

Kostka, Genia

Working Paper

Environmental Protection Bureau leadership at the provincial level in China: Examining diverging career backgrounds and appointment patterns

Frankfurt School - Working Paper Series, No. 174

Provided in Cooperation with:

Frankfurt School of Finance and Management

Suggested Citation: Kostka, Genia (2011) : Environmental Protection Bureau leadership at the provincial level in China: Examining diverging career backgrounds and appointment patterns, Frankfurt School - Working Paper Series, No. 174, Frankfurt School of Finance & Management, Frankfurt a. M.

This Version is available at:

<https://hdl.handle.net/10419/50548>

Standard-Nutzungsbedingungen:

Die Dokumente auf EconStor dürfen zu eigenen wissenschaftlichen Zwecken und zum Privatgebrauch gespeichert und kopiert werden.

Sie dürfen die Dokumente nicht für öffentliche oder kommerzielle Zwecke vervielfältigen, öffentlich ausstellen, öffentlich zugänglich machen, vertreiben oder anderweitig nutzen.

Sofern die Verfasser die Dokumente unter Open-Content-Lizenzen (insbesondere CC-Lizenzen) zur Verfügung gestellt haben sollten, gelten abweichend von diesen Nutzungsbedingungen die in der dort genannten Lizenz gewährten Nutzungsrechte.

Terms of use:

Documents in EconStor may be saved and copied for your personal and scholarly purposes.

You are not to copy documents for public or commercial purposes, to exhibit the documents publicly, to make them publicly available on the internet, or to distribute or otherwise use the documents in public.

If the documents have been made available under an Open Content Licence (especially Creative Commons Licences), you may exercise further usage rights as specified in the indicated licence.

Frankfurt School – Working Paper Series

No. 174

Environmental Protection Bureau Leadership at the Provincial Level in China: Examining Diverging Career Backgrounds and Appointment Patterns

by Genia Kostka

September 2011



Frankfurt School of
Finance & Management
Bankakademie | HfB

Sonnemannstr. 9–11 60314 Frankfurt an Main, Germany
Phone: +49 (0) 69 154 008 0 Fax: +49 (0) 69 154 008 728
Internet: www.frankfurt-school.de

Abstract

This paper analyzes the career backgrounds of local government officials in provincial Environmental Protection Bureaus (EPBs) in China and explains appointment processes of Chinese EPB bureaucrats. Using biographical information of provincial EPB heads and drawing on extensive fieldwork conducted in 2010 in Shanxi Province and Inner Mongolia, this paper finds that only one-fourth of current EPB heads were promoted through the bureau ranks within the EPB, while the remaining three-fourths were appointed from positions outside the environment field. Further, nearly all EPB heads' professional backgrounds and associated networks can be clearly categorized as environmental, business, provincial government, or local government oriented. The paper delineates these four types of Chinese EPB leaders and explains why an awareness of the different professional orientations is critical to understanding environmental protection in China. These findings have implications for inferring the unique characteristics of a province's EPB leadership, the implementation capacities of provincial EPBs, and the appointment preferences of provincial leaders.

Key words: Agency, environmental protection, policy implementation, networks, China

JEL classification: P28, Q28, O18, R58, Q48, Q58

ISSN: 14369753

Contact:

Prof. Dr. Genia Kostka*
Dr. Werner Jackstädt Assistant Professor
for Chinese Business Studies
East-West Centre of Business Studies
and Cultural Science
Frankfurt School of Finance & Management
Sonnemannstraße 9-11,
60314 Frankfurt am Main
Tel.: +49 (0)69 154008- 845
Fax.: +49 (0)69 154008-4845

E-Mail: g.kostka@fs.de

* The author thanks William Hobbs and Hao Ying (郝瑛) for excellent research assistance and Sarah Eaton, Arthur Mol, and Ran Ran for valuable feedback on earlier drafts of this paper. The author also gratefully acknowledges funding from the Developmental Leadership Program (DLP) and Dr. Werner Jackstädt Stiftung.

Content

1	Introduction.....	4
2	Previous Literature and the Assumptions of this Study.....	6
3	Biographical Characteristics of Current EPB Heads	8
4	How to Interpret Previous Work Experiences and Career Backgrounds.....	14
5	Discussion: Appointment Decisions and Typology Preferences of Provincial Leaders	18
6	Conclusion	21
	REFERENCES	22

1 Introduction

Previous research on China has focused on the institutional limitations of local Environmental Protection Bureaus (EPBs). These include studies in Guangdong (Lo & Tang, 2006; Sinkule & Ortolano, 1995), Shandong (Ma, 2000), Sichuan (van Rooij, 2003), and Liaoning (Bauer, 2006). It seems uniformly acknowledged that EPBs are often understaffed, underfunded, and lacking in the necessary formal power to implement many environmental tasks assigned them. What is implicit in these studies is that if these EPBs were granted the institutional capacity to function efficiently and authoritatively in their localities, then EPBs would be much more likely to achieve their environmental protection objectives.

This paper evaluates the implementation capacity of EPBs through an alternative approach. It evaluates institutional capacity by analyzing the backgrounds of current provincial EPB heads and explains why some EPB heads are selected over others.¹ The EPB heads are often authoritative figures within the bureaus and have an overriding influence over the internal workings of bureaus' environmental protection efforts (van Rooij, 2003). However, the EPB heads are themselves only one small part of an intricate network of government agencies, which rely on inter-departmental coordination and consensus building to achieve their bureau objectives (Sinkule and Ortolano, 1995). Bureau heads are promoted into their positions by provincial leaders and obey the explicit orders and implicit priorities of these leaders. As EPB heads are authoritative and influential figures *within* an EPB (van Rooij, 2003; Bauer, 2006), the institutional capacities, relative to each other, of provincial EPBs can be to a large extent determined by the priorities and objectives of the current EPB heads. The overall capacities, or willingness, of the EPB heads to undertake strict environmental protection measures are heavily influenced by their relations to their superiors in the provincial government and their colleagues in other bureaus.

While previous research has analyzed leaders' backgrounds, they mainly study national and provincial level leaders, which include provincial party secretaries and mayors (Li, 2000; Huang, 2002; Mei, 2009). Very little of this literature depicts provincial bureau heads as active agents. This article aims to fill this gap, providing insight into career trajectories and biographical data and the possible implications of these factors on environmental protection performance. Who are these departmental heads and what light can their backgrounds shed on the workings and capacities of provincial EPBs? Do they share similar demographic characteristics and professional experiences across China? Specifically, an analysis of EPBs' biographical information helps to achieve three important objectives: 1) reveal the career patterns of provinces' leading bureaucrats in charge of environmental policy implementation; 2) exhibit the professional networks of these bureaucrats; and 3) assess how career backgrounds and professional networks influence the implementation capacity and independence of local EPBs.

The analysis of EPB departmental heads' career patterns and institutional backgrounds highlights the variety of non-environmental career backgrounds, concurrent affiliations and professional networks and argues that EPB leaders are highly embedded in the local government and their locality. This embeddedness is a double-edged sword. While it improves the

implementation capacity of EPB leaders, it can also dilute environmental protection incentives. This implies that there is a delicate balance between professional networks which improve implementation capacity and relations which paralyze efforts to improve environmental protection in China. The study further shows that EPB leaders may be easily categorized by their career backgrounds. The distinct characteristics of these ‘types’ suggest that provincial leaders make important appointment decisions among clearly differentiated candidates. This may have implications for inferring appointment preferences of provincial leaders. The most desirable candidate for the EPB head position will likely be an official whose assumed networks and incentives will be favorably aligned with provincial interests and with parochial interests of the provincial leaders. Appointing provincial leaders are more likely to opt for an EPB head with the strength to help them to meet their individual mandatory or ‘hard’ (*yingxing* 硬性) targets under the cadre responsibility system, amongst which provincial leaders identified some targets that are more difficult to meet than others. Thus, provincial leaders selecting the most able EPB head may not behave altruistically, but, ultimately, in their self-interest.

The analysis draws from biographical information of provincial departmental heads and interviews undertaken during 2010. Biographical data were collected for 124 departmental heads of the provincial Environmental Protection Bureau (EPB), Development and Reform Commission (DRCs), Economic Commission (ECs), and Construction Bureau (CBs) in China’s 31 provinces. The paper focuses on the career trajectories of the 31 departmental heads of the EPB, the government bureau predominately in charge of environmental protection.² The author collected official biographies of departmental heads published on government websites and took note of leaders’ demographic characteristics (e.g., age, education, birth place, gender) and the different current and prior work positions held, including location, start year and end year, and position. Afterwards, coding was used to classify professional affiliations, concurrent positions, and area of previous work experiences. One limitation of this study is that the analysis only looks at reported professional affiliations and links, which differ from the full extent of actual links because they do not reflect intertwined informal connections. In addition, some salient information might be oversimplified, misreported (e.g., educational training), or not publically available. Despite this shortcoming, to the authors’ knowledge, this is the first bibliographic database tracking the careers of departmental heads. Where information was not available on government websites or to clarify some inconsistencies, additional information was sought in newspaper articles, government documents, online reports, or the *baidu* online encyclopedia.³ The analysis also draws on 71 semi-structured interviews conducted in Shanxi and Inner Mongolia during June and October of 2010. Interviews with EPB government officials provided an understanding of the overall institutional capacities to complete the implementation tasks and responsibilities assigned to EPBs. Field research in Shanxi Province also offered the opportunity to interview the EPB head personally to analyze his career background and networks.

The next section introduces concepts and arguments relevant to understanding the career patterns of provincial leading bureaucrats in charge of environmental policy implementation. The paper then analyzes previous work experiences, concurrent affiliations, and professional networks of provincial EPB heads, showing that environmental leaders are highly embedded

in their locality. The paper concludes by highlighting possible implications of EPB heads' policy orientation and by pointing out possible implications for environmental protection implementation.

2 Previous Literature and the Assumptions of this Study

This research is based upon a number of assumptions from previous research on the cadre management system and environmental politics in China. Namely, the assumptions are: (a) environmental protection law enforcement and policy implementation is flexible and thus there is room for agency to shape policy outcomes; (b) the EPB head is an authoritative and personally influential figure within the provincial EPB; (c) provincial EPBs operate under the local People's Government and the Communist Party Committee and alongside other bureaus, which requires coordination and consensus building between these various bodies; and (d) career paths and institutional backgrounds determine the professional skills, networks, factional ties, and incentives of government leaders and bureaucrats. The literature for these assumptions is outlined below. In the following sections, these assumptions are used to address the questions of: (1) what specific work experiences, networks, factional ties, and incentives do Chinese EPB heads have? and (2) how do the experiences, networks, ties, and incentives of EPB heads influence the implementation capacity and independence of local EPBs?

(a) Flexible Environmental Law Enforcement and Policy Implementation

Most China observers are well aware of the gap between national level environmental laws and policies and their implementation at the local level. There is a large body of literature on the specific topic of flexibility in environmental protection in China to support this. For example, a number of studies highlight the existence of 'local protectionism' in China and argue that local governments place priority on protecting their economic interests instead of the environment (for an excellent literature summary, see van Rooij 2006, pp. 61-65). While there has been recent progress in creating improved national environmental legislation ((Xie, 2004a: 13, 2004b: 8) and increasing prioritization of environmental protection work (Wang, 1997: 23; Xie, 2004b: 8) aimed at ameliorating the effects of such protectionism, these problems continue to exist. Some argue that this is because national laws may lack local legitimacy (Bardach and Kagan, 1982; van Rooij 2006). Also, bureau leaders have long had substantial discretionary power in how they choose to punish violations of national laws (Davis, 1969) and this still holds true for environmental law. Environmental protection decisions lack internal and external checks and balances (van Rooij, 2003) and therefore EPB heads may maintain a large degree of control over the efficacy, or inefficacy, of their bureaus.

(b) Authority and Personal Influence of an EPB Head

Previous studies emphasize the importance of individual leadership at the provincial, municipal or county level. Studying the Sichuan provincial EPB, van Rooij's findings stress that "the EPB is a centralist institution, and that its leadership has a final (direct and/or indirect) influence on almost all (except for their own positions) major personnel decisions" (2003: 46).

Another field study in Liaoning attributes major environmental improvements in Benxi municipality to the interventions of a high profile and charismatic municipal EPB head who “contrasted sharply with former EPB Heads in Benxi, who had held little power” (Bauer, 2006: 37). Benxi’s powerful EPB head even managed to capture the attention of national leaders, which laid the path for a major local pollution reduction program (Bauer, 2006: 39). These research findings allow us to characterize an EPB head as authoritative and influential within the EPB structure.

(c) Bureau Interdependence and People’s Government and Communist Party Committee Authority

The EPBs are dependent on the provincial government partly because the provincial government has the authority to appoint the head of the provincial EPB. Thus, the provincial government, “through its direct and indirect influence on personnel decision making, has a firm grip on the EPB” (Van Rooji, 2003: 46). This matters because, for provincial leaders, environmental protection is only one target alongside economic growth, employment, and social targets and leaders are likely to appoint a provincial EPB with views or background who can advance the province’s overall development plan. Provincial governments might more often appoint EPB leaders with a non-EPB background in order to strengthen EPBs’ linkage and ties to other bureaus or to ensure that provincial economic interests are not sacrificed.

In addition to appointment control, there is also fiscal and administrative dependence between the EPB and other government agencies. For EPBs to carry out their daily work and objectives, leading officials depend on support from other departmental heads and provincial leaders as well as city mayors. EPBs receive funding for staff and projects from the provincial/municipal government and EPB budgets are thus subject to approval from the provincial/municipal finance bureau (Bauer, 2006; Lo & Tang, 2006). Many EPBs therefore need to actively cultivate cooperative relationships and coordinate with other key departments. Sinkule and Ortolano’s study shows how the Shenzhen EPB employed both formal and informal means to link with other departments. One such formal tactic used by the EPB, used only in extreme circumstances, is direct appeal to the city mayor to settle a conflict between itself and another department. More commonly-used tactics are informal and consist of negotiation, bargaining, and consensus-building in order to influence other departments’ actions (Sinkule & Ortolano, 1995: 153).

(d) Appointment Decisions, Career Paths, Networks, Incentives

In addition to developing cooperative relationships with other departments and becoming locally embedded, awareness of underlying professional networks is also crucial for understanding EPB’s work and implementation capacity. A good starting point is to analyze current EPB heads’ prior career paths and work experience. Previous work has examined the career paths of leading government officials and tried to detect patterns in appointment and promotion decisions (Burns, 1987, 1994; Walder, 1995; Manion, 1985, 1993). In China, formal cadre evaluation criteria include qualification requirements, such as age, education, experience, as well as performance evaluation from previous positions, predominantly evaluating cadres’

political standpoint and moral character. In these performance evaluations, cadre evaluation criteria such as ‘Both Redness and Expertness’ (*youhong youzhuanyou* 又红又专) or ‘Both Integrity and Competence’ (*decai jianbei* 德才兼备) are often purposely left vague and are hard to match with operationalizable standards (Mei 2009). This vagueness leaves ample room for selectors to define what characteristics of a candidate are desirable and which ‘merits’ are conducive for the organizational good (Tullock, 1965). Appointment procedures are thus shaped by selectors’ preferences and career incentives. A leading cadre is selected by one or a group of government officials from the upper-level government and which candidate gets picked sheds light on the ‘selector’ side (Mei 2009).

Li’s (2010) empirical analysis of the provincial secretaries and mayors reveals that career promotions based on family ties (largely the domain of princeling, known as *taizi* 太子) or on patron-client relations (personal assistants, known as *mishu* 秘书) continue to be prevalent in China. Other studies have emphasized the importance of factional ties in Chinese politics formed on the basis of being born in the same province (*tongxiang* 同乡), attending the same school (*tongxue* 同学) and sharing common work experience (*tongshi* 同事), with the latter being the focus of this study (see for example, Li, 1994; Pye, 1995; Shih 2008; Hillman, 2010; Shih, Shan and Liu, 2010). The networks of an EPB head from previous work experience may shape his or her incentives and policy preference. Leaders’ local networks and relationships likely improve the implementation capacity of EPBs, but also at times weaken incentives to strictly enforce environmental protection laws and policies.

The next section turns to analysis of the bibliographic data and professional history of China’s 31 provincial EPB leaders currently holding office (as of February 2011) and shows what kinds of professional networks and links EPB Heads hold.

3 Biographical Characteristics of Current EPB Heads

As discussed, EPB heads, to large extent, determine the relative capacity and roles of local EPBs. Given EPB heads’ low rank compared to the local government leaders and other bureau heads, an EPB head’s preferences and leadership capacity are determined largely by the quality of their relations to other actors in the locality. In addition, EPB leaders’ capacity is determined by the EPB heads’ previous work experiences. Because the relationships and work experiences of EPB heads are strongly determined by career path, this section analyzes the biographical information of China’s thirty-one EPB heads. It addresses the question: (1) what specific work experiences, networks, factional ties, and incentives do Chinese EPB heads have?

Basic Characteristics

Although basic characteristics did not correlate with other factors such as time in office or career background in statistical analysis, they are provided here as background information on EPB heads’ demographics and educations. All EPB heads currently serving as EPB Director

or Party Secretary are male. In addition, the vast majority are ethnically Han and between the ages of 46 and 60. Most EPB heads from ethnic minorities are the heads of EPBs in minority autonomous regions, and the two EPB heads under the age of 46 head the EPB in Tibet and Beijing. The Tibet EPB head is the youngest, at 41. The average age is 51.6 years old. As shown in Table 1, nearly all EPB heads are nearing retirement, which is mandatory at the age of 60 in China, and are likely to have developed large professional networks over their careers.

From Table 1, we see that most EPB heads claimed to have 4 year college degrees or higher, and several held PhD degrees. As is often the case for Chinese bureaucrats, many of the EPB heads received degrees or professional training while in the civil service. Their academic fields are diverse but the majority of EPB leaders studied engineering, economics, and management. Only three leaders have degrees with majors in environmental sciences (EPB head in Tibet) or law (EPB heads in Guizhou and Sichuan).

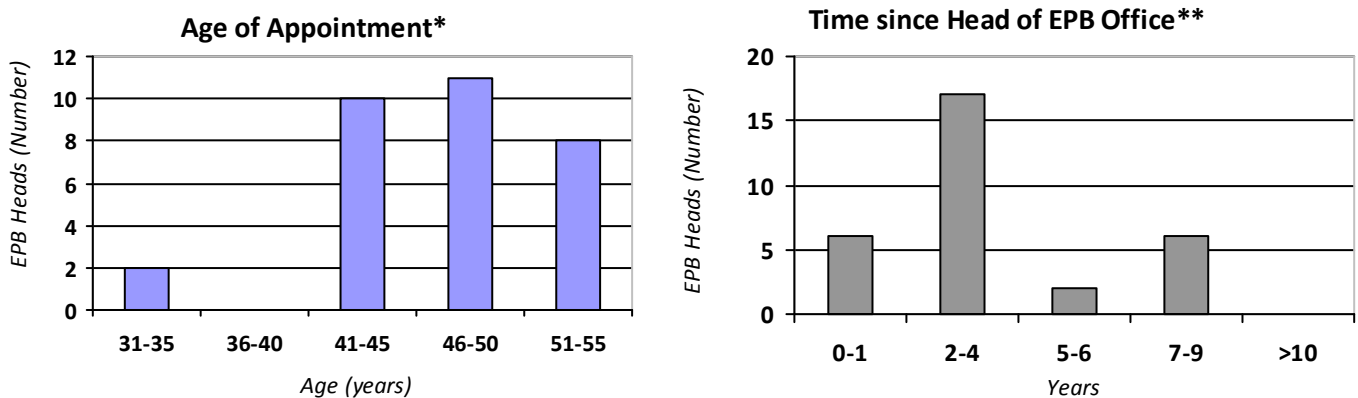
Table 1: Basic Characteristics and Educational Backgrounds of EPB Heads

		EPB Heads (Number)	Percentages (%)
<i>Gender</i>	Male	31	100
	Female	0	0
<i>Ethnicity</i>	Han	21	84
	Minority	4	16
	Information not available	7	-
<i>Age Range*</i>	56–60	7	23
	51–55	11	35
	46–50	11	35
	41–45	2	6
	Total	31	100
<i>Educational Level</i>	Ph.D.	5	18
	Master's Degree	12	43
	4-Year College	9	32
	2-Year College	2	7
	Total	28	100
	Information not available	3	
<i>Academic Majors</i>	Environment	1	4
	Economics /Management	9**	32
	Politics/Public Administration	2	7
	Engineering	9	32
	Law	2	7
	Chinese	3	11
	Others	2	7
	Total	28	100
	Information not available	3	

Notes: *Average age of EPB heads is 51.6 years. ** Includes two EPB leaders with degrees in engineering and management.

Figure 1 shows the ages of EPB heads at the time of their appointments to their current positions. The average age of appointment for current EPB heads is 47.6. EPB heads of province-level municipalities Beijing, Shanghai, and Chongqing were appointed to their positions at the age of 45 or younger. The EPB head in province-level municipality Tianjin entered office at the age of 46. Of the non-municipal provincial EPB heads appointed at the age of 45 or younger, two serve in central provinces (Hubei and Hunan), four in western provinces (Ningxia, Gansu, Xinjiang, Tibet), of which three are autonomous regions (Gansu, Xinjiang, Tibet), and one in a coastal province, Shandong. The average time served in the current position as EPB head is 4.0 years. EPB heads who have served in their positions for longer than five years are the heads of EPBs in Hebei, Shaanxi, Guangdong, Hunan, Yunnan, Tibet, and Chongqing. The longest-serving head is the EPB head in Beijing, who took office in July, 2002. Heads of EPBs in Hebei, Shaanxi, Guangdong, Hunan, and Tibet were all appointed in 2003, at the beginning of the Hu-Wen administration.

Figure 1: Other Characteristics - Appointment Age and Time in Office



Notes: *Average age of appointment: 47.6 years old. **Average time in current position as EPB head is 4.0 years.

Career Paths and Institutional Backgrounds

This section summarizes the previous positions and career backgrounds of EPB heads, respectively. Table 2 lists the positions the current EPB heads held immediately prior to their appointments. From this table, we see that only 8 EPB heads were promoted within the EPB, while the remaining three-fourths came from positions outside the environment field. Almost

one-third of the current EPB heads were appointed from municipal level positions such as municipal mayor, deputy mayor, party secretary, or vice party secretary.

Table 2: Position before Appointment to the EPB Head

	EPB Heads (Number)	Percentages (%)
Promoted within the EPB	8	26
Appointed from another provincial department	7	23
Economic	3/7	
Other	4/7	
Appointed from the provincial People's Govt/Party Committee	4	13
Appointed from municipal mayor (deputy)/party secretary (vice)	10	32
Appointed from a state-owned enterprise	1	3
Appointed from county level Party Secretary	1	3
<i>Total</i>	31	100

However, there is a discrepancy between the number of EPB heads promoted from municipal positions and the number of EPB heads who spent the largest portion of their careers at the county or municipal. Although ten of the current EPB heads were appointed from municipal level positions (Table 2), Table 3 shows that only five of the current EPB heads spent the majority of their careers in lower level governments. This is because many government officials from province level departments were appointed to serve as municipal level leaders for three to five years before returning to the provincial level as EPB head. For example, four of eight EPB heads with economic department careers were rotated through provincial government or municipal leadership positions before being appointed EPB head.

Table 3 categorizes the career backgrounds of EPB heads. In Table 3, the EPB heads were coded according to the government level or type of bureau in which they spent the largest portion of their careers. Most EPB heads spent from ten to twenty years in these career tracks. From the table, we see that 16 EPB heads (52 percent) spent most of their career at the provincial level, 7 within the EPB (23 percent), 5 in lower level governments (16 percent), and 2 with a state-owned enterprise (SOE) (6 percent). The majority of EPB heads built their careers in political positions at the provincial governments or Party Committees (3 heads), provincial non-economic departments (6 heads), or municipal governments (5 heads). Next to long political careers, many EPB heads spent their careers in economic or business positions, either in an economic bureau career (8 heads) or in an enterprise career (2 heads, Jiangxi and Gansu).

EPB leaders who rose through the environmental protection bureau ordinarily began as environmental protection researchers or pollution control specialists. They were promoted through the bureau ranks until reaching the position of EPB head. Leaders with careers in

provincial economic bureaus started as cadres in provincial economic bureaus and were rotated among the different provincial government economic agencies. EPB heads who originated from municipal governments spent nearly all of their careers in a single locality, gradually climbing the bureaucratic ladder. EPB heads with careers in non-economic bureaus ordinarily spent the majority of their careers rising through the ranks in a single bureau before eventually being rotated through leadership positions in other provincial non-economic bureaus. Two of three leaders who worked in provincial governments or Party committees were promoted through the Communist Youth League system. There are two SOE career EPB heads who began as workers in industrial enterprises and worked their way up to upper management positions in a SOE before being appointed to positions in the government late in their careers.

Three out of the 31 EPB heads are not easily categorized because their careers did not follow a ‘standard’ career path of promotions within municipal governments, the Communist Youth League, specific provincial non-economic bureaus, provincial economic bureaus, or SOEs. These are the EPB heads in Jiangsu, Anhui, and Tibet. The Jiangsu EPB head held, for six years, the position as a vice secretary (*mishu* 副秘书长) in the provincial government, but served the majority of his earlier career in different economic government bureaus.⁴ He was categorized as ‘economic’. In Anhui, the current head of the provincial EPB spent a nearly equal amount of time, over ten years each, in both provincial economic departments and in lower level government positions, but spent slightly more time in provincial economic departments. He was also categorized as ‘economic’. Another notable exception to the patterns of local political or economic careers is the Tibet EPB head who began his career as a researcher and aid worker in the environmental field before joining the civil service as the Deputy Head of the Tibet EPB.⁵ His career background was categorized as ‘EPB’.

Table 3: Career Background

	EPB Heads (Number)	Percentages (%)
<i>Career Backgrounds*</i>		
EPB	7	23
Provincial level	16	52
<i>Government/Communist Youth League</i>	3/16	
<i>Economic bureau</i>	8/16	
<i>Other bureau</i>	6/16	
Municipal level	5	16
Enterprise	2	6
<i>Total</i>	31	100

Note: * Refers to the majority of time spent over EPB heads’ career in the civil service.

Interestingly, EPB leaders with environmental and other non-economic backgrounds are most commonly appointed to urban municipalities. All four province-level municipal governments appointed EPB leaders with careers in environmental protection or non-economic bureaus such as labor and social security, urban planning, or construction.

Table 4 analyzes EPB heads' previous work experience in state-owned enterprises. 19% of all EPB heads (or 6 out of 31) worked at some point for an SOE. Three EPB heads worked for enterprises in heavy industry (iron and steel, metallurgy, and chemicals), which could be especially useful work experience for an EPB head. For example, the Jiangxi EPB head worked his entire career in a provincial chemicals SOE, beginning as a factory assistant and eventually rising to chairman of the board. The Gansu EPB head also spent the majority of his career in an enterprise, rising from technician to deputy CEO. SOE work experience also exposed EPB leaders to the general aspects of enterprise management. For example, the EPB head in Zhejiang worked for several years as deputy head of propaganda in an SOE and the Shanxi EPB head was briefly a building general manager in the late 80s.

Table 4: EPB Head Enterprise Experience

	EPB Heads (Number)	Percentages (%)
<i>EPB Leaders with Enterprise Experience*</i>		
Yes	6	19
No	25	81
<i>Total</i>	31	100
<i>EPB Leader</i>	<i>Areas of Industrial Experience</i>	
Hubei	Iron and steel	
Zhejiang	Metallurgy	
Sichuan	Import/export	
Shanxi	Building management	
Jiangxi	Chemicals	
Shanghai	Construction and resource development (affiliation)	

Note: *Refers to temporary placements, concurrent affiliations, previous jobs, or rotating positions, mostly in state-owned enterprises.

Concurrent Affiliations and Cross-Postings

Of the thirty-one provincial EPB profiles analyzed here, six EPB heads list outside affiliations on their CVs including one EPB head who also lists a cross-posting (Table 5). Three EPB heads hold National People's Congress (NPC) delegate positions (Sichuan, Shanghai, Anhui), which are very prestigious titles, and two EPB heads hold Provincial People's Congress delegate positions (Guizhou, Hebei). One EPB Head is cross-posted as the Head of the Nuclear Safety Management Bureau (Sichuan). Two EPB heads have affiliations with local universities, one as a PhD adviser (Shandong) and another as a professor (Hunan). The number of affiliations of EPB heads is likely to be understated. For example, it is common for a bureau head to serve as a PPC delegate, perhaps often enough that many EPB heads do not list it in

their short bios published online. In addition, EPB heads may not publicly reveal their affiliations with local enterprises to avoid the appearance of bias.

Table 5: Concurrent Affiliations and Cross-Postings*

	EPB Heads (Number)	Percentages (%)
Affiliation to National People’s Congress (NPC)	3	10
Affiliation to Provincial People’s Congress (PPC)	2	6
Affiliation to university	2	6
Cross-postings	1	3
No affiliation reported**	25	81
<i>Total</i>	31	100

Note: * Listed affiliations only refer to reported affiliations on government websites. **There are six EPB heads with concurrent affiliations or cross-postings because two EPB heads had more than one concurrent affiliation or cross-posting.

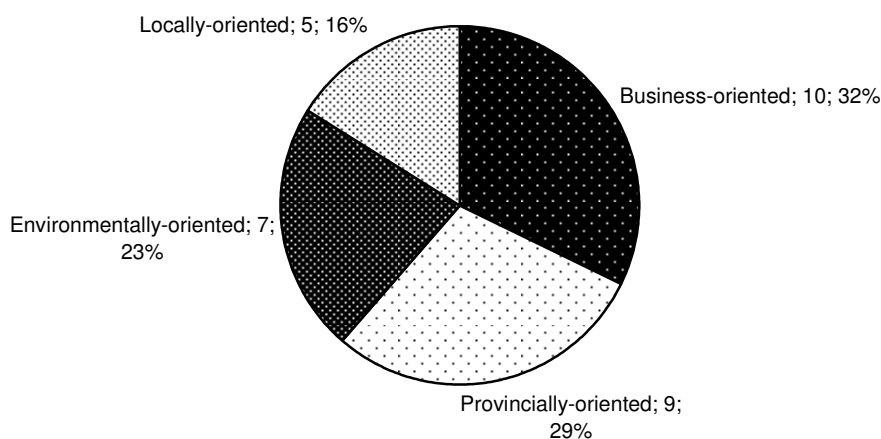
4 How to Interpret Previous Work Experiences and Career Backgrounds

This section addresses the question: how do the experiences, networks, ties, and incentives of EPB heads influence the implementation capacity and independence of provincial EPBs? As the *guanxi* and factional ties of an EPB head from his or her previous work experience may shape the incentives of EPB heads, these links and networks can be used to assign ‘types’ to each of the provincial EPB heads. Each type can be inferred to come with a possible orientation or slant towards the interests of the type’s corresponding networks and factional ties. This orientation will not necessarily hold for each leader, especially in cases where provincial leaders commit an usually high degree of personal attention to environmental protection such as in Shanxi Province, for example, which has garnered widespread media attention from environmental scandals and overall degradation.⁶ While EPB head’s biography and professional networks may not wholly determine his policy preferences, it is plausible to assume that these factors have a strong impact.

As previously stated, these ‘types’ are based on the career backgrounds of EPB heads, most of whom spent the majority of their careers working in a particular area. Table 3 in the previous section categorized EPB heads by the institutions in which they spent the majority of their careers. From this table, it is clear that most EPB heads fall into one of four career background categories, and are nearly evenly split among them: careers in environmental protection bureaus; in provincial governments, Party committees, or non-economic provincial bureaus; in local governments as municipal mayors or party secretaries; or in economic bureaus or state-owned enterprises. Here these career backgrounds are assigned the following types: ‘environmentally-oriented’ for career EPB bureaucrats; ‘provincially-oriented’ for those bureaucrats who spent most of their careers in provincial governments, Party committees, or

non-economic provincial bureaus; ‘locally-oriented’ for bureaucrats with careers in local government; and ‘business-oriented’ for career economic bureaucrats and SOE managers. Figure 2 presents the different career background categories.

Figure 2: Orientation of EPB Heads* (Number of EPB Heads; Percentage); 100% =31 heads



Notes: * Categorization based on analysis of three previous work experiences. Policy-setting/provincially-oriented category combines leaders with government and non-economic provincial bureau careers. The business-oriented category combines leaders with careers in provincial economic bureaus and enterprises.

If existing networks based on career backgrounds influence EPB implementation capacities and priorities, then the selection of a provincial EPB head with a certain background can have a significant impact on local environmental protection. Since EPB heads can be relatively easily categorized by their work backgrounds (28 out of 31 of the EPB heads spent the majority of their time on a particular career path), provincial leaders seem to prefer particular types of political or economic embedded leaders when considering bureaucrats for promotion to EPB head. In the appointment process, provincial leaders can be expected to weigh the benefits of EPH head candidates’ professional networks, factional ties, skills, and incentives. Although this analysis does not take into consideration ‘soft’ factors obtained through personal interactions, informal reports, candidate interviews, factional ties and other kinds of guanxi commitments, these backgrounds nonetheless convey a great deal of information on the professional networks, skills, and orientations of EPB heads. Given limited available information on the candidates under consideration, provincial leaders will likely consider a candidate’s profile carefully and initially use a candidate’s career background, institutional af-

filiations, and previous performance evaluations as an indicator for their preferences and practices. Career paths can also convey a great deal of information to the appointing officials on the candidate's professional networks, factional ties, skills, and incentives. As argued below, the 'best' candidate may not, in all cases, be the person with the best ability and credentials but rather the person who best supports the political position of the appointer. The following section introduces the characteristics of these EPB head orientation categories and explains how each category of backgrounds may influence EPB implementation capacities and priorities in different ways.

Environmentally-oriented EPB Heads

Environmentally-oriented leaders are departmental heads who were promoted entirely within the EPB structure. Leaders belonging to this category have developed ties to other local EPBs and actors closely linked to EPB-related work. Over the years, these government officials have accumulated in-depth environmental knowledge and expertise at the sub-provincial and provincial levels. Their technical and environmental expertise combined with an awareness of local implementation practices may make them effective leaders in tackling difficult environmental challenges, but only if they are given sufficient support from the provincial government and other bureaus. Having worked the majority of their careers as environmental specialists drafting or carrying out national and provincial environmental regulations, these leaders are likely to have large networks in the environmental protection field yet lack extensive connections to other non-environmental actors. This relative lack of networks beyond the EPB may hinder their ability to capitalize on their specialized knowledge on environmental protection methods as they may be less effective in establishing and coordinating working relations with other departments.

Provincially-oriented EPB Heads

Provincially-oriented EPB heads spent the majority of their careers at the Provincial People's Government or Party offices or in non-economic bureaus such as urban planning, construction, or labor and social security. The interests of these provincially-oriented EPB leaders are likely to be aligned with the province's policy-making level. Their behaviors will be the most in keeping with the policy objectives and priorities of the provincial government and Party committee because of previous work experience which provides the networks and factional ties to the province. In contrast to environmentally-oriented cadres, provincially-oriented EPB heads with career backgrounds at the provincial level are more likely to have a wider range of networks with other provincial departments. Bureaucrats from the provincial government or Party committee will have overseen the work of many provincial bureaus. Non-economic bureau leaders are regularly rotated among provincial level bureaus once they have reached the peak of their careers, and often have accrued a great deal of inter-bureau work experience by the time they are appointed EPB head.

However, leaders in this group who spent nearly their entire career at the provincial level may have limited awareness of local implementation difficulties and practical concerns. Also, leaders with provincially-oriented careers in non-economic bureaus may lack strong networks to economic bureaus or enterprises. They may, thus, have less practical knowledge of business and fewer incentives to support provincial business interests except when there is an

overall welfare benefit to the provincial government such as tax revenue. From a professional skills angle, on the other hand, certain non-economic bureau heads may have increased implementation capacity because they share some characteristics with environmentally-oriented leaders. Given their backgrounds in urban planning, constructions, and labour, leaders in this category could effectively help provincial leaders to meet particular cadre targets. For example, an EPB leader with a bureau background in construction or urban planning is likely to be especially adept in enforcing national guidelines and devising provincial standards to lower energy usage in the local construction industry or addressing rising pollution in large urbanized cities. Yet, this may be very dependent on the level of provincial support for these policies.

Locally-oriented EPB Heads

Locally-oriented leaders refer to departmental heads that spent the majority of their career at county and municipal-level governments and agencies. Many officials in this cohort of EPB leaders worked most of their career in one or two localities before being promoted to the post of provincial EPB head. They are likely to retain tight links to their home localities. These ties likely provide a platform for informal feedback, which may improve provincial implementation policies. Of course, cosy relationships might also result in favoritism and exception-granting. Lacking necessary networks and influence at the provincial level, locally-oriented leaders might also be less effective in gaining buy-ins from other provincial players and enterprises.

Beyond these networks considerations, during their many years spent at the local level, these leaders likely develop a political sense of how to balance competing priorities in the policy implementation process. This is particularly relevant to environmental protection. The ambitious approach to environmental protection in national and provincial policies and the pragmatic economic and social concerns of government agents and business interests at the local level make implementation of these policies especially contentious. Awareness of local implementation practices and knowledge about existing policy loopholes gives these leaders an advantage when enforcing environmental mandates that are highly dependent on municipal support.

Business-oriented EPB Heads

Finally, the EPB leaders categorized as business-oriented have worked previously in provincial economic bureaus or state-owned enterprises. An economic bureau background ensures that a leader is well situated in the provincial policy-setting, while an enterprise background signals familiarity with implementation practices at the enterprise level. The business-oriented 'type' can draw on wide range of economic and business-related contacts in forming business-government alliances or breaking down enterprise opposition to stringent regulations. Existing networks to other economic bureaus and enterprises likely extends the reach of the EPB, thus possibly strengthening it. However, highly business-oriented leaders might also sacrifice strictly enforcing environmental protection laws and policies in favor of provincial economic growth or individual business interests. For example, while working in a SOE, an EPB leader might have inherited business contacts, potentially giving rise to a conflict of interest. Also, simply having work experience in an SOE does not imply that a leader understands or has

contacts with other enterprises. Having worked predominantly at the provincial level on economic issues, leaders in this category may also lack expertise in environmental matters and local implementation enforcement.

In summary, there are different types of EPB heads based on their integration into provincial politics (policy-level vs local level) and existing networks based on career backgrounds (generalist vs specialized networks).⁷ Delineating different types of EPB leaders helps to understand provincial EPB leadership and the implementation capacities of provincial EPBs, along with the appointment preferences of provincial leaders.

5 Discussion: Appointment Decisions and Typology Preferences of Provincial Leaders

The above documentation of the diversity of types among EPB heads is surprising. EPB leaders' career backgrounds may differ vastly, ranging from environmental bureaucrat, SOE business manager, political strategist, to implementers. What can explain these differences among appointed EPB leaders? And begs the questions: What are provincial governments or Party leaders considering when appointing a local EPB head? Do appointment patterns tell us anything about the needs of a province as perceived by the provincial government or Party? Or do they reflect leaders' career and political incentives?

A number of studies have highlighted the Chinese bureaucracy's ability to select leaders in a rational manner (Burns, 1987, 1994; Huang, 2002; Manion, 1985; Walder, 1995). The findings of these studies indicate that the selection of bureau leaders is rarely random or haphazard. Candidates are selected through a rigorous evaluation process which considers a wide number of factors, such as past work experience and performance. However, the 'best' candidate is not necessarily the candidate who will most thoroughly enforce environmental protection laws or even achieve the most progress in environmental protection.

Provincial mayors and party secretaries, when appointing a provincial EPB head, consider both overall provincial government's preferences and personal incentives. As mentioned above, from the possible typologies, provincial leaders will need to select one 'type'. The most desirable candidate for the EPB head position will likely be an official whose assumed networks and incentives assert to provincial leaders that under the new leadership EPB's practices will be favorably aligned with provincial interests and with parochial interests of the provincial mayor and party secretary.⁸ The implications of these preferred backgrounds will be discussed in the rest of this section.

Provincial Needs and Cadre's Career Incentives

When assessing bureaucrats for promotion to EPB head, provincial leaders will consider the overall provincial context and weight potential trade-offs, balancing considerations on the need for economic development, the complexity of environmental pollution issue, and required implementation practices. Provincial governments have different economic and envi-

ronmental needs, depending on the province's level of economic development (rich/poor), the level and complexity of environmental pollution (high/low) and the required implementation (locally /provincially; coordinated/uncoordinated). Provinces may therefore seek out different types of environmental leadership. Local economic and environmental factors influence provincial leadership's preference to pick a candidate who balances a certain mix of environmental or business expertise, provincial or local networks, and high or low career ambition. These factors may heavily influence the capacity of an EPB head, and consequently strengthen or weaken the environmental protection institution itself.

In addition to considerations related to the overarching provincial interest, personal preferences and career incentives of provincial Party secretaries and mayors are at least equally important, if not more so. A number of personal incentives may influence appointment decisions, including potential of appointees to affect a leaders' ability to meet targets, receive annual bonuses, and be promoted, along with personal favoritism, but the most important of these is the desire for promotion. Rationally, cadres will evaluate candidates based on whether they help them to advance, or at least safeguard, their own careers.

For example, because mayors and party secretaries have signed individual cadre responsibility contracts, outlining economic, social and political targets and goals necessary for their annual evaluation, candidates that will help them meet these goals, particularly those of mandatory or 'hard' (*ying xing* 硬性) targets, are likely to be found on the top of the candidate list. For environmental policy implementation, provincial leaders have clearly defined environmental protection targets, some of which are 'hard' such as energy intensity reduction targets (Kostka and Hobbs, forthcoming). Amongst the many different targets, provincial leaders may have identified some that are more difficult to meet. If for example it is challenging to meet environmental hard targets, provincial leaders are more likely to opt for an EPB head with the strength to turn the wheel around. If in the individual contract meeting economic targets are harder, a business-oriented EPB leader might be more appropriate. If a particular problem is significant, leaders are likely to appoint an ambitious candidate who will go out of his way to ensure (hard) targets are met. This suggests that provincial leaders who select the most able EPB head may not be behaving altruistically, but, ultimately, self-interested. Adjustments in cadre evaluation criteria, or signals from Beijing of impending adjustments, along with changes in career incentives and the overall political climate, further affect the EPB selection preferences.

Examples of Candidate Selection and Selection Preferences

Selecting a strong or weak candidate to address a particular provincial goal, assist provincial leaders' in addressing political concerns, and meet evaluation targets can be illustrated through the example of Shanxi and Inner Mongolia. Shanxi faced increasing national and international media coverage of high pollution in 2005 and 2006⁹, which put pollution issues on the front burner for provincial leaders. In 2006, the provincial government picked a 'strong' and highly authoritative candidate with a large business-related network able to take drastic steps and deal with media pressure. The selected candidate, the current head of Shanxi Province's EPB, started his political career as the Deputy Secretary of the First Business Bureau in Taiyuan City in 1985 and later worked as the Party Secretary of Shanxi Province Supply and

Marketing Cooperative Council. Prior to joining the civil service, Shanxi's EPB head was in the military and also worked as a television editor and journalist. He claimed to use the military experience to get 'respect' from other leaders and environmental protection workers.¹⁰ As for the media experience, within the Shanxi EPB, he was known for being particularly adept at handling media attention and obtaining media coverage for the province's significant environmental progress since his appointment in 2006.¹¹ Over the last five years, this 'strong' leader made substantial progress in reducing emissions, particularly SO₂ emissions, and enforcing overall environmental protection standards, partly because he had a clear mandate from the provincial government following the National Development and Reform Commission's introduction of hard targets in emissions reduction and energy savings for provincial leaders.

While already highly developed provinces such as Shanxi may select a candidate with the ability and credentials to effectively implement environmental mandates, still developing regions may appoint a candidate who can balance economic growth and environmental protection concern. Inner Mongolia, for instance, picked a candidate who lacked career incentives and large business-related or provincially-oriented networks that allow forming bridges between different government agencies. The current head of the Inner Mongolia EPB belongs to the Mongol ethnic minority, a contrast to the majority of departmental heads in Inner Mongolia who are ethnically Han. He has a two year college degree in a non-environmental science field and was promoted to the office close to retirement at the age of 55, much later than the average appointment age of 47.6 years. Prior to appointment as the EPB head, he worked in the Inner Mongolia Provincial Economic and Trade Commission and later as a mayor in Baotou Municipality, one of Inner Mongolia's fastest-growing and resource-rich municipalities. In contrast to the EPB head in Shanxi, he held no previous non-governmental work experience. Given his previous work experience on economic issues, he might be a candidate who gives way when pressured by the Inner Mongolian government to prioritize commercial interests over more strict environmental enforcement. Interviews with leading officials in charge of environmental protection in 2010 further confirmed that Inner Mongolia did not prioritize binding energy efficiency targets or other environmental targets at the expense of provincial growth.¹²

Moreover, in contrast to a somewhat prevalent government-enterprise coordination approach to policy implementation in provinces and autonomous regions, there is evidence that urban provincial-level municipal leaders prefer EPB candidates with environmental expertise or specialized networks to other non-economic bureaus, even while implementing these energy intensity and emissions reduction targets. All four province-level municipal governments appointed EPB leaders with careers in environmental protection or non-economic bureaus such as labor and social security, urban planning, or construction. In addition, EPB heads in all four province-level municipalities are young, with leaders in Beijing, Shanghai, and Chongqing being appointed to their positions at the age of 45 or younger. Since younger EPB heads are likely to have smaller networks, and EPB heads with environmental protection or non-economic bureau backgrounds will have backgrounds which complement the EPBs work, it suggests that provincial-level municipal leaders prioritize environmental expertise and networks to other provincial-level departments over a business network-based implementation

capacity of EPBs. Provincial-level municipal leaders may also prefer a relatively independent, professionally skilled EPB head.

6 Conclusion

This paper has examined career backgrounds and institutional backgrounds of local government officials in provincial Environmental Protection Bureaus (EPBs) in China. EPB leaders' career backgrounds differ vastly, ranging from environmental bureaucrat, SOE business manager, political strategist, to implementers, despite EPB heads assuming seemingly similar environmental protection and law enforcement tasks. Based on their career backgrounds and their associated networks, EPB leaders fall into the following four typologies, and are nearly evenly split among them: environmentally-oriented, business-oriented, policy-setting/provincially-oriented, and implementation/ locally-oriented EPB leaders. The analysis of EPB heads' career backgrounds shows that only one fourth of provincial EPB heads were promoted within the EPB, while the remaining three-fourths came from positions outside the environment field. These findings have implications for inferring the unique characteristics of a province's EPB leadership and the implementation capacities of provincial EPBs.

The distinct characteristics of these different 'types' of EPB leaders show that provincial leaders make important appointment decisions among clearly differentiated candidates.¹³ This may have implications for inferring appointment preferences of provincial leaders. Provincial mayors and party secretaries, when appointing EPB heads, balance different overall provincial and personal preferences. A certain candidate 'type' and career background might be more suitable to meet these different preferences. When assessing bureaucrats for promotion to EPB head, provincial leaders will consider the overall provincial context and weight potential trade-offs, balancing considerations on the need for economic development, the complexity of environmental pollution issue, and required implementation practices. Rationally, provincial leaders select an EPB head who will act in the best interest of the province as a whole as perceived by these leaders, while also helping provincial leaders to bolster their own political careers.

This paper further argued that a leaders' local networks and relationships likely improves the implementation capacity of EPBs, but also at times weakens incentives to strictly enforce environmental protection laws and policies. This implies that there is a delicate balance between networks which improve implementation capacity and relations which might paralyze efforts to improve environmental protection in China. EPB heads that are well connected to other key departments and enterprises are more likely to be successful in creating cross-sectoral and cross-departmental coalitions. However, the professional networks which may improve environmental protection capacity in a province through coordination and consensus-building also further decreases the already limited independence of local EPBs. Highly embedded leaders have with limited independence and autonomy may place priority on commercial, economic, or political interests over environmental protection, and turn a blind eye to polluting enterprises or illicit practices by other government bureaus.

REFERENCES

- Bardach, E. and Kagan, R. A. (1982). *Going by the Book: The Problem of Regulatory Unreasonableness* (Philadelphia, PA: Temple University Press).
- Bauer, J.R. (2006). *Forging environmentalism: justice, livelihood, and contested environments* (New York: M.E. Sharpe).
- Burns, John P. (1994) "Strengthening Central CCP Control of Leadership Selection: The 1990 Nomenklatura." *China Quarterly*, no. 138, pp. 458-91.
- Burns, J. (1987) "China's Nomenklatura System", *Problems of Communism*, 36(5) (September-October 1987), pp. 36-51.
- Central People's Government's Official Information Website http://english.gov.cn/official/2010-09/10/content_1700448_11.htm , Accessed on 4 February 2011
- Chen, G. (2009) *Politics of China's Environmental Protection – Problems and Progress*, Singapore: World Scientific Publishing, Series on Contemporary China Vol. 17, p.25
- Davis, K. C. (1969). *Discretionary Justice: A Preliminary Enquiry* (Urbana, IL: University of Illinois Press).
- Hillman, B. (2010). Factions and Spoils: Examining Political Behavior within the Local State in China. *China Journal*, no. 64, pp. 1-18.
- Huang, Y. (2002). Managing Chinese Bureaucrats: An Institutional Economics Perspective. *Political Studies*, no. 50, pp. 61-79.
- Kostka, G. and Hobbs, W., "Local Energy Efficiency Policy Implementation in China: Bridging the Gap between National Priorities and Local Interests", *China Quarterly*, forthcoming.
- Lee, S. (2006). *Water and Development in China: the Political Economy of Shanghai Water Policy* (London: World Scientific Publishing).
- Li, C. (1994) "University networks and the rise of Qinghua graduates in China's leadership," *Australian Journal of Chinese Affairs*, no. 32, pp. 1-30.
- Li, C. (2010). China's Midterm Jockeying: Gearing Up for 2012 – Part1-3. *China Leadership Monitor*, no. 31, no. 32, no. 33.
- Lo, C. W. H. & Tang, S. Y. (2006) Institutional reform, economic changes, and local environmental management in China: The case of Guangdong province. *Environmental Politics*, no. 15, pp. 190-210.
- Ma, X. & Ortolano (2000). *Environmental regulation in China: institutions, enforcement, and compliance* (Oxford: Rowman & Littlefield Publishers).
- Manion, M. (1985) "The Cadre Management System, Post Mao: The Appointment, Promotion, Transfer and Removal of Party and State Leaders", *China Quarterly*, no. 102, pp. 203-233.
- Manion, M. (1993) *Retirement of Revolutionaries in China: Public Policies, Social Norms, Private Interests* (Princeton, N.J.: Princeton University Press)
- Mei, C. (2009) Brings the politics back in: Political incentive and policy distortion in China (Doctoral Thesis, University of Maryland).
- Pye, Lucian W. (1995) "Factions and the politics of Guanxi: paradoxes in Chinese administrative and political behaviour," *The China Journal*, no. 34, pp. 35-53
- Shih, V. (2008) *Factions and Finance in China: Elite Conflict and Inflation* (New York: Cambridge University Press).

-
- Shih, V. & Shan, W. & Liu, M. (2010). "Gauging the Elite Political Equilibrium in the CCP: A Quantitative Approach Using Biographical Data", *The China Quarterly*, no. 201, pp. 79-103.
- Sinkule, B. J. & Ortolano, L. (1995). *Implementing environmental policy in China* (Westport: Praeger Publishers).
- Tsai, S. Kellee, (2007). *Capitalism without democracy : the private sector in contemporary China* (Ithaca: Cornell University Press).
- Tullock, G. (1965). *The Politics of Bureaucracy* (Washington, DC: Public Affairs Press).
- van Rooij, B. (2003) Organization and Procedure in Environmental Law Enforcement: Sichuan in Comparative Perspective. *China Information*, 17 (2), pp. 36-64.
- van Rooij, B. (2006) Implementation of Chinese Environmental Law: Regular Enforcement and Political Campaigns. *Development and Change*, 37 (1), pp. 57-74.
- van Rooij, B. & Lo Wing-Hung C. (2010) "Fragile Convergence: Understanding Variation in the Enforcement of China's Industrial Pollution Law", *Law & Policy*, 32(1), pp. 14-37.
- Walder, Andrew G. (1995) "Local Governments as Industrial Firms: An Organizational Analysis of China's Transition Economy", *American Journal of Sociology*, 101(2) , pp. 263-301.
- Wang, Yuqing (1997) "Quanmian Jiaqiang Huanjing Fazhi Jianshe Quebao Kua Shiji Huanbao Mubiao De Shixian" ("Overall Strengthening the Establishment of the Environmental Legal System in Order to Guarantee the Realization of the EP Goals When Moving into the Next Century"), *Environmental Work News Report*, no. 12, pp. 16-24.
- Xie, Z. (2004a) "Shuli He Luoshi Kexue Fazhanguan Tuidong Huanbao Gongzuo Zai Xin Taijie" ("Establishing and Implementing a Scientific Development Doctrine to Promote Environmental Work onto a New Level"), *Huanbao Gongzuo Ziliao Xuan (Selected Materials on Environmental Protection Work)*, 4(4), pp. 4-14.
- Xie, Z. (2004b) "Yi Ren Wei Ben Qiuzhen Wushi, Nuli Wancheng Zhongdian Liuyu "Shi-wu" Shuiwuran Fangzhi Renwu" ("With People as the Basis Being Pragmatic Based on Truth, Work Hard to Finish Work on the 'Fifteen' Water Prevention and Control Tasks in Key Catchment Areas"), *Huanbao Gongzuo Ziliao Xuan (Selected Materials on Environmental Protection Work)*, 7(7), pp. 1-8.
- Zhong, Y. (2003) *Local government and politics in China: challenges from below* (Armonk, N.Y. : M.E. Sharpe).

FRANKFURT SCHOOL / HFB – WORKING PAPER SERIES

No.	Author/Title	Year
173.	Durst, Susanne / Leyer, Michael Bedürfnisse von Existenzgründern in der Gründungsphase	2011
172.	Klein, Michael Enrichment with Growth	2011
171.	Yu, Xiaofan A Spatial Interpretation of the Persistency of China's Provincial Inequality	2011
170.	Leyer, Michael Stand der Literatur zur operativen Steuerung von Dienstleistungsprozessen	2011
169.	Libman, Alexander / Schultz, André Tax Return as a Political Statement	2011
168.	Kostka, Genia / Shin, Kyoung Energy Service Companies in China: The Role of Social Networks and Trust	2011
167.	Andriani, Pierpaolo / Herrmann-Pillath, Carsten Performing Comparative Advantage: The Case of the Global Coffee Business	2011
166.	Klein, Michael / Mayer, Colin Mobile Banking and Financial Inclusion: The Regulatory Lessons	2011
165.	Cremers, Heinz / Hewicker, Harald Modellierung von Zinsstrukturkurven	2011
164.	Roßbach, Peter / Karlow, Denis The Stability of Traditional Measures of Index Tracking Quality	2011
163.	Libman, Alexander / Herrmann-Pillath, Carsten / Yarav, Gaudav Are Human Rights and Economic Well-Being Substitutes? Evidence from Migration Patterns across the Indian States	2011
162.	Herrmann-Pillath, Carsten / Andriani, Pierpaolo Transactional Innovation and the De-commoditization of the Brazilian Coffee Trade	2011
161.	Christian Büchler, Marius Buxkaemper, Christoph Schalast, Gregor Wedell Incentivierung des Managements bei Unternehmenskäufen/Buy-Outs mit Private Equity Investoren – eine empirische Untersuchung –	2011
160.	Herrmann-Pillath, Carsten Revisiting the Gaia Hypothesis: Maximum Entropy, Kauffman's "Fourth Law" and Physiosemeiosis	2011
159.	Herrmann-Pillath, Carsten A 'Third Culture' in Economics? An Essay on Smith, Confucius and the Rise of China	2011
158.	Boeing, Philipp / Sandner, Philipp The Innovative Performance of China's National Innovation System	2011
157.	Herrmann-Pillath, Carsten Institutions, Distributed Cognition and Agency: Rule-following as Performative Action	2011
156.	Wagner, Charlotte From Boom to Bust: How different has microfinance been from traditional banking?	2010
155.	Libman Alexander / Vinokurov, Evgeny Is it really different? Patterns of Regionalisation in the Post-Soviet Central Asia	2010
154.	Libman, Alexander Subnational Resource Curse: Do Economic or Political Institutions Matter?	2010
153.	Herrmann-Pillath, Carsten Meaning and Function in the Theory of Consumer Choice: Dual Selves in Evolving Networks	2010
152.	Kostka, Genia / Hobbs, William Embedded Interests and the Managerial Local State: Methanol Fuel-Switching in China	2010
151.	Kostka, Genia / Hobbs, William Energy Efficiency in China: The Local Bundling of Interests and Policies	2010
150.	Umber, Marc P. / Grote, Michael H. / Frey, Rainer Europe Integrates Less Than You Think. Evidence from the Market for Corporate Control in Europe and the US	2010

149.	Vogel, Ursula / Winkler, Adalbert Foreign banks and financial stability in emerging markets: evidence from the global financial crisis	2010
148.	Libman, Alexander Words or Deeds – What Matters? Experience of Decentralization in Russian Security Agencies	2010
147.	Kostka, Genia / Zhou, Jianghua Chinese firms entering China's low-income market: Gaining competitive advantage by partnering governments	2010
146.	Herrmann-Pillath, Carsten Rethinking Evolution, Entropy and Economics: A triadic conceptual framework for the Maximum Entropy Principle as applied to the growth of knowledge	2010
145.	Heidorn, Thomas / Kahlert, Dennis Implied Correlations of iTraxx Tranches during the Financial Crisis	2010
144.	Fritz-Morgenthal, Sebastian G. / Hach, Sebastian T. / Schalast, Christoph M&A im Bereich Erneuerbarer Energien	2010
143.	Birkmeyer, Jörg / Heidorn, Thomas / Rogalski, André Determinanten von Banken-Spreads während der Finanzmarktkrise	2010
142.	Bannier, Christina E. / Metz, Sabrina Are SMEs large firms en miniature? Evidence from a growth analysis	2010
141.	Heidorn, Thomas / Kaiser, Dieter G. / Voinea, André The Value-Added of Investable Hedge Fund Indices	2010
140.	Herrmann-Pillath, Carsten The Evolutionary Approach to Entropy: Reconciling Georgescu-Roegen's Natural Philosophy with the Maximum Entropy Framework	2010
139.	Heidorn, Thomas / Löw, Christian / Winker, Michael Funktionsweise und Replikationstil europäischer Exchange Traded Funds auf Aktienindices	2010
138.	Libman, Alexander Constitutions, Regulations, and Taxes: Contradictions of Different Aspects of Decentralization	2010
137.	Herrmann-Pillath, Carsten / Libman, Alexander / Yu, Xiaofan State and market integration in China: A spatial econometrics approach to 'local protectionism'	2010
136.	Lang, Michael / Cremers, Heinz / Hentze, Rainald Ratingmodell zur Quantifizierung des Ausfallrisikos von LBO-Finanzierungen	2010
135.	Bannier, Christina / Feess, Eberhard When high-powered incentive contracts reduce performance: Choking under pressure as a screening device	2010
134.	Herrmann-Pillath, Carsten Entropy, Function and Evolution: Naturalizing Peircian Semiosis	2010
133.	Bannier, Christina E. / Behr, Patrick / Güttler, Andre Rating opaque borrowers: why are unsolicited ratings lower?	2009
132.	Herrmann-Pillath, Carsten Social Capital, Chinese Style: Individualism, Relational Collectivism and the Cultural Embeddedness of the Institutions-Performance Link	2009
131.	Schäffler, Christian / Schmaltz, Christian Market Liquidity: An Introduction for Practitioners	2009
130.	Herrmann-Pillath, Carsten Dimensionen des Wissens: Ein kognitiv-evolutionärer Ansatz auf der Grundlage von F.A. von Hayeks Theorie der „Sensory Order“	2009
129.	Hankir, Yassin / Rauch, Christian / Ueber, Marc It's the Market Power, Stupid! – Stock Return Patterns in International Bank M&A	2009
128.	Herrmann-Pillath, Carsten Outline of a Darwinian Theory of Money	2009
127.	Cremers, Heinz / Walzner, Jens Modellierung des Kreditrisikos im Portfoliofall	2009
126.	Cremers, Heinz / Walzner, Jens Modellierung des Kreditrisikos im Einwertpapierfall	2009
125.	Heidorn, Thomas / Schmaltz, Christian Interne Transferpreise für Liquidität	2009

124.	Bannier, Christina E. / Hirsch, Christian The economic function of credit rating agencies - What does the watchlist tell us?	2009
123.	Herrmann-Pillath, Carsten A Neurolinguistic Approach to Performativity in Economics	2009
122.	Winkler, Adalbert / Vogel, Ursula Finanzierungsstrukturen und makroökonomische Stabilität in den Ländern Südosteuropas, der Türkei und in den GUS-Staaten	2009
121.	Heidorn, Thomas / Rupprecht, Stephan Einführung in das Kapitalstrukturmanagement bei Banken	2009
120.	Roszbach, Peter Die Rolle des Internets als Informationsbeschaffungsmedium in Banken	2009
119.	Herrmann-Pillath, Carsten Diversity Management und diversitätsbasiertes Controlling: Von der „Diversity Scorecard“ zur „Open Balanced Scorecard“	2009
118.	Hölscher, Luise / Clasen, Sven Erfolgsfaktoren von Private Equity Fonds	2009
117.	Bannier, Christina E. Is there a hold-up benefit in heterogeneous multiple bank financing?	2009
116.	Roßbach, Peter / Gießamer, Dirk Ein eLearning-System zur Unterstützung der Wissensvermittlung von Web-Entwicklern in Sicherheitsthemen	2009
115.	Herrmann-Pillath, Carsten Kulturelle Hybridisierung und Wirtschaftstransformation in China	2009
114.	Schalast, Christoph: Staatsfonds – „neue“ Akteure an den Finanzmärkten?	2009
113.	Schalast, Christoph / Alram, Johannes Konstruktion einer Anleihe mit hypothekarischer Besicherung	2009
112.	Schalast, Christoph / Bolder, Markus / Radünz, Claus / Siepmann, Stephanie / Weber, Thorsten Transaktionen und Servicing in der Finanzkrise: Berichte und Referate des Frankfurt School NPL Forums 2008	2009
111.	Werner, Karl / Moormann, Jürgen Efficiency and Profitability of European Banks – How Important Is Operational Efficiency?	2009
110.	Herrmann-Pillath, Carsten Moralische Gefühle als Grundlage einer wohlstandschaffenden Wettbewerbsordnung: Ein neuer Ansatz zur erforschung von Sozialkapital und seine Anwendung auf China	2009
109.	Heidorn, Thomas / Kaiser, Dieter G. / Roder, Christoph Empirische Analyse der Drawdowns von Dach-Hedgefonds	2009
108.	Herrmann-Pillath, Carsten Neuroeconomics, Naturalism and Language	2008
107.	Schalast, Christoph / Benita, Barten Private Equity und Familienunternehmen – eine Untersuchung unter besonderer Berücksichtigung deutscher Maschinen- und Anlagenbauunternehmen	2008
106.	Bannier, Christina E. / Grote, Michael H. Equity Gap? – Which Equity Gap? On the Financing Structure of Germany’s Mittelstand	2008
105.	Herrmann-Pillath, Carsten The Naturalistic Turn in Economics: Implications for the Theory of Finance	2008
104.	Schalast, Christoph (Hrgs.) / Schanz, Kay-Michael / Scholl, Wolfgang Aktionärsschutz in der AG falsch verstanden? Die Leica-Entscheidung des LG Frankfurt am Main	2008
103.	Bannier, Christina E./ Müsch, Stefan Die Auswirkungen der Subprime-Krise auf den deutschen LBO-Markt für Small- und MidCaps	2008
102.	Cremers, Heinz / Vetter, Michael Das IRB-Modell des Kreditrisikos im Vergleich zum Modell einer logarithmisch normalverteilten Verlustfunktion	2008
101.	Heidorn, Thomas / Pleißner, Mathias Determinanten Europäischer CMBS Spreads. Ein empirisches Modell zur Bestimmung der Risikoaufschläge von Commercial Mortgage-Backed Securities (CMBS)	2008

100.	Schalast, Christoph (Hrsg.) / Schanz, Kay-Michael Schaeffler KG/Continental AG im Lichte der CSX Corp.-Entscheidung des US District Court for the Southern District of New York	2008
99.	Hölscher, Luise / Haug, Michael / Schweinberger, Andreas Analyse von Steueramnestiedaten	2008
98.	Heimer, Thomas / Arend, Sebastian The Genesis of the Black-Scholes Option Pricing Formula	2008
97.	Heimer, Thomas / Hölscher, Luise / Werner, Matthias Ralf Access to Finance and Venture Capital for Industrial SMEs	2008
96.	Böttger, Marc / Guthoff, Anja / Heidorn, Thomas Loss Given Default Modelle zur Schätzung von Recovery Rates	2008
95.	Almer, Thomas / Heidorn, Thomas / Schmaltz, Christian The Dynamics of Short- and Long-Term CDS-spreads of Banks	2008
94.	Barthel, Erich / Wollersheim, Jutta Kulturunterschiede bei Mergers & Acquisitions: Entwicklung eines Konzeptes zur Durchführung einer Cultural Due Diligence	2008
93.	Heidorn, Thomas / Kunze, Wolfgang / Schmaltz, Christian Liquiditätsmodellierung von Kreditzusagen (Term Facilities and Revolver)	2008
92.	Burger, Andreas Produktivität und Effizienz in Banken – Terminologie, Methoden und Status quo	2008
91.	Löchel, Horst / Pecher, Florian The Strategic Value of Investments in Chinese Banks by Foreign Financial Institutions	2008
90.	Schalast, Christoph / Morgenschweis, Bernd / Sprengeter, Hans Otto / Ockens, Klaas / Stachuletz, Rainer / Safran, Robert Der deutsche NPL Markt 2007: Aktuelle Entwicklungen, Verkauf und Bewertung – Berichte und Referate des NPL Forums 2007	2008
89.	Schalast, Christoph / Stralkowski, Ingo 10 Jahre deutsche Buyouts	2008
88.	Bannier, Christina E./ Hirsch, Christian The Economics of Rating Watchlists: Evidence from Rating Changes	2007
87.	Demidova-Menzel, Nadeshda / Heidorn, Thomas Gold in the Investment Portfolio	2007
86.	Hölscher, Luise / Rosenthal, Johannes Leistungsmessung der Internen Revision	2007
85.	Bannier, Christina / Hänsel, Dennis Determinants of banks' engagement in loan securitization	2007
84.	Bannier, Christina "Smoothing" versus "Timeliness" - Wann sind stabile Ratings optimal und welche Anforderungen sind an optimale Berichtsregeln zu stellen?	2007
83.	Bannier, Christina E. Heterogeneous Multiple Bank Financing: Does it Reduce Inefficient Credit-Renegotiation Incidences?	2007
82.	Cremers, Heinz / Löhr, Andreas Deskription und Bewertung strukturierter Produkte unter besonderer Berücksichtigung verschiedener Marktszenarien	2007
81.	Demidova-Menzel, Nadeshda / Heidorn, Thomas Commodities in Asset Management	2007
80.	Cremers, Heinz / Walzner, Jens Risikosteuerung mit Kreditderivaten unter besonderer Berücksichtigung von Credit Default Swaps	2007
79.	Cremers, Heinz / Traughber, Patrick Handlungsalternativen einer Genossenschaftsbank im Investmentprozess unter Berücksichtigung der Risikotragfähigkeit	2007
78.	Gerdesmeier, Dieter / Roffia, Barbara Monetary Analysis: A VAR Perspective	2007
77.	Heidorn, Thomas / Kaiser, Dieter G. / Muschiol, Andrea Portfoliooptimierung mit Hedgefonds unter Berücksichtigung höherer Momente der Verteilung	2007

76.	Jobe, Clemens J. / Ockens, Klaas / Safran, Robert / Schalast, Christoph Work-Out und Servicing von notleidenden Krediten – Berichte und Referate des HfB-NPL Servicing Forums 2006	2006
75.	Abrar, Kamyar / Schalast, Christoph Fusionskontrolle in dynamischen Netzsektoren am Beispiel des Breitbandkabelsektors	2006
74.	Schalast, Christoph / Schanz, Kay-Michael Wertpapierprospekte: Markteinführungspublizität nach EU-Prospektverordnung und Wertpapierprospektgesetz 2005	2006
73.	Dickler, Robert A. / Schalast, Christoph Distressed Debt in Germany: What's Next? Possible Innovative Exit Strategies	2006
72.	Belke, Ansgar / Polleit, Thorsten How the ECB and the US Fed set interest rates	2006
71.	Heidorn, Thomas / Hoppe, Christian / Kaiser, Dieter G. Heterogenität von Hedgefondsindizes	2006
70.	Baumann, Stefan / Löchel, Horst The Endogeneity Approach of the Theory of Optimum Currency Areas - What does it mean for ASEAN + 3?	2006
69.	Heidorn, Thomas / Trautmann, Alexandra Niederschlagsderivate	2005
68.	Heidorn, Thomas / Hoppe, Christian / Kaiser, Dieter G. Möglichkeiten der Strukturierung von Hedgefondsportfolios	2005
67.	Belke, Ansgar / Polleit, Thorsten (How) Do Stock Market Returns React to Monetary Policy ? An ARDL Cointegration Analysis for Germany	2005
66.	Daynes, Christian / Schalast, Christoph Aktuelle Rechtsfragen des Bank- und Kapitalmarktsrechts II: Distressed Debt - Investing in Deutschland	2005
65.	Gerdemeier, Dieter / Polleit, Thorsten Measures of excess liquidity	2005
64.	Becker, Gernot M. / Harding, Perham / Hölscher, Luise Financing the Embedded Value of Life Insurance Portfolios	2005
63.	Schalast, Christoph Modernisierung der Wasserwirtschaft im Spannungsfeld von Umweltschutz und Wettbewerb – Braucht Deutschland eine Rechtsgrundlage für die Vergabe von Wasserversorgungskonzessionen? –	2005
62.	Bayer, Marcus / Cremers, Heinz / Kluß, Norbert Wertsicherungsstrategien für das Asset Management	2005
61.	Löchel, Horst / Polleit, Thorsten A case for money in the ECB monetary policy strategy	2005
60.	Richard, Jörg / Schalast, Christoph / Schanz, Kay-Michael Unternehmen im Prime Standard - „Staying Public“ oder „Going Private“? - Nutzenanalyse der Börsennotiz -	2004
59.	Heun, Michael / Schlink, Torsten Early Warning Systems of Financial Crises - Implementation of a currency crisis model for Uganda	2004
58.	Heimer, Thomas / Köhler, Thomas Auswirkungen des Basel II Akkords auf österreichische KMU	2004
57.	Heidorn, Thomas / Meyer, Bernd / Pietrowiak, Alexander Performanceeffekte nach Directors Dealings in Deutschland, Italien und den Niederlanden	2004
56.	Gerdemeier, Dieter / Roffia, Barbara The Relevance of real-time data in estimating reaction functions for the euro area	2004
55.	Barthel, Erich / Gierig, Rauno / Kühn, Ilmhart-Wolfram Unterschiedliche Ansätze zur Messung des Humankapitals	2004
54.	Anders, Dietmar / Binder, Andreas / Hesdahl, Ralf / Schalast, Christoph / Thöne, Thomas Aktuelle Rechtsfragen des Bank- und Kapitalmarktsrechts I : Non-Performing-Loans / Faule Kredite - Handel, Work-Out, Outsourcing und Securitisation	2004
53.	Polleit, Thorsten The Slowdown in German Bank Lending – Revisited	2004
52.	Heidorn, Thomas / Siragusano, Tindaro Die Anwendbarkeit der Behavioral Finance im Devisenmarkt	2004
51.	Schütze, Daniel / Schalast, Christoph (Hrsg.) Wider die Verschleuderung von Unternehmen durch Pfandversteigerung	2004

50.	Gerhold, Mirko / Heidorn, Thomas Investitionen und Emissionen von Convertible Bonds (Wandelanleihen)	2004
49.	Chevalier, Pierre / Heidorn, Thomas / Krieger, Christian Temperaturderivate zur strategischen Absicherung von Beschaffungs- und Absatzrisiken	2003
48.	Becker, Gernot M. / Seeger, Norbert Internationale Cash Flow-Rechnungen aus Eigner- und Gläubigersicht	2003
47.	Boenkost, Wolfram / Schmidt, Wolfgang M. Notes on convexity and quanto adjustments for interest rates and related options	2003
46.	Hess, Dieter Determinants of the relative price impact of unanticipated Information in U.S. macroeconomic releases	2003
45.	Cremers, Heinz / Kluß, Norbert / König, Markus Incentive Fees. Erfolgsabhängige Vergütungsmodelle deutscher Publikumsfonds	2003
44.	Heidorn, Thomas / König, Lars Investitionen in Collateralized Debt Obligations	2003
43.	Kahlert, Holger / Seeger, Norbert Bilanzierung von Unternehmenszusammenschlüssen nach US-GAAP	2003
42.	Beiträge von Studierenden des Studiengangs BBA 012 unter Begleitung von Prof. Dr. Norbert Seeger Rechnungslegung im Umbruch - HGB-Bilanzierung im Wettbewerb mit den internationalen Standards nach IAS und US-GAAP	2003
41.	Overbeck, Ludger / Schmidt, Wolfgang Modeling Default Dependence with Threshold Models	2003
40.	Balthasar, Daniel / Cremers, Heinz / Schmidt, Michael Portfoliooptimierung mit Hedge Fonds unter besonderer Berücksichtigung der Risikokomponente	2002
39.	Heidorn, Thomas / Kantwill, Jens Eine empirische Analyse der Spreadunterschiede von Festsatzanleihen zu Floatern im Euroraum und deren Zusammenhang zum Preis eines Credit Default Swaps	2002
38.	Böttcher, Henner / Seeger, Norbert Bilanzierung von Finanzderivaten nach HGB, EstG, IAS und US-GAAP	2003
37.	Moormann, Jürgen Terminologie und Glossar der Bankinformatik	2002
36.	Heidorn, Thomas Bewertung von Kreditprodukten und Credit Default Swaps	2001
35.	Heidorn, Thomas / Weier, Sven Einführung in die fundamentale Aktienanalyse	2001
34.	Seeger, Norbert International Accounting Standards (IAS)	2001
33.	Moormann, Jürgen / Stehling, Frank Strategic Positioning of E-Commerce Business Models in the Portfolio of Corporate Banking	2001
32.	Sokolovsky, Zbynek / Strohhecker, Jürgen Fit für den Euro, Simulationsbasierte Euro-Maßnahmenplanung für Dresdner-Bank-Geschäftsstellen	2001
31.	Roßbach, Peter Behavioral Finance - Eine Alternative zur vorherrschenden Kapitalmarkttheorie?	2001
30.	Heidorn, Thomas / Jaster, Oliver / Willeitner, Ulrich Event Risk Covenants	2001
29.	Biswas, Rita / Löchel, Horst Recent Trends in U.S. and German Banking: Convergence or Divergence?	2001
28.	Eberle, Günter Georg / Löchel, Horst Die Auswirkungen des Übergangs zum Kapitaldeckungsverfahren in der Rentenversicherung auf die Kapitalmärkte	2001
27.	Heidorn, Thomas / Klein, Hans-Dieter / Siebrecht, Frank Economic Value Added zur Prognose der Performance europäischer Aktien	2000
26.	Cremers, Heinz Konvergenz der binomialen Optionspreismodelle gegen das Modell von Black/Scholes/Merton	2000
25.	Löchel, Horst Die ökonomischen Dimensionen der ‚New Economy‘	2000

24.	Frank, Axel / Moormann, Jürgen Grenzen des Outsourcing: Eine Exploration am Beispiel von Direktbanken	2000
23.	Heidorn, Thomas / Schmidt, Peter / Seiler, Stefan Neue Möglichkeiten durch die Namensaktie	2000
22.	Böger, Andreas / Heidorn, Thomas / Graf Waldstein, Philipp Hybrides Kernkapital für Kreditinstitute	2000
21.	Heidorn, Thomas Entscheidungsorientierte Mindestmargenkalkulation	2000
20.	Wolf, Birgit Die Eigenmittelkonzeption des § 10 KWG	2000
19.	Cremers, Heinz / Robé, Sophie / Thiele, Dirk Beta als Risikomaß - Eine Untersuchung am europäischen Aktienmarkt	2000
18.	Cremers, Heinz Optionspreisbestimmung	1999
17.	Cremers, Heinz Value at Risk-Konzepte für Marktrisiken	1999
16.	Chevalier, Pierre / Heidorn, Thomas / Rütze, Merle Gründung einer deutschen Strombörse für Elektrizitätsderivate	1999
15.	Deister, Daniel / Ehrlicher, Sven / Heidorn, Thomas CatBonds	1999
14.	Jochum, Eduard Hoshin Kanri / Management by Policy (MbP)	1999
13.	Heidorn, Thomas Kreditderivate	1999
12.	Heidorn, Thomas Kreditrisiko (CreditMetrics)	1999
11.	Moormann, Jürgen Terminologie und Glossar der Bankinformatik	1999
10.	Löchel, Horst The EMU and the Theory of Optimum Currency Areas	1998
09.	Löchel, Horst Die Geldpolitik im Währungsraum des Euro	1998
08.	Heidorn, Thomas / Hund, Jürgen Die Umstellung auf die Stückaktie für deutsche Aktiengesellschaften	1998
07.	Moormann, Jürgen Stand und Perspektiven der Informationsverarbeitung in Banken	1998
06.	Heidorn, Thomas / Schmidt, Wolfgang LIBOR in Arrears	1998
05.	Jahresbericht 1997	1998
04.	Ecker, Thomas / Moormann, Jürgen Die Bank als Betreiberin einer elektronischen Shopping-Mall	1997
03.	Jahresbericht 1996	1997
02.	Cremers, Heinz / Schwarz, Willi Interpolation of Discount Factors	1996
01.	Moormann, Jürgen Lean Reporting und Führungsinformationssysteme bei deutschen Finanzdienstleistern	1995

FRANKFURT SCHOOL / HFB – WORKING PAPER SERIES
CENTRE FOR PRACTICAL QUANTITATIVE FINANCE

No.	Author/Title	Year
------------	---------------------	-------------

29.	Scholz, Peter / Walther, Ursula The Trend is not Your Friend! Why Empirical Timing Success is Determined by the Underlying's Price Characteristics and Market Efficiency is Irrelevant	2011
28.	Beyna, Ingo / Wystup, Uwe Characteristic Functions in the Cheyette Interest Rate Model	2011
27.	Detering, Nils / Weber, Andreas / Wystup, Uwe Return distributions of equity-linked retirement plans	2010
26.	Veiga, Carlos / Wystup, Uwe Ratings of Structured Products and Issuers' Commitments	2010
25.	Beyna, Ingo / Wystup, Uwe On the Calibration of the Cheyette. Interest Rate Model	2010
24.	Scholz, Peter / Walther, Ursula Investment Certificates under German Taxation. Benefit or Burden for Structured Products' Performance	2010
23.	Esquível, Manuel L. / Veiga, Carlos / Wystup, Uwe Unifying Exotic Option Closed Formulas	2010
22.	Packham, Natalie / Schlögl, Lutz / Schmidt, Wolfgang M. Credit gap risk in a first passage time model with jumps	2009
21.	Packham, Natalie / Schlögl, Lutz / Schmidt, Wolfgang M. Credit dynamics in a first passage time model with jumps	2009
20.	Reiswich, Dimitri / Wystup, Uwe FX Volatility Smile Construction	2009
19.	Reiswich, Dimitri / Tompkins, Robert Potential PCA Interpretation Problems for Volatility Smile Dynamics	2009
18.	Keller-Ressel, Martin / Kilin, Fiodar Forward-Start Options in the Barndorff-Nielsen-Shephard Model	2008
17.	Gribsch, Susanne / Wystup, Uwe On the Valuation of Fader and Discrete Barrier Options in Heston's Stochastic Volatility Model	2008
16.	Veiga, Carlos / Wystup, Uwe Closed Formula for Options with Discrete Dividends and its Derivatives	2008
15.	Packham, Natalie / Schmidt, Wolfgang Latin hypercube sampling with dependence and applications in finance	2008
14.	Hakala, Jürgen / Wystup, Uwe FX Basket Options	2008
13.	Weber, Andreas / Wystup, Uwe Vergleich von Anlagestrategien bei Riesterrenten ohne Berücksichtigung von Gebühren. Eine Simulationsstudie zur Verteilung der Renditen	2008
12.	Weber, Andreas / Wystup, Uwe Riesterrente im Vergleich. Eine Simulationsstudie zur Verteilung der Renditen	2008
11.	Wystup, Uwe Vanna-Volga Pricing	2008
10.	Wystup, Uwe Foreign Exchange Quanto Options	2008
09.	Wystup, Uwe Foreign Exchange Symmetries	2008
08.	Becker, Christoph / Wystup, Uwe Was kostet eine Garantie? Ein statistischer Vergleich der Rendite von langfristigen Anlagen	2008
07.	Schmidt, Wolfgang Default Swaps and Hedging Credit Baskets	2007
06.	Kilin, Fiodar Accelerating the Calibration of Stochastic Volatility Models	2007
05.	Gribsch, Susanne/ Kühn, Christoph / Wystup, Uwe Instalment Options: A Closed-Form Solution and the Limiting Case	2007
04.	Boenkost, Wolfram / Schmidt, Wolfgang M. Interest Rate Convexity and the Volatility Smile	2006

03.	Becker, Christoph/ Wystup, Uwe On the Cost of Delayed Currency Fixing Announcements	2005
02.	Boenkost, Wolfram / Schmidt, Wolfgang M. Cross currency swap valuation	2004
01.	Wallner, Christian / Wystup, Uwe Efficient Computation of Option Price Sensitivities for Options of American Style	2004

HFB – SONDERARBEITSBERICHTE DER HFB - BUSINESS SCHOOL OF FINANCE & MANAGEMENT

No.	Author/Title	Year
01.	Nicole Kahmer / Jürgen Moormann Studie zur Ausrichtung von Banken an Kundenprozessen am Beispiel des Internet (Preis: € 120,-)	2003

Download:

Working Paper: http://www.frankfurt-school.de/content/de/research/publications/list_of_publication/list_of_publication
 CPQF: http://www.frankfurt-school.de/content/de/cpqf/research_publications.html

Order address / contact

Frankfurt School of Finance & Management
 Sonnemannstr. 9–11 ▪ D–60314 Frankfurt/M. ▪ Germany
 Phone: +49 (0) 69 154 008–734 ▪ Fax: +49 (0) 69 154 008–728
 eMail: e.lahdensuu@fs.de
 Further information about Frankfurt School of Finance & Management
 may be obtained at: <http://www.fs.de>

¹ EPB ‘head’ refers to the EPB Director (*juzhang* 局长) or the EPB Party Secretary (*dangzu shuji* 党组书记), which are positions almost always held concurrently.

² The main role of the EPB is to enforce environmental protection laws by regulating and monitoring pollution in water bodies, air, noise, solid waste, and soil. For a more detailed description of the role of EPBs, see Lee (2006: 82).

³ To ensure accuracy, information drawn from the *baidu* online encyclopedia was checked against government documents and informal sources

⁴ The Jiangsu EPB head spent his career as a low level bureaucrat (*putong ganbu* 普通干部, literally ‘ordinary cadre’) in a government economic service department (*yewu bumen* 业务部门) prior to being elected by provincial economic leaders as deputy director of a comprehensive economic department (*jingji zonghe bumen* 经济综合部门), the provincial Economic and Trade Commission. This was nine years before being appointed to be the head of the Jiangsu Province EPB. In the nine years before his appointment as EPB head, he spent three in the Economic Commission and six as a vice secretary (*fumishu* 副书记) in the provincial government.

⁵ The head of the EPB in Tibet, the youngest provincial EPB leader, began his government career (as deputy head of the Tibet EPB) only three years before being appointed the EPB head. He was 29 when he left Beijing to do aid work in Tibet in 1998 after spending most of his twenties studying for his PhD in environmental protection and after working briefly at the Beijing Environment Science Institute.

⁶ See for example, ‘Rivers Run Black in Shanxi Province’, *China Daily*, 17 July 2006, available at <http://www.china.org.cn/english/environment/174874.htm>

⁷ Generalist networks are those not limited to a particular issue area such as economics or environment, while the specialized networks are much more limited to these areas. The terminology of generalist and specialized networks is borrowed from Shih’s analysis of Chinese elite politics (2008). According to Shih, there are two types of factions: the ‘generalist’ and the ‘specialist/technocratic’. The generalist factions hold wide-ranging networks, both horizontally and vertically, while the specialist/technocratic factions are vertically concentrated within a bureaucratic system (*xitong* 系统).

⁸ As noted previously, this analysis does not take into consideration ‘soft’ factors obtained through personal interactions, informal reports, and candidate interviews. While this is a limitation, career backgrounds nonetheless convey a great deal of information on the professional networks, skills, and orientations of EPB heads.

⁹ For an example of international media attention, see Watts, J. and Rameesh, R, “Fighting for air: frontline of war on global warming”, *The Guardian*, 26 March 2007, available at http://www.guardian.co.uk/environment/2007/mar/26/globalwarming.china#article_continue

¹⁰ Interview, July 2010, Shanxi EPB Head

¹¹ Interview, July 2010, government official at the Shanxi EPB

¹² Interview, September 2010, government officials at the Inner Mongolia Provincial Government and Economic Commission

¹³ Different candidates in some cases also might share a similar career background. This study only compared career backgrounds of EPB leaders appointed (the ‘successful’ candidate). Data on alternative candidates considered (the ‘unsuccessful’ competitors) were not available.