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Developing venture capital when institutions change

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This paper investigates the impact of formal institutional change on the venture capital (VC) development process. Specifically, it contrasts VC development processes taking place in stable and volatile formal institutional environments. It shows that formal institutional change – both improvement and decline – facilitates the VC development process, and that more change is more beneficial to that process than less change. Macro institutional change plays a larger role in facilitating the VC development process than micro institutional change, and changes in two macro-level dimensions – rule of law and political stability – have the largest positive impact on that process. Employing longitudinal interview and archival data from four emerging economies with a range of institutional change and quality levels, Botswana, Indonesia, Pakistan, and South Africa, empirical support is provided for the propositions.

Keywords: institutional change; institutional theory; venture capital development; emerging economies

Introduction

How do institutions – the 'rules of the game' – influence venture capital (VC)? To answer this question, most existing literature has focused on the institutional antecedents of VC activity. Some scholars have emphasized the importance of *formal* institutions such as laws and regulations for VC development (Lerner and Tåg 2013), while others have called attention to *informal* institutions such as culture and norms that can substitute for VC-unfriendly formal institutions (Bruton and Ahlstrom 2003; Scheela and Jittrapanun 2012) or moderate the impact of formal institutions (Li and Zahra 2012). Other studies have focused on the antecedents of VC fundraising, integrating institutional, and other variables (Groh and von Liechtenstein 2009; Groh and von Liechtenstein 2011; Groh, von Liechtenstein, and Canela 2010; Groh, von Liechtenstein, and Lieser 2010, Groh, von Liechtenstein, and Lieser 2014). Some research has questioned altogether the link between institutional antecedents and private sector firm growth (Allen, Qian, and Qian 2005), which suggests that weak institutions may not necessarily be a barrier to VC development. The influence of institutions on VC activity has been of special relevance in emerging economies[1] (EEs) (Bruton, Ahlstrom, and Singh 2002; Scheela and Van Dinh 2004; Ahlstrom and Bruton 2006; Bruton, Ahlstrom, and Puky 2009; Scheela and Jittrapanun 2008; Bruton, Ahlstrom, and Li 2010; Bruton, Ahlstrom, and Obloj 2008). In particular, EEs are distinctive because of their significant degree of institutional change (Hoskisson et al. 2000).

While the literature has examined the institutional antecedents of VC activity, and has begun to explore these antecedents in dynamic EE institutional environments,

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relatively little attention has been paid to the impact of institutional *change* on the VC process. Consistent with the assumptions of institutional theory, existing literature generally assumes that institutions change very little (Brint and Karabel 1991; DiMaggio 1988) or, alternatively, focuses on normative and cultural-cognitive institutions that are largely informal (Ahlstrom and Bruton 2006). Yet, as suggested by seminal literature in institutional theory, institutional change is central to this literature stream's insights (North 1990, 2005). Changes in formal institutions such as laws and regulations, and the impact of these changes on the VC development process, are a significant and under-researched aspect of this phenomenon.

At the same time, a growing literature has addressed various mechanisms of the VC process, including enabling conditions (Gilson 2003), public–private endeavors to fill the 'equity gap' (Jääskeläinen, Maula, and Murray 2007), the diffusion of VC models (Bruton, Fried, and Manigart 2005), and the investment process (Gompers and Lerner 1999). A few studies have sought to provide an integrated model of the VC development process (Avnimelech and Teubal 2006; Lingelbach 2013). However, this research has not yet incorporated institutional change as a possible mechanism contributing to VC development.

Therefore, this study seeks to extend theory on the relationship between institutions and VC by posing the following research question: how is the VC development process influenced by formal institutional change? To explore this question, we integrate unique interview and archival data from Botswana, Indonesia, Pakistan, and South Africa. These EEs were selected because they show substantial variation in both VC development process outcomes and formal institutional changes. They also represent a cross-section of EEs with varying levels of formal institutional development. The high variance of both institutional change and quality in the EE research setting improves the generalizability of our study's findings.

Overall, this study makes five empirical contributions. We enrich the literature on VC and institutions by providing a more fine-grained analysis of the impact of formal institutional change on the VC development process. In so doing, we build theory on the VC development process by introducing the construct of formal institutional change into an existing model of that process. In particular, we differentiate between VC industries that develop in stable and volatile formal institutional environments. Our propositions suggest that, first, formal institutional change, whether positive or negative, helps to facilitate the VC development process. Second, we argue that macro institutional change is more important than micro institutional change – such as introduction of new government programs or changes in specific regulations – for that process. Third, we find that changes in two macro-level dimensions of formal institutions – rule of law and political stability – have a positive impact on the VC development process. Fourth, by amassing case data from four cases of the VC development process occurring in contexts previously unexplored in the VC literature, we extend that literature's geographical and institutional reach. Fifth, our emphasis on the VC development process – rather than the focus on the antecedents and consequences of VC activity in most extant literature – begins to address a significant gap in that literature.

Theoretical perspective

Consistent with prior studies on theory development (Colquitt and Zapata-Phelan 2007), this study seeks to extend theory on the relationship between institutions and VC by

examining the contribution of formal institutional change to the VC development process. Our empirical study is inductive, so we do not include a priori hypotheses as starting points following a review of extant literature. Instead, our study aims to generate propositions that can be tested in future studies. In order to orient the data collection and analysis from which propositions will arise, we begin by exploring relevant literature on the VC development process and formal institutional change.

The venture capital development process

Theory on the VC development process is in a nascent stage. For example, one recent literature review highlighted a number of micro-processes within the overall VC development process, but called attention to the need for more studies on the overall process (Da Rin, Hellmann, and Puri 2011). While not process-oriented, the mainstream narrative of VC development has given some clues as to the nature of this process by emphasizing its market-based structure. This narrative has asserted that, in response to technological and other changes generating a sufficient number of startups with attractive risk-return characteristics, VC develops to exploit this profit-making opportunity (Gompers and Lerner 1999). This narrative is incomplete, as it has downplayed the role that non-market actors such as the government have played in VC development (Lerner 2009), including the Small Business Investment Company (SBIC) program in the USA or 3i in the UK.

In the past, EEs have employed various non-market based government incentives in order to create VC industries to finance technology-based startups. For example, in a study of VC development in Singapore, Bruton, Ahlstrom, and Singh (2002) found that a combination of government incentives, regulatory change, and direct investment in VC funds was central to the industry's development. Singapore's strong and stable formal institutional environment can be contrasted with that of India, where government also attempted to influence VC development, albeit with less success initially (Dossani and Kenney 2002).

Based on data from EEs, emergent theory has integrated these market and non-market perspectives by portraying the VC development process as a hybrid of market and non-market mechanisms. This theory integrates four existing theoretical perspectives into a logical model grounded in EE data. This process is argued to consist of four stages: enabling, public–private cooperating, diffusing, and replicating (Lingelbach 2013). In the enabling stage, three conditions emerge relatively simultaneously: sufficient stocks of opportunity-motivated entrepreneurs, pools of early stage risk capital, and specialized financial institutions to manage the intermediation of risk capital into firms founded by opportunity-motivated entrepreneurs at attractive returns (Gilson 2003). In the public–private cooperating stage, private fund managers and public investors cooperate to fill the 'equity gap' that can be present in the private seed/startup/early stage risk capital market (Jääskeläinen, Maula, and Murray 2007; Ostrom 1996). In the diffusing stage, VC investing norms are imported and adapted as needed to local institutional conditions by transfer agents, such as private VC fund managers (Bruton, Fried, and Manigart 2005; Rogers 2003). Finally, in the replicating stage, fund managers navigate the VC cycle, raising funds, screening and structuring deals, monitoring and adding value to investments after closing, and exiting these investments (Gompers and Lerner 1999). This cycle becomes self-reinforcing when a sufficient number of exits are obtained at attractive returns, leading to existing fund managers raising new funds and/or new VCs entering the industry.

An alternative model of the VC development process is developed in Avnimelech and Teubal (2006). Based in part on the classical product life cycle model, Avnimelech and Teubal employ Israeli data to identify a five-phase evolutionary VC development process. These phases include (1) background conditions, (2) pre-emergence, (3) emergence, (4) crisis and restructuring, and (5) consolidation. This model makes two strong assumptions: (1) that the VC development process is emergent and evolutionary, and (2) that VC development co-evolves with high technology clusters. These restrictive assumptions limit the generalizability of this model, particularly to EEs where technology clusters are not significant. Non-emergent and non-evolutionary models of change and development are theoretically possible (Van de Ven and Poole 1995), and significant VC activity has developed in a number of economies without high-technology concentrations (Li and Zahra 2012).

Institutional change

While the impact of institutions on VC activity has been well studied, and the literature on institutional change is extensive, little has been written about the impact of institutional change on the VC development process to date. The one extant study that has explicitly focused on the relationship between institutional change and VC activity has emphasized informal institutions such as networks (Ahlstrom and Bruton 2006), rather than formal institutions. Since we are interested in institutional change, and since formal institutions are more likely than informal institutions to change (North 1990, 1993), we focus on formal institutional change in this study.

Formal institutional changes, such as political and regulatory changes, are an important source of entrepreneurial opportunity. Because such changes alter the stock of opportunity-oriented entrepreneurs and thus impact the enabling conditions for VC development, they are also likely to be a significant factor in the VC development process. Such changes create entrepreneurial opportunity by altering the industry structure (Gioia 1989), creating new markets, reconfiguring the way profits are made (Sine, Haveman, and Tolbert 2001), and allowing for more productive resource recombination (Shane 2003, 25).

Formal institutional change may alter both the quantity and quality of opportunity-oriented entrepreneurs, and the impact of these changes may vary with time. Political change leads to increases in new firm formation (Delacroix and Carroll 1983; Carroll and Huo 1986; Carroll and Hannan 2000), but the resultant firms may perform relatively poorly. In particular, their survival rates are lower (Carroll and Delacroix 1982; Carroll and Huo 1986). When institutional change is radical – such as it was during the transition from communism to more market-based economies in China, Poland, and Russia – the resultant profit-making opportunities for new ventures are substantial at first, but decline over time (McMillan and Woodruff 2002).

The impact of formal institutional changes on the quantity and quality of opportunity-oriented entrepreneurs is not always straightforward. Decreases in regulation increase firm formation rates (Kelly 1988; Kelly and Amburgey 1991; Barnett 1997), while increases in regulation can sometimes decrease new venture formation (Dean and Brown 1995; Stuart and Sorenson 2003; Dana 1990). However, increases in regulation can also increase new venture formation, by favoring particular organizations (Carroll and Hannan 2000; Baum 1996; Hannan and Freeman 1989; Baum and Oliver 1991, 1992; Aldrich et al. 1990; Dobbin and Dowd 1997), providing resources (Baum 1996; Tucker, Singh, and Meinhard 1990; Baum and Oliver 1992; Feldman 2001) or eliciting

development support (Davidsson, Lindmark, and Olofsson 1994; Hart and Gudgin 1994; Grant 1996).

This empirical evidence suggests that political and regulatory change influences entrepreneurial opportunity. Therefore, such institutional change can influence the VC development process directly and indirectly. Since VC is itself an industry, institutional change can directly create new profit-making opportunities for VC funds. Such change can also influence the VC development process indirectly by impacting one component of that process: the creation of a stock of opportunity-motivated entrepreneurs within the enabling stage.

Institutional change has been a central theme in the research of Douglass North (North 1990, 1993, 2005; North, Wallis, and Weingast 2009). Institutional change is predominantly incremental and path dependent, although formal institutions can change very rapidly while informal institutions typically cannot. The process of institutional change begins when entrepreneurs acquire learning and skills that cause them to develop new mental models with which to identify opportunities. These new models change entrepreneurs' perceptions of relative prices, causing them to evaluate whether to re-contract within the existing institutional framework or seek institutional change (North 1990, 1993). Institutional changes then feedback to entrepreneurs, causing them to learn and acquire new skills, alter their mental models again, and so on (North 2005). In order for economies to 'break through' to open access orders characterized by relatively free economic and political competition, the key institutional change involves codification of elite privileges into impersonal property rights, then expanding those rights to the general population (North, Wallis, and Weingast 2009).

In the VC development process, formal institutions can operate at two levels: macro and micro. At the macro level, formal institutions have been defined as the traditions and institutions by which authority in a country is exercised. This includes (a) the process by which governments are selected, monitored and replaced; (b) the capacity of the government to effectively formulate and implement sound policies; and (c) the respect of citizens and the state for the institutions that govern economic and social interactions among them (Kaufmann, Kraay, and Mastruzzi 2011, 222).

These three components of formal institutions can be measured using six dimensions. To measure 'the process by which governments are selected, monitored, and replaced,' the dimensions of (1) voice and accountability, and (2) political stability and absence of violence/terrorism have been identified. Voice and accountability refers to 'the extent to which a country's citizens are able to participate in selecting their government, as well as freedom of expression, freedom of association, and a free media' (223). Political stability and absence of violence/terrorism is defined as 'the likelihood that the government will be stabilized or overthrown by unconstitutional or violent means, including politically-motivated violence and terrorism' (223).

To measure 'the capacity of the government to effectively formulate and implement sound policies,' the dimensions of (1) government effectiveness and (2) regulatory quality have been conceptualized. Government effectiveness refers to 'the quality of public services, the quality of the civil service and the degree of its independence from political pressures, the quality of policy formulation and implementation, and the credibility of the government's commitment to such policies' (223). Regulatory quality is defined as 'the ability of the government to formulate and implement sound policies and regulations that permit and promote private sector development' (223).

To measure 'the respect of citizens and the state for the institutions that govern economic and social interactions among them,' the dimensions of (1) rule of law and (2)

control of corruption have been identified. Rule of law is defined as 'the extent to which agents have confidence in and abide by the rules of society, and in particular the quality of contract enforcement, property rights, the police, and the courts, as well as the likelihood of crime and violence' (223). Control of corruption measures 'the extent to which public power is exercised for private gain, including both petty and grand forms or corruption, as well as the "capture" of the state by elites and private interests' (223).

Taken together, these six dimensions provide a robust measure of formal institutional quality (Kaufmann, Kraay, and Mastruzzi 2007). The Worldwide Governance Indicators project (affiliated with the World Bank) employs these dimensions as a proxy for formal institutions. This project (www.govindicators.gov) publishes annual data on six dimensions of formal institutions over the period 1996–2013 for over 200 economies. The dimensions are measured by aggregating data from multiple sources that measure the perception of each dimension's quality. The resultant indices for each dimension range from +2.5 (best) to −2.5 (worst), with an index of 0 indicating average. This measure of formal institutional quality has been employed in exemplar VC research, e.g., Li and Zahra (2012).

Complementing this more recent macro conceptualization of formal institutions, the bulk of the VC literature has explored the micro-links between formal institutions and VC by focusing on one of the six dimensions of formal institutional quality identified in Kaufmann, Kraay, and Mastruzzi (2011): rule of law. Rule of law is embodied primarily in laws, regulations, and their enforcement. Laws and regulations can be categorized as (1) legislative options and (2) direct government expenditure programs (Cumming and Johan 2013). Legislative options include public pension fund deregulation (Gompers and Lerner 1998); securities law, including minority shareholder protection (Roe 2006); contract laws, especially those related to covenants between general partners (GPs) and limited partners (LPs) (Cumming and Johan 2006) and between VC funds and their investees (Cumming, Schmidt, and Walz 2010; Lerner and Schoar 2005); bankruptcy laws (Armour and Cumming 2008); taxation, including asset class-related (Gompers and Lerner 1998; Poterba 1989), firm-related (Bruce 2000, 2002; Cullen and Gordon 2002), and individual-related (Bruce and Gurley 2005); labor laws (Jeng and Wells 2000; Da Rin, Nicodano, and Sembenelli 2006); and intellectual property laws. Enforcement of these laws is an important separate component of these laws (La Porta et al. 1997, 1998).

Direct government expenditure programs include R&D funding both in general (Samila and Sorenson 2010) and specifically for startups (Lerner 1999); and investment through government supported VC programs or via a fund-of-funds investing in private VC funds (Cumming 2014). These programs are responses to the need for institutional change that cannot be easily coordinated by private markets (Lerner 1998, 1999, 2009; Da Rin, Hellmann, and Puri 2011).

Changes in these legislative options, their enforcement, or in direct government expenditure programs related to VC development are some of the formal micro-level institutional changes that may impact the VC development process. However, such changes, their impact on the VC development process (or VC activity), and the role of government in VC, remain under-researched topics (Da Rin, Hellmann, and Puri 2011).

Methods

Because of the nascent theory on the impact of formal institutional change on VC development process, qualitative research in terms of the case-study research methodology was used to analyze our research question. As noted in exemplar

qualitative research, a case-study approach is appropriate when considering questions of 'how' (Plowman et al. 2007), such as a study of the impact of formal institutional change on the VC development process. This advice is echoed by Yin, who stated that 'case studies are the preferred strategy when "how" or "why" questions are being posed' (2003, 1). This choice follows earlier work in VC research (Scheela and Van Dinh 2004; Mäkelä and Maula 2005). Given our focus on the VC development process, and the length of time over which formal institutional changes can occur, we opted for longitudinal case studies (Eisenhardt 1989) with national VC industries as the unit of analysis.

Sample selection

We selected four EE cases of national VC industry development (Botswana, Indonesia, Pakistan, and South Africa), including two cases (Botswana and Pakistan) where the national VC industry has failed to develop despite significant VC activity. According to recommendations on qualitative research design (Eisenhardt 1989), the four EE VC development cases that constitute our sample are particularly suited to our study, because they represent differing levels of formal institutional change within a dominant EE institutional context.

This sample was selected from a population of 46 EEs with significant VC activity as reported in Li and Zahra (2012), Groh, von Liechtenstein, and Lieser (2014), or our own research. Our selection was based on three criteria: (1) varying degrees of institutional change, ranging from limited to substantial, (2) location in EEs with varying levels of formal institutional development, ranging from above-average to below-average institutional levels in comparison to other economies, and (3) access to rich, longitudinal qualitative and quantitative data. This study focused on EEs, since institutional conditions are more varied and variable in these settings than in developed economies. Such variance contributes to the potential generalizability of any findings, particularly in comparison to other studies based primarily on data from more developed and more stable formal institutional environments such as the USA, the UK, or Europe.

We measured formal institutional levels over the period 1996–2012 by using Li and Zahra (2012) composite measure, which is derived from Kaufmann, Kraay, and Mastruzzi (2007), and updated data provided at www.govindicators.org. Institutional change was measured by calculating the relative standard deviation of the formal institutional composite measure, allowing for the capture of this measure's normalized volatility. The level of formal institutions is calculated by measuring the average of the composite over this period. These indicators are summarized for the case countries in the following table (Table 1).

These measures resulted in a 2 × 2 matrix of VC development cases, consisting of relatively high and relatively low levels of institutional change and positive and negative directionality of formal institutional quality (stable/improving or declining). Case information is summarized in Table 2.

Data collection and sources

While we collected data for each of the four cases, it was collected in different ways for each case. This was necessary, due in part to the difficulty of collecting accurate, granular data on VC activity – an inherently private activity – in EE contexts where gaining the trust of key informants is critical. As we conducted this inductive study, we

Table 1. Worldwide Governance Indicators: Botswana, Indonesia, Pakistan, & South Africa

Worldwide Governance indicators	1996 Estimate	1998 Estimate	2000 Estimate	2002 Estimate	2003 Estimate	2004 Estimate	2005 Estimate	2006 Estimate	2007 Estimate	2008 Estimate	2009 Estimate	2010 Estimate	2011 Estimate	2012 Estimate	Average of Total	Relative Standard Deviation (%)	Standard Deviation of Total
Botswana																	
Voice & accountability	0.87	0.73	0.64	0.65	0.69	0.73	0.57	0.49	0.48	0.48	0.42	0.44	0.39	0.50	0.58	24.58	0.14208076
Political stability/ Absence of violence	0.92	0.87	0.96	0.79	1.08	0.89	1.06	0.96	0.98	0.98	0.93	0.96	1.05	1.11	0.97	8.93	0.08643649
Government effectiveness	0.47	0.50	0.51	0.59	0.73	0.64	0.66	0.52	0.59	0.56	0.48	0.46	0.48	0.44	0.54	15.80	0.08608745
Regulatory quality	0.76	0.70	0.64	0.77	0.79	0.66	0.67	0.50	0.44	0.48	0.48	0.46	0.50	0.69	0.61	21.02	0.1284788
Rule of law	0.50	0.58	0.53	0.50	0.67	0.64	0.60	0.58	0.61	0.66	0.65	0.67	0.66	0.66	0.61	10.04	0.06108638
Control of corruption	0.59	0.71	0.67	0.61	1.25	0.88	1.14	0.90	0.94	0.99	0.92	1.00	0.99	0.94	0.89	21.64	0.19342921
Composite (Li and Zahra 2012)	1.66	1.66	1.60	1.59	2.13	1.81	1.92	1.61	1.65	1.70	1.59	1.63	1.67	1.77	1.71	8.81	0.15058732
South Africa																	
Voice & accountability	0.85	0.87	0.72	0.63	0.70	0.73	0.64	0.65	0.57	0.55	0.55	0.58	0.58	0.56	0.66	16.13	0.10596984
Political stability/ absence of violence	−0.43	−0.58	−0.25	−0.32	−0.33	−0.12	−0.15	0.05	0.20	0.04	−0.11	−0.02	0.03	0.00	−0.14	152.18	0.21659859
Government effectiveness	0.88	0.60	0.69	0.64	0.68	0.66	0.64	0.50	0.49	0.52	0.48	0.39	0.41	0.33	0.57	25.96	0.14678947
Regulatory quality	0.34	0.27	0.40	0.63	0.78	0.67	0.67	0.71	0.53	0.50	0.40	0.36	0.41	0.38	0.50	32.14	0.16149783
Rule of law	−0.01	0.16	0.10	0.05	0.04	0.09	0.08	0.24	0.07	0.03	0.09	0.11	0.13	0.08	0.09	66.77	0.05985667

(*Continued*)

Table 1 – *continued*

Worldwide Governance indicators	1996 Estimate	1998 Estimate	2000 Estimate	2002 Estimate	2003 Estimate	2004 Estimate	2005 Estimate	2006 Estimate	2007 Estimate	2008 Estimate	2009 Estimate	2010 Estimate	2011 Estimate	2012 Estimate	Average of Total	Relative Standard Deviation (%)	Standard Deviation of Total
Control of corruption	0.76	0.65	0.61	0.39	0.34	0.48	0.58	0.43	0.22	0.16	0.14	0.09	0.04	−0.15	0.34	78.28	0.26538519
Composite (Li and Zahra 2012)	0.97	0.80	0.93	0.82	0.90	1.02	1.01	1.05	0.84	0.73	0.63	0.61	0.64	0.47	0.82	21.82	0.17812395
Indonesia																	
Voice & accountability	−0.81	−1.04	−0.44	−0.39	−0.38	−0.29	−0.16	−0.14	−0.07	−0.06	−0.03	−0.07	−0.05	0.03	−0.28	112.46	0.31388578
Political stability/ absence of violence	−1.18	−1.77	−2.04	−1.62	−2.12	−1.87	−1.48	−1.40	−1.20	−1.09	−0.76	−0.85	−0.76	−0.57	−1.34	37.49	0.50117403
Government effectiveness	−0.42	−0.60	−0.27	−0.43	−0.45	−0.38	−0.44	−0.34	−0.28	−0.24	−0.28	−0.20	−0.25	−0.29	−0.35	31.72	0.11013425
Regulatory quality	0.19	−0.26	−0.18	−0.64	−0.78	−0.67	−0.54	−0.34	−0.32	−0.32	−0.33	−0.39	−0.33	−0.28	−0.37	64.76	0.24002593
Rule of law	−0.37	−0.72	−0.75	−0.97	−0.89	−0.77	−0.82	−0.73	−0.68	−0.66	−0.60	−0.64	−0.61	−0.60	−0.70	20.91	0.14616465
Control of corruption	−0.56	−1.08	−0.89	−1.13	−0.96	−0.89	−0.86	−0.81	−0.58	−0.56	−0.82	−0.75	−0.68	−0.66	−0.80	22.81	0.18290265
Composite (Li and Zahra 2012)	−1.26	−2.21	−1.85	−2.12	−2.27	−1.98	−1.76	−1.54	−1.28	−1.20	−1.16	−1.19	−1.10	−0.98	−1.56	29.04	0.45441638

(*Continued*)

Table 1 – *continued*

Worldwide Governance indicators	1996 Estimate	1998 Estimate	2000 Estimate	2002 Estimate	2003 Estimate	2004 Estimate	2005 Estimate	2006 Estimate	2007 Estimate	2008 Estimate	2009 Estimate	2010 Estimate	2011 Estimate	2012 Estimate	Average of Total	Relative Standard Deviation (%)	Standard Deviation of Total
Pakistan																	
Voice & accountability	−0.67	−0.64	−1.32	−1.22	−1.26	−1.23	−1.06	−0.90	−0.97	−0.87	−0.90	−0.84	−0.85	−0.87	−0.97	22.16	0.21539022
Political stability/ Absence of violence	−1.21	−1.18	−1.14	−1.70	−1.58	−1.56	−1.76	−2.04	−2.43	−2.57	−2.63	−2.67	−2.81	−2.68	−2.00	31.15	0.62211798
Government effectiveness	−0.59	−0.45	−0.58	−0.39	−0.39	−0.45	−0.42	−0.37	−0.46	−0.70	−0.78	−0.76	−0.81	−0.79	−0.57	29.83	0.16904078
Regulatory quality	−0.45	−0.49	−0.73	−0.79	−0.73	−0.88	−0.61	−0.45	−0.50	−0.57	−0.55	−0.58	−0.63	−0.73	−0.62	21.45	0.13311166
Rule of law	−0.67	−0.77	−0.95	−0.75	−0.73	−0.83	−0.88	−0.84	−0.88	−0.98	−0.84	−0.74	−0.91	−0.91	−0.83	10.93	0.09107269
Control of corruption	−1.15	−0.96	−0.82	−0.92	−0.73	−1.06	−1.04	−0.76	−0.74	−0.80	−1.04	−1.07	−1.05	−1.06	−0.94	15.36	0.14500325
Composite (Li and Zahra 2012)	−1.93	−1.83	−2.24	−2.34	−2.18	−2.43	−2.33	−2.16	−2.41	−2.63	−2.73	−2.70	−2.86	−2.85	−2.40	13.44	0.32251479

Source: www.govindicators.org

Table 2. Case descriptions.

	Direction of formal institutional quality, 1996–2012	
	Stable or improving	Declining
Low rate of formal institutional change	*Botswana* Composite average = 1.71 Composite relative standard deviation = 8.8% 2014 VC/PE Index rank = 81 (Q4) Interviews = 3 Archival pages = 11 Article pages = 17	*Pakistan* Composite average = −2.41 Composite relative standard deviation = 12.9% 2014 VC/PE Index rank = 61 (Q2) Interviews = 34 Archival pages = 142 Article pages = 26
High rate of formal institutional change	*Indonesia* Composite average = −1.50 Composite relative standard deviation = 28.1% 2014 VC/PE Index ranking = 46 (Q2) Interviews = 57 Archival pages = 234 Article pages = 62	*South Africa* Composite = 0.83 Composite relative standard deviation = 22.1% 2014 VC/PE Index ranking = 32 (Q2) Interviews = 17 Archival pages = 1281 Article pages = 1548

also iterated continuously between cases and theory. In particular, early fund-level data collection led to expanding the unit of analysis to the industry level, then seeking additional industry-level case data from other settings to develop theory. The following section describes how data were collected for each case.

In Pakistan, data were collected in two stages. In the first stage, a field study was conducted in Pakistan during March 2002. In this stage, data were collected primarily through semi-structured interviews. Consultations with development finance institutions (DFIs) and the Pakistani government were used to identify VCs, potential and actual investees, government officials, and other stakeholders to be interviewed. Thirty-four interviews were conducted. Two of these interviews were with venture capitalists, representing 100% of the venture capital funds in existence at that time. Two interviews were with investees of one of the funds, representing 50% of investees in that fund at that time. Twelve interviews were conducted with potential investees from a variety of primarily low-tech, export-oriented industries such as timber, furniture making, and textiles. The remaining interviews were with Pakistani government officials, international development organizations, commercial and investment banks, local chambers of commerce, and a western embassy. This wide range of interviews allowed for a relatively complete picture of VC development in Pakistan at that time to be developed and resulted in a 68-page case study.

The second stage of data collection in Pakistan was conducted in May–June 2014 and consisted of a review of archival data sources on Pakistani VC development. First, a LEXIS-NEXIS search was conducted, resulting in the identification of 73 relevant articles. Second, websites of past and current Pakistani VC funds were reviewed, resulting in the identification of one sponsored case study of a fund (Fariduddin 2007). These materials, in conjunction with the data collected in the first stage of the study,

were combined to generate an updated narrative case study of Pakistani VC development.

In Indonesia, data collection took place in 2000–2006, including the period 2004–2006 when the author served as an adviser to the Ministry of Finance and the Asian Development Bank. Data consist primarily of archival records, including previously unpublished (but public) quantitative data collected by the Ministry and related analytical reports; and previous academic studies. The primary government archival data are provided by a 2004 report prepared by the Ministry in support of proposed changes in VC legislation (Indonesian Ministry of Finance 2004) and related spreadsheets and updates prepared in 2005 and 2006. These data include detailed reports on 32 of the 60 VC funds active in Indonesia at the end of 2004 and incorporate the results of a survey of these funds conducted by the Ministry. We also conducted 57 interviews of fund managers, investees, and government officials in Indonesia, beginning in 2000 and continuing more intensively from 2004 to 2006. Since these interviews were unstructured, data from them have been used as secondary, rather than primary, data in this study.

In Botswana and South Africa, data were collected from both interviews and archival sources. Seventeen interviews were conducted in South Africa from 2006 to 2008, while three interviews were conducted in Botswana from 2008 to 2009. Interviews were conducted with VC fund managers, senior government officials responsible for VC development, investors, investees, and academics interested in this topic. These interviews were conducted in a semi-structured format and lasted from one and a half to three hours in length. Because recording such interviews was judged to impair a full and frank response to questions, we took notes that were then transcribed after each interview. In a few instances, multiple interviews were conducted with informants to clarify answers or pursue follow-up questions. Archival data consisted of journal and newspaper articles, annual and financial reports provided by funds and some investees, industry association studies, relevant policy documents, and, in the case of one fund, board minutes and internal financial statements. These data were then used in the analysis stage.

Data analysis

Following exemplary qualitative research (Plowman et al. 2007) and guidance on theory development in Eisenhardt (1989), our analysis sought to connect empirical reality to theory development. Specifically, we sought to tell a story about how formal institutional change influenced the VC development process based on an analysis of themes (Dutton and Dukerich 1991). The theme analysis followed steps described in Miles and Huberman (1994) and implemented by Plowman et al. (2007).

Step 1: Using a contact summary sheet. We used a contact summary sheet (Miles and Huberman 1994) to record the main themes and issues from each interview. We both completed the contact summary sheet and then cross-checked it with the transcripts to confirm the identification of major themes. A theme was defined as a recurring topic of discussion that captured an interview's central ideas (Dutton and Dukerich 1991; Plowman et al. 2007).

Step 2: Creating a complete theme list. The process used to complete the contact summary sheets resulted in a list of unique themes for each of the 108 interviews. We required uniqueness of the themes identified within each interview but allowed for commonly identified themes over the 108 interviews. We coded each identified theme

for analysis and tracking purposes. We then consolidated the list of themes over all 108 interviews. Examples of themes are 'institutions,' 'change,' 'government,' and 'law.'

Step 3: Construction of a timeline. For each case, we constructed a timeline based on informants' recollections of important events, newspaper articles, and archival documents. Table 3 presents a summary of these timelines.

Step 4: Narrative analysis. For each of the four cases, narrative accounts of formal institutional change and the VC development process were developed. Each narrative was between 5000 and 25,000 words long. Narrative analysis is useful for organizing longitudinal data, especially when abundant information is available (Langley 1999). Each case recorded a 'story' of what happened in the VC development process using detailed analytic text to weave together and make sense of the interviews, archival data, and theme analysis. Moving back and forth among the timeline, the data, theory on institutional change and the VC development process, the narrative analyses, and feedback from academic presentations, we were able to display the data (Miles and Huberman 1994) and to observe a pattern within the data that related to formal institutional change.

Step 5: Coding interview and archival data. We reviewed each interview transcript and extracted all quotations associated with the theme of formal institutional change. We coded quotations into the *macro* and *micro* categories using category definitions derived from previous research as described earlier. We tested coding validity by sharing our results at several academic conferences for feedback. This coding process, which resulted in the inclusion of 157 quotations, allowed us to assess the degree of support for the institutional change theme by the number of related quotations mentioned both within and across the interviews. Using the same coding procedure as for the interview data, we identified 237 quotations from the newspaper stories and archival data that related to the theoretical categories in this study.

Step 6: Visual mapping. We used a graphic approach to represent the coded interview data. Specifically, we used a visual map to display a network of causal relationships among the macro- and micro-level institutional change themes and the four stages of the VC development process. This method helped us improve data organization and develop an analysis of the impact of formal institutional change on that process.

Step 7: Validity checks. We relied on triangulation of data wherever possible to check the validity of the study. We triangulated data from interviews, observations, documents, and secondary sources. Our reporting includes only data substantiated over multiple information sources. We also triangulated data using multiple methods, such as narrative analysis and visual mapping.

Developing venture capital when formal institutions change

The South African case: first insights into the impact of formal institutional change

In the course of the South African interviews, we heard the story that micro institutional changes, such as direct government investment in VC funds, were significant for the VC development process, but that other, macro-level changes in formal institutions also mattered for this process. This observation was captured in an early interview with one South African VC fund manager:

> Because of new government regulations, South African institutional investors now require black Africans in senior management positions on my team. But qualified people meeting this requirement now cost Rand 1 million/year (N.B. USD 144,000), which I can't afford. So I'll probably look abroad for my next venture.

Table 3. Timeline of the VC development process, case countries.

Period	Botswana	Indonesia	Pakistan	South Africa
Pre-1980		Early direct government VC fund (the 1970s)	State VC-like program (1970)	
1980				Business Partners founded as public-private VC-related organization
1992		National VC association founded		Government technology commercialization fund founded
1993		Bahana Artha Ventura founded as public–private VC fund		
1995			VC regulations established	
1997–8	Government-related investment in VC fund	Asian financial crisis		First private VC fund founded
1998		Fall of Suharto	State VC-like program	
1999			Musharaff coup	Government investment program in VC funds
2000			First private VC fund founded	Government direct investment VC fund founded
2001	Public sector-facilitated VC program design Diffusion of program design element from South Africa		9/11 VC regulation changes	
2002	Government investment in VC fund	First post-crisis cross-border VC investment into Indonesia	State VC-like program	
2003				BEE initiated
2006			VC regulation changes First exit from VC investment	
2007			State VC-like program	Zuma becomes president
2008			VC regulation changes	
2010	First VC fund raises second fund for neighboring country			
2012	First VC exit			
2013			DFI investment in two new funds	

After seven years of relatively successful investment performance, this fund manager had chosen to exit the VC industry. This decision caused us to step back and ask (1) is this decision idiosyncratic, or does it reflect general industry trends? (2) What were the specific impacts of institutional change – both micro and macro level – on this decision? (3) Are these results specific to South Africa, or can they be observed elsewhere? (4) If these results are generalizable, how did formal institutional change – both micro and macro – impact the VC development process? This section addresses these questions, reporting our results and analyzing them.

During the period when this fund manager was building her fund, VC activity as a percentage of nominal GDP in South Africa decreased during the period 2000–2012, with two increases in 2006 and 2008:

These general industry trends suggested that this fund manager's experience was not idiosyncratic, but took place throughout the South African VC industry during this period. Either existing VC fund managers were choosing not to raise second funds – as our exemplar chose to do – or new fund managers were choosing not to enter the industry.

The impact of formal institutional change on South Africa's VC activity became our next focus of analysis and can be observed in Figure 1. After an increase from 2000 to 2006, the composite measure of formal institutional quality declined to 2012.

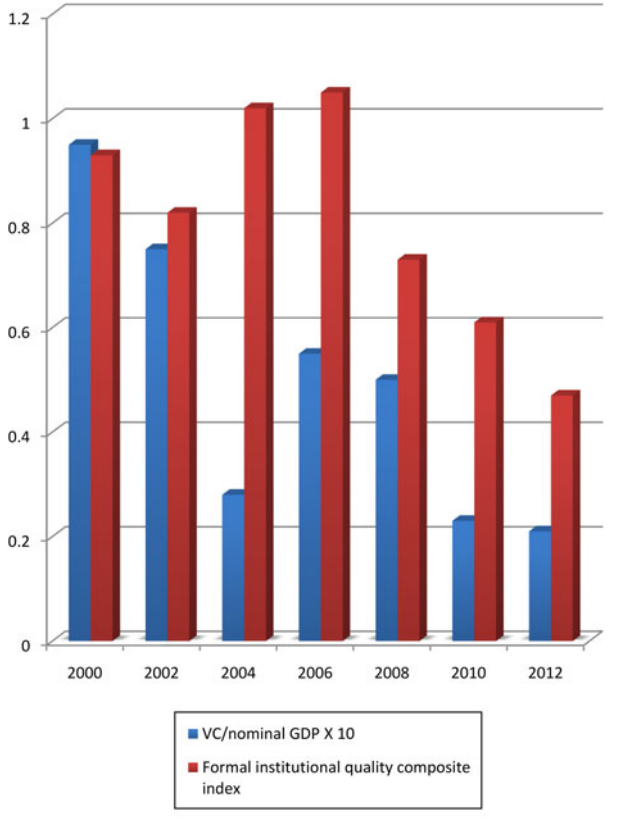

Figure 1. South Africa: Changes in VC activity and formal institutional quality, 2000–2012.

By examining the data in Table 1, we found that the three largest contributors to this decline were control of corruption, government effectiveness, and voice and accountability.

When we returned to our interview and archival data to look for evidence on how these factors contributed to the VC development process at the fund level, we found strong evidence for how declining government effectiveness impeded that process, but little or no evidence that declining control of corruption and voice and accountability had a significant impact. How did declining government effectiveness impact the VC development process? First, conflicting government policy objectives impeded the VC development process by sending confusing messages to VC fund managers. In particular, the conflict between national research and development policy – which promoted innovation – and black economic empowerment (BEE) policy – which promoted employment and ownership transfer – led to inefficiencies, such as time devoted to changes in fund manager ownership and investor structures that could have been used to source, close, and add value to promising deals.

Second, when government invested in VC funds, they impeded the VC development process by (1) having conflicting and changing goals for fund performance, (2) micromanaging fund investment activity and then delaying decisions once involved in day-to-day fund decisions, (3) utilizing different evaluation processes than those employed by either private investors in funds or the fund mangers, and (4) behaving as an adversary to fund managers. Taken together, all of these activities impeded the VC development process, demonstrating how measurable declines in dimensions of macro institutional quality, such as government effectiveness, can contribute to VC development, at least in South Africa.

Macro institutional change measures such as those in Table 1 are influenced in part by critical incidents of institutional change. A summary of the critical incidents at both the macro and micro level for each case is provided in Table 4.

In South Africa, two critical incidents – BEE and the rise of Jacob Zuma – were identified from a review of the archival data. Both incidents are associated with declines in VC activity, as measured by VC/nominal GDP, and in the composite index of formal institutional quality. As noted above, we found evidence of how the BEE critical incident adversely impacted the VC development process. However, we did not find any interview or fund-level archival data that linked the Zuma critical incident to changes in the VC development process. The impact of that critical incident was only observed indirectly.

Having considered macro-level institutional changes, we then began to look for micro institutional changes that may have an impact on VC development. Table 4 identifies two micro-level critical incidents: the Industrial Development Corporation's (IDC's) VC fund investment program and the establishment of Business Partners. Table 5 illustrates the impact of these micro-level changes on the four stages of the VC development process.

In South Africa, the two micro-level critical incidents of formal institutional change impacted the second stage of the VC development process: public–private cooperating. Business Partner's establishment created an effective model for private sector-led public–private cooperation. This model facilitated both government investment in private VC funds and direct government investment in startup activity. In this sense, Business Partners was a significant background condition facilitating VC funds that managed a mixture of public and private investment.

Table 4. Summary of formal institutional change critical incidents.

	Relatively high institutional change		Relatively low institutional change	
	Indonesia	South Africa	Pakistan	Botswana
Macro level	Asian financial crisis (1997–1998) Fall of Suharto (1998)	Black economic empowerment (BEE) (2003–present) Rise of Zuma (2007–present)	Musharaff coup (1999) September 11 terrorist attacks (2001)	None.
Micro-level	Bahana Artha Ventura (1993–present)	Industrial Development Corporation (IDC) investment program in VC funds (1999–present) Business Partners (1980–present)	Securities Exchange Commission of Pakistan (SECP) VC regulation changes (1995, 2001, 2006, 2008) State VC-like programs (1970, 1998, 2002, 2007)	Government and government-related investment in VC funds (1997, 2002) Development Bank of Southern Africa (DBSA)/African Management Services Company (AMSCO)-facilitated program design (2001) Diffusion of BEE example from South Africa (2001)[2]

Table 5. The impact of formal institutional change events on the VC development process.

	Relatively high formal institutional change		Relatively low formal institutional change		Exemplary Evidence
	Indonesia	South Africa	Pakistan	Botswana	
Enabling	*Financial crisis, Suharto:* decreased, then increased new venture opportunities, decreased pools of risk capital (macro)		*SECP regulations* (micro)		*Interview (Indonesia, fund manger, 2001):* BAV was directed by the government to provide humanitarian assistance to the communities in which it operated in the wake of the 1998–9 riots. Many of our potential investors would view this with great concern. *Archival (Pakistan):* In 2000, when TMT had already invested in three companies, there were no rules in the books of the country's regulators to deal with VC investment … AKD Securities and TMT Ventures were instrumental in helping the SECP frame the VC rules (Fariduddin 2007, 16–17)
Public-private cooperating	*BAV* (micro)	*IDC investment in VC funds* (micro)	*State VC-like programs* (micro)	*Government and government-related investments in VC funds* (micro)	*Interview (Indonesia, former senior civil servant, 2001):* Traditional venture capital investment structures, such as equity, don't work well in Indonesia. Most of our businesses are rural, where equity isn't well understood. We also want to do something that reflects our Muslim population. And we want the local business community to support what we are doing. *Archival (South Africa):* The Rupert family … launched [Business Partners Limited] in partnership with the Government of South Africa and several large South African corporations … After months of negotiations, the government agreed to match what the business collectively contributed (Emerson and McCallick 2014, 4)
		Business Partners (micro)		*DBSA/AMSCO-facilitated program design* (micro)	

Diffusing	*Financial crisis*: post-crisis VC practice diffusion (macro)	*Musharaf coup* (macro)	*Diffusion of BEE example from South Africa* (micro)	*Interview (Botswana, fund manager, 2008):* Citizens economic empowerment was not legislated. It originated from South African black economic empowerment. *Archival (Pakistan):* The October 1999 coup brought to power General Musharaf and his government of technocrats. Dr. Ata-ur-Rahman, an internationally renowned scientist, was inducted into the cabinet to head the Ministry of Science and Technology (MoST) … His personal credibility attracted expatriate Pakistanis, especially from the US, to look favorably towards Pakistan (Fariduddin 2007, 11).
		September 11 terrorist attacks (macro)		*Archival (Pakistan)* …the September 11 attacks in the USA and the subsequent shift in Pakistan's diplomatic stance change the world for the better for Pakistan … As business sentiment picked up, IT spending increased … IT companies, including those on TMT's lap, began to smell profitable opportunities … Fearing persecution, Pakistani expatriates in the US and in Europe began working out their back-up plans. The country, so long a victim of brain drain, now experienced brain gain. For TMT Ventures, 9/11 brought multiple boons: its deal flow increased, better managerial talent became available to it, and much needed high quality skillsets in the technology sector presented themselves for recruitment (Fariduddin 2007, 19–20)
Replicating		*BEE* (macro)		*Interview (South Africa, fund manager, 2007):* South African institutional investors now require black Africans in senior management positions on my team. But qualified people meeting this requirement now cost Rand 1 million (N.B. USD 144,000), which I can't afford. So I'll probably look abroad for my next venture. *Archival (South Africa)* …BEE remains mired in rent-seeking and is reflexively angled toward opportunities that allow enterprises to buy cheap and sell dear … It has provided a vehicle for elite enrichment and the brisk engineering of a black bourgeoisie that rides side-saddle behind incumbent capitalist elites, both in South Africa and globally (Marais 2011, 143–144)

IDC's investment program was also significant for the VC development process, albeit in two countervailing ways. First, IDC's program provided an important source of capital to a VC industry that was struggling to raise funds in the late 1990s. This program invested in eight funds, representing a significant percentage of the total funds raised during the period from 1999 to 2003. As noted above, however, IDC's involvement in fund governance hindered the efficient operation of the replication stage of the VC development process.

In summary, the South African case demonstrated to us the complex impacts of formal institutional change on the VC development process. In the context of a rapidly changing formal institutional environment, South Africa's VC industry struggled to grow and develop. Micro-level institutional changes that might have counteracted a general decline in formal institutional quality had a mixed impact on that process.

But was South Africa a unique case? By EE standards its formal institutional quality levels, while declining, are still relatively high. We also did not observe impacts of formal institutional change on other stages of the process, such as enabling or diffusing. So we expanded our sample to include three other cases with differing institutional change characteristics: Botswana, Indonesia, and Pakistan.

Are these results specific to South Africa? The Botswana, Indonesia, and Pakistan cases

We began the next phase of our study by analyzing data on VC development from Botswana. As indicated in Table 2, Botswana is a polar opposite case to South Africa. While South Africa's formal institutional quality declined during the study period, Botswana's improved slightly. While South Africa's institutional quality changed at a relatively high rate, Botswana's changed at a relatively low rate. Thus, a comparison of these two cases may reveal fundamental features of how formal institutional change interacts with the VC development process. Botswana also differs from South Africa by not having an active VC industry. Botswana's VC investment is concentrated in two funds – Venture Partners Botswana (VPB) and Peo Capital. When one Botswana VC fund has raised a second fund, they have chosen to do so outside of Botswana.

Accurate industry-level longitudinal data on Botswana VC activity are not available, so we estimated these data by examining VPB's investment activity. VPB is Botswana's dominant VC investor. Figure 2 displays these data for those years where data are most accurate and demonstrates that VC activity has been minimal, despite relative stable and high levels of formal institutional quality.

How did formal institutional stability contribute to Botswana's VC development process? Our interviewees pointed to a low level of innovative startup activity. As one fund manager stated:

> . . . entrepreneurship was floundering. There were lots of one dimensional businesses, like bed and breakfasts, but very few two dimensional businesses, like those that would provide services to B&Bs.

Formal institutional stability influenced the low level of Botswana startup activity, leading VC fund managers to expand their investment strategy beyond startups to include later stage, private equity investments (in VPB's case) or cash flow-positive SMEs (in the case of Peo). Thus, stability influenced the enabling stage of the VC development process by reducing the stock of opportunity-motivated entrepreneurs on which VC funds can draw for their dealflow.

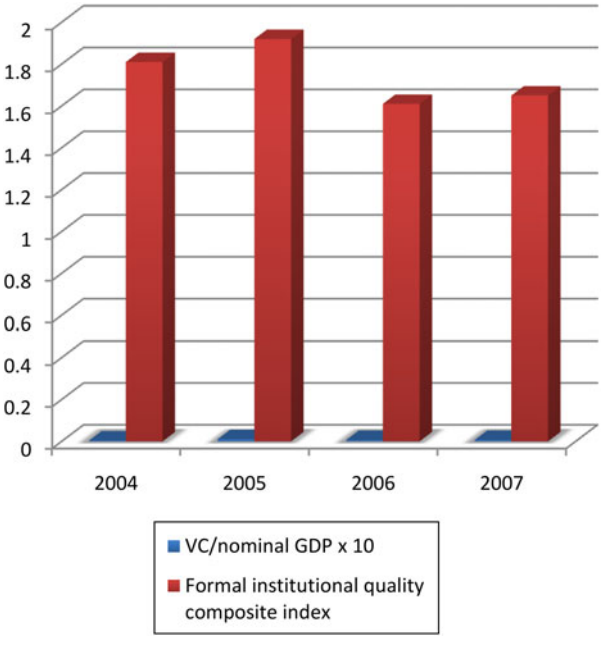

Figure 2. Botswana: Changes in VC activity and formal institutional quality, 2004–2007.

Since Botswana did not experience any macro-level critical incidents during the study period, we next examined how micro-level critical incidents (indicated in Table 5) influenced the four VC development process changes. Of the three critical incidents, two influenced the public–private cooperating stage and one influenced the diffusing stage. Unlike the South African case, the influence of micro-level institutional change on the public–private cooperating stage in Botswana has been almost entirely positive, according to our informants. Government (or government-related entities) provided virtually 100% of investment in VC funds during the study period, and, unlike South Africa, did not adversely influence fund governance, despite similar levels of government effectiveness. Government-funded external consultants designed an effective public–private VC fund model using international best practices, which also contributed positively, according to our interviewees. The influence of micro-level change – the import of South Africa's BEE initiative – on the diffusing process did not hinder VC development in Botswana, unlike the impact of this initiative in South Africa.

In the absence of macro-level formal institutional change, Botswana experienced several micro-level institutional changes. These changes had a positive impact on the VC development process. Yet, an active Botswana VC industry has not yet developed. Botswana-based VC funds have not been able to replicate by raising a second in-country fund, nor have new funds entered the industry. These results confirm the South African results of the inability of micro-level institutional changes to overcome macro-level change, pointing to the dominance of macro-level institutional change over micro-level changes.

Sensitized to the seeming importance of macro-level change, we turned next to a case rich with dramatic macro- and micro-level formal institutional change: Indonesia. Of the four cases in this study, Indonesia was the only one that experienced both political regime change – the fall of Suharto in 1998 – and a significant financial crisis

during the period when VC was developing. Prior to these macro-level critical incidents, one micro-level critical incident – the formation of Bahana Artha Ventura (BAV) as a public–private model of VC development – had already emerged.

The macro-level indicators of formal institutional change in Table 1 reflect both the Asian financial crisis and Suharto's fall, with significant drops in the composite index and most of its components from 1996 to 2003. While accurate longitudinal data on Indonesian VC activity are not available, it is possible to reconstruct the evolution of the industry over time. As with South Africa, even when micro-level institutional changes in Indonesia were poorly designed and/or implemented, the VC development process was completed, resulting in an active national VC industry.

The stable formal institutions of Indonesia's Suharto regime (1967–1998) facilitated initial efforts at VC development, in contrast to the dampening impact on VC development of formal institutional stability in Botswana. Initial government-led efforts to establish VC commenced in the 1970s (Cole and Slade 1996). This activity accelerated in 1994 with the establishment of BAV, a public–private fund. BAV rapidly expanded with a USD 40 M government investment and scaled to 27 funds – one for each province – by 1998. Local private investors also invested in all of these funds, typically providing approximately two-thirds of each fund's total equity capital. However, government acted as both investor and fund manager, limiting the private sector role to that of a passive investor. Much of the private sector investment in BAV's funds was motivated by an interest in pleasing Suharto, who had himself invested in BAV's first fund. These initial efforts by the Indonesian government to stimulate VC development appear to have led a small number of private VC funds to enter the market in the early 1990s.

Once the 1997-1998 Asian financial crisis began, however, government's role in VC development increased dramatically. In 1997, 10.5% of industry assets were managed by government-controlled funds. This increased to 11.8% in 1998, 16% in 1999, 36.2% in 2000, and 39.1% in 2004. Government-controlled funds gradually shrank to 17% of industry assets in 2005, indicating that government's role has remained significant. While BAV's design was flawed, Indonesia's VC industry succeeded in developing, including new funds entering the market after the 1997–1998 financial crisis.

Macro-level institutional change had the greatest impact on the enabling and diffusing stages of VC development in Indonesia. As noted in Table 5, critical incidents such as the Asian financial crisis and Suharto's fall first decreased, then increased, the rate of new venture formation, while reducing the pools of risk capital, having a mixed impact on the enabling stage. The financial crisis had a positive impact on the diffusing stage, as new international VC funds entered the market in search of opportunities after 1998.

In the face of dramatic formal institutional change and poorly designed and implemented micro-level interventions, Indonesia succeeded in developing an active national VC industry. Once again, macro-level change mattered more for VC development than micro-level changes.

Looking for further evidence in support of the apparent importance of macro-level change, we turned to our fourth and last case: Pakistan. The case presented a paradox. On the one hand, Pakistan had a relatively low rate of formal institutional change, as indicated in Table 1. On the other hand, like Indonesia, it had experienced two major macro-level critical incidents: the 1999 Musharaff coup and the September 11, 2011 terrorist attacks in the USA, which led to an expanding military conflict in both Pakistan

and neighboring Afghanistan. Neither of these critical incidents had any immediate impact on formal institutional change measures.

The Pakistan case revealed to us how some dimensions of formal institutional quality may matter more than others. In order to make sense of these differences, we stepped away from the Pakistan case and began by rank ordering cases by VC activity based on quartile rankings as reported in Groh, von Liechtenstein, and Lieser (2014). The resultant rank order is (1) South Africa (first quartile), (2) Indonesia (second quartile), (3) Pakistan (second quartile), and (4) Botswana (fourth quartile).

Changes in the various indicators of formal institutional quality are captured in the relative standard deviation statistic in the final column of Table 1. We used that statistic to rank order the four cases. We ranked the cases using changes in the composite index and changes in each of the six components of that index (voice and accountability, political stability and absence of violence, government effectiveness, regulatory quality, rule of law, and control of corruption). These rank ordering are reported in Table 6.

Of these seven measures of formal institutional change, two are reliable in predicting the rank order of VC activity as reported in Groh, von Liechtenstein, and Lieser (2014): changes in rule of law and changes in political stability and absence of violence. Both measures are reliable regardless of the direction of change. For example, Indonesia experienced a decline in rule of law over the period 1996–2012, resulting in a relative standard deviation for this dimension of 20.91%. Yet, it is ranked in the second quartile of VC activity globally by Groh, von Liechtenstein, and Lieser (2014). Botswana's political stability improved slowly over the same period, yet it had the lowest level of VC activity amongst our cases.

Why do changes in rule of law and/or political stability – positive or negative – have a positive impact on VC activity, and what does that relationship tell us about the impact of macro-level formal institutional change on the VC development process? As predicted in existing literature, positive changes in the rule of law would be expected to have a positive impact on VC activity. By contrast, a decline in the rule of law may lead VCs to rely more heavily on informal institutions such as networks (Ahlstrom and Bruton 2006) or relationships with government officials (Scheela and Jittrapanun 2012). In those economies where VCs possess the skills required to exploit these informal institutions, VC activity would *increase* as rule of law *decreases*. When VCs don't possess such skills and the rule of law declines, then VC activity would decline. For example, rule of law declined significantly in Pakistan from 1996 to 2012, but local VCs lacked the skills in manipulating informal institutions such as government connections needed to exploit this change. This lack of skills is poignantly conveyed when one local VC fund manager attempted to raise a second fund:

> In collaboration with ByteART, a UAE-based firm, and STEDEC, a technology commercialization company of the government of Pakistan, TMT charted out locations of high quality and commercializable scientific research in Pakistan. TMT earned a modest Rs. 1.3 million as its share of the assignment fee. A one-billion-rupee public sector VC fund to set up two incubators in agriculture and herbal/pharmaceutical sectors, proposed on the basis of research, was summarily killed by the Planning Commission of Pakistan. Sohaib recollects his feelings after the presentation to the Planning Commission, 'This was a sad and disappointing experience for all of us. We had put in a lot of hard work to put together a comprehensive proposal, which, if implemented properly, could have truly revolutionized the R&D culture in the universities. We felt that our arguments were not heard with an open mind. We could not convince the Commission members that bridging the gap between academia and research through a disciplined process of research commercialization was

Table 6. Formal institutional change by measure.

Δ Rule of Law	Rule of Law RSD*	Δ Polit Stab	Polit Stab RSD	Δ Reg Qual	Reg Qual RSD	Δ Comp Index	Comp Index RSD	Δ Control Corrupt	Control Corrupt RSD	Δ Govt Effect	Govt Effect RSD	Δ Voice and Account	Voice and Account RSD
South Africa	66.77	South Africa	152.18	Indonesia	64.76	Indonesia	29.04	South Africa	78.28	Indonesia	31.72	Indonesia	112.46
Indonesia	20.91	Indonesia	37.49	South Africa	32.14	South Africa	21.82	Indonesia	22.81	Pakistan	29.83	Botswana	24.58
Pakistan	10.93	Pakistan	31.15	Pakistan	21.45	Pakistan	13.44	Botswana	21.64	South Africa	25.06	Pakistan	22.16
Botswana	10.04	Botswana	8.93	Botswana	21.02	Botswana	8.81	Pakistan	15.36	Botswana	21.02	South Africa	16.13

Notes: * = Relative standard deviation.

> higher priority for Pakistan and had far reaching positive benefits than building roads, bridges and sewerage facilities.' (Fariduddin 2007, 25–26)

Accounting for the impact of changes in political stability and the absence of violence on VC activity is a similarly two-sided coin. We would expect that improvements in political stability, such as those indicated in the measures for South Africa, Indonesia, and Botswana over the period 1996–2012, would contribute to overall formal institutional stability and eventually flow through to improvements in other measures, such as government effectiveness, regulatory quality, and rule of law, positively impacting the VC development process.

However, as the Pakistan case demonstrates, declines in political stability need not mean a death knell for VC activity. Pakistan experienced a substantial drop in political stability over the 1996–2012 period, including when pioneering VC funds such as TMT were established, yet reported some VC activity and currently ranks in the second quartile for VC activity as reported in Groh, von Liechtenstein, and Lieser (2014). To some extent, this VC activity responded to specific instances of declining political stability, such as the 1999 coup by Musharaff:

> The October-1999 coup brought to power General Musharaf and his government of technocrats. Dr Ata-ur-Rahman, an internationally renowned scientist, was inducted into the cabinet to head the Ministry of Science and Technology (MoST).... Science and technology became the buzz and IT came under the spotlight. Under Dr Ata-ur-Rahman, PTCL had to slash Internet bandwidth rates from US$36,000 per E-1 (2 Mbps) to ~ US$10,000 in one year to make Pakistan competitive in the region. (Fariduddin 2007, 11).

These changes, when combined with the repatriation of many Pakistani engineers and businesspeople after 9/11, led to the establishment of 950 IT firms, which became potential dealflow for Pakistan's first VC funds. Thus, declining political stability can be a significant impetus for increased VC activity through such channels.

In summary, the Pakistan case helped us understand how some dimensions of macro-level formal institutional change – such as changes in rule of law or political stability – may matter more than others when it comes to the VC development process. This process has been completed to varying degrees in our cases, as Table 7 indicates.

These data illustrate a striking pattern and help to summarize some of the findings we have reported above. In those cases where relatively high levels of formal institutional change were present (Indonesia and South Africa), the VC development process was completed and an active VC industry exists. In those cases where relatively low levels of formal institutional change existed (Pakistan and Botswana), the VC development process was incomplete.

In those cases where formal institutional change was relatively low, could micro-level institutional changes overcome this stasis to 'jumpstart' a VC industry? In theory, this is possible, but it was not observed in either the Pakistan or Botswana cases. In Pakistan, for example, we observed repeated instances of micro-level state intervention, including the establishment of the Equity Participation Fund (1970), the Small and Medium Enterprise Development Authority (1998), the SME Bank (2002), and the National ICT R&D Fund (2007). All of these organizations attempted to engage in VC-like activities at some stage in their histories. Each is an example of a direct government expenditure program (Cumming and Johan 2013) and their introduction represents micro-level formal institutional change. Yet none of these changes contributed to public–private cooperation that could have expedited the VC development process, because each involved little, if any, public sector engagement with private VC fund managers. Cross-border public–private cooperation could have

Table 7. Summary of evidence on VC development processes.

	Relatively high institutional change		Relatively low institutional change	
	Indonesia	South Africa	Pakistan	Botswana
Enabling	*Mixed.* Active VC industry by the early 1990s (Cole and Slade 1996; Darus 1993), suggesting sufficient enabling conditions.	*Yes*	*No*	*Mixed*
Opportunity-motivated entrepreneurs	*Limited.* Low VC-attractive startup levels in the 1990s (Ibrahim 1994), decreased after 1998 financial crisis, increased by 2013 (Nawangpalupi et al. 2013)	*Mixed*. Modest startup level. However, VC funds report investing in 2.1% of dealflow, suggesting sufficient stock.	*No*. Low startup levels, immitative (Mian and Qureshi 2011; Lingelbach 2002)	*No*. Average startup levels by African standards (Herrington and Kelley 2012), but few VC-attractive tech-oriented new ventures.
Pools of risk capital	*Limited.* One billionaire in 1987, three in 1991, two in 1992–3, one in 2003. Chinese capital fled after crisis. Local investors significant funders of Bahana Artha Ventura (BAV) private/public VC fund (Li and Zahra 2001). Moderate uncertainty avoidance (Hofstede 2014)	*Sufficient*. Two billionaires (2003), increased to eight (2014). 48,586 USD millionaires (Capgemini and Merrill Lynch 2007). Local pension fund considers VC fund investments (Lingelbach 2009). Significant business angel investing (Lamprecht and Swart 2010). Moderate uncertainty avoidance	*No*. No billionaires on Forbes or Bloomberg lists. Seven listed on Wikipedia, but several are politicians. Pension funds don't invest in VC. High uncertainty avoidance and risk aversion (Ul Haque 2007).	*No.* No billionaires. 2300 USD millionaires (Mmegi 2014). Moderate uncertainty avoidance. Pension funds invest most of assets outside country or focus on private equity (Lingelbach 2009).
Specialized financial institutions	*Yes*. Heavily regulated (Lingelbach 2011). Well-established local exchange	*Yes*. Light regulation. Well-established local exchange	*Yes*. Exists, but heavily regulated. Established local exchanges	*Yes.* Well-established local exchange

(*Continued*)

Table 7 – *continued*

	Relatively high institutional change		Relatively low institutional change	
	Indonesia	South Africa	Pakistan	Botswana
Public–private cooperating	*Yes*	*Yes, then no*	*No*	*Yes*
Programs	*Yes*. BAV expanded rapidly until 1998. Post-crisis, government role expanded	*Yes*. IDC investment in VC funds beginning 1999. Business Partners public/private VC-like fund beginning 2000	*Yes*, but top-down state mentality (Fariduddin 2007). Frequent state-dominated VC-like efforts. DFI efforts insufficient to compensate	*Yes*. Government or government-related entity invested in both local VC funds. One program designed with DBSA/AMSCO resources. South African BEE initiative a key influence
Implementation	*Mixed*. BAV seen as charity by some private investors. Investment focus on cash-positive SMEs	*Problematic*. IDC micromanagement of fund activity. Black economic empowerment (BEE) initiative limits fund economics	*No* public–private cooperation	*Yes*. Good public-private cooperation in implementation
Diffusing	*Yes*. Foreign affiliates present pre- and post-crisis. SBIC model adapted by BAV	*Yes*	*Yes*. Adoption of Silicon Valley practices re fund concept, dealflow development (Fariduddin 2007)	*Yes*. Fund manager gained PE experience in South Africa. BEE diffused from South Africa
Replicating	*Yes*	*Yes*	*No*	*No*
Existing funds launch 2nd funds	*Yes*. BAV launched 27 affiliates	*Yes*. 6 of 21 VC funds currently operating	None.	*Yes*, but in adjacent country (Namibia).
New funds enter market	New funds entered both in the early 1990s and post-crisis	*Yes*. Some new fund managers have entered market	After pioneer funds, no new entrants into VC industry	None

addressed this program design flaw. DFIs have played a role in Pakistan's VC development by providing technical assistance, directly investing in local startups, and investing in several funds. However, this cooperation has not compensated for the absence of local public–private cooperation.

Some propositions

What was the impact of formal institutional change on the VC development process? Cases in which formal institutions were relatively stable – Pakistan and Botswana – did not provide evidence of VC replication. Active VC industries did not arise in either economy, despite relatively stable conditions. By contrast, both cases in which formal institutional change was relatively significant – Indonesia and South Africa – provided either moderate or strong evidence of VC replication. Institutional instability promoted the VC development process in these cases. The directionality of institutional change did not seem to make a difference. In the Indonesian case, formal institutions improved while the VC development process took place, while in the South African case formal institutions were deteriorating over the same period.

Why might this be? When we look at the processes prior to replication – enabling, public–private cooperating, and diffusing – we can see two differences between the cases of high and low rates of institutional change. First, cases with higher institutional instability provided stronger evidence that the enabling processes – processes generating sufficient stocks of opportunity-motivated entrepreneurs, pools of risk capital, and specialized financial institutions – were functioning than cases with relatively more stable formal institutions. Second, public–private cooperation was also stronger in institutional environments that were unstable.

These findings lead us to suggest the following:

Proposition 1: Formal institutional change supports the VC development process.

The results also highlight the relative importance of macro institutional changes – changes in voice and accountability, political stability and the absence of violence or terrorism, government effectiveness, regulatory quality, rule of law, and control of corruption – in comparison to micro level institutional changes, such a individual legal or regulatory changes, for the VC development process. In those cases with relatively stable formal institutions – Pakistan and Botswana – micro-level institutional changes aimed at VC development were insufficient. This was especially notable in the case of Botswana, where direct government expenditure programs were well designed and the formal institutional environment was well above average by global standards. Yet, the VC development process stalled.

By comparison, even when direct government expenditure programs were poorly designed and/or mismanaged, economies with relatively high levels of formal institutional change – Indonesia and South Africa – succeeded in completing the VC development process.

The impact of macro- and micro-level formal institutional change on the VC development process is depicted in Figure 3.

We suggest that:

Proposition 2: Macro institutional change is more important than micro institutional change for facilitating the VC development process, even if the latter is well designed and implemented.

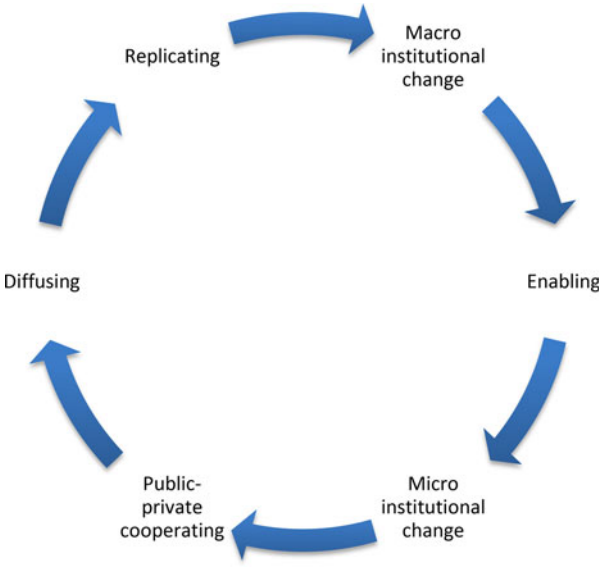

Figure 3. The venture capital development process incorporating formal institutional change.

Our findings demonstrate that some changes in macro-level institutions matter more than others. Both political instability and changing rule of law appear to contribute to VC development by opening up new opportunities. While the Pakistan case first revealed this insight to us, we revisited the South African data since it has the highest rate of change in these two formal institutional dimensions. Contrary to Pakistan, our interview and archival data revealed that South Africa is a case where improving political stability and rule of law facilitated VC development through different mechanisms. These mechanisms promoted increased cross-border fundraising by VC funds. Both negative and positive changes in these dimensions promote VC development.

We argue that:

Proposition 3: Changes in rule of law or political stability have the greatest impact on facilitating the VC development process.

Discussion

Contributions

This study began by asking: how is the VC development process influenced when formal institutions change? In answering that question, we make five empirical contributions. We enrich the literature on VC and institutions by providing a more fine-grained analysis of the impact of formal institutional change on the VC development process. In so doing, we build theory on the VC development process by introducing the construct of formal institutional change into an existing model of that process. In particular, we differentiate between VC industries that develop in stable and volatile formal institutional environments. Our propositions suggest that, first, formal institutional change, whether positive or negative, helps to facilitate the VC development process. Second, we argue that macro institutional change is more important than micro institutional change – such as introduction of new government programs or changes in specific regulations – for that process. Third, we find that

changes in two dimensions of formal institutions – rule of law and political stability – have a positive impact on the VC development process. Fourth, by amassing case data from four cases of the VC development process occurring in contexts previously unexplored in the VC literature, we extend that literature's geographical and institutional reach. Fifth, our emphasis on the VC development process – rather than the focus on the antecedents and consequences of VC activity in most extant literature – begins to address a significant gap in that literature.

By finding that formal institutional change facilitates the VC development process, we contribute to the conversation on institutional change as a source of entrepreneurial opportunities. In particular, we highlight how *declines* in formal institutional quality can facilitate VC development. This result echoes earlier counterintuitive findings that increased regulation – a type of negative formal institutional change – increases new venture formation by favoring particular organizations, providing resources, or supporting development. The relative importance of macro institutional change for the VC development process in our findings complements earlier research, which has emphasized the significance of micro-level institutional changes for VC activity.

By anchoring the discussion of the relationship between formal institutional change and the VC development process in EE data, our study complements earlier studies that examine this process using data from advanced industrial economies, e.g., Avnimelech and Teubal (2006). While more challenging to collect, EE data about the VC development process are more likely to reflect instances of significant formal institutional change. EEs are noted for their frequent instances of such change, resulting from war and civil conflict, regime change, natural disaster, economic and financial crises, and decolonization.

Theoretical implications

Our findings challenge the assumption that institutional progress – measured by increases in levels of formal institutional development – is sufficient for VC and industries like it to develop. Institutional change – good or bad – seems to matter more. Why? Perhaps because such change loosens the grip that dominant elite coalitions have over economic rents in many EEs, opening up new opportunities that can be financed by VCs and other providers of risk capital. Institutional theory researchers have identified dominant elite coalitions as a key barrier to EEs transitioning to political and economic systems with relatively open competition (North, Wallis, and Weingast 2009).

Our results also suggest that existing models linking institutions to VC activity should incorporate formal institutional change as an additional independent variable. For example, Groh, von Liechtenstein, and Lieser (2014) currently includes six drivers of VC fundraising, some of which include formal institutions as variables. Incorporating changes in these variables may improve these models' reliability.

Our findings have utility for students of organization beyond VC. We provide an alternative explanation for industry emergence to complement the mainstream life cycle-based perspectives (Klepper 1997). In particular, our findings highlight how contingent new industry development can be, how both market and non-market processes are at work in the process, and how institutional stability – a common objective of economic policy makers – may actually work against new industry emergence.

For researchers, the foregoing discussion suggests a few avenues for future exploration. First, given the importance of institutional change to the VC development process, better understanding the specific transmission mechanisms from such change to

VC development is a priority. What types of change – incremental or radical – in which specific types of formal institutions matter most, and why? Which agents of institutional change, including institutional entrepreneurs, are critical and why? Second, what other factors need to be controlled for in understanding the relationship between institutional change and the VC development process? For example, are economic structures (factor-, efficiency-, or innovation-driven) important as moderating factors, or are they largely correlated with institutional quality? Although they change much more slowly than formal institutions, do changes in informal institutions have an impact on the VC development process, and, if so, how?

Practical implications

For practitioners such as VCs, better understanding how to bond effectively with public actors seems important, suggesting that the study of specific cases where VCs have been effective institutional entrepreneurs in changing formal institutions is the next step on the journey. For policy-makers – who represent the other partner in the public–private cooperating process – the Pakistan case of state-dominated economic development seems a cautionary tale. VC is a somewhat fragile form of financial intermediation, requiring the right mix of regulations, incentives, and, where appropriate, government support through investment, tax relief, and other mechanisms. Weak formal institutions should not be used by policy-makers as an excuse to avoid engagement with private VC fund managers. VC development does not need to wait for major changes in these institutions, although any change – for the better or worse – may help drive the VC development process forward.

Limitations

This study suffers from a number of limitations. First, this study is an early step in better understanding the VC development process, focusing on EEs. Sample selection when the population is relatively small ($n = 46$, as noted earlier) is always likely to be challenging, particularly when the resultant sample does not contain the EEs with the largest amount of VC activity: China, India, and Brazil. Extant studies of these industries already exist, and this study provides additional insight by focusing on other EEs and the VC development process. Additional case studies that confirm or disconfirm the findings from each of this study's case studies would add to its robustness. Even though collecting such longitudinal data is challenging in the EE context, a larger sample would help to improve external validity.

Second, the selection of the theoretical model outlined in Lingelbach (2013) is not without controversy. This model is relatively new and therefore untested in the literature. Future studies might seek to compare this model against other available models, such as co-evolution.

Conclusion

Entrepreneurs often exploit the opportunities that arise from institutional change, and, as our study has shown, so do venture capitalists. By observing the interaction of one change process – formal institutional change – with another – VC development, we have extended the literature addressing VC and institutions. This study began by asking: how is the VC development process influenced by formal institutional change? Using

data from four cases of national VC industry development with varying levels of formal institutional change and development, we found that formal institutional change – both improvement and decline – contributes to the VC development process. Macro institutional change – particularly changes in political stability and rule of law – is more important than micro institutional change – such as introduction of new government programs or changes in specific regulations – for that process. These findings provide a rich foundation on which VC industries can develop and flourish in emerging economies.

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No potential conflict of interest was reported by the authors.

Notes

1. Emerging economies have been defined as 'low-income, high-growth nations principally reliant on economic liberalization for their growth' (Bruton et al. 2013, 169).
2. While black economic empowerment was implemented in South Africa beginning in 2003, it was conceptualized in 1994 and formally defined by a national commission in 2001.

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