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Sustainability | Strategy | Advisory



Effects of ESG on Company Profits & Credit Risk

Environmental, Social & Governance

Sustainable Finance

Sustainability & Integrated Reporting

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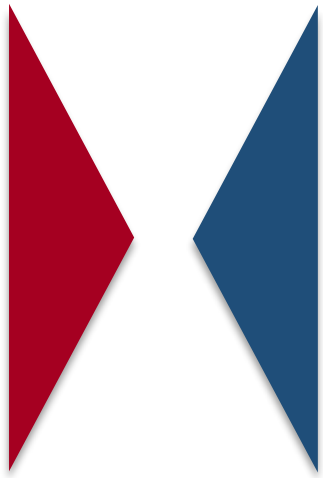
Sustainability | Strategy | Advisory

- Strategic ESG Advisory
- ESG | CSR Implementation
- Transparency & Disclosure
- Impact Investing, SRI & SDGs



- Financial Institutions
- Manufacturing, Trade & Real Estate
- Governmental Agencies
- International Organizations

Team

Franz Knecht, lic.iur.

Founder & CEO

Lead Partner

Email: franz.knecht@connexis.ch
Tel: +41 7941 59 302

Areas of Expertise

- Environmental, Social & Governance (ESG)
- ESG Risks for Brand & Profitability
- Socially Responsible Investing (SRI)
- Responsible Supply Chain Management
- Sustainability & Integrated Reporting

Specific Industry Experience

- Financial Institutions
- Manufacturing, Trade & Industry
- International Organizations
- Governmental Agencies
- Real Estate

Franz Knecht was the first sustainability officer at Swiss Bank Corporation (now UBS) from 1991 to 1998. His responsibilities included the integration of ESG risks into loans, investments & investment banking, the Bank's first Sustainability Report and the development of the first international industry solutions for Sustainable Finance.

In 1999 Franz founded CONNEXIS AG as a specialized CSR|ESG|SRI-Advisory firm to better serve the financial industry and financial institutions. In the years since, Franz has expanded his experience into International Organizations and Governmental Agencies as well as manufacturing and real estate companies.

Franz is also actively involved in the development of international ESG standards, working with the International Standards Organization (ISO), the Global Reporting Initiative (GRI), the German Verein für Umweltmanagement & Nachhaltigkeit in Finanzinstituten (VfU), the World Business Council for Sustainable Development (WBCSD) and others since the early 2000s.

In October 2017 ISO appointed Franz Knecht to be the *Convenor* of its Working Group 08 that develops the new ISO 14007 standard for "*Determining Environmental Costs & Benefits*".

Team

Markus Althausen (MSc)
Associate Partner

Expertise
- Sustainable Finance
- Renewable Energy
- Carbon Strategy
- Clean Tech

Industries
- Investment Banking
- Agro-Industries
- Waste Management

Sebastian Reich (PhD)
Associate Partner

Expertise
- ESG Strategy
- Business Modeling
- ESG Due Diligence
- ESG Reporting

Industries
- Real Estate
- Asset Management
- Chemical Industry

Daniel Knecht (LLM)
Associate Partner

Expertise
- International Law
- Corporate Governance

Industries
- Commercial Law
- Real Estate Law
- Arbitration

Jean Hetzel (MS Law)
Associate Partner

Expertise
- ISO Standardization
- Environmental Management Systems
- Auditing & Verification

Industries
- Financial Institutions
- Manufacturing & Industry
- Governmental Agencies

Reference Customers

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Financial Services

- Basellandschaftliche Kantonalbank
- UBS
- EKF Denmark's Export Credit Agency
- Swedbank
- RZB
- Basellandschaftliche Pensionskasse BL·PK
- Land Bank of the Philippines
- Allianz
- Munich RE

Industry, Trade & Real Estate

- Electrolux
- Vattenfall
- novo nordisk®
- H.C.Starck
- PUMA Energy
- Trafigura
- Mercuria
- HOWOGE
- Unternehmensgruppe Nassauische Heimstätte Wohnstadt

International Organizations

- United Nations
- The World Bank
- UNEP & UNEP Finance Initiative
- ISO
- European Union
- European Environment Agency

Governmental Agencies

- Schweizerische Eidgenossenschaft
  Confédération suisse
  Confederazione Svizzera
  Confederaziun svizra
- Federal Office for the Environment FOEN
- SNV
  Schweizerische Normen-Vereinigung
  Association Suisse de Normalisation
  Swiss Association for Standardization
- Umwelt Bundesamt
- Arab Republic of Egypt
  Ministry of Environment
  Egyptian Environmental Affairs Agency
- República de Colombia
  Ministerio del Medio Ambiente
- USAID from the American People

Selected Studies on ESG Effects on Company Profitability & Credit Risk

Studies & Analyses: Effects of ESG on Performance

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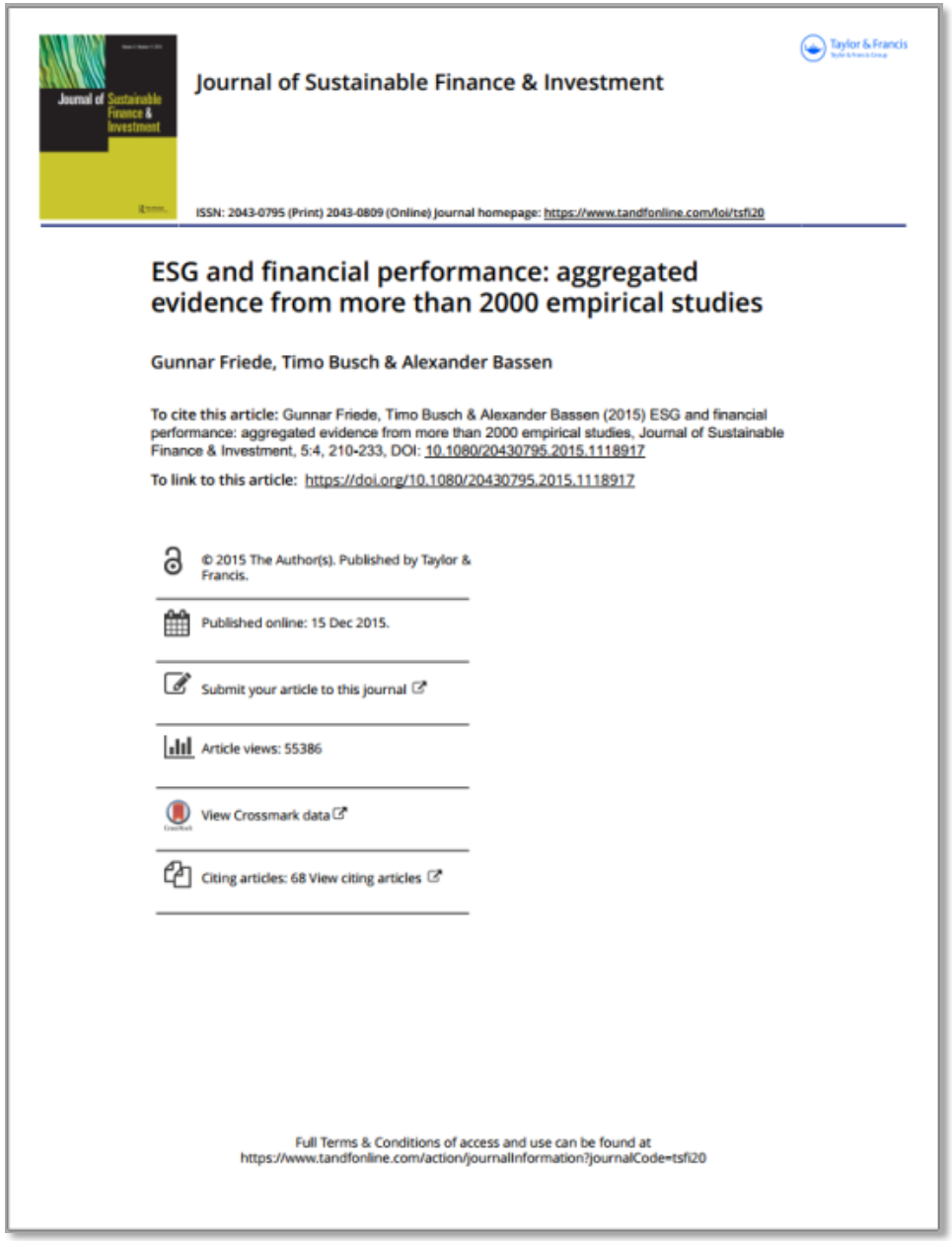
- **'ESG & financial performance: Aggregated evidence from more than 2,000 empirical studies'**
  Friede, Busch, Bassen; DAM with Univ. of Hamburg | Journal of Sustainable Finance & Investment (2015)

- **'Financial Relevance of ESG'**
  Seretis | EMEA, MSCI Global | Responsible Investor Webinar: 'Banking on ESG' (2019)

- **'Analysis of the Problems & Countermeasures of China's Green Credit'**
  Wu, Zhang | Tianjin Polytechnic University, China | Journal of Geoscience & Environment Protection (2018)

- **„The Impact of Green Lending on Credit Risk in China"**
  Cui, Geobey, Weber, Lin | University of Waterloo with Northern Illinois University (2018)

- **'Incorporating Sustainability Criteria into Credit Risk Management'**
  Weber, Scholz, Michalik; GOE with ETH Zurich (2015)



Journal of Sustainable Finance & Investment

ISSN: 2043-0795 (Print) 2043-0809 (Online) Journal homepage: https://www.tandfonline.com/loi/tsfi20

ESG and financial performance: aggregated evidence from more than 2000 empirical studies

Gunnar Friede, Timo Busch & Alexander Bassen

To cite this article: Gunnar Friede, Timo Busch & Alexander Bassen (2015) ESG and financial performance: aggregated evidence from more than 2000 empirical studies, Journal of Sustainable Finance & Investment, 5:4, 210-233, DOI: 10.1080/20430795.2015.1118917

To link to this article: https://doi.org/10.1080/20430795.2015.1118917

Published online: 15 Dec 2015.

‘ESG & financial performance: Aggregated evidence from more than 2,000 empirical studies’

Friede, Busch, Bassen; *DAM with Univ. of Hamburg*

Journal of Sustainable Finance & Investment (2015)

‘ESG & Corporate Financial Performance’

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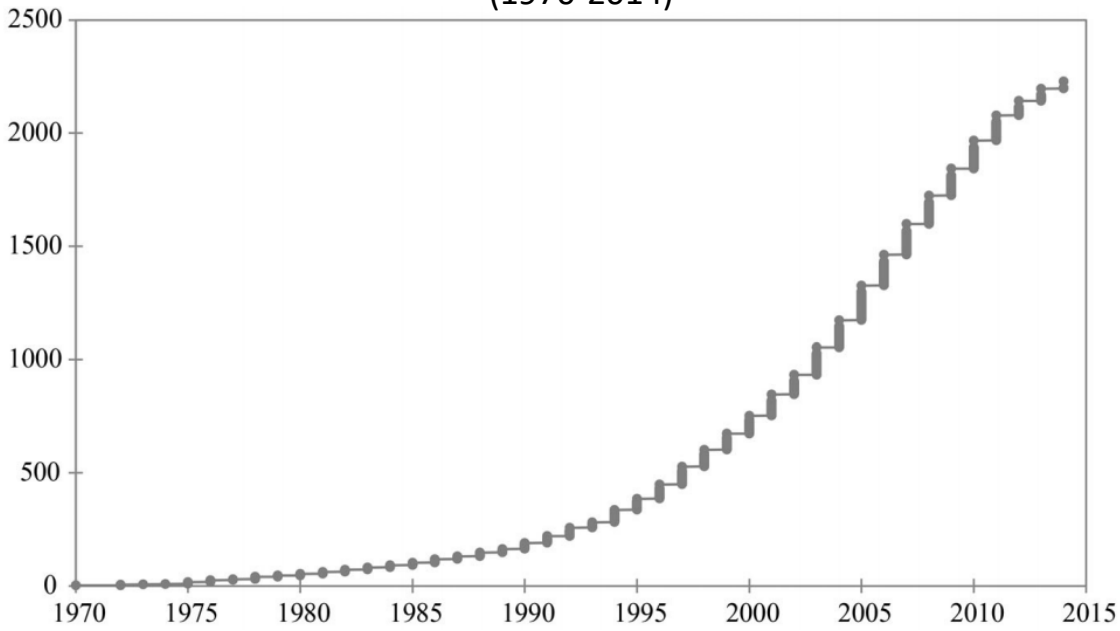
Background

- **Analysis of the effects of ESG criteria on Corporate Financial Performance (CFP)**
- **Type:** **Scientific study**
- **Sample:** **Meta Study of 2,200 studies**
- **Time frame:** **40 years (1970 to 2014)**

Cumulative Number of Studies: ESG Effects on CFP
(1970-2014)



https://www.researchgate.net/publication/287126190_ESG_and_financial_performance_Aggregated_evidence_from_more_than_2000_empirical_studies

Source: ‘ESG & financial performance’

‘ESG & Corporate Financial Performance’

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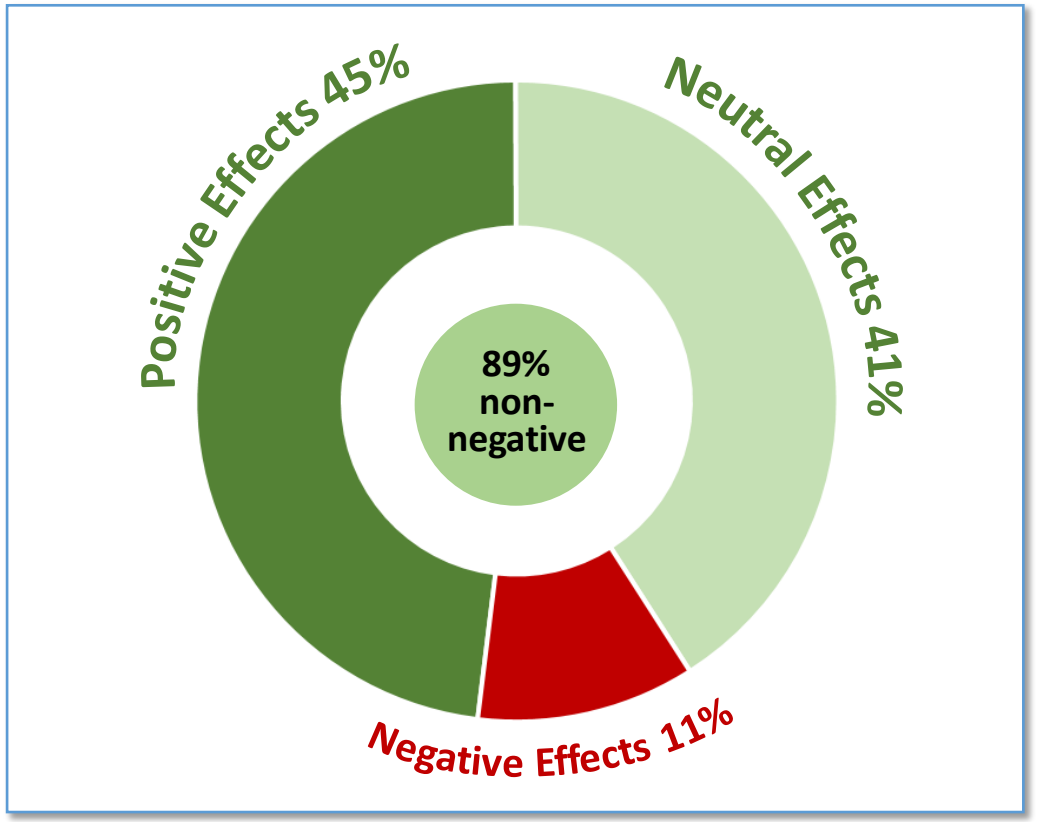
Key Findings

89% of all analyzed studies show non-negative effects

- 48% positive effects
- 41% neutral or mixed effects

Only 11% of studies show negative effects

Effects of ESG Criteria on Financial Performance



Source: ‘ESG & financial performance’ Graphics: Connexis AG

‘Financial Relevance of ESG‘

Seretis, EMEA, MSCI Global

Responsible Investor Webinar: ‘Banking on ESG’ (2019)

URL: https://www.responsible-investor.com/webinars/banking-on-esg-how-will-the-banking-sector-adapt-in-an-era-of-global-volatility

‘Financial Relevance of ESG’ – MSCI Analysis

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Background

Analysis of effects of ESG ratings on bank performance

- **Type:** Commercial | MSCI internal data analysis
- **Sample:** 88 banks in MSCI World Banks Index
- **Time frame:** 6 years (2013 to 2018)

MSCI WORLD BANKS INDEX (USD)

INDEX CHARACTERISTICS

	MSCI World Banks
Number of Constituents	88
	Mkt Cap (USD Millions)
Index	3,420,934.17
Largest	445,729.41
Smallest	1,942.15
Average	38,874.25
Median	16,648.59

The MSCI World Banks Index is composed of large and mid cap stocks across 23 Developed Markets countries*. All securities in the index are classified in the Banks industry group (within the Financials sector) according to the Global Industry Classification Standard (GICS®).

TOP 10 CONSTITUENTS

	Country	Float Adj Mkt Cap (USD Billions)	Index Wt. (%)
JPMORGAN CHASE & CO	US	445.73	13.03
BANK OF AMERICA CORP	US	311.45	9.10
WELLS FARGO & CO	US	225.20	6.58
CITIGROUP	US	180.48	5.28
HSBC HOLDINGS (GB)	GB	158.31	4.63
ROYAL BANK OF CANADA	CA	113.62	3.32
TORONTO-DOMINION BANK	CA	102.17	2.99
COMMONWEALTH BANK OF AUS	AU	99.43	2.91
US BANCORP	US	88.76	2.59
TRUIST FINANCIAL CORP	US	75.53	2.21
Total		1,800.67	52.64

‘Financial Relevance of ESG’ – MSCI Analysis

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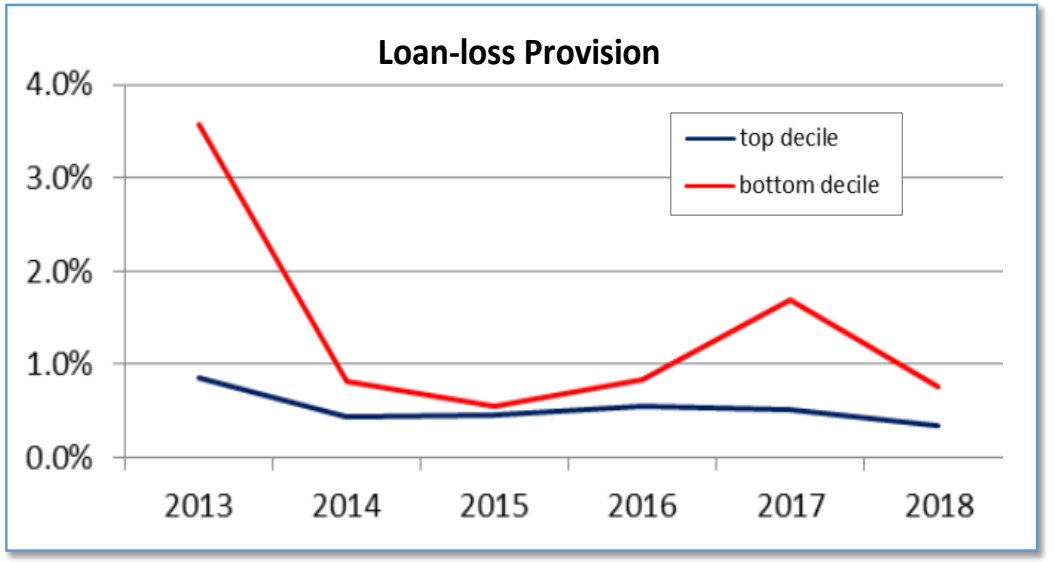
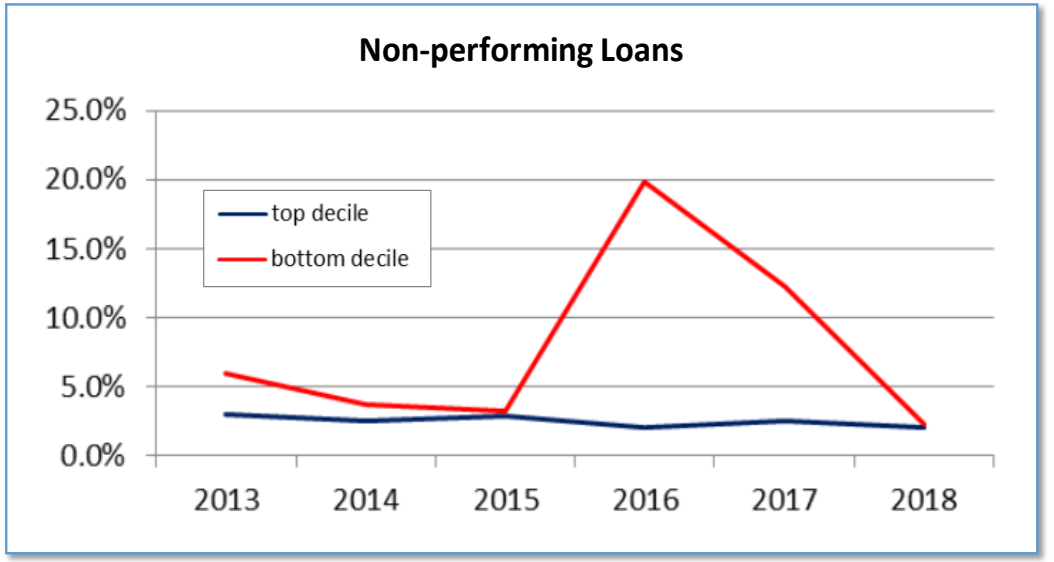
Key Findings I

Banks with better ESG ratings have lower loan risks

- **Lower loan-loss provisions**
- **Lower non-performing loans**





Source: *Responsible Investor Webinar “Banking on ESG”, Sept 16th, 2019*

‘Financial Relevance of ESG’ – MSCI Analysis

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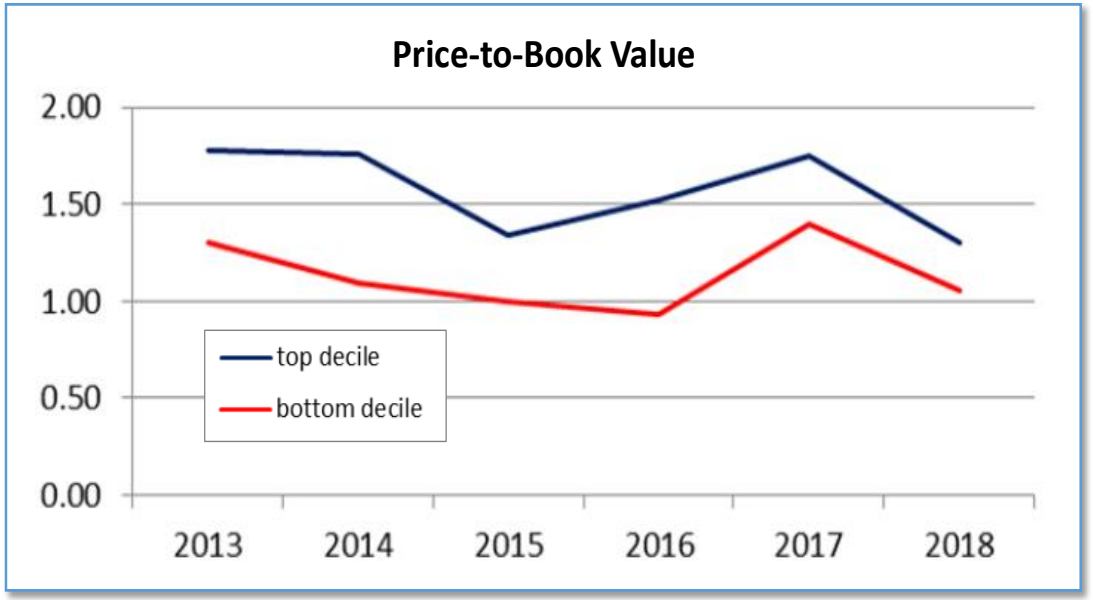
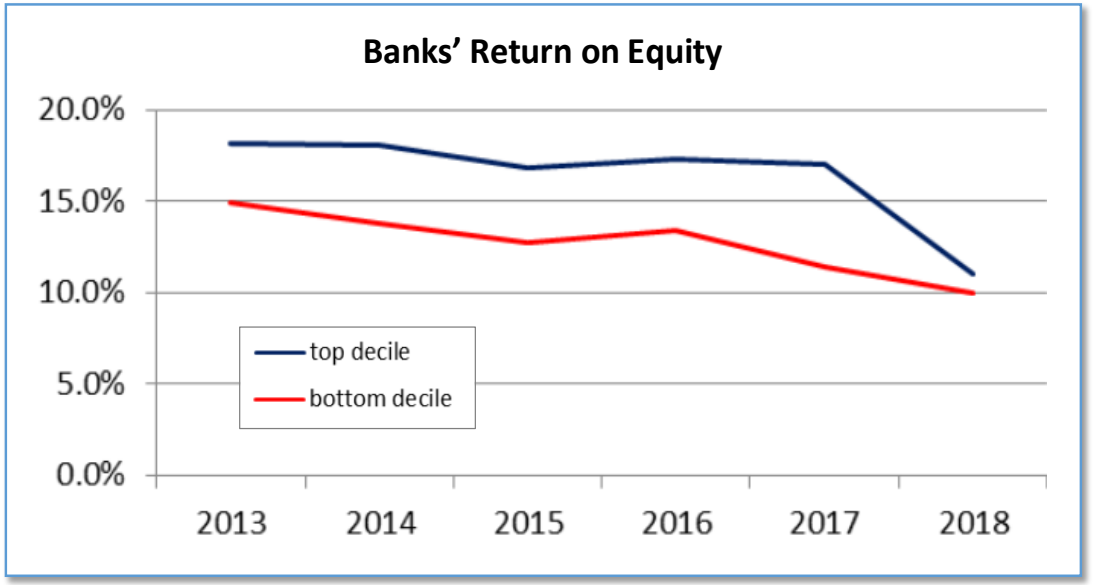
Key Findings II

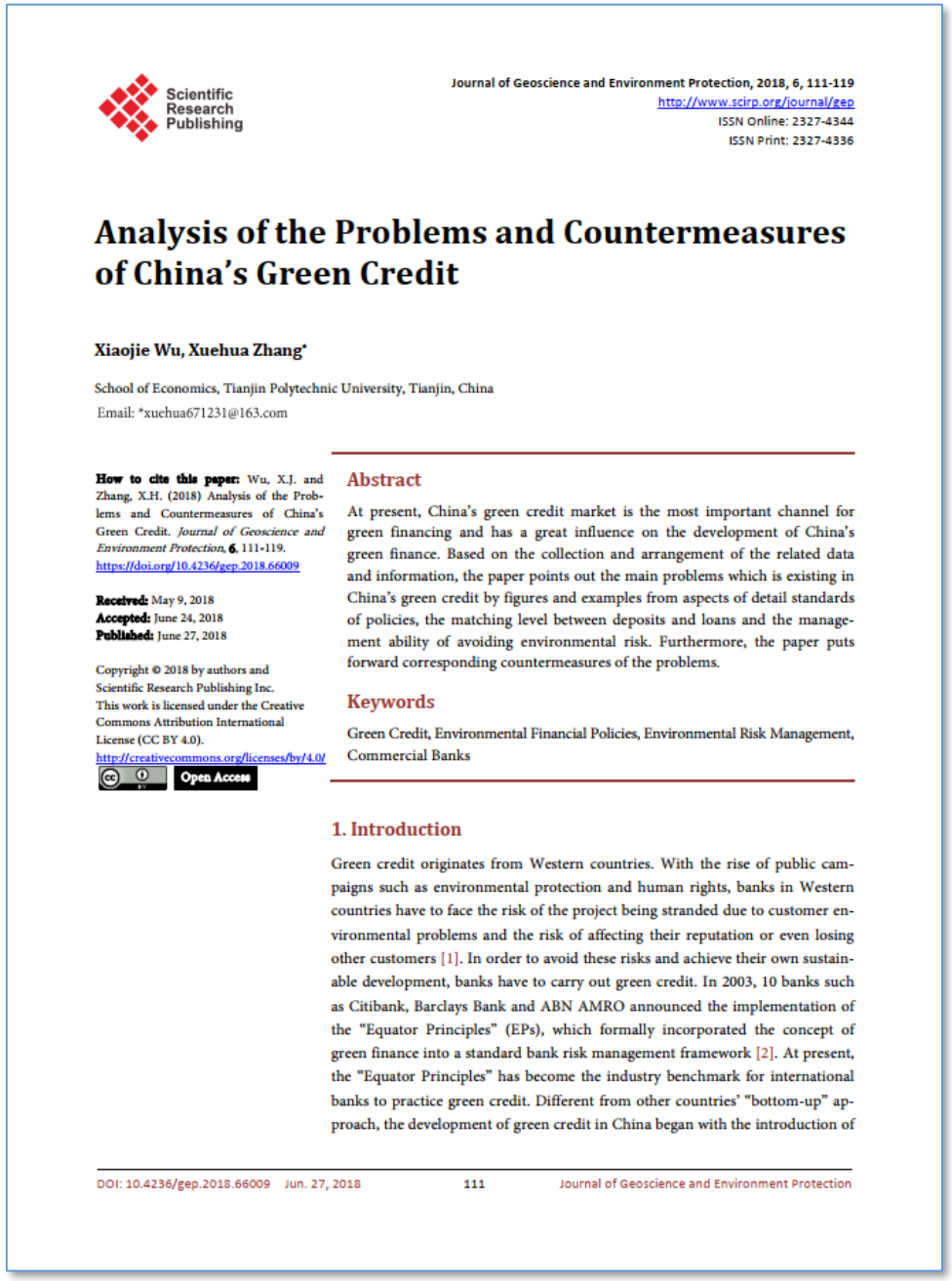
Banks with better ESG ratings perform better

- ***Higher Price-to-Book Value***
- ***Higher Return on Equity***





Source: *Responsible Investor Webinar “Banking on ESG”, Sept 16th, 2019*



Scientific Research Publishing

Journal of Geoscience and Environment Protection, 2018, 6, 111-119
http://www.scirp.org/journal/gep
ISSN Online: 2327-4344
ISSN Print: 2327-4336

Analysis of the Problems and Countermeasures of China's Green Credit

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How to cite this paper: Wu, X.J. and Zhang, X.H. (2018) Analysis of the Problems and Countermeasures of China's Green Credit. *Journal of Geoscience and Environment Protection*, **6**, 111-119.
https://doi.org/10.4236/gep.2018.66009

Received: May 9, 2018
Accepted: June 24, 2018
Published: June 27, 2018

Abstract

At present, China's green credit market is the most important channel for green financing and has a great influence on the development of China's green finance. Based on the collection and arrangement of the related data and information, the paper points out the main problems which is existing in China's green credit by figures and examples from aspects of detail standards of policies, the matching level between deposits and loans and the management ability of avoiding environmental risk. Furthermore, the paper puts forward corresponding countermeasures of the problems.

Keywords

Green Credit, Environmental Financial Policies, Environmental Risk Management, Commercial Banks

1. Introduction

Green credit originates from Western countries. With the rise of public campaigns such as environmental protection and human rights, banks in Western countries have to face the risk of the project being stranded due to customer environmental problems and the risk of affecting their reputation or even losing other customers [1]. In order to avoid these risks and achieve their own sustainable development, banks have to carry out green credit. In 2003, 10 banks such as Citibank, Barclays Bank and ABN AMRO announced the implementation of the "Equator Principles" (EPs), which formally incorporated the concept of green finance into a standard bank risk management framework [2]. At present, the "Equator Principles" has become the industry benchmark for international banks to practice green credit. Different from other countries' "bottom-up" approach, the development of green credit in China began with the introduction of

'Analysis of the Problems & Countermeasures of China's Green Credit'

Wu, Zhang; School of Economics Tianjin, China

Journal of Geoscience & Environment Protection 6, p.111-119 (2018)

URL: https://www.scirp.org/journal/paperinformation.aspx?paperid=85577

‘Problems & Countermeasures of China’s Green Credit’

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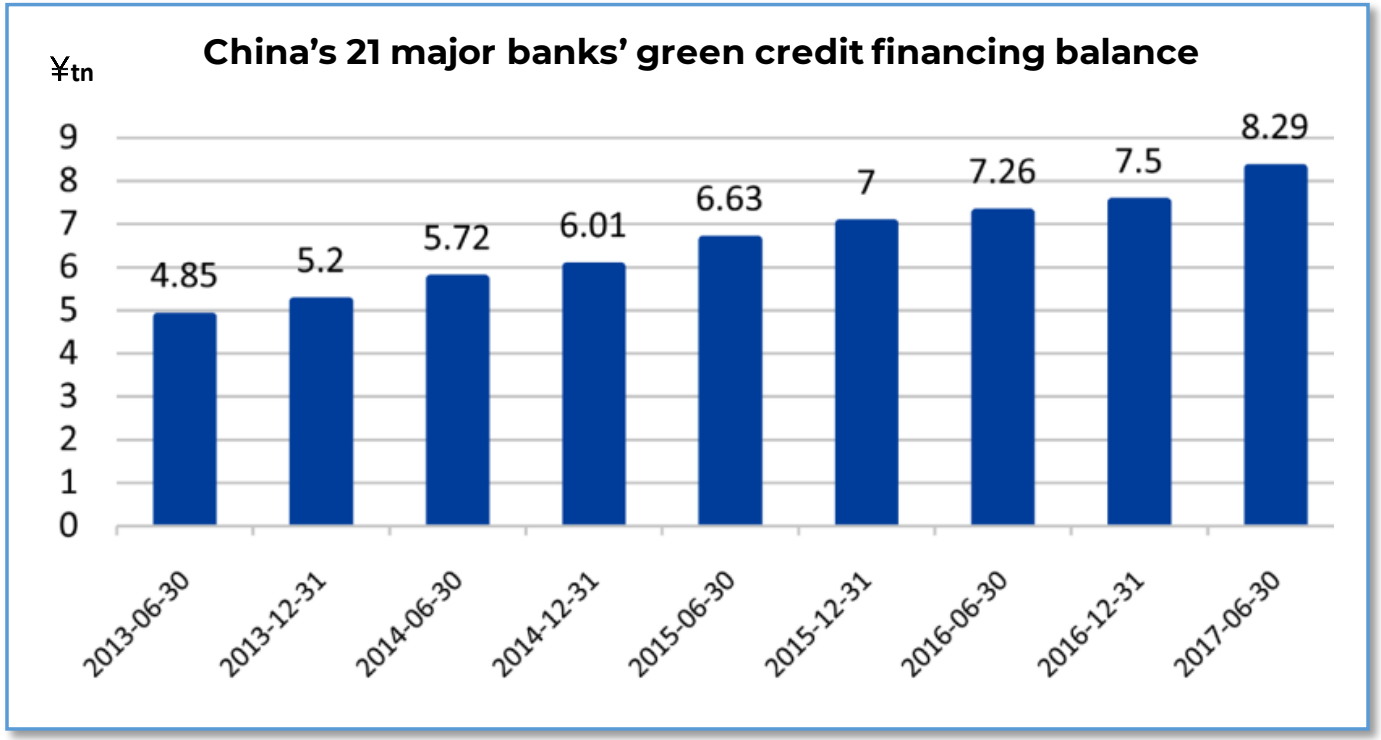
Background

Analysis of credit risks in green loans vs. non-green loans in Chinese banks

- **Type:** Academic Study
- **Sample:** China’s 21 major banks
- **Time frame:** 3.5 years | 2013 to 06/2017



‘Problems & Countermeasures of China’s Green Credit’

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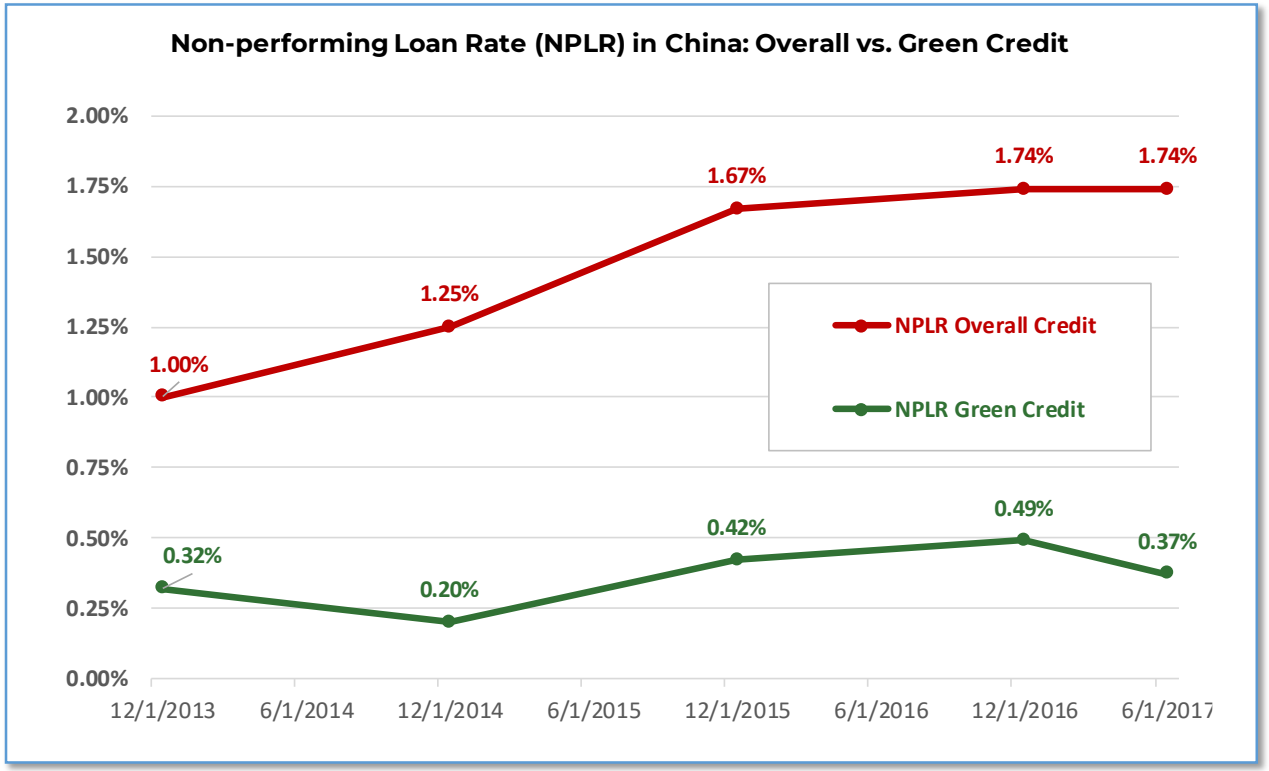
Key Findings

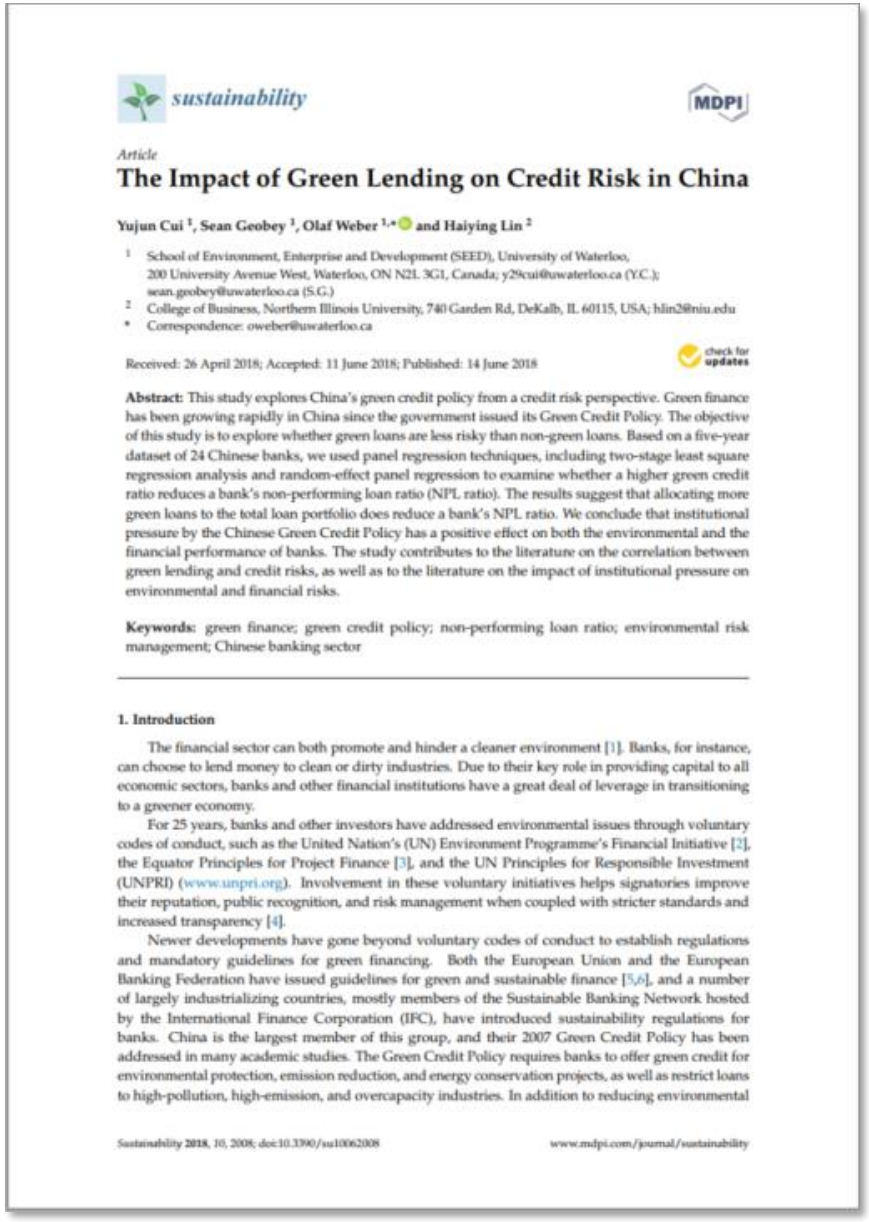
Green Credit: Lower Non-performing Loan Rate (NPLR)

- **Green Credit:** 0.36% non-performing loans
- **Overall Credit:** 1.48% non-performing loans

Delta: ø Green Credit *NPLR is 112 basis points lower*



China NPLR	Dec-13	Dec-14	Dec-15	Dec-16	Jun-17	Average
NPLR Overall Credit	1.00%	1.25%	1.67%	1.74%	1.74%	1.48%
NPLR Green Credit	0.32%	0.20%	0.42%	0.49%	0.37%	0.36%
Delta	-0.68%	-1.05%	-1.25%	-1.25%	-1.37%	-1.12%



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Article

The Impact of Green Lending on Credit Risk in China

Yujun Cui [1], Sean Geobey [1], Olaf Weber [1,*] and Haiying Lin [2]

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Received: 26 April 2018; Accepted: 11 June 2018; Published: 14 June 2018

Abstract: This study explores China's green credit policy from a credit risk perspective. Green finance has been growing rapidly in China since the government issued its Green Credit Policy. The objective of this study is to explore whether green loans are less risky than non-green loans. Based on a five-year dataset of 24 Chinese banks, we used panel regression techniques, including two-stage least square regression analysis and random-effect panel regression to examine whether a higher green credit ratio reduces a bank's non-performing loan ratio (NPL ratio). The results suggest that allocating more green loans to the total loan portfolio does reduce a bank's NPL ratio. We conclude that institutional pressure by the Chinese Green Credit Policy has a positive effect on both the environmental and the financial performance of banks. The study contributes to the literature on the correlation between green lending and credit risks, as well as to the literature on the impact of institutional pressure on environmental and financial risks.

Keywords: green finance; green credit policy; non-performing loan ratio; environmental risk management; Chinese banking sector

1. Introduction

The financial sector can both promote and hinder a cleaner environment [1]. Banks, for instance, can choose to lend money to clean or dirty industries. Due to their key role in providing capital to all economic sectors, banks and other financial institutions have a great deal of leverage in transitioning to a greener economy.

For 25 years, banks and other investors have addressed environmental issues through voluntary codes of conduct, such as the United Nation's (UN) Environment Programme's Financial Initiative [2], the Equator Principles for Project Finance [3], and the UN Principles for Responsible Investment (UNPRI) (www.unpri.org). Involvement in these voluntary initiatives helps signatories improve their reputation, public recognition, and risk management when coupled with stricter standards and increased transparency [4].

Newer developments have gone beyond voluntary codes of conduct to establish regulations and mandatory guidelines for green financing. Both the European Union and the European Banking Federation have issued guidelines for green and sustainable finance [5,6], and a number of largely industrializing countries, mostly members of the Sustainable Banking Network hosted by the International Finance Corporation (IFC), have introduced sustainability regulations for banks. China is the largest member of this group, and their 2007 Green Credit Policy has been addressed in many academic studies. The Green Credit Policy requires banks to offer green credit for environmental protection, emission reduction, and energy conservation projects, as well as restrict loans to high-pollution, high-emission, and overcapacity industries. In addition to reducing environmental

‘The Impact of Green Lending on Credit Risk in China’

Cui, Geobey, Weber, Lin; Waterloo Univ. & Univ. Of N. Illinois

MDPI Journal of Sustainability (2018)

URL: https://www.mdpi.com/2071-1050/10/6/2008

‘Impact of Green Lending on Credit Risk in China’

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Background

Analysis of credit risks in green loans vs. non-green loans in Chinese banks

- **Type:** Academic Study
- **Sample:** 24 banks in China
- **Time frame:** 5 years (2009 to 2015)

Table 1. Banks in the sample.

Bank	Type of Bank
China Development Bank (CDB)	Policy bank
Industrial and Commercial Bank of China (ICBC)	State-owned commercial bank
China Construction Bank (CCB)	State-owned commercial bank
Agricultural Bank of China (ABC)	Policy bank
Bank of China Limited (BOC)	State-owned commercial bank
Bank of Communications (BOCOM)	State-owned commercial bank
China Merchants Bank (CMB)	Joint-stock commercial bank
Shanghai Pudong Development Bank (SPD)	Joint-stock commercial bank
China Minsheng Banking (CMBC)	Joint-stock commercial bank
Industrial Bank (CIB)	Joint-stock commercial bank
China Citic Bank (CNCB)	Joint-stock commercial bank
China Everbright Bank (CEB)	Joint-stock commercial bank
Ping An Bank	Joint-stock commercial bank
Hua Xia Bank (HXB)	Joint-stock commercial bank
China Guangfa Bank (CGB)	Joint-stock commercial bank
China Bohai Bank (CBHB)	Joint-stock commercial bank
Bank of Beijing (BOB)	City commercial bank
Bank of Nanjing	City commercial bank
Bank of Shanghai (BOS)	City commercial bank
Bank of Jiangsu	City commercial bank
Bank of Ningbo	City commercial bank
Bank of Chongqing	City commercial bank
Harbin Bank	City commercial bank
Bank of Zhengzhou	City commercial bank

‘Impact of Green Lending on Credit Risk in China’ – Study

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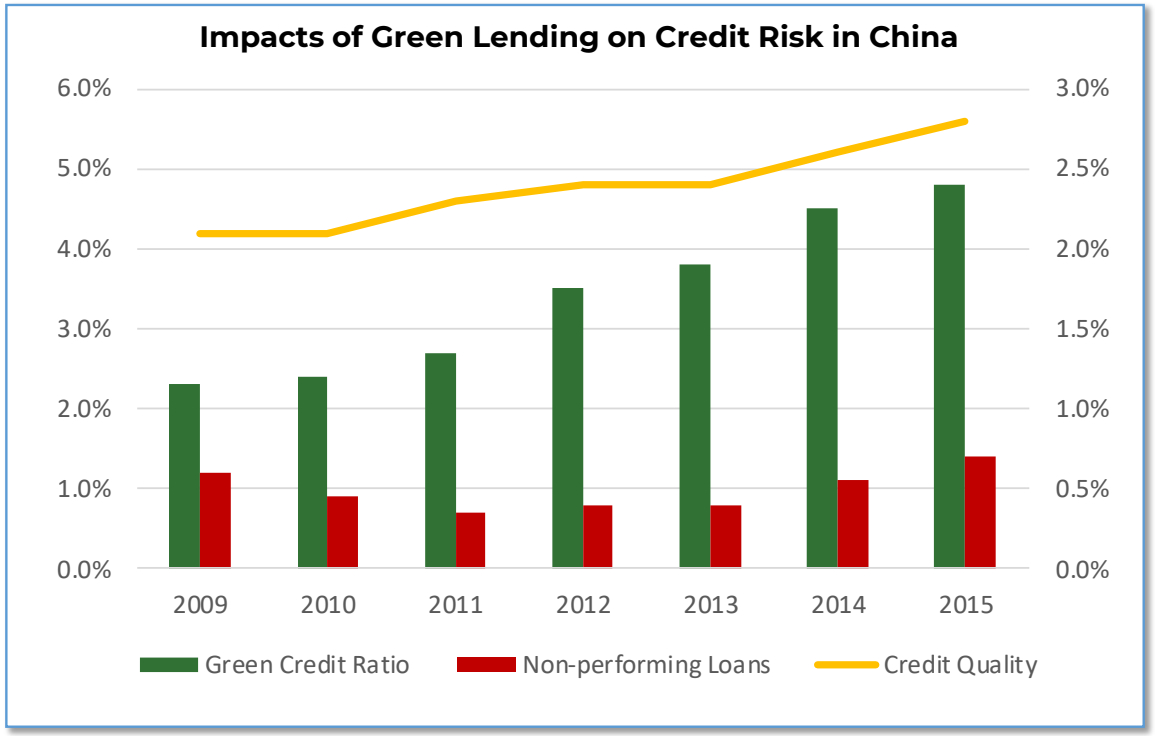
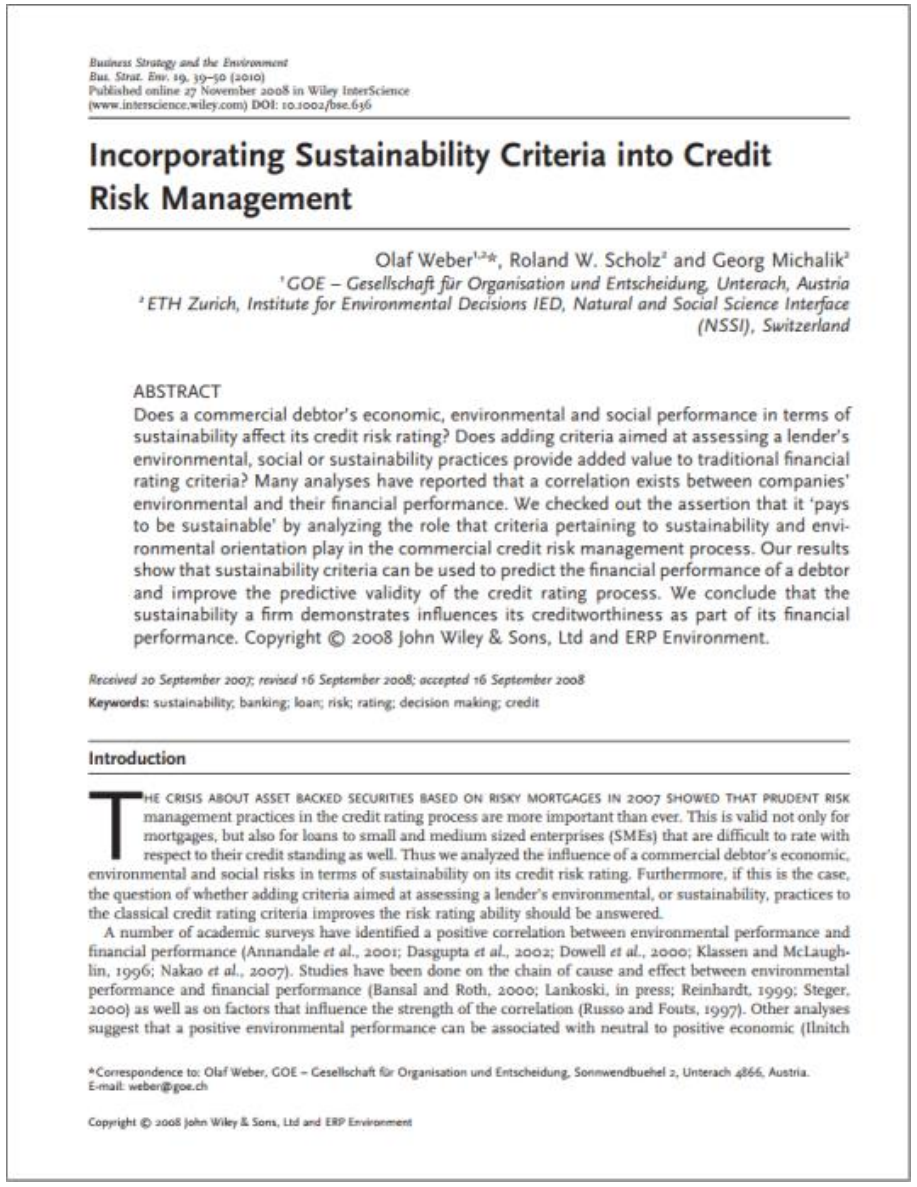
Key Findings

Green lending improves bank loan portfolios

- Higher green credit ratio: Better credit quality
- Higher green credit ratio: Fewer non-performing loans





Business Strategy and the Environment
Bus. Strat. Env. 19, 39–50 (2010)
Published online 27 November 2008 in Wiley InterScience
(www.interscience.wiley.com) DOI: 10.1002/bse.636

Incorporating Sustainability Criteria into Credit Risk Management

Olaf Weber[1,2]*, Roland W. Scholz[2] and Georg Michalik[2]
[1] *GOE – Gesellschaft für Organisation und Entscheidung, Unterach, Austria*
[2] *ETH Zurich, Institute for Environmental Decisions IED, Natural and Social Science Interface (NSSI), Switzerland*

ABSTRACT
Does a commercial debtor's economic, environmental and social performance in terms of sustainability affect its credit risk rating? Does adding criteria aimed at assessing a lender's environmental, social or sustainability practices provide added value to traditional financial rating criteria? Many analyses have reported that a correlation exists between companies' environmental and their financial performance. We checked out the assertion that it 'pays to be sustainable' by analyzing the role that criteria pertaining to sustainability and environmental orientation play in the commercial credit risk management process. Our results show that sustainability criteria can be used to predict the financial performance of a debtor and improve the predictive validity of the credit rating process. We conclude that the sustainability a firm demonstrates influences its creditworthiness as part of its financial performance. Copyright © 2008 John Wiley & Sons, Ltd and ERP Environment.

Received 20 September 2007; revised 16 September 2008; accepted 16 September 2008
Keywords: sustainability; banking; loan; risk; rating; decision making; credit

Introduction

THE CRISIS ABOUT ASSET BACKED SECURITIES BASED ON RISKY MORTGAGES IN 2007 SHOWED THAT PRUDENT RISK management practices in the credit rating process are more important than ever. This is valid not only for mortgages, but also for loans to small and medium sized enterprises (SMEs) that are difficult to rate with respect to their credit standing as well. Thus we analyzed the influence of a commercial debtor's economic, environmental and social risks in terms of sustainability on its credit risk rating. Furthermore, if this is the case, the question of whether adding criteria aimed at assessing a lender's environmental, or sustainability, practices to the classical credit rating criteria improves the risk rating ability should be answered.

A number of academic surveys have identified a positive correlation between environmental performance and financial performance (Annandale *et al.*, 2001; Dasgupta *et al.*, 2002; Dowell *et al.*, 2000; Klassen and McLaughlin, 1996; Nakao *et al.*, 2007). Studies have been done on the chain of cause and effect between environmental performance and financial performance (Bansal and Roth, 2000; Lankoski, in press; Reinhardt, 1999; Steger, 2000) as well as on factors that influence the strength of the correlation (Russo and Fouts, 1997). Other analyses suggest that a positive environmental performance can be associated with neutral to positive economic (Ilnitch

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E-mail: weber@goe.ch

‘Incorporating Sustainability Criteria into Credit Risk Management’

Weber, Scholz, Michalik; *Gesellschaft f. Organisation & Entscheidung (GOE) with ETH Zurich*

Business Strategy & the Environment 19, p. 39-50 (2010)

URL: https://www.researchgate.net/publication/227837025_Incorporating_Sustainability_Criteria_into_Credit_Risk_Management

Sustainability Criteria & Credit Risk Management - Study

CONNEXIS
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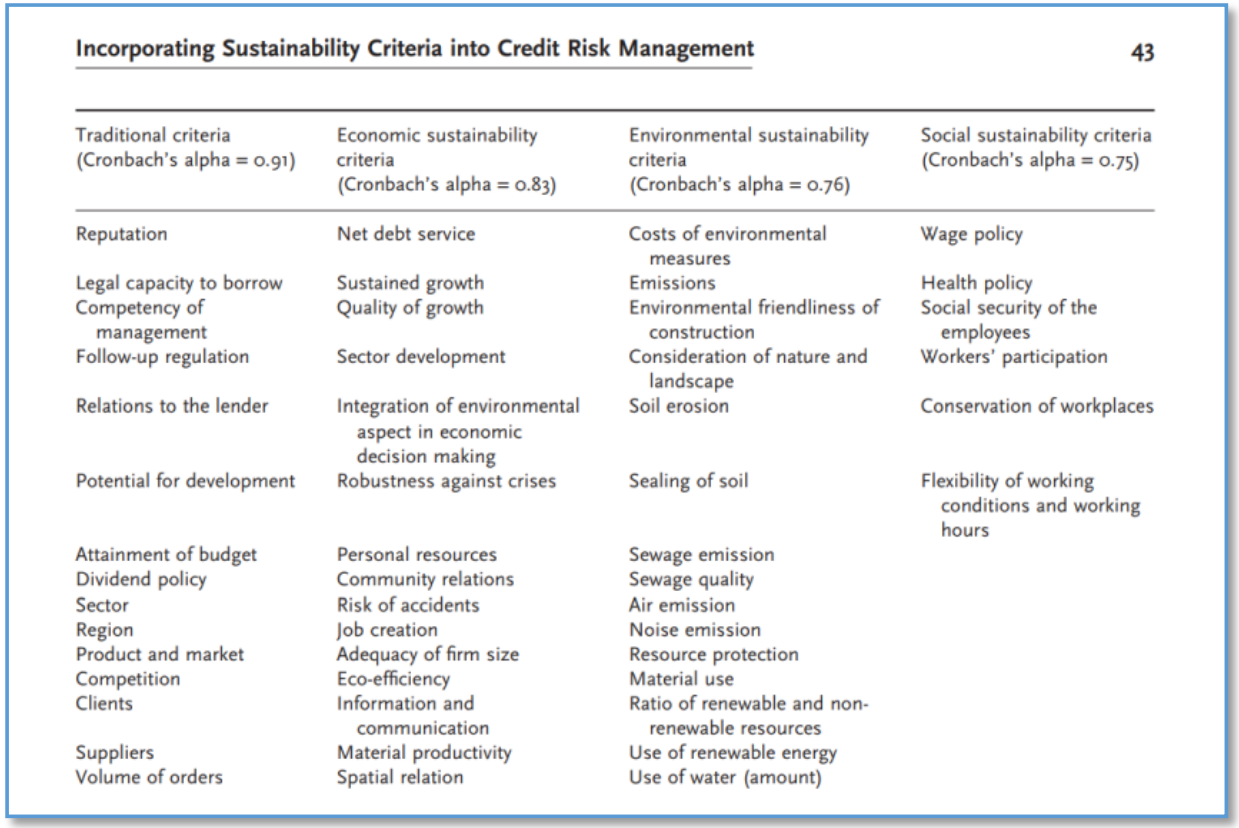
Background

Analysis of effects of ESG criteria on credit risk management

- **Type:** Academic Study
- **Sample:** 28 German banks, 180 loans
- **Time frame:** 2010



Incorporating Sustainability Criteria into Credit Risk Management 43

Traditional criteria (Cronbach's alpha = 0.91)	Economic sustainability criteria (Cronbach's alpha = 0.83)	Environmental sustainability criteria (Cronbach's alpha = 0.76)	Social sustainability criteria (Cronbach's alpha = 0.75)
Reputation	Net debt service	Costs of environmental measures	Wage policy
Legal capacity to borrow	Sustained growth	Emissions	Health policy
Competency of management	Quality of growth	Environmental friendliness of construction	Social security of the employees
Follow-up regulation	Sector development	Consideration of nature and landscape	Workers' participation
Relations to the lender	Integration of environmental aspect in economic decision making	Soil erosion	Conservation of workplaces
Potential for development	Robustness against crises	Sealing of soil	Flexibility of working conditions and working hours
Attainment of budget	Personal resources	Sewage emission	
Dividend policy	Community relations	Sewage quality	
Sector	Risk of accidents	Air emission	
Region	Job creation	Noise emission	
Product and market	Adequacy of firm size	Resource protection	
Competition	Eco-efficiency	Material use	
Clients	Information and communication	Ratio of renewable and non-renewable resources	
Suppliers	Material productivity	Use of renewable energy	
Volume of orders	Spatial relation	Use of water (amount)	

https://www.researchgate.net/publication/227837025_Incorporating_Sustainability_Criteria_into_Credit_Risk_Management

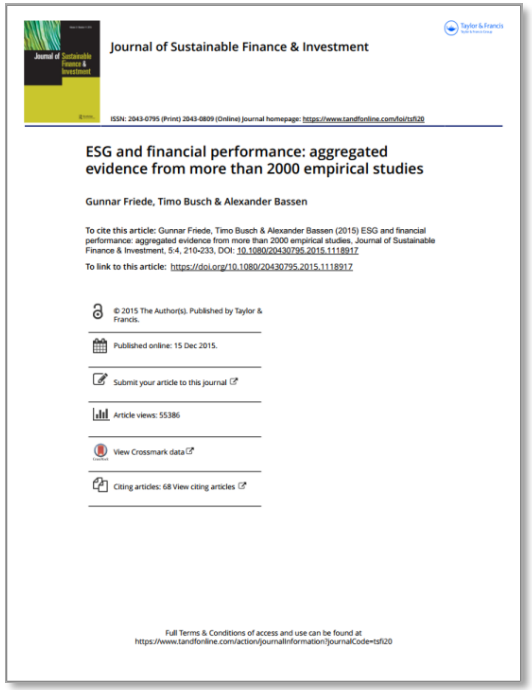
Key Findings

ESG criteria qualify risks better than traditional criteria

- **Correct risk classification ESG criteria: 87%**
- **Correct risk classification traditional: 79%**
- **Wrong risk classification decreased by 23%**

Incorporating Sustainability Criteria into Credit Risk Management

Variables	Group	N	Mean	Std deviation
Traditional criteria	all	180	3.42	0.53
	default	67	3.00	0.45
	non-default	113	3.67	0.39
Economic sustainability	all	178	3.36	0.48
	default	66	3.03	0.41
	non-default	112	3.56	0.41
Environmental sustainability	all	122	3.20	0.62
	default	43	3.18	0.66
	non-default	79	3.22	0.61
Social sustainability	all	159	3.14	0.65
	default	56	2.71	0.56
	non-default	103	3.38	0.57



Journal of Sustainable Finance & Investment

ISSN: 2043-0795 (Print) 2043-0809 (Online) Journal homepage: https://www.tandfonline.com/loi/tsfi20

ESG and financial performance: aggregated evidence from more than 2000 empirical studies

Gunnar Friede, Timo Busch & Alexander Bassen

To cite this article: Gunnar Friede, Timo Busch & Alexander Bassen (2015) ESG and financial performance: aggregated evidence from more than 2000 empirical studies, Journal of Sustainable Finance & Investment, 5:4, 210-233, DOI: 10.1080/20430795.2015.1118917

To link to this article: https://doi.org/10.1080/20430795.2015.1118917

Published online: 15 Dec 2015.

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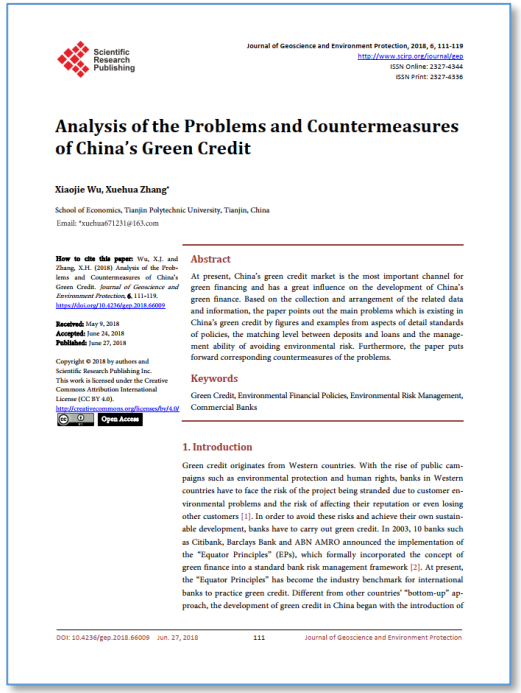

Scientific Research Publishing

Journal of Geoscience and Environment Protection, 2018, 6, 111-119
http://www.scirp.org/journal/gep
ISSN Online: 2327-4344
ISSN Print: 2327-4336

Analysis of the Problems and Countermeasures of China's Green Credit

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How to cite this paper: Wu, X.J. and Zhang, X.H. (2018) Analysis of the Problems and Countermeasures of China's Green Credit. *Journal of Geoscience and Environment Protection*, **6**, 111-119.
https://doi.org/10.4236/gep.2018.66009

Received: May 9, 2018
Accepted: June 24, 2018
Published: June 27, 2018

Abstract

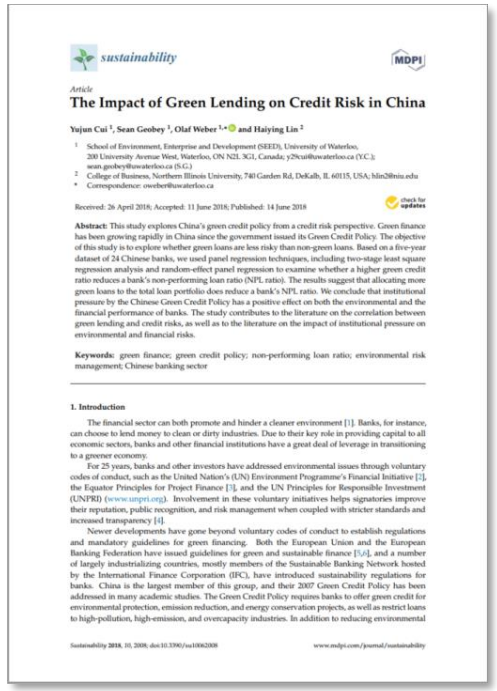
At present, China's green credit market is the most important channel for green financing and has a great influence on the development of China's green finance. Based on the collection and arrangement of the related data and information, the paper points out the main problems which is existing in China's green credit by figures and examples from aspects of detail standards of policies, the matching level between deposits and loans and the management ability of avoiding environmental risk. Furthermore, the paper puts forward corresponding countermeasures of the problems.

Keywords

Green Credit, Environmental Financial Policies, Environmental Risk Management, Commercial Banks

1. Introduction

Green credit originates from Western countries. With the rise of public campaigns such as environmental protection and human rights, banks in Western countries have to face the risk of the project being stranded due to customer environmental problems and the risk of affecting their reputation or even losing other customers [1]. In order to avoid these risks and achieve their own sustainable development, banks have to carry out green credit. In 2003, 10 banks such as Citibank, Barclays Bank and ABN AMRO announced the implementation of the "Equator Principles" (EPs), which formally incorporated the concept of green finance into a standard bank risk management framework [2]. At present, the "Equator Principles" has become the industry benchmark for international banks to practice green credit. Different from other countries' "bottom-up" approach, the development of green credit in China began with the introduction of



sustainability

MDPI

Article

The Impact of Green Lending on Credit Risk in China

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Received: 26 April 2018; Accepted: 11 June 2018; Published: 14 June 2018

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Abstract: This study explores China's green credit policy from a credit risk perspective. Green finance has been growing rapidly in China since the government issued its Green Credit Policy. The objective of this study is to explore whether green loans are less risky than non-green loans. Based on a five-year dataset of 24 Chinese banks, we used panel regression techniques, including two-stage least square regression analysis and random-effect panel regression to examine whether a higher green credit ratio reduces a bank's non-performing loan ratio (NPL ratio). The results suggest that allocating more green loans to the total loan portfolio does reduce a bank's NPL ratio. We conclude that institutional pressure by the Chinese Green Credit Policy has a positive effect on both the environmental and the financial performance of banks. The study contributes to the literature on the correlation between green lending and credit risks, as well as to the literature on the impact of institutional pressure on environmental and financial risks.

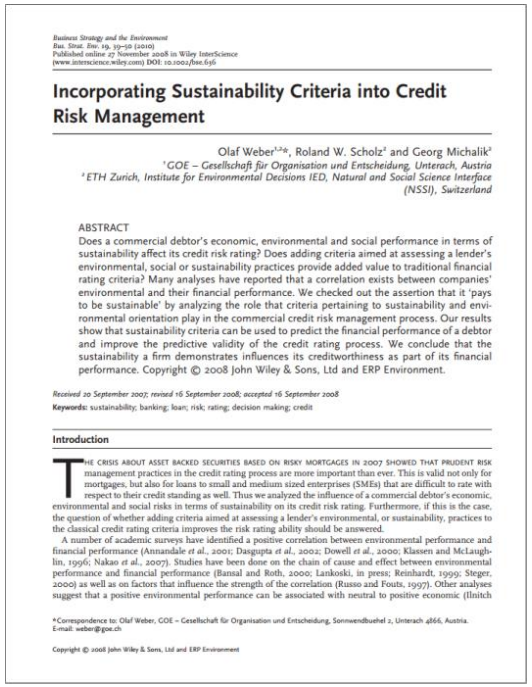
Keywords: green finance; green credit policy; non-performing loan ratio; environmental risk management; Chinese banking sector

1. Introduction

The financial sector can both promote and hinder a cleaner environment [1]. Banks, for instance, can choose to lend money to clean or dirty industries. Due to their key role in providing capital to all economic sectors, banks and other financial institutions have a great deal of leverage in transitioning to a greener economy.

For 25 years, banks and other investors have addressed environmental issues through voluntary codes of conduct, such as the United Nation's (UN) Environment Programme's Financial Initiative [2], the Equator Principles for Project Finance [3], and the UN Principles for Responsible Investment (UNPRI) (www.unpri.org). Involvement in these voluntary initiatives helps signatories improve their reputation, public recognition, and risk management when coupled with stricter standards and increased transparency [4].

Newer developments have gone beyond voluntary codes of conduct to establish regulations and mandatory guidelines for green financing. Both the European Union and the European Banking Federation have issued guidelines for green and sustainable finance [5,6], and a number of largely industrializing countries, mostly members of the Sustainable Banking Network hosted by the International Finance Corporation (IFC), have introduced sustainability regulations for banks. China is the largest member of this group, and their 2007 Green Credit Policy has been addressed in many academic studies. The Green Credit Policy requires banks to offer green credit for environmental protection, emission reduction, and energy conservation projects, as well as restrict loans to high-pollution, high-emission, and overcapacity industries. In addition to reducing environmental



Business Strategy and the Environment
Bus. Strat. Env. 19, 39–50 (2010)
Published online 27 November 2008 in Wiley InterScience
(www.interscience.wiley.com) DOI: 10.1002/bse.636

Incorporating Sustainability Criteria into Credit Risk Management

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ABSTRACT

Does a commercial debtor's economic, environmental and social performance in terms of sustainability affect its credit risk rating? Does adding criteria aimed at assessing a lender's environmental, social or sustainability practices provide added value to traditional financial rating criteria? Many analyses have reported that a correlation exists between companies' environmental and their financial performance. We checked out the assertion that it 'pays to be sustainable' by analyzing the role that criteria pertaining to sustainability and environmental orientation play in the commercial credit risk management process. Our results show that sustainability criteria can be used to predict the financial performance of a debtor and improve the predictive validity of the credit rating process. We conclude that the sustainability a firm demonstrates influences its creditworthiness as part of its financial performance. Copyright © 2008 John Wiley & Sons, Ltd and ERP Environment.

Received 20 September 2007; revised 16 September 2008; accepted 16 September 2008
Keywords: sustainability; banking; loan; risk; rating; decision making; credit

Introduction

THE CRISIS ABOUT ASSET BACKED SECURITIES BASED ON RISKY MORTGAGES IN 2007 SHOWED THAT PRUDENT RISK management practices in the credit rating process are more important than ever. This is valid not only for mortgages, but also for loans to small and medium sized enterprises (SMEs) that are difficult to rate with respect to their credit standing as well. Thus we analyzed the influence of a commercial debtor's economic, environmental and social risks in terms of sustainability on its credit risk rating. Furthermore, if this is the case, the question of whether adding criteria aimed at assessing a lender's environmental, or sustainability, practices to the classical credit rating criteria improves the risk rating ability should be answered.

A number of academic surveys have identified a positive correlation between environmental performance and financial performance (Annandale *et al.*, 2001; Dasgupta *et al.*, 2002; Dowell *et al.*, 2000; Klassen and McLaughlin, 1996; Nakao *et al.*, 2007). Studies have been done on the chain of cause and effect between environmental performance and financial performance (Bansal and Roth, 2000; Lankoski, in press; Reinhardt, 1999; Steger, 2000) as well as on factors that influence the strength of the correlation (Russo and Fouts, 1997). Other analyses suggest that a positive environmental performance can be associated with neutral to positive economic (Ilnitch

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Summary of Results

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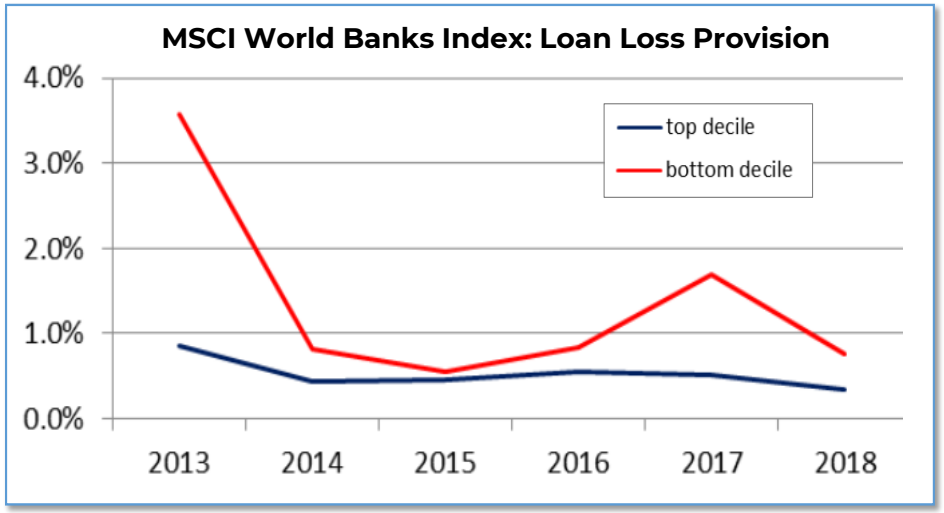
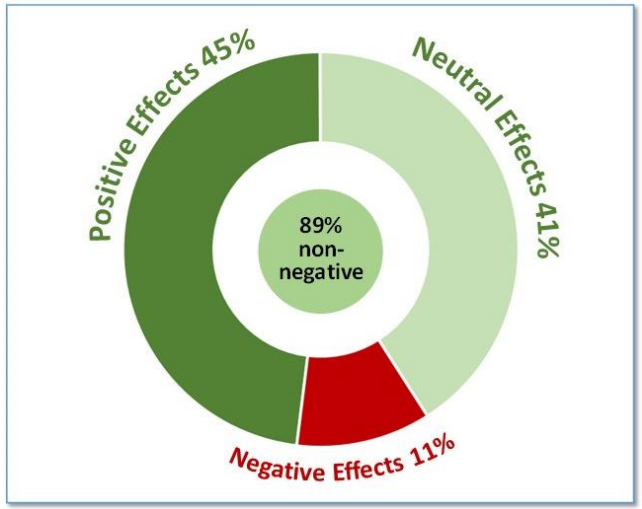
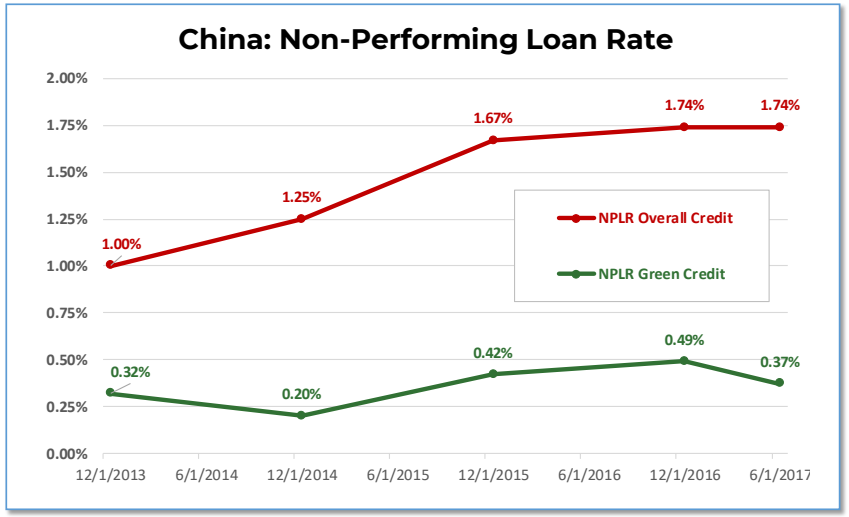
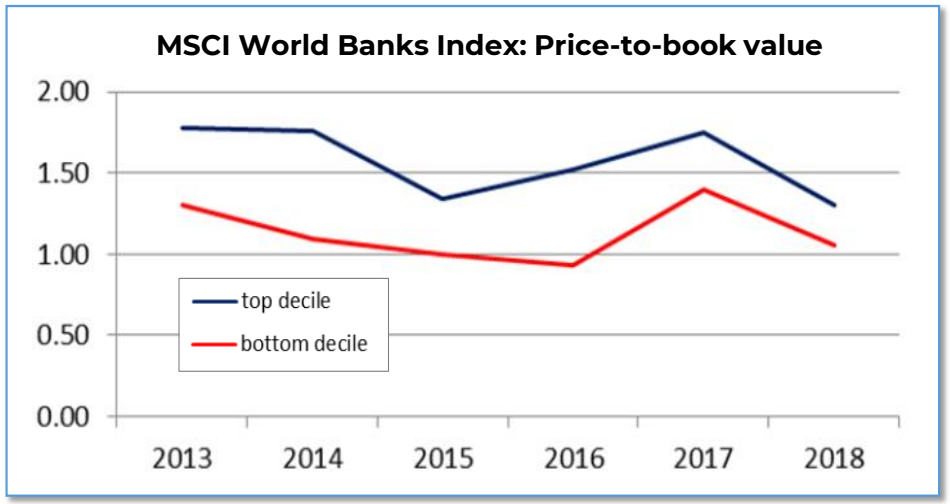
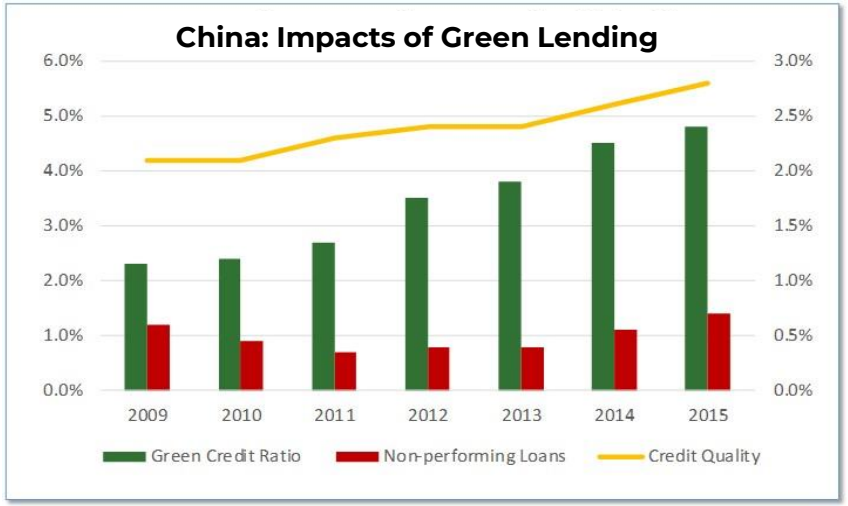




* Corporate Financial Performance







CONNEXIS

Sustainability | Strategy | Advisory