

Globalization and innovation: Evidence from Vietnamese small and medium sized enterprises

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ABSTRACT

The purpose of this research is to investigate how globalization affects innovation in Vietnam's small and medium sized enterprises (SMEs). Utilizing Probit model and the data from Vietnam's SMEs Survey during the period 2005-2015, the research examines the micro and macro effects of globalization on the innovation of these businesses. The main results show that at macro level, globalization is negatively correlated with innovation. However, at micro level, increasing competition pressure and knowledge transfer due to globalization are positively correlated with innovation of Vietnam's SMEs.

KEYWORDS

Globalization; innovation, Vietnam's SMEs

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1. Introduction

Globalization can be understood as a process that countries become more integrated with flows of goods, capital, and idea. Globalization has eliminated all the barrier so that goods, services, and ideas easily flow between nations with significant support from information and communication technology. Consequently, ideas have more chance to be transformed into realistic or new technology and will be developed and applied rapidly. The role of innovation is very important to enterprises in developing countries, but it is also a challenge for economic growth (Hahn and Narjoco, 2011). The problem that policy makers always worry about is how local enterprises could approach modern technology or create better and more innovative products than before. Hence, identifying factors which can affect the enterprises' innovation has become a big concern of researchers as well as policy makers.

Small and Medium enterprises (SMEs) play a dominant role in economies, especially the developing ones. Although these enterprises have innovated, the level is not significantly compared to large enterprises. The innovation process of SMEs is facing many challenges including difficulties of accessing finance and the lack of high-quality human resources (OECD, 2010). Numerous studies have indicated that the globalization process only benefits large-scale enterprises. A question remains is whether the globalization would bring advantage or disadvantage to SMEs' innovative activities. This study examines the relationship between the globalization and innovation process at Vietnamese SMEs in a decade from 2005 to 2015. This study is conducted due to the lack of empirical evidences regarding to the link of globalization and innovation of SMEs. Currently, Nguyen et al. (2011) did a relevant analysis in Vietnam. However, they focused on analyzing the effect of free trade at some specific time (2005 and 2007). This study extends the work of Nguyen et al. (2011) in two aspects. First, together with considering micro transmission channel of globalization, the authors also extend the area of research relating to the globalization effect at the macro level so that this paper would provide a multidimensional perspective of globalization's effect. Second, the authors use the KOF globalization data to assess the globalization over years. With the extended time frame, the authors expect to capture the full impact of globalization.

2. Literature review

2.1. Innovation

At the national level, innovation is an improvement in technological capacity (Howitt, 2000). The Endogenous Growth Theory and growth model based on innovation, respectively introduced by Romer (1990) and Grossman and Helpman (1991), consider technological improvement and innovation as main motivations for economic development and long-term productivity improvement. Schumpeter (1943) is perhaps the first study that examined role of innovation in an economy. Chen et al. (2014), Choi et al. (2012) and Rodil et al. (2015) suggested a new way of research that focus on innovation as it is currently developing with the knowledge-driven movement of economies around the world.

Most of the existing studies measure the innovation level based on R&D cost or the number of patents. However, this measurement is not relevant with enterprises from developing countries (Gorodnichenko et al., 2010). The R&D cost is a necessary output factor of innovation process. However, the result is not as good as expected since the measurement scale developed by the R&D cost often report imprecisely in small-scaled enterprises (Michie, 1988). Besides, enterprises from developing countries often implement imitation strategy or apply innovated and tested technology instead of inventing new technology and investing in R&D resources (Gorodnichenko, 2010).

The measurement scale based on the number of patents also have some disadvantages. First, it measures the invention ability of an enterprise rather than the innovation ability. Second, patent numbers vary widely between nations and industries. Third, enterprises often apply methods such as maintaining complex technical process,

safeguarding their industrial secret, or exploiting the time in advance with competitors instead of registering patents to protect their innovation achievement. In this paper, using the data which includes SMEs in Vietnam, the authors defined the term "innovation" under OECD's approach (2005) which is upgrading current product, inventing new products, or applying modern manufacturing technologies.

2.2. Globalization

Dreher (2006) documented that the globalization can be approached from three sides: economic, political, and social. Economic globalization specializes in the flow of goods and services, capital, information, and market awareness. Political globalization describes the propaganda of national policies. Social globalization represents ideas, images, and humans. The KOF globalization index has scaled the globalization of 203 countries and territories since 1970 in the economic, social, and political perspectives. This is the most popular index used by scholars due to its wide coverage in space and time (Portrafke, 2015; Gygle et al, 2019).

In this study, the authors use the KOF globalization index to examine the effect of globalization to SMEs because of its universality and advantage in providing the data of Vietnam in 10 years from 2005 to 2015.

2.3. The impact of globalization on innovation

The relationship between the globalization and the innovation is complicated. An increase of imported value and Foreign Development Investment due to the removal of trade barriers may lead to high competition in domestic markets. Thus, it reduces the profitability of enterprises, and they must improve their productivity in order to survive (Berthschek, 1995). Innovation is one of the useful methods that could help enterprises to maintain their competitive position by improving their performance (Kuncoro, 2012). Hence, there is a positive correlation between the globalization and the innovation.

In contrast, some studies have proved that the innovation has a negative correlation with the globalization (Braga and Wilmore, 1991). This viewpoint explains that enterprises are very careful with innovation activities because they spent a large proportion of resources in research and development in order to invent new products or efficient manufacturing processes. However, the benefit from these activities is highly volatile. Consequently, enterprises only focus on imported technologies which are based on specific conditions (Kuncoro, 2012). In order to analyze the relationship between the globalization and the innovation, most of the recent studies mainly focus on two mechanisms: knowledge transfer and competition stemming from the participation of foreign enterprises, and international trading activities (Gorodnichenko et al., 2010).

Nguyen et al. (2011) examine the relationship between trade liberalization and innovation in Vietnamese SMEs from 2007 to 2009. During this period, the process of Vietnamese trade liberalization took place quickly and led to a rise in the competitive pressure as well as import and export activities. The trade liberalization is indirectly measured through competition variables and export-import variables. Unlike Gorodnichenko (2010), the competition factor in Nguyen et al. (2011) is based on pricing strategies of enterprises, especially enterprises that can determine their prices based on their competitors' prices. As a result, setting the price based on competitors has a positive relationship with the innovation of the competitors. Additionally, Nguyen et al. (2011) also show that trading with foreign enterprises can improve the innovation of local enterprises.

The existing studies (e.g., Gorodnichenko, 2010; Nguyen et al., 2011; Kuncoro, 2012) all used micro data at the enterprise level. However, the globalization is a multi-dimensional concept and it is hard for an enterprise to quantify every aspect of the globalization. The empirical studies about the globalization and the innovation at micro-level can only analyze the impacts of globalization in commerce and investment. Therefore, the authors believe that testing the relationship between the globalization and the innovation requires the simultaneous use of micro and

macro data. The globalization data at national level is very helpful in capturing the aspects of globalization which have not yet measured at the enterprise level.

3. Research model

By combining Gorodnichenko's model (2010) and the globalization variable measured at the macro level suggested by Kuncoro (2012), the authors use the following research model to test the impact of the globalization on the innovation of enterprises:

$$INV_{it} = \beta_o + \beta_1 Globalization_t + \beta_2 Competition_{it} + \beta_{it} + \beta_4 X_{it} + \varepsilon_{it}$$
(1)

*INV*_{*it*} represents the innovation of enterprise i in year t. It includes 3 variables as follow: (i) New_product indicates product innovation which equals 1 if the enterprise introduces new product between two interviews and equals 0 otherwise; (ii) New_Improvement also represents product innovation which equals 1 if the enterprise has a significant improvement in products between two interviews equals 0 if there is no improvement; and (iii) New_tech denotes the process innovation which equals 1 if the enterprise applies a new technology between two interviews and equals 0 otherwise.

In order to analyze impact of the globalization at both the micro and macro levels, this study uses three variable groups representing globalization including $Globalization_t$, $Competition_{it}$, and $KnowledgeTransfer_{it}$.

 $Globalization_t$ measures the level of the globalization in Vietnam in year t. In this group, the authors consider the impact of the globalization in general (represented by the globalization index KOF – GI).

*Competition*_{it} represents the level of competition. The data from the survey allow the authors to measure the competition from different sides including competition from foreigner enterprises (com_foreign), domestic enterprises (com_domestic), state-owned enterprises (com_state), and informal trading activities (com_smuggling). Those are binary variables which equal 1 if enterprises are in a high competition market and 0 if the competition level is not significant.

 $KnowledgeTransfer_{it}$ represents the transfer of knowledge from other countries. The authors use three variables as a proxy for knowledge transfer including:

Export: the binary variable which equals 1 if the enterprise exports goods in either direct or indirect way.

Import: the binary variable which equals 1 if the enterprise imports goods directly or indirectly.

Sales_fdi: the binary variable which equals 1 if the enterprise sells products to foreign-invested enterprises.

 X_{it} includes the characteristics of enterprises (Firm Characteristics) and entrepreneurs (Owner characteristics). Regarding Firm characteristics, the scale of enterprises (size) is determined by the total number of employees, years of operation (age), social networking (network), human resource quality through training activities (training), skilled worker rate (skilled_worker), the rate of higher education employees (professional_labor), investment in research and development (invest_rd), training activities (invest_training), and human resource usage (capacity_full). Regarding Owner characteristics, the authors use some variables such as age (owner_age) and gender (owner_female).

4. Data and research method

This study uses data from Vietnam SME Survey to examine the relationship between the globalization and the innovation of enterprises. The Vietnam SME Survey, collected biennially since 2005, is a collaborative effort of the Central Institute for Economic Management (CIEM), the Institute of Labour Science and Social Affairs (ILSSA), the Development Economics Research Group (DERG) at the University of Copenhagen, and UNU-WIDER. The survey was conducted in more than 2,500 enterprises from 9 provinces (Hanoi, Hai Phong, Ho Chi Minh City, Phu Tho, Nghe

An, Quang Nam, Khanh Hoa, Lam Dong and Long An). At the time of this study, the dataset of the Vietnam Small and Medium Enterprises survey had only been updated to 2015. Unfortunately, due to the limited of the data, the sample period is from 2005 to 2015.

In addition to the micro data of Vietnam Small and Medium Enterprises, this study also uses the data from the KOF globalization index provided by Swiss Institute of Technology (Gygli et al., 2019).

Equation (1) is estimated by Probit model since the dependent variable is a binary one. This model is used for estimating the Equation (1) with 14,802 observations from 5,017 enterprises in the period 2005-2015.

5. Results

Variables	Observations	Mean	Standard Deviation	Minimum	Maximum
Innovation					
new_product	15,757	0.13	0.34	0.00	1.00
new_improve	15,757	0.36	0.48	0.00	1.00
new_tech	15,757	0.14	0.35	0.00	1.00
Globalization					
GI	15,758	52.53	5.03	44.76	60.25
Competition					
com_foreign	15,758	0.16	0.37	0.00	1.00
com_domestic	15,758	0.54	0.50	0.00	1.00
com_state	15,758	0.33	0.47	0.00	1.00
com_smuggling	15,758	0.12	0.33	0.00	1.00
Knowledge Transfer					
import	15,748	0.03	0.18	0.00	1.00
export	15,708	0.06	0.24	0.00	1.00
sales_fdi	15,707	0.04	0.19	0.00	1.00
import_ratio	15,747	0.02	0.11	0.00	1.00
export_ratio	15,706	0.02	0.13	0.00	1.00
sales_fdi_ratio	15,707	0.01	0.08	0.00	1.00
Firm Characteristics					
labor_total	15,758	16.21	30.87	1.00	300.00
firm_size	15,758	1.98	1.15	0.00	5.70
firm_age	15,721	14.15	10.28	2.00	77.00
firm_age_ln	15,721	2.41	0.71	0.69	4.34
capacity_full	15,758	0.09	0.28	0.00	1.00
professional_labor	15,733	0.03	0.07	0.00	0.89
- skilled_worker	14,918	0.47	0.41	0.00	1.00
training	15,758	0.14	0.34	0.00	1.00
network	15,757	0.09	0.28	0.00	1.00
invest_rd	15,758	0.49	0.50	0.00	1.00
invest_training	15,758	0.48	0.50	0.00	1.00
invest_rd_ratio	8,296	0.01	0.10	0.00	1.00
invest_training_ratio	8,296	0.00	0.03	0.00	1.00
Owner Characteristics					
owner_female	15,758	0.36	0.48	0.00	1.00
owner_age	15,758	45.66	10.66	17.00	94.00
owner_age_ln	15,758	3.79	0.24	2.83	4.54

 Table 1. Descriptive statistics.

Source: The authors' calculations.

Table 2. Mo	del estimatio	on results.
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Model	(1)	(2)	(3)
Variable	new_product	new_improve	new_tech
Globalization			
GI	-0.035***	-0.100***	-0.082***
	[-12.030]	[-30.270]	[-20.400]
Competition			
com_foreign	0.0973*	0.128***	0.0267
	[1.928]	[3.027]	[0.557]
com_domestic	0.135***	0.278***	0.0318
	[3.211]	[7.855]	[0.754]
com_state	0.082**	-0.013	0.0164
	[2.021]	[-0.394]	[0.424]
com_smuggling	0.0341	0.146***	0.138***
	[0.613]	[3.191]	[2.668]
Knowledge Transfer			
sales_fdi	0.0204	0.188***	0.039
	[0.254]	[2.920]	[0.574]
export	0.144**	0.137**	0.0545
	[2.180]	[2.290]	[0.916]
import	0.156*	0.053	0.156**
	[1.874]	[0.692]	[2.088]
Firm Characteristics			
capacity_full	-0.237***	-0.224***	-0.106**
	[-4.107]	[-5.105]	[-2.065]
nvest_rd	-0.045	0.134	-0.036
	[-0.462]	[1.623]	[-0.439]
invest_training	-0.0969	-0.407***	-0.545***
-	[-0.995]	[-4.946]	[-6.550]
firm_size	0.092***	0.206***	0.234***
	[5.033]	[12.830]	[13.620]
firm_age_ln	0.060**	-0.000	-0.003
_ 0 _	[2.432]	[-0.029]	[-0.132]
skilled_worker	-0.064	0.094***	-0.008
	[-1.604]	[2.880]	[-0.200]
professional_labor	0.657***	0.098	1.135***
_	[2.821]	[0.490]	[5.390]
training	0.172***	0.219***	0.343***
5	[3.987]	[5.751]	[8.472]
network	0.048	0.090**	0.020
	[0.901]	[2.047]	[0.415]
Owner Characteristics			
owner_female	-0.147***	-0.178***	-0.051
_	[-4.254]	[-6.162]	[-1.548]
owner_age_ln	-0.076	-0.333***	-0.185***
- 0 -	[-1.065]	[-5.498]	[-2.727]
Industry fixed effects	Yes	Yes	Yes
Province fixed effects	Yes	Yes	Yes
Year fixed effects	Yes	Yes	Yes
Constant	Yes	Yes	Yes
Number of observations	14,802	14,802	14,802
Number of firms	5,017	5,017	5,017

Note: t-statistics in parentheses; *** p < 0.01, ** p < 0.05, * p < 0.1. Source: own calculations (2023).

The regression results in Table 2 show that the GI variable has significant negative impacts in models (1), (2) and (3), which means the globalization has a negative correlation with the innovation of Vietnamese SMEs. This outcome could be explained by the argument of Danaeefard and Abbasi (2011): the key effect of the globalization is the trend towards convergence and integration in areas such as economic, politics, culture, and society. This

convergence trend gives rise to a loss in the diversity of economic, politics, society, and culture areas. Since the diversity is considered as a root of the innovation, losing it in the globalization process may cause negative effects to the innovation of a country in general and enterprises in particular. This negative correlation not only happens in developing countries such as Vietnam but it also occurs in Germany which is a developed country (Sander and Janovsky, 2016).

In addition to the GI variable which measures the globalization at the macro level, this study also considers the impact of globalization on the innovation through micro transmission channels including competition level and knowledge transfer. Regarding the competition level, the results show that the competition in general can positively affect the innovation of enterprises. To be more specific, the competition pressure from international enterprises may increase the innovation of Vietnamese SMEs in the research period. This result is similar to Gorodnichenko (2010) and Nguyen et al. (2011). The authors argue that the globalization not only boosts the competition pressure from overseas enterprises but also rises the competit from globalization; therefore, it increases the competition pressure (EMCDDA, 2016). Gorodnichenko (2010) also considered the com_domestic variable although this variable is only a control variable, not an explanatory one. Gorodnichenko (2010) reports the same result as this study and shows that the competition pressure from local enterprises has higher influences compared to international enterprises.

The second transmission channel is the knowledge transferred from overseas countries through export-import activities and trading with foreign invested enterprises. The result shows that the variables belonging to this group are positive and statistically significant. This means that enterprises having close relationship with international enterprises have higher innovation than other enterprises. Nguyen et al. (2011) found no evidence to support the positive effect of export activities on the innovation of enterprises. However, in this study, the authors show that import significantly encourages the product innovation and process innovation.

6. Conclusions

The globalization is one of the interesting topics for both theoretical and empirical research. The theoretical framework of the relationship between the globalization and the innovation has been increasingly expanded while the empirical evidence is limited. Deriving from this motivation, this study is conducted to examine the relationship between the innovation and the globalization in Vietnamese SMEs in the period from 2005 to 2015. Unlike previous studies in the same field, the authors consider the impact of globalization at both the micro and macro levels. The results indicate that, at the macro level, the globalization has a negative relationship with the innovation of enterprises. Meanwhile, at the micro level, the competition pressure and the increasing level of knowledge transfer due to globalization on the ability of enterprises to innovate. The competition pressure and the knowledge transfer arising from the globalization contribute to the rise of the innovation. On the other hand, the globalization when measured at the aggregate level by the movement in economic, political, and social flows has a negative impact on enterprises' innovation. This result implies the necessity in carefully evaluating the impacts of globalization. As a developing economy, Vietnam is trying to integrate all fields to develop the economy, politics, and society. However, during the integration process, it is important to consider all the potential risks of the globalization in order to have an appropriate response policy.

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Conflict of interest

The authors claim that the manuscript is completely original. The authors declare no conflict of interest.

References

- Beroc, M. A. (2015). Does Gender Matter for the Innovativeness of SMEs?. *FREE Policy Brief Series*. https://beroc.org/upload/iblock/d2e/d2e4898888f30a678522d96d528aa579.pdf
- Bertschek, I. (1995). Product and process innovation as a response to increasing imports and foreign direct investment. The Journal of Industrial Economics, 43(4), 341–357. https://doi.org/10.2307/2950548
- Bordo M. D., Eichengreen B., Irwin A. D, Frankel J and Taylor M. A. (1999). Is Globalization Today Really Different than Globalization a Hunderd Years Ago. *NBER Working Paper No. W7195.* https://eml.berkeley.edu/~eichengr/research/brooking.pdf
- Braga, H., & Willmore, L. (1991). Technological imports and technological effort: an analysis of their determinants in Brazilian firms. The Journal of Industrial Economics, 421–432. https://doi.org/10.2307/2098441
- Chen, V.Z., Li, J., Shapiro, D.M. and Zhang, X. (2014). Ownership structure and innovation: an emerging market perspective. *Asia Pacific Journal of Management*, Vol. 31 No. 1, pp. 1-24. https://doi.org/10.1007/s10490-013-9357-5
- Choi, S. B., Park, B. I., & Hong, P. (2012). Does ownership structure matter for firm technological innovation performance? The case of Korean firms. Corporate Governance: An International Review, 20(3), 267–288. https://doi.org/10.1111/j.1467-8683.2012.00911.x
- CIEM (2016). *Characteristics of the Vietnamese Business Environment: Evidence from An SME Survey in 2015*. Hanoi. https://www.wider.unu.edu/publication/characteristics-vietnamese-business-environment
- CIEM, ILSSA, UCPH and UNU-WIDER (2005, 2007, 2009, 2011, 2013 and 2015). Viet Nam SME Survey. Retrive from https://www.wider.unu.edu/database/viet-nam-sme-database on May 25, 2023.
- Clark, W. C. (2000). *Governance in a Globalizing World. Environmental Globalization*, p. 86–108. Brookings Institution Press. https://www.brookings.edu/books/governance-in-a-globalizing-world
- Danaeefard, H., & Abbasi, T. (2011). Globalization and global innovations. In the P. Pachura (Eds.), The systemic dimension of globalization. IntechOpen. https://doi.org/10.5772/17282
- Dreher, A. (2006). Does Globalization Affect Growth? Evidence from A New Index of Globalization. *Applied Economics*, 38(10), 1091–1110. https://doi.org/10.1080/00036840500392078
- Dreher, A., Gaston, N. and Martens, P. (2008). *Measuring Globalization Gauging Its Consequences*. New York: Springer. https://doi.org/10.1007/978-0-387-74069-0
- Gorodnichenko, Y., Svejnar J, and Terrell K. (2011). Globalization and Innovation in Emerging Markets. *American Economic Journal: Macroeconomics*, 2 (2): 194-226. https://doi.org/10.1257/mac.2.2.194
- Grossman, G. and Helpman, E., 1990. Trade, Knowledge Spillovers, and Growth. *European Economic Review*, Vol. 35, pp. 517-526. https://doi.org/10.1016/0014-2921(91)90153-A
- Gygli, S., Haelg, F., Potrafke, P., & Sturm, J. E. (2019). The KOF globalisation index revisited. Review of International Organizations. https://doi.org/10.1007/s11558-019-09344-2
- Hahn, C. H. and D. Narjoko (2011). *Globalization and Innovation in East Asia, in Hahn, C. H. and D. Narjoko (eds.), Globalization and Innovation in East Asia.* ERIA Research Project Report 2010-04, pp.1-19. Jakarta: ERIA. https://www.eria.org/uploads/media/Research-Project-Report/RPR_FY2010_4_Chapter_1.pdf
- Howitt, P. (2000). Endogenous Growth and Cross-Country Income Differences. *American Economic Review*, 90 (September 2000): 829-46. https://doi.org/10.1257/aer.90.4.829
- https://www.oecd.org/cfe/smesentrepreneurshipandinnovation.htm
- Kuncoro A. (2012). Globalization and Innovation in Indonesia: Evidence from Micro-Data on Medium and Large Manufacturing Establishments. *Working Papers DP-2012-09*, Economic Research Institute for ASEAN and East Asia (ERIA). https://www.eria.org/ERIA-DP-2012-09.pdf
- Michie, J. (1998). Introduction: The internationalisation of the innovation process. International Journal of the Economics of Business, 5(3), 261–277. https://doi.org/10.1080/13571519884387
- Nguyen, N. A., P. M. Nguyen, D. N. Nguyen and D. C. Nguyen (2011). *Trade Liberalization and Innovation Linkages Micro-evidence from Vietnam SME Surveys*, in Hahn, C. H. and D. Narjoko (eds.), Globalization and Innovation in East Asia. ERIA Research Project Report 2010-04, pp.315-340. Jakarta: ERIA. https://www.eria.org/uploads/media/Research-Project-Report/RPR_FY2010_4_Chapter_9.pdf
- Niklas Potrafke (2015). The Evidence on Globalisation. The World Economy, 38(3), 509-552. https://doi.org/10.1111/twec.12174

OECD (2010). SMEs, Entrepreneurship and Innovation. Organisation for Economic Co-operation and Development.

- Rodil, O., Vence, X., & del Carmen Sánchez, M. (2015). The relationship between innovation and export behaviour: the case of Galician firms. Technological Forecasting and Social Change, 113, 248–265. https://doi.org/10.1016/j.techfore.2015.09.002
- Romer, P. M. (1990). Endogenous Technological Change. *Journal of Political Economy* 98(5): S71-S102. http://dx.doi.org/10.1086/261725
- Romer, P.M. (1986). Increasing Returns and Long-Run Growth. *Journal of Political Economy*, 94, 1002-1037. http://dx.doi.org/10.1086/261420
- Sander F. and Janovsky J. (2016). Globalization as A Risk Factor for Creativity and Innovativeness. *Review of Contemporary Entrepreneurship, Business, and Economic Issues,* Vol 29, No 1. https://hrcak.srce.hr/ojs/index.php/ekonomski-vjesnik/article/view/3723
- Schumpeter, J. A. (1943). *Capitalism, Socialism, and Democracy*. New York: Harper. https://doi.org/10.2307/1948935
- Sutton, J. (2007). *Quality, Trade and the Moving Window: The Globalization Process,* manuscript. https://doi.org/10.1111/j.1468-0297.2007.02119.x
- Wolf, M. (2003). Is Globalization in Danger? *The World Economy*, Vol. 26, pp. 393-411, April 2003. https://doi.org/10.1111/1467-9701.00529