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by

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Abstract

We analyze venture capital (VC) investments in twenty-three non-U.S. countries and compare them to U.S. VC investments. We describe how the contracts allocate cash flow, board, liquidation, and other control rights. In univariate analyses, contracts differ across legal regimes. However, more experienced VCs implement U.S.-style contracts regardless of legal regime. In most specifications, legal regime becomes insignificant controlling for VC sophistication. VCs who use U.S.-style contracts fail significantly less often. The results suggest that U.S. style contracts are efficient across a wide range of legal regimes. The evolution of contracts is consistent with financial contracting theories and costly learning.

G24: Investment banking; Venture Capital; Brokerage
G32: Financing policy; Capital and ownership structure

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1. Introduction

Financial contracting plays an important role in aligning incentives and mitigating agency conflicts between investors and entrepreneurs, thus allowing new ventures to obtain financing.[1] Studies of U.S. venture capital (VC) investing, such as Sahlman (1990) and Kaplan and Strömberg (2003 and 2004), show that investor contracts carefully allocate cash flow rights, liquidation rights, and control rights between the entrepreneur and the VC investor in order to mitigate agency conflicts. Kaplan and Stromberg (2003 and 2004) also show that the characteristics of U.S. VC contracts correspond well to the optimal contracts derived by financial contracting theories such as Aghion and Bolton (1992), Dessein (forthcoming), and Dewatripont and Tirole (1994).

At the same time, the large and growing literature in law and finance finds that legal and institutional differences among countries appear to be important for the development and nature of financial markets, and also for economic growth.[2] The ability to design investments and financial contracts is potentially dependent on various elements of the institutional environment – the nature of corporate and contract law, the quality of legal enforcement, accounting systems, tax regulations, financial markets, etc. If the institutional environment affects the types of contracts that can be written, this could change the types of contracts that are optimal.

This raises the question of whether the financial contracts observed in the U.S. are optimal in other institutional environments. Theories of financial contracting would suggest yes (because they assume property rights are enforced and little else). Alternatively, sufficiently great institutional differences might lead to a negative answer. In this paper, we address this

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[1] See Hart (2001).
[2] See King and Levine (1993), Laporta et al. (1997, 1998, and 2000), and Rajan and Zingales (2003).

question by studying VC investments across different institutional environments – 145 investments in 107 companies in 23 countries by 70 different lead VCs.

First, we describe how the contracts allocate cash flow, board, liquidation, and other control rights. In univariate analyses, the contracts differ significantly across legal regimes. While convertible preferred is the most commonly used security, it is used much less frequently outside the U.S.; at the same time, ordinary common stock is used more frequently. Partly as a result, VCs investing outside the U.S. deals have weaker control, liquidation and exit rights. Non-U.S. investments also are less likely to use contingencies – including milestones, vesting provisions and anti-dilution rights – resulting in less high-powered cash flow incentives compared to their US counterparts.

Next, we consider how the contracts vary across legal regimes. We find that the contracts vary systematically across those regimes. In particular, investments in common law countries are more likely to look like U.S. contracts while investments elsewhere are likely to differ. Liquidation preferences, anti-dilution protections, vesting provisions and redemption rights are more typical in common law countries while milestones are less common. These results are similar to those found in Lerner and Schoar (2003) who study private equity investments in developing countries.

In this part of the analysis, we also consider how well specific measures of the legal and institutional environment (such as creditor protection, efficiency of the legal system, tax treatment, etc.) explain the differences across legal regimes. The specific measures are not consistently related to the contractual differences (in contrast to the legal regime variables).

Given the mixed results for institutional factors, we then consider the importance of individual VC characteristics and experience. In examining the contracts, we find that some VC firms implement U.S. contractual features across all the countries and institutional environments

in which they invest. In univariate analyses, we find that larger VCs, more experienced VCs, and VCs with more exposure to U.S. are significantly more likely to implement U.S. style contractual terms. The results indicate that while it may not be easy or obvious how to adapt contracts, with enough effort (or legal fees), VCs can learn to replicate most U.S.-style contracts.

The results so far lead us to compare the relative important of legal regime and VC experience. We estimate the determinants of contracts using regressions that include both legal regime variables and measures of VC experience or sophistication. In the presence of the VC experience variables, legal regime and institutional differences are relatively less important. In fact, the legal regime variables are not significant in most specifications.

The results on VC sophistication are consistent with the U.S. model and U.S. contracts being optimal outside the U.S. However, the results also are consistent with more sophisticated VCs imposing a style with which they are familiar, but is not necessarily optimal. We explore this possibility by studying the survival of the 70 VCs represented as lead investors in our sample. As of August 2003, 59 of the 70 are still active while 11 have not survived. We then separate the VC funds depending on the securities they used when acting as lead investors. None of the 37 funds that exclusively used convertible preferred (and U.S. style contracts) has failed. In contrast, 34% of the 29 funds that exclusively used common stock (and non-U.S. style contracts) have not survived. Said another way, of the 11 funds that have not survived, all but one never used convertible preferred. The results persist in multivariate analyses where we control for other VC and portfolio company characteristics. The survival results strongly indicate that more successful funds use U.S. style contracts.

Overall, our results suggest that U.S. style contracts are optimal across a wide range of legal regimes. This conclusion is in the spirit of Fama and Jensen (1983) who argue that contractual features that survive are likely to be efficient. As noted earlier, the separate

allocation of cash flow, control and liquidation rights found in U.S. style contracts is consistent with / predicted by standard financial contracting theories. The fact that we find more variation in non-U.S. contracts (than in the U.S. contracts) suggests the presence of fixed costs of learning. Consistent with this, all of the funds that used both non-U.S. and U.S. style contracts at some point, switched from non-U.S. to U.S. style during the sample period. Based on both survival and learning effects, we would predict more convergence in contracts over time.

Ours is not the first paper to study VC contracts outside of the U.S.[3] Unlike this paper, however, most previous studies focus on a single country and do not compare contracts across institutional environments. Also, most of the studies do not analyze the actual contracts, but, instead, rely on survey evidence and self-reporting from VC firms. This is problematic because the studies critically depend on the details of the survey design and template. For example, as Kaplan and Strömberg (2003) demonstrate, securities with different names can implement identical allocations of cash flow and control rights (such as convertible preferred vs. senior common stock), while securities with the same name can differ substantially in their rights (e.g. standard vs. participating preferred stock).

In contrast to earlier studies, but similar to ours, contemporaneous work by Lerner and Schoar (2003) uses actual contracts in private equity investments in developing countries. We view their sample and paper as an interesting complement to ours. They find similar results in that contracts are significantly related to legal origin. While they do not focus on the sophistication and learning effects that we consider, their results on legal origin are robust to including a dummy variable for U.S. or U.K. based organization. There are at least three

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[3] See Bascha and Walz (2001) for Germany, Bengtsson and Lindström (2000) and Isaksson et al. (1999) for Sweden, Cumming (2000, 2001) for Canada, and Hege, Palomino, and Schwienbacher (2003) for Europe.

possible explanations for the different result. First, legal differences may be more of a constraint in developing countries (although we do not find such a result in the few developing country investments in our sample). Second, they study primarily private equity investments in more mature businesses rather than VC investments. It may be more difficult to contract around existing contracts and governance mechanisms. Finally, their sample includes a substantial percentage of transactions in which the investors obtain majority control, making separate control and liquidation rights less important. In our conclusion, we discuss how our results might be reconciled with those in Lerner and Schoar (2003).

Our paper also complements earlier work on global venture capital activity. In a cross-country study, Jeng and Wells (2000) show that factors such as IPO activity, government policies toward start-ups, and labor market rigidities help explain differences in aggregate venture capital activity between countries. Similarly, Mayer, Schoors, and Yafeh (2001) argue that country differences in the composition of investors who provide funds to VC firms (banks, insurance companies, pension funds, private corporations) result in different VC portfolio characteristics across countries with respect to stage, geography, and industry focus.

The paper proceeds as follows. In section 2, we discuss the sample. In section 3, we present our univariate analyses of the sample contracts and consider the (univariate) relation of those contracts to legal and institutional factors, as well as VC characteristics. In section 4, we present our multivariate results. In section 5, we relate the contractual terms to VC survival. In section 6, we conclude.

2. Sample

2.1 Description

We analyze 145 investments in 107 companies in 23 countries by 70 different lead VCs.

We obtained investments from two sources – directly from VCs whom we know who invest outside the U.S. and indirectly from a limited partner (institutional investor) who invests in non-U.S. VC partnerships. All of the VC partnerships were for profit, non-governmental entities.

For each company and for each financing round for the company, we asked the VC to provide the (1) term sheet; (2) stock and security purchase agreements; (3) company's business plan; and (4) the VC's internal analysis of the investment. The amount of information we obtained differs across investments and the different VCs who provided info.

Table 1 presents summary information. Panel A organizes the observations by country and legal origin, and reports the number of financing rounds, number of companies, number of VCs, and country institutional characteristics. Investments from countries with common law, French law, German law, and Scandinavian law origins are well-represented. In addition, we have five investments from countries of socialist background. We also report the number of companies that reincorporated from and to the different countries.

Panel B indicates that the sample is relatively recent; all but eight investment rounds were completed after 1997. In the analysis that follows, we compare the contracts in these investments to those in Kaplan and Stromberg (20003) who use a sample of U.S. investments that is roughly two years older.

Panel C presents the industry distribution of the portfolio companies in our sample. The greatest percentage of companies, 58%, is in software and internet. Just over 10% of the companies are in each of hardware, telecommunications, and life sciences. The sample industry distribution is qualitatively similar to that for U.S. VC investments over the same period.

Panel D provides additional information about the investments. We have the first VC round for 89% of the companies and roughly 2/3 of the investments are early stage, meaning that the companies are quite young and have a limited operating history. Finally, the average

investment is between $6 and $7 million with a median of just over $3 million.

2.2 Sample selection issues

In this section, we discuss potential selection issues concerning our sample. Our companies and financings are not a random sample in that we obtained the data from VC firms with whom we have a direct or indirect relationship.

It is possible that we have a bias toward the better investments of a particular VC. We think this is unlikely because the investments we obtained from the VCs we contacted directly included their most recent deals while the investments we obtained with the limited partner's help were not selected by the VCs. Even if some performance bias exists, we do not think it is likely to affect our results because we do not attempt to measure performance of individual investments. Rather, we characterize what contracts look like across different countries.

The more serious potential bias is that we have selected the VC firms. It is possible that the average VC in our sample is different from the average VC in the countries we study. If this is so, then our sample averages may be inaccurate. However, there is, again, no reason to believe that our results on cross-sectional differences across legal regimes and types of VCs are biased.

Nevertheless, we acknowledge that the sample is selected and it is difficult to know the extent of any bias. We have discussed the more likely biases and do not believe there are any obvious red flags.

3. Contract characteristics: Univariate analyses

In this section, we present univariate analyses of the sample contracts and consider the (univariate) relation of those contracts to legal and institutional factors, as well as VC characteristics.

3.1. Non-U.S. versus U.S. financings

The first two columns of table 2 describe the contracts in our sample and compare them to the U.S. contracts in Kaplan and Strömberg (2003). There is much more variation in the types of securities used outside the U.S. Whereas over 95% of the U.S. financings employed some type of convertible preferred stock, fewer than 54% of the non-U.S. financings employed convertible preferred. Ordinary common stock is more typical outside the U.S., used in almost 28% of financings versus fewer than 1% in the U.S.[4] Financings outside the U.S. also make use of senior common stock 14.5% of the time. Although called common stock, senior common stock resembles convertible preferred in that it always has a liquidation preference senior to ordinary common.

Kaplan and Strömberg (2003) show that VC financings separately allocate cash flow rights, board rights, voting rights, liquidation rights, and other control rights. Panels B to E of table 2 compare these rights in the non-U.S. sample to those in the U.S. sample.

Kaplan and Strömberg (2003) find that VCs use anti-dilution rights, contingencies or milestones, and vesting in order to increase the sensitivity of the founder's cash flow rights to performance, consistent with principal-agent theories. Panel B compares incentive mechanisms that affect founder cash flow rights. VCs investing outside the U.S. have a smaller fully diluted ownership percentage than VCs in the U.S. (36.3% versus 46.7%). This difference is not driven by investment round. We also find that the incentive mechanisms – anti-dilution rights (56% vs.

[4] Cumming (2001) and Lerner and Schoar (2003) obtain qualitatively similar results, i.e., a lesser use of convertible preferred and a greater use of common stock.

94%), funding milestones (39% vs. 53%), and founder vesting (37% vs. 44%) – are all less typical outside the U.S.

Kaplan and Strömberg (2003) also show that the allocation of liquidation rights is an important feature of U.S. VC contracts. In the U.S., VC securities are almost always senior (97% of financings) to common stock in liquidation, and for an amount equal to or greater than the amount invested. The seniority of the VC claim is a standard prediction of many financial contracting theories, such as classical moral hazard theories (Holmstrom (1979)), signaling and screening theories (Ross (1977) and Diamond (1991)), as well as the stealing theories of debt (Hart and Moore (1998)). Panel C indicates that VC liquidation preferences are smaller in non-U.S. financings. In 34% of the non-U.S. financings, the VC security has a liquidation preference less than the amount invested. It also is less common for non-U.S. financings to have a liquidation preference that exceeds the amount invested (48% vs. 68%).

Panel D compares the VC's ability to force the liquidation of its investment. Redemption rights give the VCs the ability to put their shares back to the company at some future date. When used, the rights typically provide bargaining power to force a sale. Redemption rights are present in 72% of the U.S. financings and only 34% of the non-U.S. financings. VCs can obtain similar bargaining power by including drag-along rights together with seniority.[5] Drag-along rights force founders to sell their shares if the VCs decide to sell the company. When drag-along rights and other senior exit mechanisms are combined with redemption rights, we find that the VCs can force an exit in almost 64% of the non-U.S. financings.

Consistent with control theories (Aghion and Bolton (1992) and Dessein (forthcoming)), Kaplan and Strömberg (2003) show that U.S. contracts allocate substantial control rights such as

board seats and voting rights to the VC. Panel E shows that VCs in non-U.S. financings are less likely to obtain board control of the portfolio company (12% vs. 25%), despite obtaining a similar percentage of board seats.

Overall, then, the first two columns of table 2 suggest that the VC contracts outside the U.S. have weaker rights of all types than those in the U.S.

3.2 Relation to legal origin

A substantial literature studies how differences in legal origins and institutions affect various aspects of financial market activity across countries.[6] Countries with French law origins and weaker outside investor protection tend to have smaller and less liquid capital markets, more concentrated corporate ownership, lower corporate dividends, and lower valuations. Some papers also have attempted to link such factors specifically to the extent of VC activity.[7]

The legal system may affect the design of financial contracts in such a way that certain contractual provisions may be infeasible or more costly to enforce. In addition, the contracts may need to incorporate new protective mechanisms to make up for the legal deficiencies. We now consider how the non-U.S. contracts in our sample vary with the legal origin of the country in which the portfolio company is located. The last five columns of table 2 classify the non-U.S. contracts in our sample into one of five different legal regimes – common law, French law, German law, Scandinavian law, and socialist background. Except for socialist background with only five contracts, we have at least 26 contracts in the other four legal regimes. In our discussion, we generally will not refer to the results for the socialist background countries

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[5] For an analysis of drag-along rights, see Chemla, Habib, and Ljungqvist (2003).
[6] See Laporta et al. (1997, 1998, and 2000), Demirguc-Kunt and Maksimovic (1998).

because of the small number of observations.

Table 2 shows that for most provisions, common law country contracts tend to resemble U.S.-style contracts more than those in countries with other legal origins. Common law country deals tend to make greater use of convertible preferred and less use of ordinary common stock while Scandinavian law country deals tend to do the opposite. Common law country contracts (1) include more anti-dilution protection; (2) make greater use of vesting provisions; (3) are more likely to have a liquidation preference at least equal to the amount invested; (4) are more likely to have some type of exit mechanism; and (5) are the least likely to keep the founder in control of the board. The one sense in which common law country contracts are less like those in the U.S. is that the common law country deals are the least likely to use milestones.

Overall, these results suggest that legal origins / legal regimes affect the nature and types of contracts that are written. This is consistent with the evidence in the LaPorta et al. papers that countries differ in their corporate law and in the ability to write and enforce contracts

3.3 Relation to legal, tax, and accounting institutions

The results in the previous section indicate that legal origins matter for contracts, but do not indicate why. In this section, we consider whether eight specific measures of differences in legal rules, tax rules, accounting rules, and market institutions drive those results.

First, we consider the rule of law index used by LaPorta et al. (1997). The index is a measure of the quality of a country's legal and enforcement system.[8] The first column of table 3 indicates that U.S. style contracts are negatively correlated with the rule of law measure.

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[7] See Black and Gilson (1998), Jeng and Wells (2000), and Mayer, Schoors, and Yafeh (2001)

Convertible preferred, anti-dilution rights, liquidation preferences, and exit provisions are more common in countries with low rule of law. One might interpret this result as showing that U.S. style contracts are more appropriate when rule of law is low. There are two caveats to this interpretation. First, U.S. contracts make the highest use of control and liquidation provisions despite the U.S. having the highest rule of law. Second, the results are largely driven by the fact that non-U.S. contracts are more typical in Scandinavian countries that have a high rule of law.

Apart from the legal system, corporate governance also may be affected by a country's accounting system (see Bushman and Smith (2001)). This should be more important for contingencies or milestones that use accounting-based performance measures. Under a less reliable accounting system, such milestones might be less feasible, leading to fewer contingencies. In the second column of table 3, we consider how the contracts in our sample vary with the accounting standards of the company's country using the measure of accounting standards from LaPorta et al. (1997). The column indicates that the contracts are qualitatively identical across countries with strong and poor accounting standards.

Third, contracts may be affected by the strength of a country's bankruptcy laws and creditor protection. We use the index of creditor protection calculated in LaPorta et al. (1997). One might expect creditor protection to have an effect on liquidation rights. On the other hand, the creditor protection index reflects the efficacy of bankruptcy laws which may not be relevant for VC investments that consist largely of equity securities. Column 3 of table 3 indicates that contracts in high creditor protection countries have greater liquidation rights and make greater use of exit provisions. Again, the caveat to this result is that U.S. contracts have strong

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[8] We assume that this measure (and other various measures we use), calculated in LaPorta et al. (1997), are still valid for our slightly later sample period.

liquidation rights, but the U.S. has the lowest creditor protection score.

Next, we consider differences in minority shareholder protection. We use the index of shareholder protection calculated in LaPorta et al. (1997). To the extent that minority shareholders are not protected, it may be more important for the VCs to get explicit control rights. On the other hand, this measure reflects the protection of minority shareholders of publicly traded companies and, therefore, may not be so relevant for investments in private companies. Column four of table 3 indicates that there are no substantive differences across low and high minority protection countries.

Fifth, we consider restrictions on the ability of corporations to buy back their own shares. Such restrictions are potentially important in that they might make it more difficult to implement redemption and vesting provisions that typically require the company to repurchase shares. We distinguish between countries in which companies can or cannot repurchase more than ten percent of their shares (See Sabri (2002)). Column five of table 3 indicates that differences in repurchase rules are unrelated to the contract provisions in our sample.

Sixth, we consider the tax environment that firms face. One area where taxation differences might play an important role in contract design is the tax treatment of equity-based compensation (including employee stock options). The European Venture Capital Association (see EVCA (2001)) argues that the heavy taxation of stock option grants in Europe hampers the ability of investors to provide incentives to portfolio company management. The EVCA's lobbying activity has recently led several countries to change their tax rules for employee stock options to more closely resemble the U.S. treatment.[9]

We distinguish between countries with favorable and unfavorable taxation of stock

options. We code as unfavorable those tax regimes that tax stock option gains at vesting (rather than at exercise or sale) or tax option gains at marginal tax rates that exceed 40%. We might expect to see less incentive compensation and less use of vesting in countries with unfavorable taxation. Column six of table 3 indicates that the only significant difference across favorable and unfavorable tax regimes is the use of anti-dilution provisions that are not particularly related to tax. Vesting provisions are more common in favorable tax regimes, but not significantly so.

We then consider the liquidity of the stock markets in the portfolio company countries. Black and Gilson (1998) argue that an active venture capital market relies heavily on the VCs' ability to exit their portfolio investments through a public offering. In support of this argument, Jeng and Wells (2000) find that VC investing is higher in countries with greater numbers and values of initial public offerings of stock (IPOs). We distinguish IPO activity by whether the country had more than thirty IPOs in 1999.[10] We might expect the strength of exit provisions to be related to this measure. In column 7 of table 3, the only significant difference across IPO activity is that ordinary common is more prevalent in countries with high IPO activity.

Finally, we consider a measure of the efficiency of the legal system. We use the 'Lex Mundi formalism score' from Djankov et. al. (2002) that measures the amount of time it takes the legal system to deal with collecting on a bounced check. One might expect that VCs would require more control and liquidation rights in regimes with less efficient legal systems. There is some modest support for this. Liquidation rights and exit provisions are somewhat stronger in more formal (less efficient) legal systems.

Overall, then, the direct measures of legal, tax, and accounting institutions that we have

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[9] Also, see Keuschnigg and Nielsen (2002) for a discussion of the impact of capital gains taxation on VC activity.

explored are moderately successful although not uniformly so in explaining the previous results on the relation of the contracts to legal origin.

3.4 Implementation of U.S. style contracts outside the U.S.

The modest results in the previous section suggest that legal, tax, and institutional differences are only part of the story in explaining the observed distribution of contracts. In this section, we obtain support for this conjecture by finding that some VCs implement U.S. style contracts in all of the countries in which they invest. Table 4 summarizes this discussion.

First, even if convertible preferred stock is disfavored in corporate law, it is generally possible to use senior common stock or combinations of common and non-convertible preferred stock or debt to mimic the control and liquidation rights of convertible preferred.

Second, even if the legal regime makes it difficult to impose standard anti-dilution provisions, it is generally possible to mimic those provisions using warrants that are exercisable conditional on a subsequent financing at a lower valuation.

Third, even if vesting and other contingencies are hampered by unfavorable tax laws, it is generally possible to use put options on the entrepreneur's stock that are exercisable by the VC if the entrepreneur leaves or misbehaves. In countries where additional equity for the entrepreneur is taxed as compensation, it is possible to provide contingent equity by making the valuation or financing contingent rather than the entrepreneur's equity stake.

Fourth, it seems unlikely that legal differences could explain the absence of liquidation preference. VCs can use seniority clauses in all of the countries in our sample.

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[10] While this is admittedly a coarse measure of IPO activity, our results are qualitatively identical using other measures, including the value of IPOs and both the number and value normalized by population or GDP.

Fifth, even if redemption rights are infeasible due to restrictions on a company buying back its own stock, the VC can mimic these rights by combining a senior claim with drag-along rights. This effectively gives the VC the right to liquidate because drag-along rights force all shareholders to sell when the senior claimant decides to sell even if the senior claimant gets all or most of the proceeds.

Sixth, if the local legal, tax, and institutional environment simply gets too restrictive, it is generally possible to reincorporate the company in a country that is less restrictive. As column 3 of table 1 shows, 21% of the companies in our sample do reincorporate in another country. There is a net flow of companies from countries of German and Scandinavian legal origin to countries of common law origin.

These six examples indicate that while it may not be easy or obvious how to adapt a particular contract, with enough effort and legal expertise, it appears possible to replicate most U.S. style contractual mechanisms elsewhere.

3.5 Relation to VC experience and sophistication

The previous section describes how some VCs are able to get around institutional constraints to implement U.S. style contracts. In this section, we examine the characteristics of those VCs who do so. For each financing, we identify the lead VC as the VC who invests the greatest amount in that financing. The lead VC typically plays the greatest role in negotiating the contract with the entrepreneur.

In our analysis, we attempt to distinguish among the lead VCs by experience and sophistication using three different variables. First, we distinguish between smaller and larger VCs, using a breakpoint of (the sample median of) $200 million under management. Second, we distinguish between younger and older VC firms, using a breakpoint of (the sample median age

of) four years. Third, we classify VCs according to their familiarity with the U.S. 21 financings were led by VCs based in the U.S.; 87 financings were led by VCs who had previously syndicated (or invested) with U.S. VCs; and 37 financings were led by VCs with no U.S. experience. We determined if the VC had U.S. experience by examining the Venture Economics financing database, the VentureOne financing database, and the individual VC websites.

Table 5 indicates that U.S. style provisions are positively and significantly correlated with all three VC experience variables. Larger and older VCs, and VCs with U.S. experience are all more likely to use convertible or participating preferred, stronger liquidation preferences, and stronger exit provisions. Larger and older VCs own a larger percentage of fully diluted equity. Older VCs and VCs with U.S. experience also use more time vesting, have stronger anti-dilution protection, and are less likely to leave the founder with board control. It is only in the use of milestones where there are no clear differences across VC experience.

The strong results for VC experience contrast with the modest results for legal, tax, and accounting institutions. The multivariate analysis in section 4 will address the relative importance of these factors.

3.6 Relation to financing round characteristics

It also is possible that the contractual characteristics vary with other characteristics of the financing round. Accordingly, our final univariate analysis considers how contractual characteristics vary with the size of the investment, whether the investment is the first by a VC, and the age of the portfolio company.

Column 1 of table 6 shows that larger financing rounds (greater than $3 million) tend to use more U.S. style contracts. Larger rounds are less likely to use ordinary common, have stronger liquidation preferences, stronger exit provisions, and more VC board control. Not

surprisingly, larger rounds also are associated with greater VC percentage ownership.

Column 2 of table 6 indicates that subsequent VC rounds also make somewhat greater use of U.S. style contracts. Subsequent VC rounds are less likely to use ordinary common, have marginally stronger liquidation preferences, and more VC board control. VC percentage ownership also increases in later rounds.

Finally, column 3 of table 6 shows that younger portfolio companies are somewhat more likely to have U.S. style contracts. They are more likely to use convertible preferred, have stronger liquidation preferences and stronger exit provisions.

4. Multivariate results

At this point, we have found that VC contracts are related to a country's legal origin and to measures of VC experience or sophistication. The contracts also are related to deal characteristics and legal, accounting and institutional features. In this section, we assess the relative importance of these different variables using multiple regression analyses.

In the first set of regressions, the dependent variable is an index of U.S. style terms. We form the index as the sum of dummy variables for the presence of vesting, milestones, anti-dilution rights, liquidation preference (at least equal to investment), redemption rights, and (non-founder) board control. The index, therefore, varies from zero to six. We estimate the models using Poisson regressions. In the second set of regressions, we estimate models using dummy variables for the individual measures of cash flow, liquidation and control rights.

The regressions include independent variables that measure legal regime and VC experience. Most of the regressions measure legal origin as a dummy variable equal to one if the portfolio company is in a country with a common law legal origin. We also estimate some regressions using the indices for legal formalism (Lex Mundi), accounting standards, creditor

protection, minority protection, and the dummy for option taxation.[11] All of the regressions include a dummy variable for whether the VC is U.S. based. The regressions also include an additional VC experience variable: non-U.S. VC who has syndicated (invested) with a U.S. VC, the VC age at the time of the financing, or the logarithm of VC funds under management.

All of the regressions control for the portfolio company age and if the financing is the first VC round. Some of the regressions include controls for industry (software and Internet, hardware, telecom, and life science), year of investment, deal size and if the portfolio company reincorporated from its home country to a different one. All standard errors are clustered by lead VC to avoid overweighting VCs with more observations. We obtain (but do not present) statistically similar results when we cluster by year or industry.

Panel A of table 7 presents the Poisson regressions for our index. The regressions show that the VC experience variables dominate the legal, accounting and institutional variables. The VC experience variables, particularly VC based in the U.S. and non-U.S. VC with U.S. V.C. syndication experience, are significant in every specification. In contrast, the legal regime, accounting and institutional variables are not significant in any specification.

The economic magnitudes of the VC experience variables are also substantial. For example, non-U.S. VCs who have syndicated with U.S. VCs include almost two additional U.S. style provisions in their financings. This compares to coefficients (marginal effects) of 0.0 to 0.46 for the common law dummy variable that are never significant.

Some of the control variables also are significant. Younger portfolio companies are less likely to use U.S. style provisions, while larger deals are more likely to include such

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[11] The reported regressions do not include share repurchase restrictions or IPO activity. When these variables are included, they are never significant.

provisions.[12] In the last regression in panel A, first VC financings are associated with significantly fewer (-0.56) U.S. style provisions. At the same time, portfolio companies receiving their first VC financing in 2001 use significantly more (1.33) U.S. style provisions than those receiving their first VC financing earlier. This is consistent with the overall VC market converging toward U.S. style contracts over time.

In panels B and C of table 7, we estimate probit and ordered probit regressions using dependent variables that measure the individual provisions: (i) whether the round uses convertible or participating preferred;[13] (ii) whether the round uses founder vesting; (iii) whether the round uses milestones; (iv) whether the round uses anti-dilution protection; (v) whether the liquidation preference is less than, equal to, or greater than the amount invested; (vi) whether the round uses redemption rights; and (vii) whether the founder has control, shares control, or does not have control of the board.

In panel B of table 7, we estimate the regressions with the common law dummy and the VC experience variables. Again, the regressions strongly suggest that VC experience dominates the effect of legal origin. The common law dummy is significant only for the use of anti-dilution provisions. In contrast, both (1) VC based in the U.S. and (2) non-U.S. VC with U.S. syndication experience are individually significant in all but one specification. One of the two is significant in every specification. The reported marginal effects of the VC experience variables are also economically larger than those for the common law variable.

Panel C of table 7 uses the more detailed legal, accounting and tax variables. We lose some observations because we do not have the relevant indices for all of the countries in our

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[12] In most of the regressions, we do not control for deal size because it is arguably endogenous with the contracts.
[13] The results are qualitatively and quantitatively identical when we use a dummy for ordinary common stock.

sample. Again, the VC experience variables are economically and statistically significant in all but one specification. Only in the milestone regression are they both insignificant. (None of the other variables are significant in this regression.)

In contrast, the legal, accounting and tax variables are only occasionally successful in explaining the use of U.S.-style contracts. In five of the seven regressions, none of the variables is significant at better than the 5% level. Accounting standards are significantly related to time vesting although not to milestones. Minority protection is negatively related to liquidation preferences, while creditor protection is positively related.

Overall, then, table 7 shows that the VC experience variables consistently dominate the legal, accounting and institutional variables in both economic and statistical significance.

5. The relation of contractual terms to VC survival.

The analysis so far suggests that more experienced VCs implement U.S. style contracts across many different legal regimes. One interpretation of this result is that more experienced VCs are superior investors who should use more efficient contracts. Under this interpretation, U.S. style contracts are optimal or, at least, the most effective of available contracts. This interpretation is consistent with Kaplan and Schoar (forthcoming) who find that more experienced VCs outperform less experienced VCs.

Alternatively, one might interpret the results simply as finding that VCs use the contracts with which they are familiar. Because the more experienced VCs are more familiar with U.S. contracts, they use them regardless of whether they are optimal.

In this section, we attempt to distinguish between those two interpretations by looking at the ex post performance of the lead VCs in our sample. If the first interpretation is accurate, then the VCs who use U.S. style contracts should be more successful than those who do not. Under

the second interpretation, we would not expect to see a large difference.

There are seventy different lead VCs in our sample financings. Although we cannot collect the ex post VC returns, we can observe whether the VC firms are still operating entities. We used Venture Economics, VentureOne, and the VC firm websites to determine the current status of the VC firms. Table 8 reports that as of August 2003, fifty-nine of the seventy lead VCs were still active and independent while eleven had failed or had been acquired.[14]

In table 8, we classify the VCs according to whether they always used, sometimes used, or never used convertible or participating preferred stock. The use of such securities is a simple univariate measure of the use U.S. style contracts. In the multivariate analysis in table 9, we also use the index of U.S. style provisions.

The results in table 8 are highly statistically significant. Of the twenty-nine VCs that never used preferred stock, 34% (or ten) have not survived. Of the thirty-seven VCs that always used preferred stock, none has failed. The four VCs who sometimes used preferred stock fall in between with one of the four having not survived. Said another way, ten of the eleven VCs that did not survive did not ever use preferred stock. It is also worth noting that the four VCs who sometimes used preferred stock always switched to preferred stock from some other security.

The rest of table 8 separates VCs based in common law countries from VCs based in non-common law countries. The outcomes for VCs in non-common law countries drive the results. Still, the one failed VC firm in a common law country was one that never used preferred stock.

While suggestive, the univariate results may be driven by correlations between contracts and VC or portfolio company characteristics. To address this possibility, we estimate probit regressions of the relation of VC survival to VC contracts controlling for VC fund and portfolio

company characteristics.

In the regressions, the dependent variable equals one if the VC survived. We measure contracting in two ways. First, we use a dummy variable equal to one if the VC always used preferred stock. Second, we use the average value of the U.S. style contract index for the sample deals in which the VC was the lead VC. As control variables, we include dummy variables for whether the VC is an early stage investor (as a measure of risk)[15], whether the VC is controlled by a financial institution or other corporation, whether the VC is in a common law country, and the (log of) VC funds under management.

In table 9, the contracting variables are significant in all specifications. The index variable is smaller in magnitude and significance in the fourth specification. This may be partially due to a smaller number of observations. The only non-contracting variable that is significant is VC funds under management in the fourth regression (which is associated with an increased likelihood of survival).

Tables 8 and 9 show that more successful VCs use U.S. style contracts. In the spirit of Fama and Jensen (1983), one interpretation of this result is that U.S. style contracts are more efficient: (1) VCs using U.S. style contracts are more likely to survive and; (2) to the extent that VCs changed their contracting style, they moved to the U.S. style contracts.[16]

An alternative interpretation is that VCs who used U.S. style contracts did better ex post, but may not have been expected to do better ex ante, particularly in light of the tech "crash" of 2000 to 2002. By this argument, U.S. style contracts provide better downside protection, but do

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[14] A VC firm is typically acquired only when the firm's investments are not performing well.
[15] We obtain similar results when we use the percentage of a VC's sample deals that are first rounds and the average portfolio company age of the VC's sample deals.
[16] This interpretation is consistent with U.S. style contracts providing better outcomes, but does not prove causation.

less well when the portfolio companies succeed. We think this interpretation is unsatisfactory for two reasons. First, the theories that focus on control and liquidation rights, e.g., Aghion and Bolton (1992) and Hart and Moore (1998), predict that those rights will be most important in the bad or downside states of the world. Second, we consider in table 10 whether the VCs in our sample trade off downside protection for reduced upside and fail to find such a relation.

In table 10, we test for a negative relation between the use of U.S. style terms and measures of VC upside. The first set of regressions uses the pre-money value of the financing round as a dependent variable. The pre-money value is the implicit valuation of the entrepreneur's (pre-VC) equity in the financing round. If there is a trade off, the pre-money value will be increasing in U.S. style terms. I.e., the VC gets more U.S. style terms, but gives a higher valuation to the entrepreneur. The second set of regressions uses the percentage of equity (cash flow rights) that the VC gets in the financing round. If there is a trade off, the VCs percentage equity will be decreasing in U.S. style terms. If anything, the results in table 10 indicate that more U.S. style terms are associated with more VC upside, not less. These results hold controlling for VC experience and other control variables.

6. Summary and conclusion

In this paper, we compare VC contracts in twenty-three other countries to those in the U.S. We analyze how the contracts allocate cash flow, board, liquidation, and other control rights. In univariate analyses, contracts differ across legal regimes. In particular, U.S. style contracts are more typical in common law countries. However, there appear to be few institutional impediments to implementing U.S.-style terms. More experienced VCs are able to implement U.S.-style contracts regardless of legal regime. In multivariate specifications, measures of VC experience are more influential than legal regime or other legal, accounting, and

institutional variables. Finally, we consider the subsequent survival rate of the lead VCs in our sample. VCs who use U.S.-style contracts are substantially and significantly less likely to fail. Furthermore, the VCs who switched styles all moved from non-U.S. to U.S. style contracts.

We think the most plausible interpretation of our results is as follows. The contracts in the U.S. have developed over several business cycles and are effective. The results in Kaplan and Strömberg (2003) suggest that many elements of these U.S. contracts are consistent with the predictions of optimal contracting theories. Venture capital investing outside of the U.S. is relatively more recent and the legal rules are different. Learning about optimal or effective contracts takes time and effort. Even in cases where VCs would like to implement U.S. style contracts, it may not be costless to do so. If contracts are important for VC success, VCs using efficient contracts will be more likely to survive and surviving VCs will be more likely to switch to more efficient contracts. Furthermore, one might expect the evolution to accelerate in periods of high volatility such as the tech crash after 2000. This interpretation is supported by the survival results, the switching results, and the finding that first VC financings at the end our sample use significantly more U.S. style provisions.

This interpretation also is suggested by our personal experience. When one of the co-authors collected the data in 2000, he asked one of the VCs why the VC did not use U.S. style contracts. The VC responded that he "did not think it mattered." Two years later, in early 2002, when the technology market was depressed, the co-author met the VC again. The VC complained that he wanted to exert control in or force a sale of several of his portfolio company investments, but was unable to do so. The VC acknowledged that the contracts did matter. A year later, in 2003, the VC was out of business. From talking to VCs and lawyers, it is our understanding that in 2004 most VC deals in that country use U.S. style contacts.

We believe the results have implications for the law and finance literature. The intuitions

and predictions of financial contracting theories appear to be valid across different institutional and legal regimes. Based on this, we would expect more convergence toward U.S. style contracts in the future. The results also suggest that it is beneficial for less experienced, local investors to syndicate with and learn from more experienced, multinational investors.

One caveat to our results and predictions is that they are based on start-ups largely in developed countries. There are two forces that may favor convergence for these types of firms. First, enforcement of laws is generally not a major problem in most of the countries we study. Second, it may be easier to write desirable contracts for new businesses than for existing ones. The somewhat different results in Lerner and Schoar (2003) for private equity investments in developing countries suggest that either or both of these forces may be important.

In fact, our results in conjunction with those of Lerner and Schoar (2003) are consistent with the findings and conjectures in Acemoglu and Johnson (2003). Our results suggest that sophisticated investors contract around existing contracting institutions to implement similar (optimal) contracts for (i) start-ups located in countries in which property rights are enforced; and (ii) for start-ups in developing countries with poor property right enforcement that are able to reincorporate in countries in which property rights are enforced. It may be more difficult for more mature companies in developing countries to incorporate elsewhere.[17]

[17] Qian and Strahan (2004) study a sample of international bank loans and draw similar conclusions.

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Table 1
Summary Information

Summary information for 145 investments in 107 portfolio companies from 18 countries by 69 different lead VCs between 1992 and 2001. 'ffective tax rate on option gains' includes social security tax, when applicable, and is calculated based on Ernst & Young (2000a,b), using rules applicable on 1/1/2000. Information on legal origin, 'Rule of law', 'Accounting standards', 'Creditor protection', and 'Minority protection' ('Anti-director rights') are from LaPorta at al (1997). Number of IPOs' is the average number of IPOs in the country 1999 and 2000 from FIBV (www.fibv.com). Data on share repurchase legislation is taken from Sabri (2002). 'Share repurchases unrestricted' refers to countries where corporations are allowed to buy back more than 10% of their shares. 'Lex Mundi formalism score' is a measure of procedural formalism in connection with collecting a bounced check, taken from Djankov et al (2002). '% First round inv.' is the fraction of first round VC investments and '% Early stage deals' are the fraction of seed and start-up investments in the sample. 'Firm age' is measured at the time of the investment round. 'Financing committed' is the aggregate amount of VC financing committed in the round.

A.: Portfolio company location and country data

Company's country of operations	No. of. fin. rounds	No. of portf. comp' located	No. of comp's reincorp from / to	No. of lead VCs	Rule of law	Account std 1990	Eff. tax on options gains	No. IPOs avg. 99-00	Creditor protect. score	Minor. prrotect score	Lex Mundi formal-ism score	Share repos unres-tricted.
US	0	0	0 / 10	13	10	71	0.40	847	1	5	2.60	Yes.
Hong Kong	1	1	0 / 0	0	8.22	69	0.15	64	4	5	0.73	Yes.
India	4	4	1 / 0	2	4.17	57	0	52	4	5	3.34	Yes.
Ireland	7	3	0 / 0	1	7.8	.	0.44	6	1	4	2.63	No.
Israel	15	7	3 / 0	4	4.82	64	0	28	4	3	3.30	No.
Singapore	2	1	0 / 0	1	8.57	78	0.28	70	4	4	2.50	Yes.
UK	10	9	1 / 2	9	8.57	78	0	293	4	5	2.58	Yes.
Common law	39	25	5 / 15[1]	30								
Belgium	5	4	0 / 0	3	10	61	0	18	2	0	2.73	No.
France	13	11	3 / 0	4	8.98	69	0.40	78	0	3	3.23	No.
Greece	2	2	2 / 0	1	6.18	55	.	45	1	2	3.99	No.
Luxembourg	1	1	0 / 1	0	10	.	0.53	16	.	.	3.56	.
Netherlands	5	2	0 / 5	2	10	64	0	18	2	2	3.07	No.
French law	26	20	5 / 6	10								
Austria	1	1	0 / 1	1	10	54	0.61	6	3	2	3.52	No.
Germany	14	10	0 / 0	6	9.23	62	0.56	160	3	1	3.51	No.
Korea	1	1	0 / 0	0	5.35	62	.	10	3	2	3.37	Yes.
Switzerland	27	20	5 / 0	10	10	68	0	23	1	2	3.13	Yes.
German law	43	32	5 / 1	17								
Denmark	3	2	1 / 0	2	10	62	0.63	7	3	2	2.55	No.
Finland	2	2	1 / 0	0	10	77	.	24	1	3	3.14	No.
Iceland	1	1	1 / 0	0	10	.	0.10	9	.	.	4.13	No.
Norway	3	1	1 / 0	1	10	74	0.63	18	2	4	2.95	No.
Sweden	23	21	2 / 0	9	10	83	0.73	50	2	3	2.98	No.
Scandin. law	32	27	5 / 0	12								
Hungary	2	1	0 / 0	0	.	.	0.61	7	.	.	3.42	.
Czech Rep.	1	1	1 / 0	0	.	.	.	.	.	.	4.03	.
China	2	1	1 / 0	0	.	.	.	.	.	.	3.41	.
Socialist background	5	3	2 / 0	0								
Total	145	107	22 / 22									

[1] Includes one company reincorporated in Bahamas and two in Bermuda.

B.: **Year of VC financing**:

	Pre 1998	1998	1999	2000	2001	Unknown
First financing round for co.	8	11	23	41	14	10
Financing rounds in sample	7	16	27	63	31	1

C. **Industry Distribution of Companies**

	Software & Internet	Hardware & high-tech	Telecom	Life Science	Other/Unknown
Companies	62	13	12	12	8
Fin. rounds	88	18	14	17	8

D **Other deal characteristics**

	% First round inv	Firm age, mean (med.)	% Early stage deals	Financing committed, $M
Earliest round we have for each company	88.9%	2.2 (1.0)	67.3%	6.2 (3.1)
All financing rounds we have	66.9%	2.5 (1.0)	65.5%	6.8 (3.4)
N	133	134	139	127

Table 2

VC contract characteristics across legal regimes

Contract characteristics for 145 investments in 107 portfolio companies from 18 countries by 69 different lead VCs between 1992 and 2001. Except where noted, the numbers in the table denotes the fraction of investments in the sample exhibiting a certain contract characteristics. U.S. sample statistics are taken from Kaplan and Strömberg (2003). 'Legal regime' is taken from LaPorta et al (1997). Contractual provisions are explained in the text. Contract characteristics differ significantly across sub-samples the: 1% ***; 5% **, and 10% * levels.

Contract characteristics:	Compared to U.S.		Across legal regime:				
	This. sample	*US samp[e (K&S 2003)*	Common	French	German	Scandi-navian	Socialist background
A. Main VC security:							
Convertible preferred	53.8%	*95.2%*	66.7%	53.8%	48.8%	37.5%	100.0%*
Ordinary common stock	27.6%	*0.5%*	7.7%	19.2%	37.2%	50.0%	0.0%**
Senior common stock	14.5%	*1.0%*	25.6%	19.2%	11.6%	3.1%	0.0%
Convertible debt	2.0%	*1.9%*	0.0%	3.8%	0.0%	6,2%	0.0%
Other security	2.0%	*1.0%*	0.0%	3.8%	2.3%	3.1%	0.0%
Sample size	145	*213*	39	26	43	32	5
B. Residual cash flow rights and incentive mechanisms:							
VC equity %, milestones met	36.3%	*46.7%*	37.3%	35.7%	37.0%	34.4%	35.0%
and full vesting, mean (med.)	(34.0%)	*(47.3%)*	(35.7%)	(33.0%)	(34.0%)	(34.2%)	(31.0%)
Sample size	130	*212*	37	25	39	24	5
Founder stock vests over time	37.20%	*43.6%*	50.0%	20.0%	31.6%	46.7%	50.0%
Sample size	121	*212*	24	25	38	30	4
Equity or funding milestones	38.90%	*53.0%*	29.6%	41.7%	42.5%	36.7%	60.0%
Sample size	126	*212*	27	24	40	30	5
VC anti-dilution protection	56.40%	*94.60%*	88.5%	73.9%	50.0%	25.8%	50.0%***
Sample size		*213*	26	23	40	31	4
C. Size of VC liquidation preference:							
Less than invested funds	34.10%	*3.00%*	10.7%	25.0%	39.0%	59.4%	0.0%**
Equal to invested funds	17.80%	*28.70%*	39.3%	8.3%	17.1%	9.4%	0.0%**
More than invested funds	48.10%	*68.40%*	50.0%	66.7%	43.9%	31.2%	100.0%**
Cumulative dividends	20.60%	*43.8%*	7.8%	20.8%	17.1%	29.0%	75.0%
Participating preferred (or equivalent)	34.60%	*48.0%*	48.2%	37.5%	29.3%	29.0%	25.0%
Other "booster" (e.g. 3x)	15.10%	*2.4%*	3.8%	20.8%	19.5%	6.4%	75.0%
Sample size	129	*213*	28	24	41	32	4
D. VC exit provisions:							
VC has redemption rights	34.5%	*71.8%*	41.0%	34.6%	30.2%	28.1%	60.0%
Other senior exit mechanism	50.0%	-	66.7%	63.6%	45.7%	28.6%	75.0%
No senior exit mechanism	36.6%	*28.2%*	25.6%	26.9%	39.5%	56.2%	20.0%
Sample size	145	*213*	39	26	43	32	5
E. Board control							
No. board seats, mean (med)	5.7 (5.0)	*6.0 (6.0)*	6.0 (6.3)	5.8 (5.0)	4.8 (5.0)	5.7 (5.0)	6.5 (7.0)**
% VC board seats	37.0 (40.0)	*41.4 (40.0)*	32.0 (33.3)	40.4 (40.0)	42.2 (33.3)	34.3 (40.0)	38.6 (34.3)
Degree of board control:							
Founder controls board	27.6%	*13.9%*	18.0%	46.2%	18.6%	34.4%	40.0%
Neither / state-contingent	60.0%	*60.7%*	71.8%	42.3%	65.1%	56.2%	40.0%
VC controls board	12.4%	*25.4%*	10.3%	11.5%	16.3%	9.4%	20.0%
Sample size	145	*201*	39	26	43	32	5

Table 3
VC contracts and other institutional characteristics

Contract characteristics for 145 investments in 107 portfolio companies from 18 countries by 69 different lead VCs between 1992 and 2001. 'Rule of law, High' refers to the sub-sample of investments with a 'Rule of law' index of 10. 'Accounting standards, High' refers to the sub-sample of investments with an 'Accounting standards' index of 69 or higher. 'Creditor protection, High' refers to the sub-sample of investments with a 'Creditor protection' index of 3 or higher. 'Minority protection, High' refers to the sub-sample of investments with a 'Minority protection' index of 3 or higher. 'Favorable options tax' refers to the sub-sample of investments in countries where there is no tax on employee stock options upon exercise. 'Share repos unrestricted' refers to the sub-sample of investments in countries where corporations are allowed to buy back more than 10% of their shares. 'Per cap. VC invest.' refers to the sub-sample of investments in countries with VC investment in 1999 above $41 per capita. 'IPO activity, High' refers to the sub-sample of investments in countries with more than 30 IPO's per year on average 1999-2000. 'Lex Mundi legal formalism high' refers to the sub-sample of investments in countries with a legal formalism score above 3. Contractual provisions are significantly different across sub-samples at the: 1% ***; 5% **, and 10% * levels. Tests for degree of liquidation preference and degree of board control are joint across the three degrees of liquidation preference / board control, using a Kruskal-Wallis test. All other tests refer to differences in means tests, using a rank-sum test.

Contract characteristics:	Rule of law		Accounting standards		Creditor protection		Minority Protection		Share repos unrestricted		Favorable options tax		IPO activity		Lex Mundi legal formalism	
	High	Low	High	Low	Low	High	Low	High	Yes	No	Yes	No	Low	High	Low	High
A. Main VC security:																
Convertible preferred	43.7	63.5**	51.5	55.8	49.4	60.3	51.7	55.2	44.4	56.4	53.7	53.9	61.6	45.8*	42.6	60.4**
Ordinary common	39.4	16.2***	32.3	23.4	36.8	24.1 ***	29.3	26.4	33.3	26.6	20.9	33.3*	20.6	34.7*	33.3	24.2
Senior common stock	12.7	16.2	8.8	19.5*	8.1	13.8 ***	17.2	12.6	22.2	10.6*	25.4	5.1***	16.4	12.5	18.5	12.1
Convertible debt	2.8	1.3	4.4	0.0	3.5	0.0	0.0	3.5	0.0	3.2	0.0	3.9	0.0	4.2	3.7	1.1
Other security	1.41	2.7	2.9	1.3	2.3	1.7	1.7	2.3	0.0	3.2	0.0	3.9	1.4	2.8	1.8	2.2
Sample size	71	74	68	77	87	58	58	87			67	78	73	72	54	91
B. Residual cash flow rights and incentive mechanisms:																
VC equity %	38.1	34.2	36.7	36.0	35.8	37.0	35.6	36.8	36.3	36.5	36.8	35.8	37.6	35.0	34.7	37.2
No. of obs	69	61	58	72	76	54	53	77	41	83	63	67	65	65	45	85
Founder time vesting	38.8	35.2	42.1	32.8	35.4	40.5	28.8	43.5	46.2	32.5	41.8	33.3	37.9	36.5	45.4	32.5
No. of obs.	67	54	57	64	79	42	52	69	39	77	55	66	58	63	44	77
Equity / funding milestones	35.8	42.4	41.0	36.9	37.0	42.2	41.5	37.0	43.9	34.2	33.9	42.9	39.3	38.5	34.0	41.8
No. of obs.	67	59	61	65	81	45	53	73	39	77	56	70	61	65	47	79
VC anti-dilution protection	42.5	72.7***	52.5	60.0	50.6	68.3*	54.7	57.8	57.5	55.7	65.4	49.3**	68.2	44.3	48.9	61.0
Sample size	69	55	59	65	83	41	53	71	40	79	55	69	63	61	47	77

Table 3
VC contracts and other institutional characteristics, continued.

	Rule of law		Accounting standards		Creditor protection		Minority Protection		Share repos unrestricted		Favorable options tax		IPO activity		Lex Mundi legal formalism	
	High	Low	High	Low	Low	High	Low	High	Yes	No	Yes	No	Low	High	Low	High
C. Liquidation pref.:																
< invested funds	44.3	22.0**	41.9	26.9	43.4	17.4*	30.9	36.5	34.9	35.8	24.6	41.7	25.4	42.4	42.0	29.1*
= invested funds	14.3	22.0**	8.1	26.9	10.8	30.4*	18.2	17.6	27.9	13.6	31.6	6.9	22.2	43.6	12.0	21.5*
> invested funds	41.4	55.9**	50.0	46.3	45.8	52.2*	50.9	45.9	37.2	50.6	43.9	51.4	52.4	43.9	46.0	49.3*
Cumulative dividends	23.2	17.5	23.4	18.2	21.7	18.6	18.5	22.2	12.2	22.5	16.4	23.9	19.4	21.9	19.1	21.5
Participating preferred	30.4	39.7	39.3	30.3	32.5	38.6	33.3	35.6	31.0	36.2	32.1	36.6	37.1	32.3	39.6	31.6
Other (e.g. 3x liquidation preference)	13.0	17.5	10.0	19.7	13.2	18.6	22.2	9.7*	12.2	13.8	14.6	15.5	17.7	12.5	10.6	17.7
Sample size	70	59	60	66	83	46	54	72	41	80	55	71	62	64	50	79
D. Exit provisions:																
VC redemption rights	23.9	44.6***	33.8	35.1	26.4	46.6**	32.8	35.6	35.1	31.1	31.3	37.2	35.6	33.3	25.9	39.6*
Other senior exit	41.9	60.4*	41.1	54.2	43.8	62.2*	55.3	46.0	51.4	47.1	52.9	47.5	51.8	48.2	48.7	50.7
No senior exit	46.5	27.0**	41.2	32.5	46.0	22.4***	32.8	39.1	35.6	38.3	32.8	39.7	32.9	40.3	44.4	31.9
Sample size	71	74	68	77	87	58	58	87	45	94	67	78	73	72	39	71
E. Board control																
No. seats, total, mean	5.4	6.1	6.1	5.2	5.7	5.7	5.0	6.1	5.4	6.1	5.4	5.9	5.7	5.7	6.0	5.4
(med)	(5.0)	(6.0)**	(6.0)	(5.0)***	(5.0)	(6.0)	(5.0)	(6.0)***	(5.0)	(6.0) **	(5.0)	(6.0) *	(5.0)	(5.5)	(6.0)	(5.0) *
% VC board seats, mean	37.1	37.5	35.6	39.1	38.0	35.7	41.2	34.9	35.6	38.0	36.3	38.1	37.5	37.0	34.9	39.7
(med)	(40.0)	(38.8)	(38.8)	(40.0)	(40.0)	(33.3)	(40.0)	(40.0)	(33.3)	(40.0)	(33.3)	(40.0)	(40.0)	(37.5)	(33.3)	(40.0)
Degree of board control:																
Founder control	32.4	23.0	33.8	22.1	31.0	22.4	24.1	29.9	22.2	28.7	25.4	29.5	28.8	26.4	33.3	24.2
Neither / state-cont.	54.9	64.9	55.9	63.6	55.2	67.2	62.1	58.6	66.7	58.5	61.2	59.0	57.5	62.5	59.3	60.4
VC controls	12.7	12.2	10.3	14.3	13.8	10.3	13.8	11.5	11.1	12.8	13.4	11.5	13.7	11.1	7.4	15.3
Sample size	71	74	68	77	87	58	58	87	45	94	67	78	73	72	54	91

Table 4
Implementation of U.S. style contracts outside the U.S.

U.S. contractual feature	Purpose and potential institutional obstacles	Alternative implementation
Convertible preferred stock	Purpose: Allocates cash-flow and control rights between VC and entrepreneur. Problem: Convertible preferred stock disfavored in corporate law.	Common + Straight preferred stock. Common + Zero-coupon debt. Senior common stock with liquidation preference. Convertible debt.
Anti-dilution rights (Full ratchet): Upon a subsequent financing at a valuation lower than the original financing, the conversion price of the original convertible preferred stock is adjusted downward to the issuance price of the dilutive financing. Written into the articles of incorporation.	Purpose: Protect VC from subsequent dilutive financing rounds. Problem: Various, restrictions e.g. : Convertible preferred stock disfavored in corporate law; shareholder vote needed for adjustment to conversion price.	Anti-dilution warrants: Warrants attached to the VC's stock can be exercised by an investor in case of a capital increase or in case of an issuance of stock to finance the acquisition of another company, given that the price per share involved is below the original subscription price. The number of shares to be acquired this way will be such that the resulting price obtained by the investors after these transactions is equal to the original subscription price.
Vesting Provisions: Company will have a repurchase option to buy back at cost a portion of the shares of common stock held by a certain shareholder (founder) if such shareholder's employment with the company ends before some specified date. A portion will be released each month from the repurchase option based upon continued employment.	Purpose: Make it costly for founder to leave firm prematurely. Increase pay-performance sensitivity. Problem: Vesting of shares may be treated as income, and as a result vested shares are taxed at the ordinary income tax rate upon the vesting date.	"Good leaver" and "bad leaver" provisions: (example) " 'Good leavers' (i.e founder employees voluntarily terminating their employment contract with the company) shall offer their shares in the company to the other shareholders at a price incorporating a considerable penalty. 'Bad leavers' (i.e. founders being terminated as a result of material breach by the founder employees of the applicable terms and conditions of their employment contract with the company) shall offer their shares to the other shareholders of the company at a price corresponding to the valuation of the last financing less 25%. Agreement will terminate upon an IPO or a sale of the company."
Equity milestones: Upon company reaching a performance milestone, additional shares will be issued to founders.	Purpose: Increase pay-performance sensitivity. Problem: Granting shares to founders treated as income, and granted shares taxed at the ordinary income tax rate.	Contingent valuations: Upon company reaching a performance milestone, investors will put in additional funds in the company.
Redemption provisions: (example) At the election of the holders of a majority of the preferred, the Company shall redeem the outstanding preferred shares in two equal installments beginning on the fifth anniversary of the prior preferred closing date.	Puirpose: To be able to exit an unsuccessful investment. Problem: Share repurchases restricted by corporate law.	Drag-along provision: After five years, if investors offer to sell their shares to a 3rd party, it may require all the other shareholders also to sell or dispose of their shares on a pro rata basis and on the same terms to the 3rd party. Other exit provision: If listing does not occur in five years, the parties agree that upon request of the majority of investors, the company shall instruct an investment bank to find a buyer for all of the company's shares.

Table 5
VC contract characteristics and Lead VC experience

Contract characteristics for 145 investments in 107 portfolio companies from 18 countries by 69 different lead VCs between 1992 and 2001. The 'Lead VC' is defined as the VC committing the largest amount of funds in the syndicate in the current financing round. 'VC from US' is a dummy equal to one if the Lead VC investor is located in the United States. 'Syndicated with U.S. VC' is a dummy equal to one if the Lead VC investor is (1) not located in the United States, and (2) had either previously invested in a portfolio company located in the United States or co-invested with a U.S.-based VC at the time of the financing. 'No US exp.' is a dummy equal to one if both previous dummy variables are zero. Contractual provisions are significantly different across sub-samples at the: 1% ***; 5% **, and 10% * levels. Tests for degree of liquidation preference and degree of board control are joint across the three degrees of liquidation preference / board control, using a Kruskal-Wallis test. All other tests refer to differences in median tests, using a rank-sum test.

	Lead VC funds under management		Lead VC age		Lead VC degree of U.S. experience		
	>$200M	<=$200M	>=4 yrs	<4 yrs	VC from US	Syndicated with US VC	No US exp.
A. Main VC security:							
Conv. / part. preferred	80.8%	26.4%***	76.7%	30.6%***	94.7%	62.1%	10.8%***
Ordinary common stock	13.7%	41.7%***	16.4%	38.9%***	0.0%	18.4%	64.9%***
Common w. liq. preference	4.1%	25.0%***	2.7%	26.4%***	0.0%	18.4%	13.5%
Convertible debt	0.0%	4.2%	1.4%	2.8%	0.0%	0.0%	8.1%
Other	1.4%	2.8%	2.7%	1.4%	5.4%	1.2%	2.7%
Sample size	73	72	73	72	37	87	37
B. Residual cash flow rights and incentive mechanisms:							
VC equity %	40.8%	31.5%***	39.7%	33.3%**	45.2%	35.6%	34.0%
No. of obs	67	63	61	69	17	80	31
Founder time vesting	35.20%	38.80%	50.9%	25.0%***	66.7%	40.3%	18.8%**
Sample size	54	67	57	64	15	72	32
Equity / funding milestones	33.90%	43.30%	45.90%	32.30%	25.0%	48.0%	22.6%*
Sample size	59	67	61	65	16	77	31
VC anti-dilution protection	61.80%	52.20%	73.3%	40.6%***	86.7%	67.6%	18.2%***
Sample size	55	69	60	64	15	74	33
C. Liquidation pref.:							
Less than invested funds	17.2%	47.9%***	24.6%	42.6%***	0.0%	22.4%	77.1%***
Equal to invested funds	5.2%	28.2%***	9.8%	25.0%***	18.8%	21.0%	11.4%***
More than invested funds	77.6%	23.9%***	65.6%	32.4%***	81.2%	56.6%	11.4%***
Cumulative dividends	32.1%	11.4%***	31.7%	10.6%***	25.0%	25.3%	9.1%
Part. pref. (or equiv.)	57.9%	15.7%***	45.0%	25.4%**	62.5%	42.1%	0.0%***
Other "booster" (e.g. 3x)	17.9%	12.9%	23.3%	7.6%**	12.5%	17.3%	12.1%
Sample size	58	71	61	68	16	76	35
D. Exit provisions:							
VC has redemption rights	46.6%	22.2%***	48.0%	20.8%***	63.2%	35.6%	18.9%**
Other senior exit mechanism	55.1%	45.9%	48.8%	51.7%	33.3%	62.7%	24.1%***
No senior exit mechanism	24.7%	48.6%***	30.1%	43.1%	21.0%	28.7%	64.9%***
Sample size	73	72	73	72	19	87	37
E. Board control							
No. seats, total, mean (med)	5.9 (5.5)	5.5 (5.0)	6.1 (6.0)	5.3 (5.0)**	6.2 (6.5)	5.6 (6.0)	5.6 (5.0)
% VC board seats	40.9 (40.0)	34.0 (33.3)**	39.3 (40.0)	35.5 (33.3)	46.8 (42.9)	36.6 (33.3)	34.4 (31.0)**
Degree of board control:							
Founder controls board	21.90%	33.30%	19.2%	36.1%**	5.3%	26.4%	37.8%**
Neither / state-contingent	65.80%	54.20%	67.1%	52.8%**	63.2%	63.2%	54.0%**
VC controls board	12.30%	12.50%	13.7%	11.1%**	31.6%	10.3%	8.1%**
No. obs.	73	72	73	72	19	87	37

Table 6
VC contracts and deal characteristics

Contract characteristics for 145 investments in 107 portfolio companies from 18 countries by 69 different lead VCs between 1992 and 2001. 'Funds committed' is the total VC funds committed in the financing round, expressed in U.S. dollars. Country, deal and investor characteristics are significantly different at the: 1% ***; 5% **, and 10% * levels. Tests for degree of liquidation preference and degree of board control are joint across the three degrees of liquidation preference / board control, using a Kruskal-Wallis test. All other tests refer to differences in median tests, using a rank-sum test.

	Funds committed		First VC investment		Firm age	
A. Main VC security:	>$3M	<$3M	First round	Subs. round	< 2 years	>= 2 years
Conv. / part. preferred	68.2%	31.6%***	44.9%	77.3%***	61.0%	40.0%**
Ordinary common stock	21.6%	36.8%**	31.5%	11.4%**	23.2%	36.0%
Common w. liq. preference	9.1%	22.8%**	18.0%	11.4%	11.6%	20.0%
Convertible debt	0.0%	5.3%	3.4%	0.0%	2.1%	2.0%
Other	1.1%	3.5%	2.3%	0.0%	2.1%	2.0%
Number of observations	88	57	89	44	95	50
B. Residual cash flow rights and incentive mechanisms:						
VC equity %	41.7%	28.7%***	31.1%	48.2%***	38.1%	32.1%*
Number of observations	76	54	82	42	90	40
Founder time vesting	40.0%	33.3%	39.0%	34.4%	42.1%	28.9%
Number of observations	70	51	77	32	76	45
Equity / funding milestones	43.1%	33.3%	39.0%	29.0%	37.5%	41.3%
Number of observations	72	54	77	38	80	46
VC anti-dilution protection	62.0%	49.1%	52.0%	69.4%*	56.4%	56.5%
Number of observations	71	53	77	36	78	46
C. Liquidation pref.:						
Less than invested funds	26.7%	44.4%**	37.0%	16.7%*	29.3%	42.6%**
Equal to invested funds	16.0%	20.4%**	17.3%	22.2%*	15.8%	21.3%**
More than invested funds	57.3%	35.2%**	45.7%	61.1%*	54.9%	36.2%**
Cumulative dividends	23.6%	15.7%	22.5%	11.4%	24.4%	18.5%
Part. preferred (or equiv.)	39.7%	27.8%	32.5%	44.4%	21.7%	42.0%**
Other "booster" (e.g. 3x)	19.4%	9.3%	15.0%	17.0%	9.9%	24.4%**
Sample size	75	54	81	36	82	47
D. Exit provisions:						
VC has redemption rights	43.2%	21.0%***	32.6%	38.6%	34.7%	34.0%
Other senior exit mechanism	51.6%	47.9%	47.9%	56.7%	55.1%	41.5%
No senior exit mechanism	30.7%	45.6%*	38.2%	29.6%	32.6%	44.0%
Sample size	88	57	89	44	95	50
E. Board control						
No. seats, total, mean (med)	6.0 (6.0)	5.2 (5.0) **	5.5 (5.0)	5.9 (6.0)	5.8 (6.0)	5.5 (5.0)
% VC board seats	40.2 (40.0)	33.5 (33.3)**	35.6 (33.3)	41.2 (40.0)**	32.7 (35.4)	39.8 (40.0)*
Degree of board control:						
Founder controls board	14.8%	47.4%***	32.6%	18.2%**	24.2%	34.0%
Neither / state-contingent	70.4%	43.9%***	59.6%	59.1%**	63.2%	54.0%
VC controls board	14.8%	8.8%***	7.9%	22.7%**	12.6%	12.0%
Sample size	88	57	89	44	95	50

Table 7
Multivariate analysis

Summary information for 145 investments in 107 portfolio companies from 18 countries by 69 different lead VCs between 1992 and 2001. 'Index of terms' is an index of U.S.-style contractual terms and is calculated as the sum of the dummy variables for the presence of milestones, vesting, VC anti-dilution provisions, VC liquidation preference equal to or greater than investment, VC redemption rights, and VC board control. 'First VC round' is a dummy equal to one if the investment refers to the first round where any VC invested. 'Age of firm' is the age of the portfolio company at the time of the investment, in years. 'Common law', 'French law', German law' and 'Scand. law' are dummy variables equal to one if the portfolio company is located in a country with a common law, French, German, or Scandinavian legal system, respectively. 'Lead VC has US experience' is a dummy equal to one if the lead VC has previously invested in a company with US-based VC funds as co-investors. 'VC is based in the US' is a dummy equal to one if the Lead VC investor is located in the United States. 'Non-U.S. VC with U.S. exper' is a dummy equal to one if the Lead VC investor is (1) not located in the United States, and (2) had either previously invested in a portfolio company located in the United States or co-invested with a U.S.-based VC at the time of the financing. 'VC age' is the age of the VC firm in years. 'Accounting standards', 'Creditor protection', and 'Minority protection' ('Anti-director rights') are from LaPorta at al (1997). 'Option tax favorable' is a dummy taking the value of one if employee and management stock options are not taxed at the point of exercise. 'Lex Mundi' is the formalism score referring to collecting a bounced check from Djankov (2002). 'Log Deal Size' is the logarithm of VC financing committed in the round, measured in million USD. 'Reincorporation' is a dummy variable taking the value of one if the portfolio company reincorporated in another country. '1st VC rnd. 2001' is a dummy variable taking the value of one if the deal is a first VC financing occurring in 2001. 'Industry effects include dummies for 5 industries: Internet/Software, High-tech/Hardware, Telecom, Medical, Other. Regression coefficients are significantly different from zero at the 1% ***; 5% **, and 10% * levels.

Table 7 (continued)
Multivariate analysis

	Index of terms (Poisson)		Index of terms (Poisson)		Index of terms (Poisson)		Index of terms (Poisson)		Index of terms (Poisson)		Index of terms (Poisson)		Index of terms (Poisson)		Index of terms (Poisson)	
A. Index of terms																
First VC round	-0.31	(0.21)	-0.35	(0.25)	-0.24	(0.27)	-0.25	(0.24)	-0.22	(0.26)	-0.10	(0.20)	-0.22	(0.27)	-0.56	(0.25)**
Age of firm	-0.07	(0.02)***	-0.08	(0.03)**	-0.08	(0.03)***	-0.07	(0.02)***	-0.07	(0.02)***	-0.06	(0.02)***	-0.07	(0.02)***	-0.07	(0.02)***
Common law	0.00	(0.25)	0.31	(0.34)	0.46	(0.34)	0.24	(0.27)	0.20	(0.35)	0.18	(0.28)			0.21	(0.28)
French law									-0.18	(0.30)						
German law									0.07	(0.34)						
Scand. law									-0.10	(0.37)						
Lex Mundi													0.19	(0.57)		
Acc. stand.													-0.01	(0.03)		
Creditor Prot.													0.04	(0.10)		
Minority Prot.													-0.04	(0.11)		
Option tax low													-0.47	(0.66)		
VC based in US	4.13	(0.82)***	0.66	(0.31)**	1.07	(0.31)***	3.88	(0.87)***	3.98	(0.86)***	3.26	(0.85)***	3.39	(0.87)***	3.70	(0.84)***
Non-U.S. VC with U.S. exper.	2.00	(0.33)***					1.93	(0.35)***	1.93	(0.32)***	1.82	(0.36)***	1.74	(0.31)***	1.82	(0.35)***
VC age			0.22	(0.09)**												
Log VC Size					0.02	(0.01)*										
Log Deal size											0.22	(0.11)*				
Reincorporation											0.19	(0.30)				
1st VC rnd. 2001															1.33	(0.50)***
Internet/software							-0.50	(0.83)	-0.40	(0.78)	-0.53	(0.76)			-0.10	(0.74)
High-tech							-0.19	(0.56)	-0.10	(0.61)	-0.14	(0.52)			0.26	(0.70)
Telecom							-0.02	(0.72)	0.08	(0.73)	-0.28	(0.54)			0.41	(0.73)
Media							-0.33	(0.74)	-0.29	(0.72)	-0.39	(0.67)			0.01	(0.76)
1998							0.05	(0.67)	0.00	(0.73)	0.17	(0.57)			-0.10	(0.61)
1999							-0.29	(0.65)	-0.33	(0.69)	-0.23	(0.59)			-0.45	(0.61)
2000							-0.02	(0.67)	-0.07	(0.74)	0.16	(0.60)			-0.17	(0.62)
2001							0.34	(0.73)	0.30	(0.77)	0.33	(0.65)			-0.42	(0.62)
No .of obs.	99		95		98		99		99		97		87		99	

Table 7 (continued)
Multivariate analysis

	Deal uses conv. pref. (probit)		Vesting (probit)		Milestones (probit)		Anti-dilution (probit)		Liquidation pref. (ord. probit)		Redemption rights (probit)		Board control (ord. probit)	
B. Individual rights and common law dummy														
First VC round	-0.59	(0.13)***	0.03	(0.13)	0.16	(0.10)	-0.14	(0.13)	-0.49	(0.29)*	-0.15	(0.12)	-0.70	(0.26)***
Age of firm	-0.12	(0.03)***	-0.04	(0.02)**	-0.01	(0.01)	-0.01	(0.02)	-0.06	(0.03)*	-0.05	(0.02)***	-0.06	(0.03)*
Common law	0.19	(0.15)	0.08	(0.14)	-0.08	(0.14)	0.33	(0.14)**	0.21	(0.33)	-0.05	(0.12)	0.04	(0.28)
Lead VC is based in US	0.67	(0.08)***	0.51	(0.18)***	0.08	(0.22)	0.45	(0.07)***	2.16	(0.49)***	0.47	(0.16)***	1.04	(0.39)***
Non-U.S. Lead VC with U.S. experience	0.80	(0.10)***	0.26	(0.14)*	0.28	(0.12)**	0.37	(0.11)***	1.42	(0.33)***	0.24	(0.12)**	0.44	(0.29)
Industry & year effects	Yes		Yes		Yes		Yes		Yes		Yes		Yes	
Pseudo R^2	0.51		0.16		0.13		0.27		0.21		0.19		0.14	
No .of obs.	127		103		109		107		111		127		127	
C. Individual rights and specific institutional controls														
First VC round	-0.63	(0.14)***	-0.05	(0.14)	0.13	(0.10)	-0.22	(0.17)	-0.29	(0.33)	-0.20	(0.15)	-0.73	(0.29)**
Age of firm	-0.12	(0.03)***	-0.06	(0.02)**	-0.01	(0.02)	0.00	(0.02)	-0.04	(0.04)	-0.07	(0.03)**	-0.07	(0.04)**
Lex Mundi measure	0.21	(0.20)	0.21	(0.11)*	-0.03	(0.22)	-0.23	(0.18)	-0.03	(0.43)	0.08	(0.11)	0.59	(0.49)
Accounting stand.	0.00	(0.01)	0.03	(0.01)***	-0.01	(0.01)	-0.01	(0.01)	0.03	(0.03)	-0.01	(0.01)	-0.01	(0.03)
Creditor Prot.	0.01	(0.06)	0.07	(0.04)	-0.03	(0.06)	0.03	(0.05)	0.30	(0.12)**	-0.01	(0.03)	-0.04	(0.10)
Minority Prot.	0.01	(0.05)	-0.01	(0.04)	0.05	(0.06)	-0.04	(0.06)	-0.39	(0.14)***	0.03	(0.04)	0.01	(0.13)
Option tax low	-0.26	(0.37)	-0.44	(0.30)	0.06	(0.28)	-0.47	(0.28)*	-0.19	(0.62)	0.09	(0.21)	-0.34	(0.55)
Lead VC is based in US	0.73	(0.07)***	0.33	(0.25)	0.13	(0.23)	0.53	(0.09)***	2.37	(0.60)***	0.19	(0.19)	1.10	(0.48)**
Non-U.S. lead VC with U.S. syndication experience	0.68	(0.11)***	0.36	(0.11)***	0.20	(0.13)	0.43	(0.10)***	1.64	(0.38)***	0.20	(0.09)**	0.49	(0.31)
Industry & year effects	Yes		Yes		Yes		Yes		Yes		Yes		Yes	
Pseudo R^2	0.49		0.27		0.11		0.29		0.25		0.22		0.17	
No .of obs.	108		90		93		91		95		108		108	

Table 8
Lead VC contracts and survival

Survival and failure statistics for 70 lead VCs from 18 countries making investments between 1992 and 2001. Failure rate is the percentage of the VC funds that had closed down or been acquired by August 1, 2003. Lead VC is defined as the VC fund providing the largest amount of financing in a given financing round. Survival and failure status was determined from Venture Economics, VentureOne, and VC firm websites. Preferred stock represents the use of convertible or participating preferred stock. Chi square tests of difference in failure rates are significantly different at the 1% ***; 5% **, and 10% * levels.

	Number of Lead VCs in sample	Number of VCs failed or no longer independent by August 1 2003	Failure rate, %
Across all legal regimes			
All Lead VCs	70	11	16%
VCs always using preferred	37	0	0%
VCs sometimes using preferred	4	1	25%
VCs never using preferred	29	10	34%
Chi square test (2 df) = 14.87 ***			
Non-common law VCs only			
All Lead VCs	40	10	30%
VCs using all preferred	14	0	0%
VCs sometimes using preferred	3	1	33%
VCs never using preferred	23	9	39%
Chi square test (2 df) = 7.23 **			
Common law VCs only			
All Lead VCs	30	1	3%
VCs using all preferred	23	0	0%
VCs sometimes using preferred	1	0	0%
VCs never using preferred	6	1	17%
Chi square test (2 df) = 4.14			

Table 9

Lead VC contracts and survival: Multivariate analysis

Probit regressions on the likelihood of lead VC survival for 70 lead VCs from 18 countries making investments between 1992 and 2001. The dependent variable takes the value of one if the VC fund had not closed down or been acquired by August 1, 2003. 'Captive / corporate VC fund' is a dummy taking the value of one if the VC fund was a subsidiary of a corporation or financial institution. Survival and failure status and lead VC fund characteristics were determined from Venture Economics, VentureOne, and VC firm websites. Preferred stock represents the use of convertible or participating preferred stock. 'Average U.S. contract term index for VC when lead investor' is the average of an index of U.S.-style contractual terms across all the investments in our sample where the VC was the lead investor. The index is calculated as the sum of the dummy variables for the presence of milestones, vesting, VC anti-dilution provisions, VC liquidation preference equal to or greater than investment, VC redemption rights, and VC board control. Coefficients are marginal effects. Robust White (1980) standard errors are parentheses. Regression coefficients are significantly different from zero at the 1% ***; 5% **, and 10% * levels.

VC always used convertible preferred as lead investor	0.35	(0.09)***	0.25	(0.11)**				
Average U.S. contract term index for VC when lead investor					0.09	(0.03)***	0.04	(0.02)*
Early stage fund focus			-0.08	(0.10)			-0.04	(0.09)
Captive / corporate VC fund			-0.13	(0.13)			-0.06	(0.09)
VC in common law country			-0.01	(0.07)			-0.07	(0.06)
Log VC size ($M)			0.03	(0.02)			0.04	(0.02)**
Pseudo R^2	0.25		0.36		0.21		0.43	
No .of obs.	69		63		55		51	

Table 10

Relationship between valuations and U.S.-style contracting

Summary information for 145 investments in 107 portfolio companies from 18 countries by 69 different lead VCs between 1992 and 2001. 'Ln Pre-money' is the logarithm of the pre-money valuation. 'VC equity %' is the percentage of the firms fully diluted residual cash-flow rights allocated to all the VCs investing in the company, assuming that all performance milestones are met and all founder and employee equity has vested. 'Index of terms' is an index of U.S.-style contractual terms and is calculated as the sum of the dummy variables for the presence of milestones, vesting, VC anti-dilution provisions, VC liquidation preference equal to or greater than investment, VC redemption rights, and VC board control. 'First VC round' is a dummy equal to one if the investment refers to the first round where any VC invested. 'Round' is the number of VC investment rounds the portfolio company has received, including the current round. 'Age of firm' is the age of the portfolio company at the time of the investment, in years. 'Common law' is a dummy equal to one if the portfolio company is located in a country with a common law legal system. 'Lead VC has US experience' is a dummy equal to one if the lead VC has previously invested in a company with US-based VC funds as co-investors. 'VC is based in the US' is a dummy equal to one if the Lead VC investor is located in the United States. 'Non-U.S. VC with U.S. exper' is a dummy equal to one if the Lead VC investor is (1) not located in the United States, and (2) had either previously invested in a portfolio company located in the United States or co-invested with a U.S.-based VC at the time of the financing. 'Log Deal Size' is the logarithm of VC financing committed in the round, measured in million USD. Industry effects include dummies for 5 industries: Internet/Software, High-tech/Hardware, Telecom, Medical, Other. Regression coefficients are significantly different from zero at the 1% ***; 5% **, and 10% * levels.

	Ln Pre-money		Ln Pre-money		Ln Pre-money		VC equity %		VC equity %		VC equity %	
First VC round	-1.09	(0.30)***	-1.16	(0.33)***	-0.65	(0.27)**	0.59	(5.96)	1.08	(5.77)	3.63	(5.70)
Round	0.06	(0.22)	-0.04	(0.23)	-0.10	(0.19)	13.42	(4.49)***	15.05	(4.18)***	12.46	(4.19)***
Age of firm	-0.01	(0.03)	0.00	(0.03)	0.01	(0.03)	-0.81	(0.42)*	-0.85	(0.41)**	-0.70	(0.37)*
Common law	0.73	(0.36)**	0.63	(0.33)*	0.41	(0.26)	-4.32	(4.77)	-4.26	(5.02)	-7.21	(4.48)
Index	0.03	(0.07)	-0.06	(0.10)	-0.15	(0.07)*	3.48	(1.66)**	3.73	(1.96)*	2.36	(1.63)
Lead VC is based in US			0.87	(0.54)					-0.03	(0.08)		
Non-U.S. lead VC with U.S. syndication experience			0.40	(0.43)					-0.04	(0.05)		
Log Deal size					0.68	(0.10)***					0.05	(0.02)**
Industry & year effects	Yes		Yes		Yes		Yes		Yes		Yes	
Adjusted R^2	0.22		0.22		0.56		0.32		0.34		0.38	
No .of obs.	99		97		98		94		92		93	

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