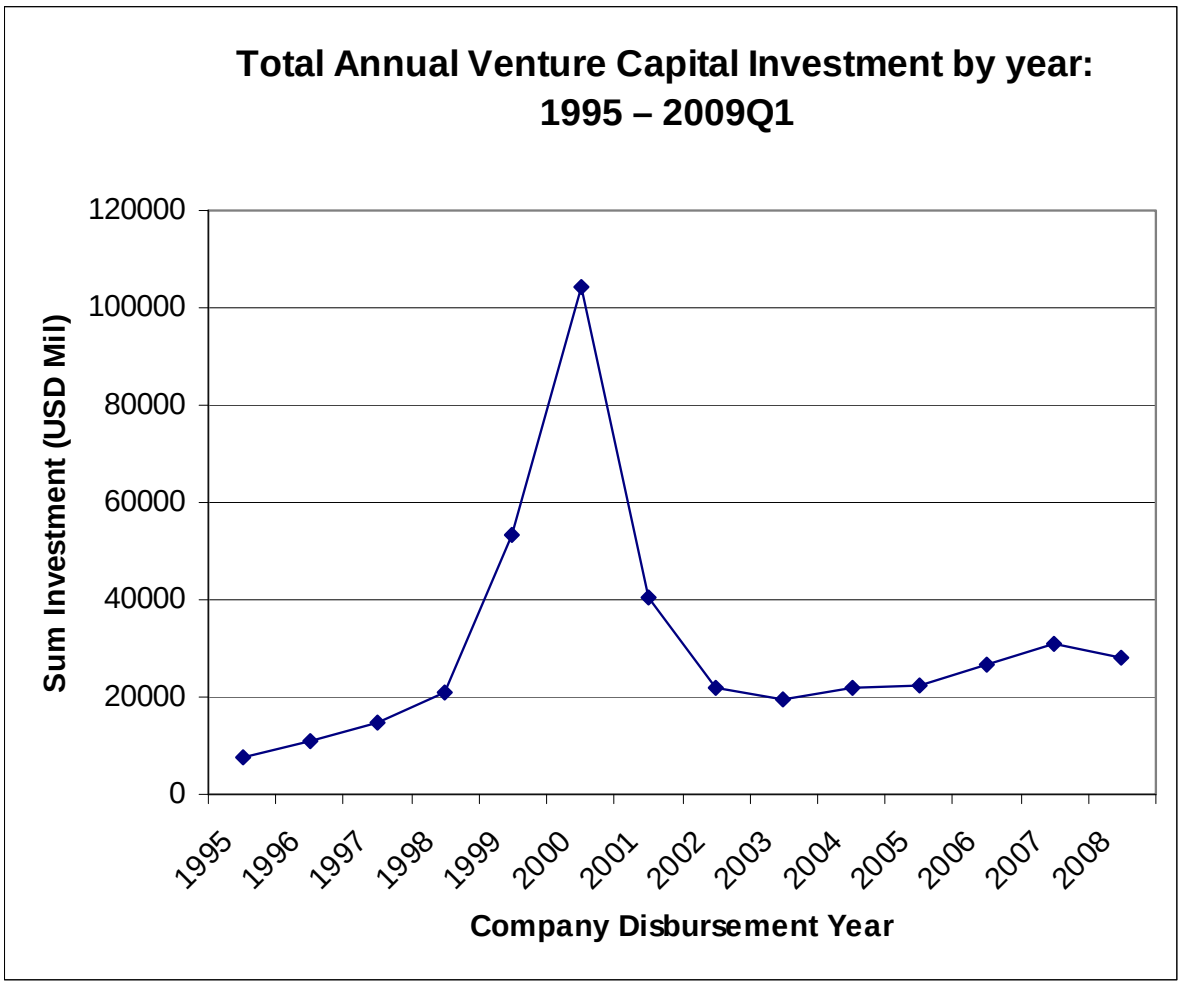


Figure 6: Total Annual Venture Capital Investment by year: 1995 – 2009Q1



Figures 7: Total Number of Venture Capital Deals by Regions: 1995 – 2009Q1

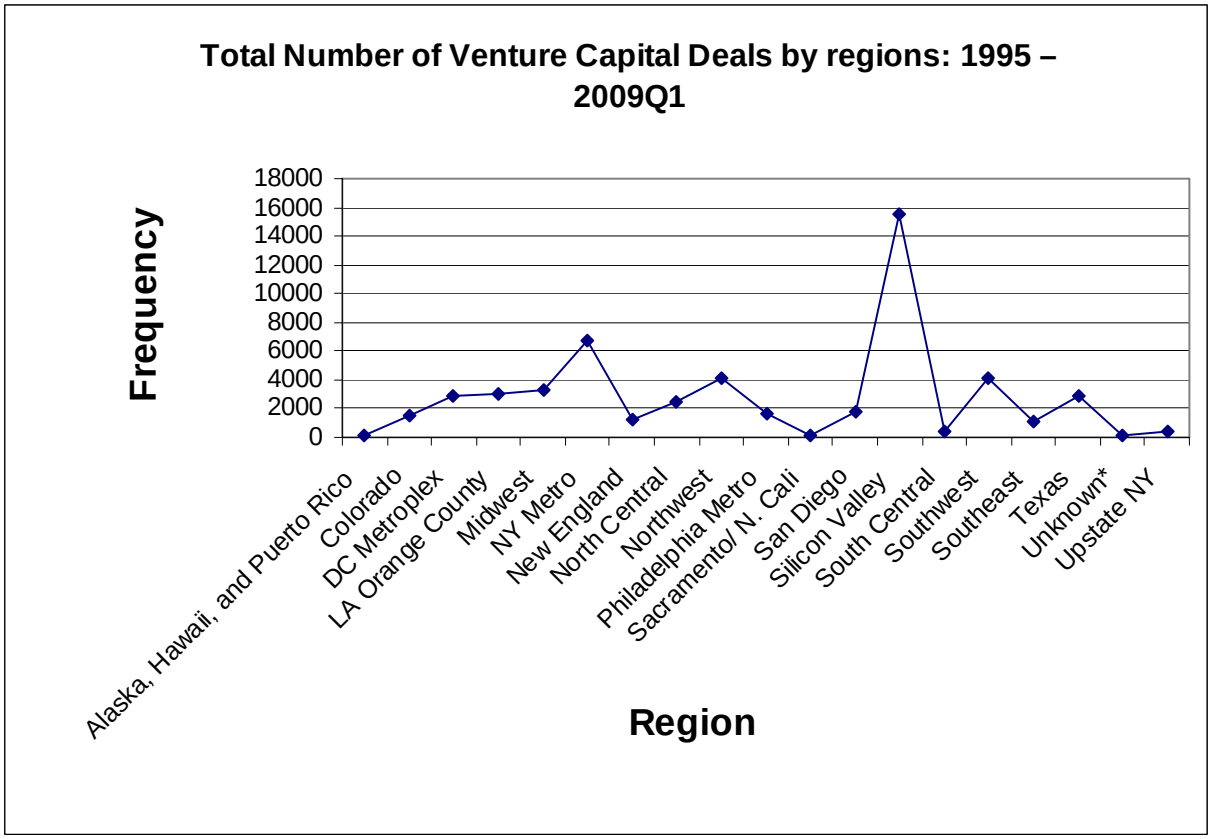


Figure 8: Total Number of Venture Capital Deals by Industries: 1995 – 2009Q1

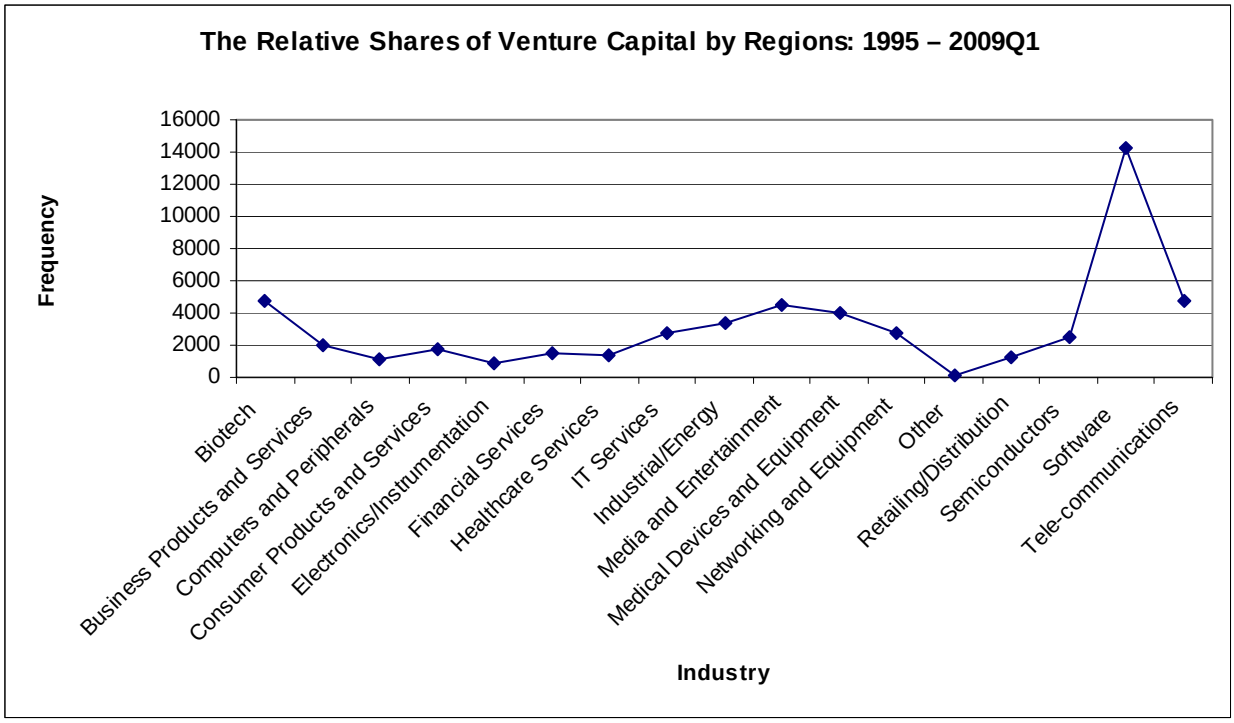


Figure 9: The Relative Shares of Total Number of Deals by Regions

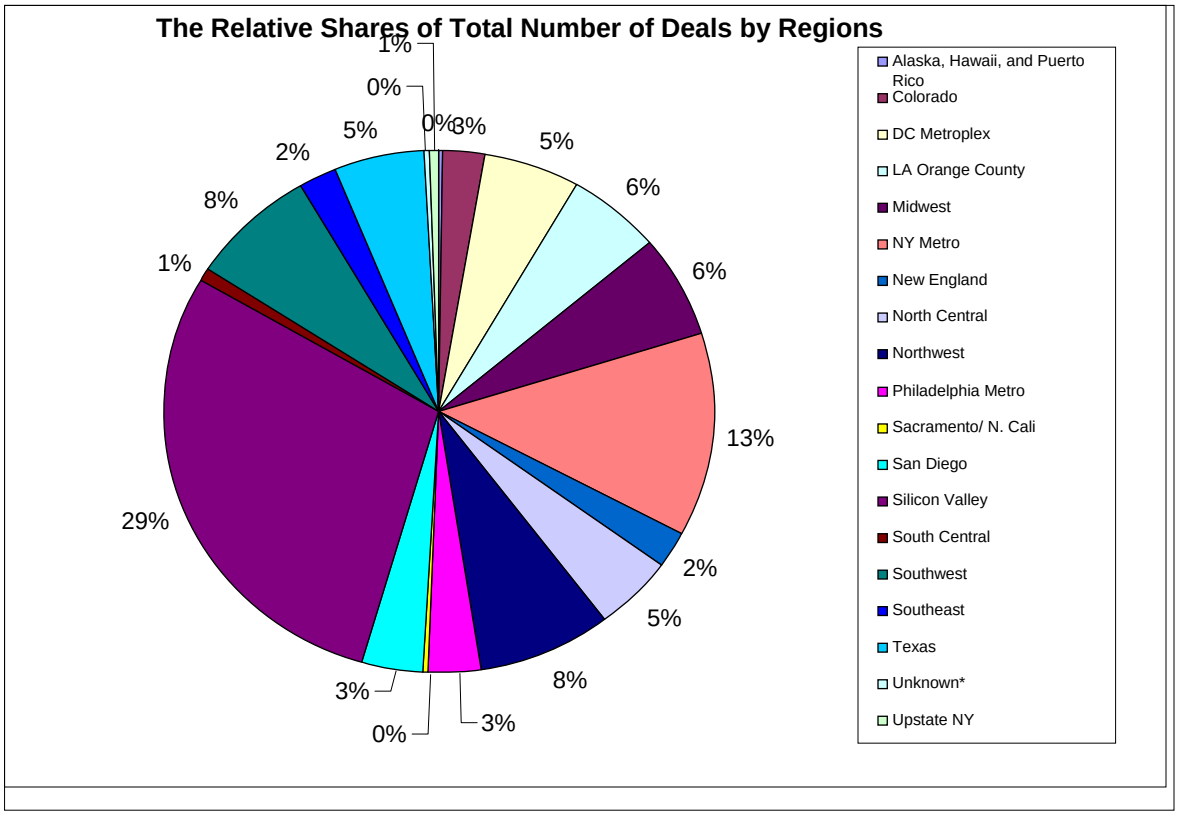


Figure 10: The Relative Shares of Total Number of Deals by Industries

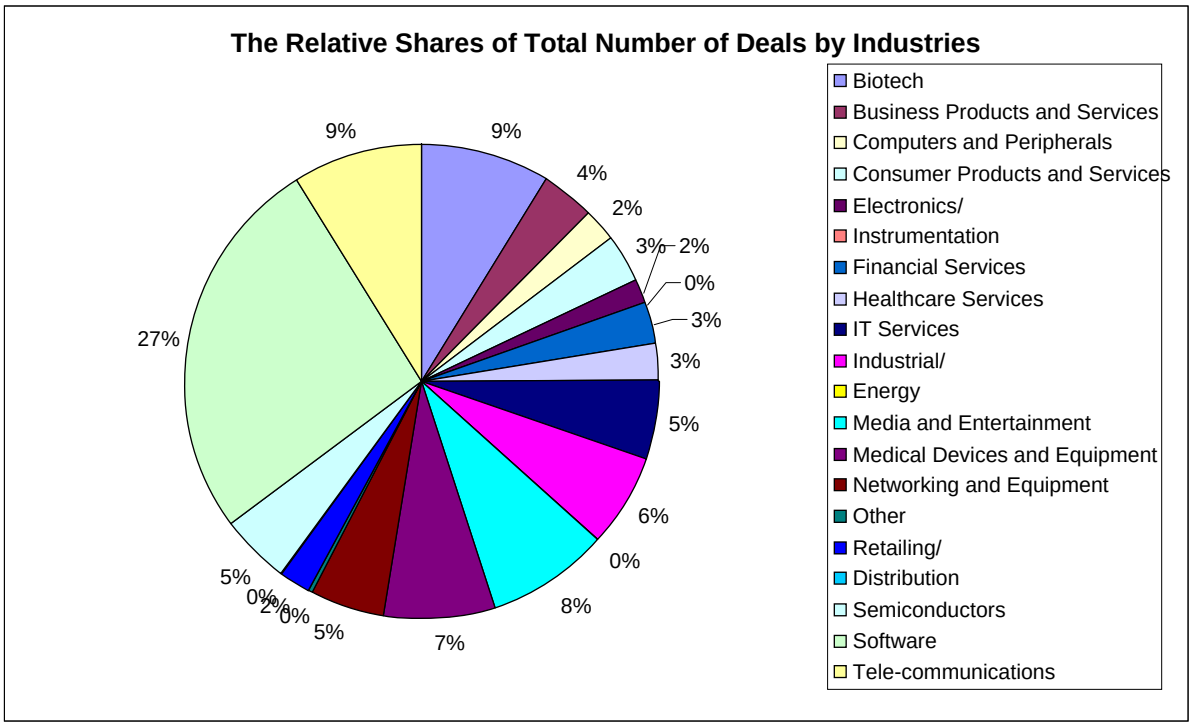
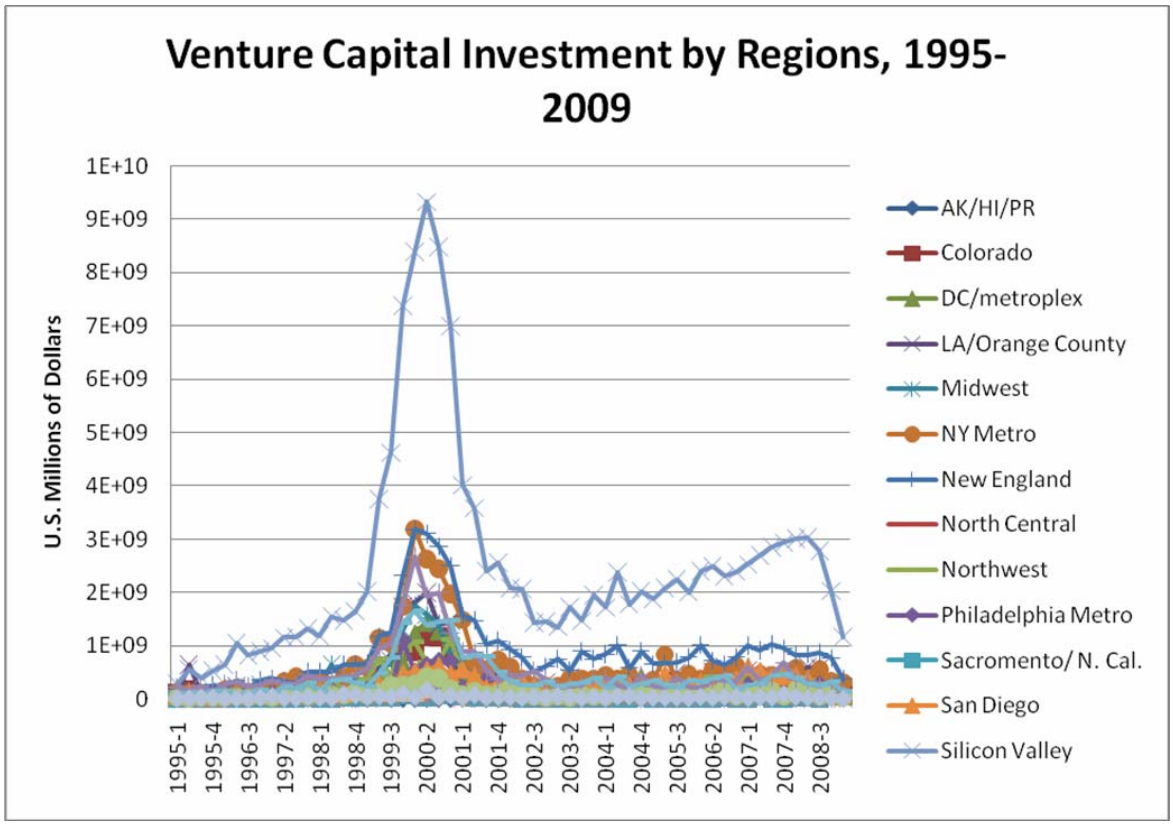


Figure 11: Venture Capital Investment by Regions, 1995-2009



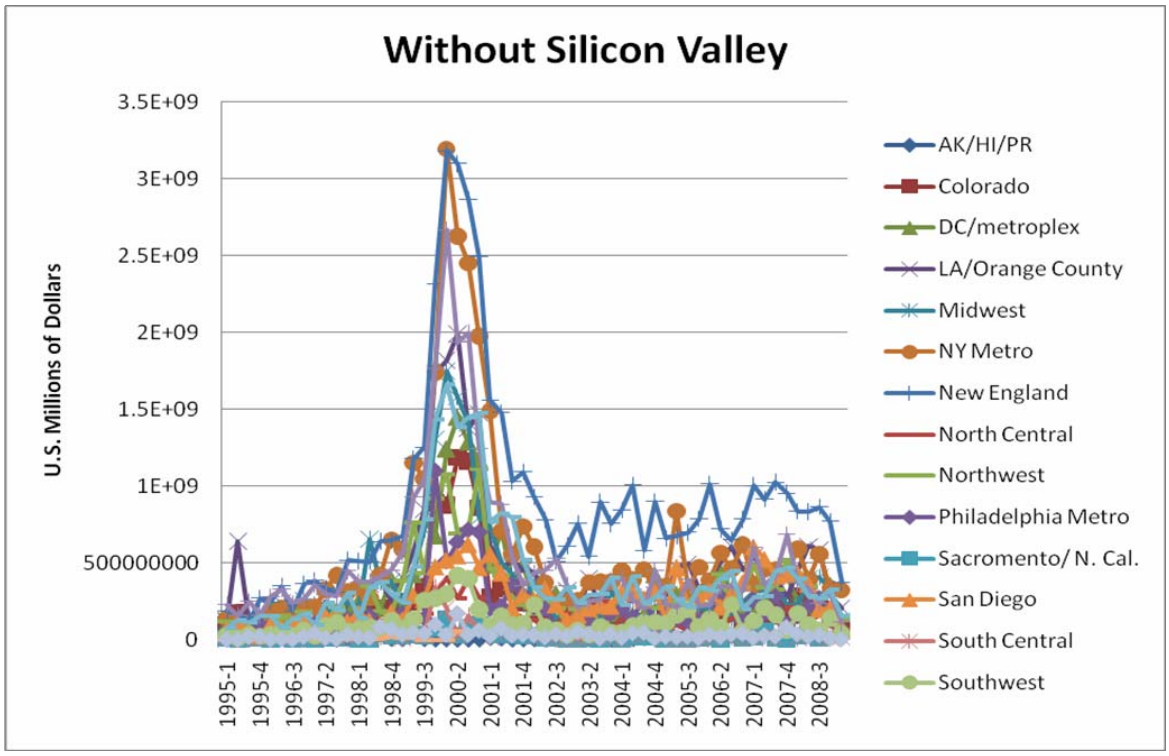
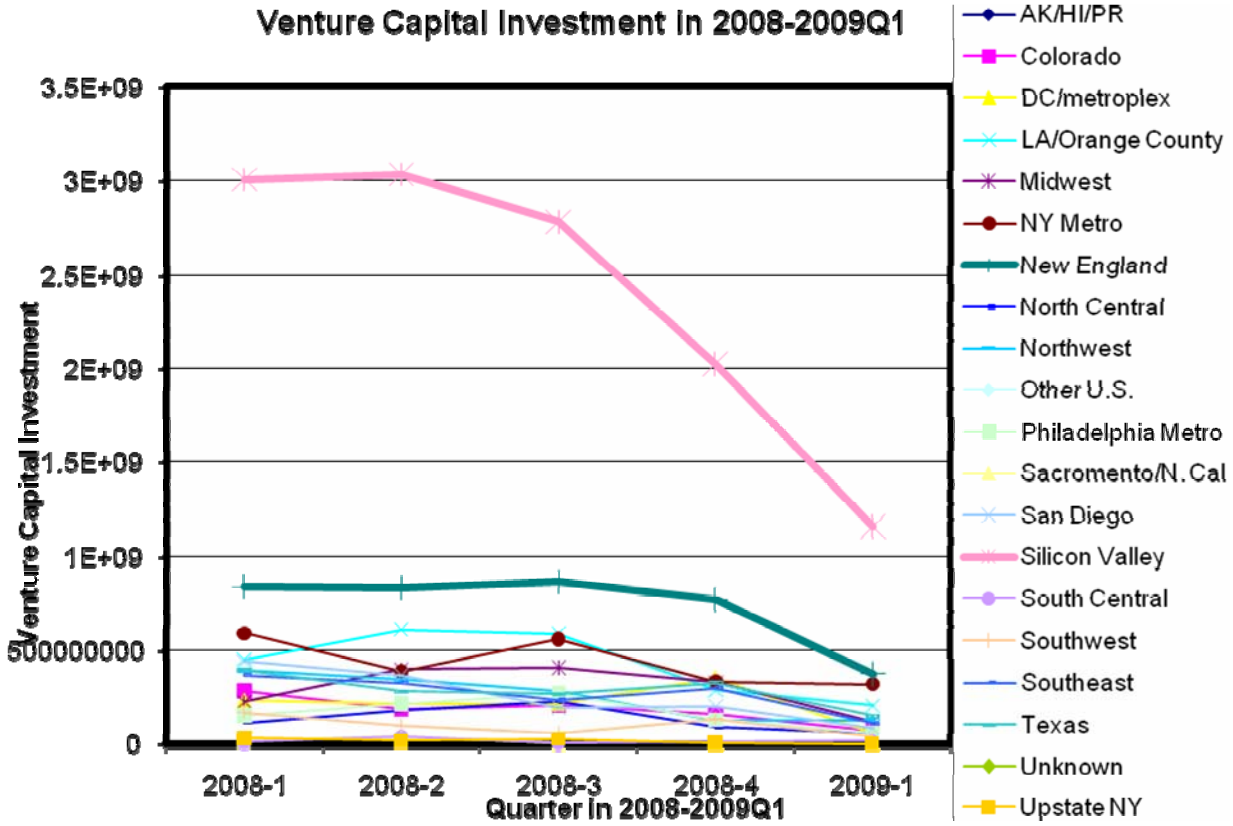


Figure12: Venture Capital Investment in 2008-2009Q1 by Quarter of Investment



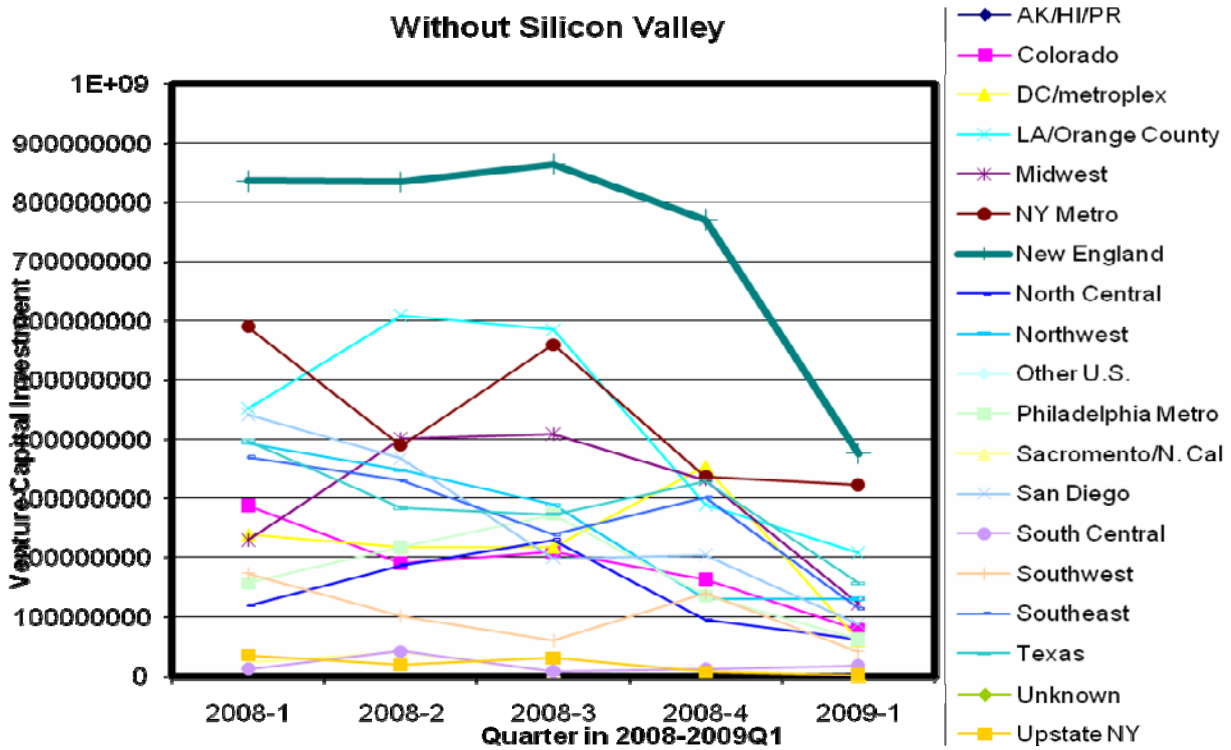

Without Silicon Valley
1E+09
900000000
800000000
700000000
600000000
500000000
400000000
300000000
200000000
100000000
0
Venture Capital Investment
2008-1
2008-2
2008-3
2008-4
2009-1
Quarter in 2008-2009Q1
AK/HI/PR
Colorado
DC/metroplex
LA/Orange County
Midwest
NY Metro
New England
North Central
Northwest
Other U.S.
Philadelphia Metro
Sacromento/N. Cal
San Diego
South Central
Southwest
Southeast
Texas
Unknown
Upstate NY

Figure 13: Venture Capital Investment in 2008-2009Q1 by Regions

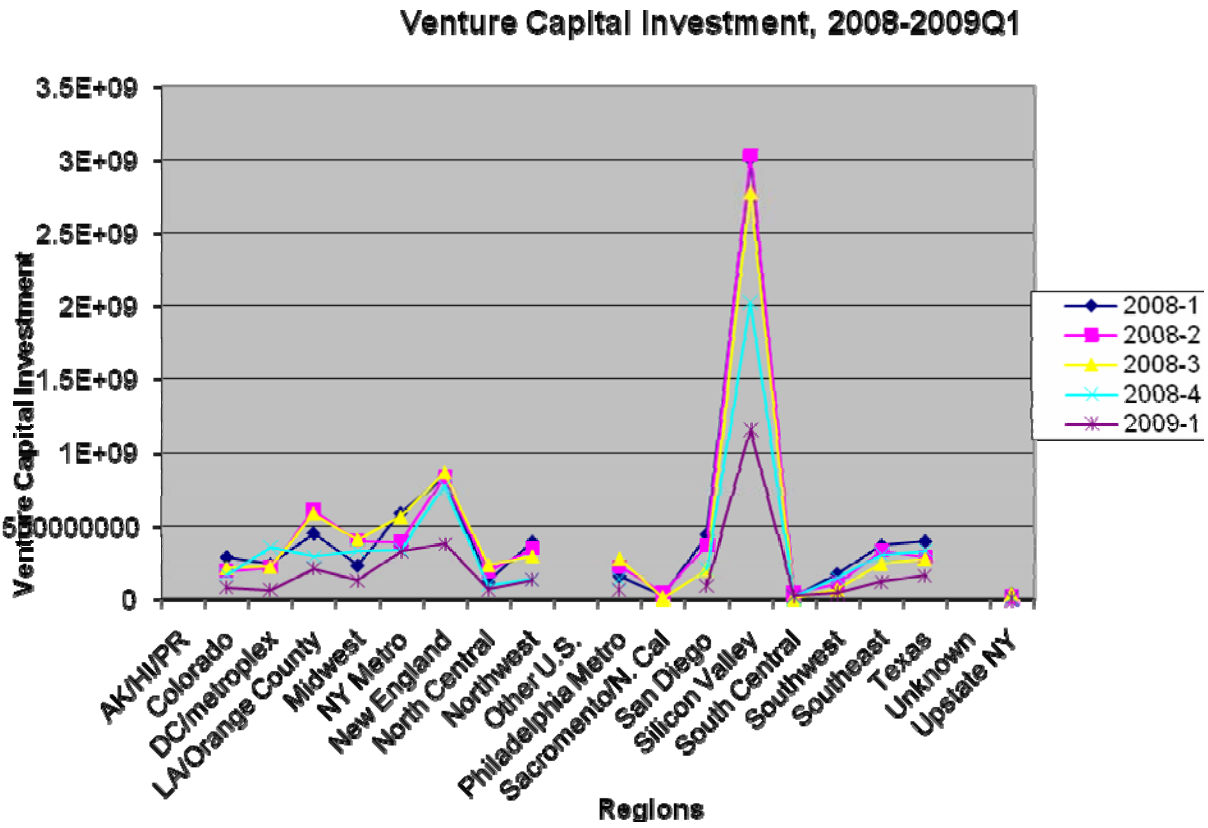


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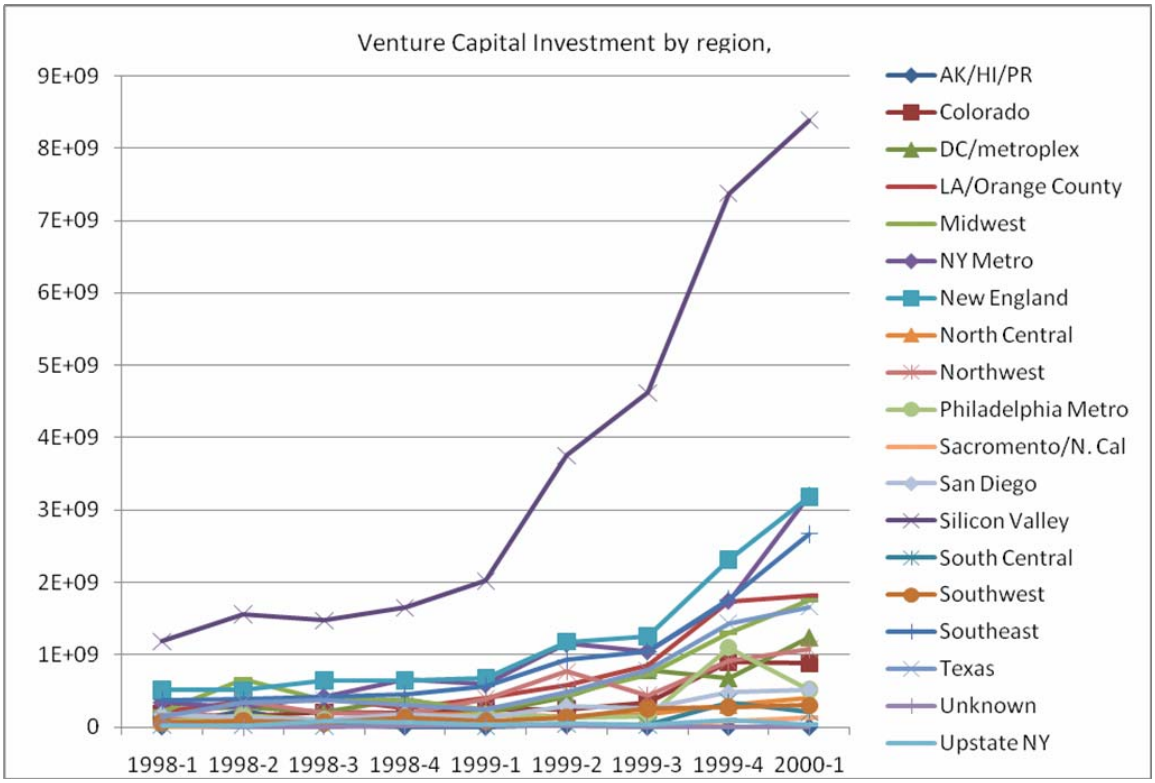
Figure 14: Venture Capital Investment by region, 1998Q1 to 2000Q1



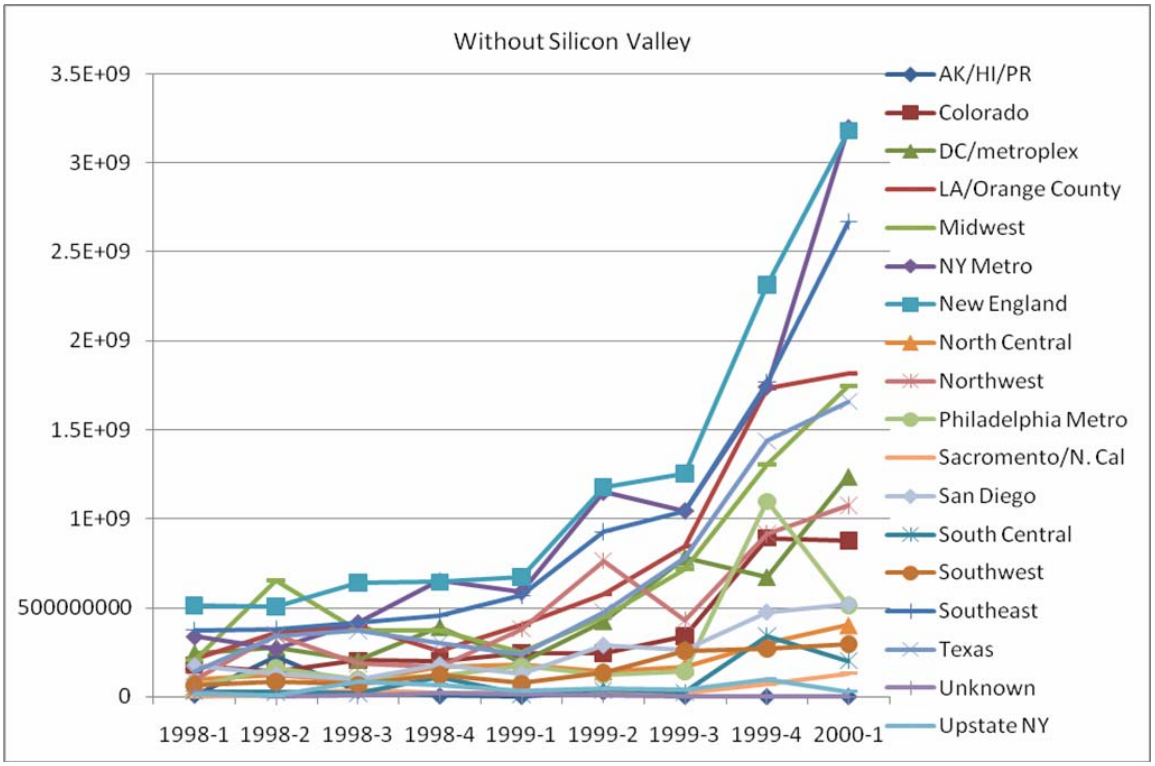


Figure 15: Venture Capital investment by region , 1998Q1 to 2000Q1

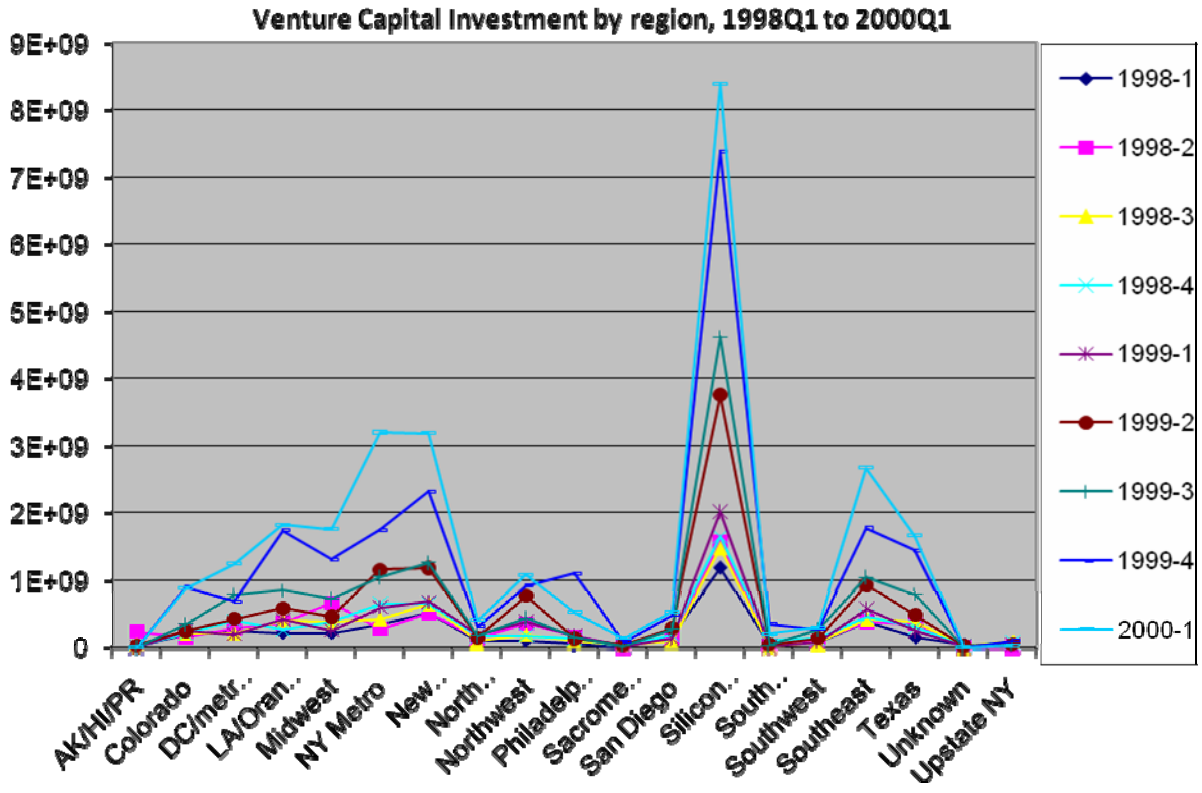


Exhibit 1: Summary of studies of Venture Capital Investment

Author	Sample Description	Data Source	Method of Analysis	Summary
Alonso-Villar (2005)	A Theoretical Model	A Theoretical Model	A Theoretical Model	Regional convergenc the consequence of improvements in transportation betw upstream and down firms than those be firms and consume
Babcock-Lumish (2009)	Number of venture capital deals in various clusters in U.S. and England.	Thomson Financial Venture Economics' VentureXpert data	Graphical analysis	Policymakers need to the following 7 C's considering policy: capability, creativit cluster, connection, collaboration
Behrens (2005)	A Theoretical Model	A Theoretical Model	A Theoretical Model	Results are in accord observed existenc market size depen "functional hierarc within and betwee countries.
Bengtsson and Ravid (2009)	Sample of contracts between U.S. early-stage private companies and their VC investors. Data from *VCExperts* with 1,800 investment rounds in almost 1,500 unique companies.	Data from *VCExperts*	Mean, median and std deviation used in regression analysis.	Contracts include sig fewer investor-frien flow contingencies company is located California or if the more exposed to the market. The region differences in contr can, to some degree explained by the lev concentration of loc markets.

Author	Sample Description	Data Source	Method of Analysis	Summary
Bengtsson (2008)	637 serial founders	Hand-collected	Descriptive Statistics (Mean, median and std deviation)	VCs with more infor about a founder are s more likely to engag relational financing, likelihood of repeate relationships is lowe new company is in a geographically distar Relationship VCs are involved in the found company.
Cumming and Dai (2009)	122,248 Venture capital investments between 1980 and 2009. The top 4 states ranked by the number of new venture (CA,MA, NY and TX) account for 20,875	VenturExpert data	Regression Analysis of Local Bias	Venture capitalists in prevalently in the ne located in their states Entrepreneurial clust attract local venture c investment. Moreove competition increase prices and decreases on investment.
Knight (2010)	Interview of 34 professionals	New Energy Finance statistical data	Bar graph comparison	Well targeted techno is needed along pricing to hel technological and remove b private investme

Author	Sample Description	Data Source	Method of Analysis	Summary
Overman et al. (2003)	Calculating Country's specialization ratio to average European Union country for 14 countries in Europe	OECD (1999) EMU: Facts, Challenges and Policies (Paris: OECD). WIFO (1999) 'Specialization and (Geographic) Concentration of European Manufacturing'. Background paper for 'The Competitiveness of European Industry: The 1999 Report'. EC Enterprise Directorate-General, Working Paper No .1, Brussels.	Graphical, Descriptive Statistics and Regression Analysis	Improvements in ma are likely to rai levels in insiders outsiders. Taking a term view, the urba of the European U be expected to be polarized, devel steeper size distribu
A. Shachmurove and Y. Shachmurove (2004)	2,895 Initial Public Offerings of companies that were backed by venture capital from 1968 through 1998	The data are from Securities Data Company Platinum 2.1, Venture Financing 1968-1998, Thomson Financial Securities Data, 22 Thomson Place, Boston, MA 02210, and from Venture Economics Information Services, Venture Financing 1968 – 1998, Newark, NJ 07102	Median and tests of mean differences and comparisons	Based on historica the total return venture capital reasonable given risk. This is concentrating on various types of that have been su venture capital.
E. Shachmurove and Y. Shachmurove (2009A)	Venture capital investment activity in the Clean-tech sector of the United States during the period 1995 to 2009, Quarter 1 (2009Q1).	MoneyTree Survey	Pearson correlation coefficients and multi-variable regression.	Confirms the signi geography in Clean-Technology investment and deals.

Author	Sample Description	Data Source	Method of Analysis	Summary
E. Shachmurove and Y. Shachmurove (2009B)	Venture capital investment activity in the Clean-tech sector of the United States during the period 1995 to 2008, Quarter 1 (2008Q1).	MoneyTree Survey	Pearson correlation coefficients as well as regression.	Unlike other industr backed by venture the Clean-tech sect be relatively in negative shocks t economy. Thus, in this sector, as larger portfolio, ma in serving as a he downturns in the U global economy.
E Shachmurove and Y. Shachmurove (2009C)	Quarterly capital venture investment data are used from 1995-2009 Quarter 1 in a statistical analysis.	MoneyTree Survey	Pearson correlation coefficients, Multi-variable Regression	The results ind importance of determining Clean- investment. There association betwee venture capital inve Clean-Technology in
E. Schahmurove and Y. Shachmurove (2004)	The actual performance of 2,678 Initial Public Offerings (IPOs) of companies that were backed by venture capital from 1969 to 2002.	Securities Data Company Platinum 2.1, Venture Financing 1968-1998, Thomson Financial Securities Data, and from Venture Economics Information Services, Venture Financing 1968 - 2004	Regression Analysis	The performance venture capital-back fairly poor resulting profits.

Author	Sample Description	Data Source	Method of Analysis	Summary
Y. Shachmurove (2001)		Securities Data Company Platinum 2.1, Venture Financing 1968-1998, Thomson Financial Securities Data, and from Venture Economics Information Services, Venture Financing 1968 -2000	Regression Analysis	Annualized returns a for actively and inact traded firms and for r stages of financing b are much lower than reported by the medi venture capital literat
Y. Shachmurove (2006)	Venture Capital investment activity between the years 1996 and 2005.	MoneyTree survey	Pearson correlation and Regression Analysis	Location and inc important in investment t venture capital.
Y. Shachmurove and Spiegel (2005)	A Theoretical Model	A Theoretical Model	Investigation using the Nash Model and the effects of opening borders to trade on the Nash equilibrium.	When two countries, monopolistic countr other a small m country, transition internationally c market after ope border, it leads to an income for the sm while it causes a c income for the large
Tian (2009)	Round-by-round investments by venture capitalists from January 1, 1980, until October 31, 2006. 27,461 distinct U.S. entrepreneurial firms	Thomson Venture Economics database	Regression as well as Sorenson-Heckman tests of robustness.	Firms receive a simil amount of financing of distance. Proxim venture capitalists t entrepreneurial firm effectively.

Author	Sample Description	Data Source	Method of Analysis	Summary
Venables (1998)	A Theoretical Model	A Theoretical Model	Heckscher–Ohlin model and new trade theory models.	Comparative insufficiently acc several aspects changing patterns c location and nee supplemented with based on new geography and t cumulative causatio
Wang and Zhou (	A Theoretical Model	A Theoretical Model	Model utilizes staged financing without renegotiation.	When used togeth sharing contract financing acts as a complementary me contracting in agency problems