UNIVERSITÄT LEIPZIG

Wirtschaftswissenschaftliche Fakultät
Faculty of Economics and Business Administration

Working Paper, No. 84

Gunther Schnabl
Andreas Hoffmann

The Theory of Optimum Currency Areas and Growth in Emerging Markets

März 2010

ISSN 1437-9384

The Theory of Optimum Currency Areas and Growth in Emerging Markets

Andreas Hoffmann and Gunther Schnabl[1]

Department of Economics, Leipzig University, Grimmaische Straße 12, 04109 Leipzig, Germany

Abstract

We test for the impact of exchange rate volatility on growth in emerging market economies based on the theory of optimum currency areas. Our findings provide evidence for a positive impact of exchange rate stability on growth.

Keywords: OCA, growth.

JEL classification: F31.

[1] Corresponding author: Tel.: +49 341 9733561; fax: +49 341 9733569.
E-mail addresses: schnabl@wifa.uni-leipzig.de (G.Schnabl),
ahoffmann@wifa.uni-leipzig.de (A.Hoffmann).

1. Introduction

The 1997/98 Asian crisis and the obligation of 12 new EU member states to join the European Monetary Union have triggered a controversial discussion about the costs and benefits of stable exchange rates in emerging market economies. Because the theoretical literature on the impact of fixed exchange rates on the growth performance of emerging market economies has not provided clear evidence, the answer to this question has remained an empirical matter.

Most previous empirical studies on the impact of the exchange rate regime on growth have used (neo-classical) growth models as a theoretical framework (e.g. Aghion et al., 2006 and Ghosh et al., 2003). In addition to (inter alia) investment per gdp, input per worker, secondary education and inflation, proxies for exchange rate volatility have been added as explanatory variables of growth. While these studies have provided useful insights on the impact of the exchange rate stability on growth, they have neglected the theory of optimum currency areas which provides important information about the motivation of fixing exchange rates (irrevocably).

Building upon Schnabl (2009) the paper intends to close this gap for a sample of East Asian, Emerging European and Latin American countries, which are the most prominent groups of emerging market economies.

2. The Theory of Optimum Currency Areas

The theory of optimum currency areas has provided important insights concerning the adoption of a common currency or fixing exchange rates. The seminal paper of Mundell (1961) links the choice of a common currency to heterogeneity. Monetary and exchange rate policies are regarded as (Keynesian) tools to cope with idiosyncratic real shocks. This implies that emerging market economies which are at a different stage of economic development than their potential anchor country should not peg their exchange rates or would otherwise face losses in terms of their growth performance. McKinnon (1963) responded that for the choice of the exchange rate regime of small open economies nominal shocks matter: by stabilizing exchange rates emerging market economies can stabilize the domestic price level, create certainty for domestic investment and reduce the transaction costs for international trade.

Later contributions by Mundell (1973) stressed that capital market integration can contribute to the absorption of asymmetric shocks as international borrowing and lending helps to smooth consumption. In contrast to Mundell

(1961), monetary and exchange rate policies were understood as an independent source of volatility because foreign exchange markets are not efficient. Furthermore, in many emerging market economies monetary policies have tended to be sources of instability. Moving into a monetary union would be equivalent to eliminating instability related to undisciplined macroeconomic policies.

Implicitly or explicitly the OCA theory as discussed above has defined the costs and benefits of a common currency or a fixed exchange rate in terms of the growth performance under a specific monetary arrangement. This motivates us to use real growth on the left side of our econometric framework.

3. Data and Estimation Framework

To identify the effect of exchange rate stability on growth in emerging market economies in the light of the OCA theory, we specify a cross-country panel model for 17 Emerging European, 9 East Asian and 10 Latin American countries which mostly have dismantled capital controls during the observation period. The data sources are IMF International Financial Statistics, IMF World Economic Outlook and the national central banks. We use yearly data from 1990 to 2007. For Emerging Europe the sample periods start in 1994 because the pre-1994 data of the former transition economies are unstable and fragmented.

We explain economic growth by exchange rate volatility and a set of control variables that represent the transmission channels from exchange rate volatility to growth as discussed by the OCA literature:

$$w_{it} = \gamma_i + \varphi b_{it} + v_{it}^{'} \delta_i + \varepsilon_{it} \qquad (1)$$

where w_{it} is the vector of yearly real growth rates from 1990 to 2007 for the countries i. The explanatory variables consist of indicators for exchange rate volatility b_{it} (σ, z) and the matrix of control variables v_{it}.

The volatility measures are calculated for every calendar year based on monthly averages. First, the standard deviation of percent exchange rate changes (σ) can be seen as a proxy for uncertainty and transactions costs. Second, we use the z-score ($z_t = \sqrt{\mu_t^2 + \sigma_t^2}$) as proposed by Ghosh et al. (2003) that additionally includes the arithmetic average of percent exchange rate changes (μ), which can be seen as a proxy for gradual depreciations or appreciations.

As most countries in Emerging Europe have redirected their exchange rate policies towards the euro, their volatility measures refer to the euro. For the East Asian and Latin American countries exchange rate volatility is measured with regard to the dollar. The exchange rate volatility proxy is nested in a set

of control variables coming from the augmented OCA framework as described in section 2. First, Mundell's (1961) asymmetric shocks are represented by ten-year rolling backward-looking correlation coefficients of growth rates with the anchor country. Additionally, one time asymmetric shocks are approximated by crisis in emerging market economies which have proved to be more vulnerable to economic turmoil than industrialized countries.

Second, following McKinnon (1963) inflation is used as a proxy for macroeconomic stability and growth rates of dollar exports are used as a proxy for trade. Based on Mundell (1973) the interest rate differential calculated as the interest rate differential corrected by exchange rate changes versus the anchor country is used as a proxy for capital market integration. Alternatively, interest rates are used instead assuming that high interest rates represent fragmented capital markets and low interest rates represent integrated capital markets. A dummy for depreciations larger than ten percent per year, used as interaction term, controls for uncertainty originating in instable macroeconomic policies and inefficient foreign exchange markets.

4. Estimation Results

A dynamic GMM model as proposed by Arellano and Bond (1991) and Arellano and Bover (1995) is used for the estimations because in particular the

control variables (inflation, interest rate, exports) are likely to be subject to endogeneity.

Table 1 reports the results for the whole sample. There is strong evidence that exchange rate volatility affects growth negatively, if exchange rate volatility is measured in terms of both standard deviations and z-scores. All respective coefficients have the expected negative signs indicating that higher volatility is linked to less growth. In four out of six specifications the volatility measures are highly significant.

[Table 1]

The OCA proxies have the expected signs, mostly at highly significant levels. Business cycle correlation has a positive impact on growth. The crisis dummy takes the expected negative signs and is highly significant. Inflation turns out negative as projected by McKinnon (1963). More exports contribute to higher growth. Only the interest rate variable representing capital market integration is not significant or has the wrong sign.

As stressed by Mundell (1973) instability originating in undisciplined macroeconomic policies implies a negative impact of exchange rate volatility. To control for a weak institutional environment, we want to isolate it from the

other types of exchange rate volatility. We capture this effect by an interaction term that takes the value 1 for yearly depreciation against its anchor currency by more than ten percent[2]. Otherwise the dummy is 0. We multiply this term with the volatility variable and add it as additional explanatory variable to the model.

Table 2 reports the results for the pooled sample. The coefficients representing exchange rate volatility remain mostly significant with a negative sign. Additionally, in periods of macroeconomic instability the coefficients turn out highly significant with negative signs confirming the assumption that strong depreciations are associated with less growth.

[Table 2]

Except of inflation, the OCA-proxies have the expected signs and are highly significant. Business cycle correlations promote growth at highly significant levels. The crisis dummies turn out to have a negative impact on growth. Export growth and capital market integration have seemed to promote growth at highly significant levels.

[2] Frankel and Rose (1995) define currency crashes for yearly nominal depreciations of 25%.

5. Conclusion

We tested for the impact of exchange rate volatility on growth for emerging market economies nested in an OCA framework. Our sample of emerging market economies in Europe, East Asia and Latin America confirms the transmission channels as identified by the OCA theory as an aggregated measure of all different strands of the OCA theory. The paper provides strong evidence in favor of a negative impact of exchange rate volatility on growth. Importing stability via an exchange rate peg seems to be the adequate policy solution for emerging market economies.

References

Aghion, Ph. / Bachetta, Ph. / Ranciere, R. / Rogoff, K. (2006) Productivity Growth and the Exchange Rate Regime: the Role of Financial Development, *NBER Working Paper 12117.*

Arellano, M. and Bond, St. (1991) Some Tests of Specification for Panel Data: Monte Carlo Evidence and an Application to Employment Equations, *Review of Economic Studies*, 58, 277–97.

Arellano, M. and Bover, O. (1995) Another Look at the Instrumental-Variable Estimation of Error-Components Models, *Journal of Econometrics*, 68, 29-51.

Frankel, J. and Rose, A. (1995) Currency Crashes in Emerging Markets: An Empirical Treatment, *Journal of International Economics*, 41, 351–66.

Ghosh, A. / Gulde, A. / Wolf, H. (2003) *Exchange Rate Regimes: Choices and Consequences,* MIT Press.

McKinnon, R. (1963): Optimum Currency Areas, *American Economic Review*, 53, 717–25.

Mundell, R. (1961) A Theory of Optimal Currency Areas. *American Economic Review*, 51, 657–65.

Mundell, R. (1973) Uncommon Arguments for Common Currencies, in *The Economics of Common Currencies* (Ed.) H. Johnson and A. Swoboda, London: Allen and Unwin.

Schnabl, G. (2009) Exchange Rate Volatility and Growth in Emerging Europe and East Asia, *Open Economies Review*, 20, 565–87.

Table 1: GMM - Estimation Results: Emerging Europe, East Asia and Latin America

	(1)	(2)	(3)	(4)	(5)	(6)
Growth (-1)	0.265***	0.262***	0.236***	0.236***	0.301***	0.301***
	(0.019)	(0.019)	(0.022)	(0.022)	(0.005)	(0.005)
Standard deviation	-0.011		-0.018**		-0.016***	
	(0.009)		(0.008)		(0.002)	
Z-score		-0.014		-0.018**		-0.017***
		(0.010)		(0.009)		(0.002)
Business cycle	0.015***	0.015***	0.009*	0.009*		
correlation	(0.005)	(0.005)	(0.005)	(0.005)		
Crisis	-0.011***	-0.011***	-0.012***	-0.012***		
	(0.001)	(0.001)	(0.002)	(0.002)		
Inflation	-0.001	-0.000	-0.004***	-0.004***		
	(0.001)	(0.001)	(0.001)	(0.000)		
Export growth	0.125***	0.124***	0.122***	0.122***		
	(0.007)	(0.007)	(0.008)	(0.007)		
Interest rate parity	-0.000	0.000				
	(0.000)	(0.000)				
Interest rate			0.002***	0.002***		
			(0.000)	(0.000)		
Constant	-0.001***	-0.001***	-0.000*	-0.000*	-0.000	-0.000
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
Observations	478	478	469	469	505	505
Number of id	35	35	35	35	36	36
Sargan test Chi^2	30.46	30.66	31.53	31.52	35.87	35.86
AR(2)	0.825	0.818	0.859	0.849	0.184	0.187

Data source: IMF, national central banks. *Significant at the 10% level.**Significant at the 5% level. ***Significant at the 1% level. The Sargan test verifies the validity of instruments.

Table 2: GMM – Estimation Results: Controlling for Strong Depreciations

	(1)	(2)	(3)	(4)	(5)	(6)
Growth (-1)	0.209***	0.199***	0.237***	0.221***	0.259***	0.259***
	(0.028)	(0.025)	(0.031)	(0.039)	(0.009)	(0.012)
Standard deviation	-0.007		-0.009**		-0.006***	
	(0.005)		(0.004)		(0.002)	
Depreciation	-0.448***		-0.333***		-0.284***	
dummy* Standard	(0.020)		(0.019)		(0.042)	
deviation						
Z-score		-0.007		-0.009**		-0.006**
		(0.005)		(0.004)		(0.003)
Depreciation		-0.389***		-0.401***		-0.264***
dummy* Z-score		(0.016)		(0.019)		(0.030)
Business cycle	0.013***	0.011***	0.008	0.010**		
correlation	(0.004)	(0.004)	(0.005)	(0.004)		
Crisis	-0.009***	-0.010***	-0.010***	-0.009***		
	(0.001)	(0.001)	(0.002)	(0.001)		
Inflation	0.025***	0.021***	0.011***	0.018***		
	(0.001)	(0.001)	(0.001)	(0.001)		
Export growth	0.109***	0.112***	0.113***	0.104***		
	(0.007)	(0.005)	(0.006)	(0.007)		
Interest rate parity	-0.008***	-0.005***				
	(0.000)	(0.000)				
Interest rate			-0.004***	-0.006***		
			(0.000)	(0.000)		
Constant	-0.001***	-0.001***	-0.001***	-0.001***	-0.000***	-0.000***
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
Observations	478	478	469	469	505	505
Number of id	35	35	35	35	36	36
Sargan test Chi^2	32.19	31.75	32.06	29.83	35.02	35.69
AR(2)	0.672	0.610	0.924	0.821	0.245	0.253

Data source: IMF, national central banks. *Significant at the 10% level. **Significant at the 5% level. ***Significant at the 1% level. The Sargan test verifies the quality of instruments used. Results remain stable for different definitions of strong depreciation periods, e.g. 20% and 25%.

Universität Leipzig
Wirtschaftswissenschaftliche Fakultät

Nr. 1	Wolfgang Bernhardt	Stock Options wegen oder gegen Shareholder Value? Vergütungsmodelle für Vorstände und Führungskräfte 04/98
Nr. 2	Thomas Lenk / Volkmar Teichmann	Bei der Reform der Finanzverfassung die neuen Bundesländer nicht vergessen! 10/98
Nr. 3	Wolfgang Bernhardt	Gedanken über Führen – Dienen – Verantworten 11/98
Nr. 4	Kristin Wellner	Möglichkeiten und Grenzen kooperativer Standortgestaltung zur Revitalisierung von Innenstädten 12/98
Nr. 5	Gerhardt Wolff	Brauchen wir eine weitere Internationalisierung der Betriebswirtschaftslehre? 01/99
Nr. 6	Thomas Lenk / Friedrich Schneider	Zurück zu mehr Föderalismus: Ein Vorschlag zur Neugestaltung des Finanzausgleichs in der Bundesrepublik Deutschland unter besonderer Berücksichtigung der neuen Bundesländer 12/98
Nr: 7	Thomas Lenk	Kooperativer Förderalismus – Wettbewerbsorientierter Förderalismus 03/99
Nr. 8	Thomas Lenk / Andreas Mathes	EU – Osterweiterung – Finanzierbar? 03/99
Nr. 9	Thomas Lenk / Volkmar Teichmann	Die fisikalischen Wirkungen verschiedener Forderungen zur Neugestaltung des Länderfinanz-ausgleichs in der Bundesrepublik Deutschland: Eine empirische Analyse unter Einbeziehung der Normenkontrollanträge der Länder Baden-Würtemberg, Bayern und Hessen sowie der Stellungnahmen verschiedener Bundesländer 09/99
Nr. 10	Kai-Uwe Graw	Gedanken zur Entwicklung der Strukturen im Bereich der Wasserversorgung unter besonderer Berücksichtigung kleiner und mittlerer Unternehmen 10/99
Nr. 11	Adolf Wagner	Materialien zur Konjunkturforschung 12/99
Nr. 12	Anja Birke	Die Übertragung westdeutscher Institutionen auf die ostdeutsche Wirklichkeit – ein erfolg-versprechendes Zusammenspiel oder Aufdeckung systematischer Mängel? Ein empirischer Bericht für den kommunalen Finanzausgleich am Beispiel Sachsen 02/00
Nr. 13	Rolf H. Hasse	Internationaler Kapitalverkehr in den letzten 40 Jahren – Wohlstandsmotor oder Krisenursache? 03/00
Nr. 14	Wolfgang Bernhardt	Unternehmensführung (Corporate Governance) und Hauptversammlung 04/00
Nr. 15	Adolf Wagner	Materialien zur Wachstumsforschung 03/00
Nr. 16	Thomas Lenk / Anja Birke	Determinanten des kommunalen Gebührenaufkommens unter besonderer Berücksichtigung der neuen Bundesländer 04/00
Nr. 17	Thomas Lenk	Finanzwirtschaftliche Auswirkungen des Bundesverfassungsgerichtsurteils zum Länderfinanzausgleich vom 11.11.1999 04/00
Nr. 18	Dirk Bültel	Continous linear utility for preferences on convex sets in normal real vector spaces 05/00
Nr. 19	Stefan Dierkes / Stephanie Hanrath	Steuerung dezentraler Investitionsentscheidungen bei nutzungsabhängigem und nutzungsunabhängigem Verschleiß des Anlagenvermögens 06/00
Nr. 20	Thomas Lenk / Andreas Mathes / Olaf Hirschefeld	Zur Trennung von Bundes- und Landeskompetenzen in der Finanzverfassung Deutschlands 07/00
Nr. 21	Stefan Dierkes	Marktwerte, Kapitalkosten und Betafaktoren bei wertabhängiger Finanzierung 10/00
Nr. 22	Thomas Lenk	Intergovernmental Fiscal Relationships in Germany: Requirement for New Regulations? 03/01
Nr. 23	Wolfgang Bernhardt	Stock Options – Aktuelle Fragen Besteuerung, Bewertung, Offenlegung 03/01
Nr. 24	Thomas Lenk	Die „kleine Reform" des Länderfinanzausgleichs als Nukleus für die „große Finanzverfassungs-reform"? 10/01
Nr. 25	Wolfgang Bernhardt	Biotechnologie im Spannungsfeld von Menschenwürde, Forschung, Markt und Moral Wirtschaftsethik zwischen Beredsamkeit und Schweigen 11/01
Nr. 26	Thomas Lenk	Finanzwirtschaftliche Bedeutung der Neuregelung des bundestaatlichen Finanzausgleichs – Eine allkoative und distributive Wirkungsanalyse für das Jahr 2005 11/01
Nr. 27	Sören Bär	Grundzüge eines Tourismusmarketing, untersucht für den Südraum Leipzig 05/02
Nr. 28	Wolfgang Bernhardt	Der Deutsche Corporate Governance Kodex: Zuwahl (comply) oder Abwahl (explain)? 06/02
Nr. 29	Adolf Wagner	Konjunkturtheorie, Globalisierung und Evolutionsökonomik 08/02
Nr. 30	Adolf Wagner	Zur Profilbildung der Universitäten 08/02
Nr. 31	Sabine Klinger / Jens Ulrich / Hans-Joachim Rudolph	Konjunktur als Determinante des Erdgasverbrauchs in der ostdeutschen Industrie? 10/02
Nr. 32	Thomas Lenk / Anja Birke	The Measurement of Expenditure Needs in the Fiscal Equalization at the Local Level Empirical Evidence from German Municipalities 10/02
Nr. 33	Wolfgang Bernhardt	Die Lust am Fliegen Eine Parabel auf viel Corporate Governance und wenig Unternehmensführung 11/02

Nr. 34	Udo Hielscher	Wie reich waren die reichsten Amerikaner wirklich? (US-Vermögensbewertungsindex 1800 – 2000) 12/02
Nr. 35	Uwe Haubold / Michael Nowak	Risikoanalyse für Langfrist-Investments - Eine simulationsbasierte Studie – 12/02
Nr. 36	Thomas Lenk	Die Neuregelung des bundesstaatlichen Finanzausgleichs – auf Basis der Steuerschätzung Mai 2002 und einer aktualisierten Bevölkerungsstatistik - 12/02
Nr. 37	Uwe Haubold / Michael Nowak	Auswirkungen der Renditeverteilungsannahme auf Anlageentscheidungen - Eine simulationsbasierte Studie - 02/03
Nr. 38	Wolfgang Bernhard	Corporate Governance Kondex für den Mittel-Stand? 06/03
Nr. 39	Hermut Kormann	Familienunternehmen: Grundfragen mit finanzwirtschaftlichen Bezug 10/03
Nr. 40	Matthias Folk	Launhardtsche Trichter 11/03
Nr. 41	Wolfgang Bernhardt	Corporate Governance statt Unternehmensführung 11/03
Nr. 42	Thomas Lenk / Karolina Kaiser	Das Prämienmodell im Länderfinanzausgleich – Anreiz- und Verteilungsmitwirkungen 11/03
Nr. 43	Sabine Klinger	Die Volkswirtschaftliche Gesamtrechnung des Haushaltsektors in einer Matrix 03/04
Nr. 44	Thomas Lenk / Heide Köpping	Strategien zur Armutsbekämpfung und –vermeidung in Ostdeutschland: 05/04
Nr. 45	Wolfgang Bernhardt	Sommernachtsfantasien Corporate Governance im Land der Träume. 07/04
Nr. 46	Thomas Lenk / Karolina Kaiser	The Premium Model in the German Fiscal Equalization System 12/04
Nr. 47	Thomas Lenk / Christine Falken	Komparative Analyse ausgewählter Indikatoren des Kommunalwirtschaftlichen Gesamt-ergebnisses 05/05
Nr. 48	Michael Nowak / Stephan Barth	Immobilienanlagen im Portfolio institutioneller Investoren am Beispiel von Versicherungsunternehmen -Auswirkungen auf die Risikosituation- 08/05
Nr. 49	Wolfgang Bernhardt	Familiengesellschaften – Quo Vadis? Vorsicht vor zu viel „Professionalisierung" und Ver-Fremdung 11/05
Nr. 50	Christian Milow	Der Griff des Staates nach dem Währungsgold 12/05
Nr. 51	Anja Eichhorst / Karolina Kaiser	The Instiutional Design of Bailouts and Its Role in Hardening Budget Constraints in Federations 03/06
Nr. 52	Ullrich Heilemann / Nancy Beck	Die Mühen der Ebene – Regionale Wirtschaftsförderung in Leipzig 1991 bis 2004 08/06
Nr. 53	Gunther Schnabl	Die Grenzen der monetären Integration in Europa 08/06
Nr. 54	Hermut Kormann	Gibt es so etwas wie typisch mittelständige Strategien? 11/06
Nr. 55	Wolfgang Bernhardt	(Miss-)Stimmung, Bestimmung und Mitbestimmung Zwischen Juristentag und Biedenkopf-Kommission 11/06
Nr. 56	Ullrich Heilemann / Annika Blaschzik	Indicators and the German Business Cycle - A Multivariate Perspective on Indicators of Ifo, OECD, and ZEW 01/07
Nr. 57	Ullrich Heilemann	"THE SOUL OF A NEW MACHINE" ZU DEN ANFÄNGEN DES RWI-KONJUNKTURMODELLS 12/06
Nr. 58	Ullrich Heilemann / Roland Schuhr / Annika Blaschzik	ZUR EVOLUTION DES DEUTSCHEN KONJUNKTURZYKLUS 1958 BIS 2004- ERGEBNISSE EINER DYNAMISCHEN DISKRIMINANZANALYSE 01/07
Nr. 59	Christine Falken / Mario Schmidt	Kameralistik versus Doppik Zur Informationsfunktion des alten und neuen Rechnungswesens der Kommunen Teil I: Einführende und Erläuternde Betrachtungen zum Systemwechsel im kommunalen Rechnungswesen 01/07
Nr. 60	Christine Falken / Mario Schmidt	Kameralistik versus Doppik Zur Informationsfunktion des alten und neuen Rechnungswesens der Kommunen Teil II Bewertung der Informationsfunktion im Vergleich 01/07
Nr. 61	Udo Hielscher	MONTI DELLA CITTA DI FIRENZE Innovative Finanzierungen im Zeitalter Der Medici. Wurzeln der modernen Finanzmärkte 03/07
Nr. 62	Ullrich Heilemann / Stefan Wappler	SACHSEN WÄCHST ANDERS - KONJUNKTURELLE; SEKTORALE UND REGIONALE BESTIMMUNGS GRÜNDE DER ENTWICKLUNG DER BRUTTOWERTSCHÖPFUNG 1992 BIS 2006 07/2007
Nr. 63	Adolf Wagner	REGIONALÖKONOMIK: KONVERGIERENDE ODER DIVERGIERENDE REGIONALENTWICKLUNGEN 08/2007
Nr. 64	Ullrich Heilemann / Jens Ulrich	GOOD BYE; PROFESSOR PHILLIPS? ZUM WANDEL DER TARIFLOHNDETERMINANTEN IN DER BUNDESREPUBLIK 1952 – 2004 08/2007
Nr. 65	Gunther Schnabl / Franziska Schobert	Monetary Policy Operations of Debtor Central Banks in MENA Countries 10/07
Nr. 66	Andreas Schäfer / Simone Valente	Habit Formation, Dynastic Altruism, and Population Dynamics 11/07

Nr. 67	Wolfgang Bernhardt	5 Jahre Deutscher Corporate Governance Kodex Eine Erfolgsgeschichte? 01/2008
Nr. 68	Ullrich Heilemann / Jens Ulrich	Viel Lärm um wenig? Zur Empirie von Lohnformeln in der Bundesrepublik 01/2008
Nr. 69	Christian Groth / Karl-Josef Koch / Thomas M. Steger	When economic growth is less than exponential 02/2008
Nr. 70	Andreas Bohne / Linda Kochmann	Ökonomische Umweltbewertung und endogene Entwicklung peripherer Regionen – Synthese einer Methodik und einer Theorie 02/2008
Nr. 71	Andreas Bohne / Linda Kochmann / Jan Slavík / Lenka Slavíková	Deutsch-tschechische Bibliographie Studien der kontingenten Bewertung in Mittel- und Osteuropa 06/2008
Nr. 72	Paul Lehmann / Christoph Schröter-Schlaack	Regulating Land Development with Tradable Permits: What Can We Learn from Air Pollution Control? 08/2008
Nr. 73	Ronald McKinnon / Gunther Schnabl	China's Exchange Rate Impasse and the Weak U.S. Dollar 10/2008
Nr: 74	Wolfgang Bernhardt	Managervergütungen in der Finanz- und Wirtschaftskrise Rückkehr zu (guter) Ordnung, (klugem) Maß und (vernünftigem) Ziel? 12/2008
Nr. 75	Moritz Schularick / Thomas M. Steger	Financial Integration, Investment, and Economic Growth: Evidence From Two Eras of Financial Globalization 12/2008
Nr. 76	Gunther Schnabl / Stephan Freitag	An Asymmetry Matrix in Global Current Accounts 01/2009
Nr. 77	Christina Ziegler	Testing Predictive Ability of Business Cycle Indicators for the Euro Area 01/2009
Nr.: 78	Thomas Lenk / Oliver Rottmann / Florian F. Woitek	Public Corporate Governance in Public Enterprises – Transparency in the Face of Divergent Positions of Interest 02/2009
Nr.: 79	Thomas Steger / Lucas Bretschger	Globalization, the Volatility of Intermediate Goods Prices, and Economic Growth 02/2009
Nr. 80	Marcela Munoz Escobar / Robert Holländer	Institutional Sustainability of Payment for Watershed Ecosystem Services. Enabling conditions of institutional arrangement in watersheds 04/2009
Nr. 81	Robert Holländer / WU Chunyou / DUAN Ning	Sustainable Development of Industrial Parks 07/2009
Nr. 82	Georg Quaas	Realgrößen und Preisindizes im alten und im neuen VGR-System 10/2009
Nr. 83	Ulrich Heilemann / Hagen Findeis	Empirical Determination of Aggregate Demand and Supply Curves: The Example of the RWI Business Cycle Model 12/2009
Nr. 84	Gunther Schnabl / Andreas Hoffmann	The Theory of Optimum Currency Areas and Growth in Emerging Markets 03/2010