

## **An Empirical Discourse Analysis on Correlations Between Exchange Rate and Industrial Product Export**

<sup>1,4</sup>Kittisak Jernsittiparsert, <sup>2</sup>Chayongkan Pamornmast and <sup>3,4</sup>Thanaporn Sriyakul  
<sup>1</sup>Department of Political Science, College of Government and Public Governance,

Rangsit University, Pathumthani, Thailand

<sup>2</sup>Department of Banking and Finance,

<sup>3</sup>Department of Management, Faculty of Business Administration,  
Mahanakorn University of Technology,

<sup>4</sup>Political Science Association of Kasetsart University, Bangkok, Thailand

---

**Abstract:** This study's objective focuses on empirically analysing, the discourse on the correlations between exchange rate and industrial product export which is also a part of a discourse has been reproduced constantly and extensively in Thai society by authorities from academic circles and public and private sectors. Hence, this study analyses the time series data of exchange rate and industrial product export by means of advanced statistical methodologies, the regression analysis and Johansen's cointegration test. In the same way, as the overall export and the agricultural product export, the regression analysis finds that the exchange rate is negatively correlated to the agricultural product export but Johansen's cointegration test results contrariwise that there is no cointegrating relationship in-between. Therefore, such claim even just on industrial products, is not an error made in good faith but another example of domineering discourses enabling the elites to take advantages by disguising them as knowledge and truths, over which the other members in the society dare not to doubt nor dispute.

**Key words:** Empirical discourse analysis, industrial product export, cointegration test, regression analysis, exchange rate

---

### **INTRODUCTION**

**On discourse and discourse analysis:** Watakarma is a terminology in social sciences and humanities which Professor Somkiat Wanthana of the Social Sciences Faculty of Kasetsart University translated into Thai from the discourse in concepts which scattered among the works of Michel Foucault, an important poststructuralist French philosopher >20 years ago (Wongsurawat, 2010).

In the same way that Foucault defined discourse different from people's perception in everyday life that is verbal communication, speech or conversation (Heywood, 2000). Wanthana formulates discourse similar to the original term in English, as well as offers the meaning beyond simply combining the words speech (in Thai, wata) and action (in Thai, karma) (Jernsittiparsert, 2010).

More than a decade later, the understandings on social text and social reality constructed and maintained through languages (Alvesson and Kärreman, 2000) have finally been seriously processed and extensively

published among Thai academics. Such process has been conducted through the writings and studies by Charoensinolarn (2006) of the Faculty of Political Science, Thammasart University, as the system and process of creating/producing identities and meanings for various objects in the society which encapsulates us, covering knowledge, truth, power or the identity of our own, as well as things we have created, maintained and are accepted by society at large and finally turned into dominant discourse.

The process of turning something into dominant discourse involved the use of power over refining/cleaning in the form of specialized knowledge/expertise through the traditional rules and practices of the experts/authorities into the academic discourse on the specific matter. This seems like a process that is natural, neutral, universal, objective and harmless to any person (Charoensinolarn, 2008). It is similar to labeling the complex strategic situation in a particular society in order to impose/turning something which is not true, into the stage of knowledge and truth eventually (Charoensinolarn, 2006).

As a critical analysis method, discourse has become a very popular topic and expanded to cover various academic fields within a short time after Foucault (Vighi and Feldner, 2007). It appears in both textbooks and science-oriented discussion forums in different and various meanings (Jorgensen and Phillips, 2002). However, the process is often without establishing a definition, but only an assumption, resembling the discourse analysis (Cheek, 2004) which in gist is the study and research on the process, steps, sequence of events and different details, in order to establish an identity and meaning to things that encapsulate us in the society in the form of a discourse, including the practices and impacts of a discourse on the specific matter in the nature of relationships (Charoensinolarn, 2006).

From the development of linguistics in early age to anthropology in the 1960's and psychology from in the early 1970's (Van Dijk, 2007) or even the present interdisciplinary (Schiffrin *et al.*, 2001), the discourse analysis of >40 approaches has been associated with the study and analysis of the language (Sarangi 2009 cited in Crichton, 2010) with qualitative methodology (Hodge *et al.*, 2008). Such methodology extensively brought about questions on the negligence on scientific reasonableness (Freshwater *et al.*, 2010) in describing the linguistic structure, the duty of the texts and revealing the relationship between the text and social context (Stillar, 1998). Such methodology has been more emphasized than proving the truth of the context (Charoensinolarn, 2006) with empirical data, statistics or quantitative methodology which is driven to become only a way of (flawed) thinking of scientific social sciences or the school of logical positivism (Charoensinolarn, 2008).

**Discourse on the relationship between exchange rate and industrial product export:** Similarly to the discourse on the relationship between exchange rate and exports, as well as agricultural product export, this still has not yet reached a conclusive presumption regarding the characters, timing, location or context in the emergence thereof. It is only known that this matter is closely associated with the economic theory which indicates that the competitiveness between domestic and foreign operators is strictly related to price which in turn is determined by the exchange rate (Schembri, 1989; Piana, 2001). With this principle, it is assumed that whenever the currency devalues, export would increase while import decreases (Patchimnan, 2011).

The earlier mentioned assumption has consequently been adhered to and reproduced in the academic circle and private sectors of Thailand, e.g., Kriengsak Chareonwongsak (2006), Professor of Economics; Kosit

Punpiemrat (Bangkok Biz News, 2006), Former Deputy Prime Minister and Minister of Industry; Payungsak Chatsuttipol (Bangkok Biz News, 2010), President of the Federation of Thai Industries and the Economic Analysis Center of Thai Military Bank (Bangkok Biz News, 2010). Thus, such has led to an implementation of financial policy by the government to provide assistance which has brought about questions, similar to those raised by Ammar Siamwalla (Prachachat in 2010), Honorary Academician of Thailand Development Research Institute, regarding whether such scheme is appropriate who gets the benefits and what this is ultimately for.

**Objective of research:** This empirical discourse analysis on correlations between exchange rate and industrial export was conducted to analyse the relationship between the exchange rate and industrial export as a 3rd to the 1st phase an empirical discourse analysis on correlations between exchange rate and exports (Pamornmast *et al.*, 2012) and the 2nd phase An empirical discourse analysis on correlations between exchange rate and agricultural product export (Pamornmast *et al.*, 2013), since it would further uncover whether the discourse the authorities reproduced repetitively is a logical and reliable truth or is merely an erratic, inaccurate and doubtful perspective full of endeavours to coerce a high status, or to put it differently, trying to make such viewpoint become a knowledge, as well as the truth.

## MATERIALS AND METHODS

**Data and variables:** The researchers selected time series data which have been consecutively and systematically collected, publicly available, reliable and generally referred by authorities and agencies, covering a period of 172 months from August, 1997 to November, 2011 on the following variables: Exchange Rate (ER2), specifically the reference exchange rate of Thai Baht (THB) to United States Dollar (USD) as per the average exchange rates of commercial banks in Bangkok, from the Bank of Thailand (2001, 2012), here in defined as the independent variable of industrial product export and industrial product export (INDUST2), comprised of four industry groups which are the labour-intensive industries, high-technological industries, local-material-intensive industries and the other industries, from the Bank of Thailand (2011), here in defined as a dependent variable of the exchange rate.

**Data analysis:** Mainstream discourse analyses specifically focus on the structure, strategy and process (Van Dijk, 2007) of the reproductions of discourses, spanning across all types of social activities (Gadavani,

2006) which even Foucault (1994) has admitted that they are complicated and cumbersome, not easy to explain to clarity, plus the definitions of technical terminologies to be far from understandable, from those in dictionaries or from those used on a daily basis by the people require an expertise in encryption more than academic language as in the old paradigm which opposed with a claim that it is a form of language of power that emerged as a knowledge and truth (Charoensinolarn, 2008).

Particularly when the purpose of an analysis shift from the matter of objectivity or whether something is true or false (Heywood, 2000) to abstraction that is the rules which govern the texts by degrading human value as a principal to a mere skeleton duty bound to follow/reinforce/reproduce such rules only (Charoensinolarn, 2006), virtually all of the researches based on the assumptions of denying the existence of objective reality are left with purely constructed facts in the end (Moreland, 2005) that is it is an amusing game but all empty, caught in the turmoil of using subjectivity to predict such rules that even oneself could not verify whether it is true. Moreover, the concept of verification was denounced/condemned against by presuming that it was just a narrow-minded essence of logical positivism, instead of borrowing such concept to render explanations more efficient and guide the masses towards enlightenment and awareness of the logical inconsistency/crevice of discourses, as well as the lack of the quality of being radical (Charoensinolarn, 2006).

Hence, the empirical discourse analysis or EDA has been developed in order to requite Foucault (1980) in the same manner as he did to Friedrich Nietzsche, a German existentialist philosopher that is revising his approach by borrowing the principle of empiricism to perform a falsification on the core of the texts constructed from variables, brought together with statistical language and reproduced constantly and extensively until there is not any question among members of the society from the very beginning, by employing the same data set, logic and methodology as its production that is quantitative methodologies, regression analysis to identify any relationships amongst variables and Johansen (Johansen, 1988, 1991)'s cointegration test to double-check such relationships whether they are cointegrated or not, if any, via built-in computer software, instead of simply discussing them as a discourse or discursivity on the subject in point (Charoensinolarn, 2006).

## RESULTS AND DISCUSSION

**Exchange rate:** The time series data analysis on the exchange rate shows that it begins at 32.48 THB to USD in August, 1997 and ends at 30.96 THB to USD in

November, 2011. On a monthly basis, the exchange rate fluctuates over time but in overall, it has a tendency to decrease with a peak of 53.81 THB to USD in January, 1998 and the lowest at 29.88 THB to USD in August, 2011 (Fig. 1).

Through regression analysis, Table 1 indicates that time has a positive relationship with the exchange rate at statistical significance of 0.01. For every month that progresses, the exchange rate would shift in the opposite direction by 0.07 THB to USD (revaluation).

**Industrial product export:** The time series data analysis on industrial product export show that it begin at 4,062.96 million USD in August 1997 and ends at 13,176.22 million USD in November 2011. On a monthly basis, the industrial product export fluctuates over time but in overall, it has a tendency to increase with the lowest at 3,377.24 million USD in January, 1999 and the peak at 18,936.23 million USD in July, 2011 (Fig. 2).

Through regression analysis, Table 2 indicates that time has a positive relationship with the industrial product export at statistical significance of 0.01. For every month that progresses, the industrial product export would shift in the same direction by 78.16 million USD. Furthermore, the variable of time can explain 87.53% of the variation in the exports.

**Correlation between the exchange rate and industrial product export:** Initially, the regression analysis has found that the exchange rate have a negative relationship with industrial product export at statistical significance of

Table 1: Regression analysis of exchange rate and time

Variables	Coefficient	SE	t-statistic	Prob.
C	43.6712400	1.198020	36.452850	0.0000
T	-0.0655820	0.010185	-6.439168	0.0000
R <sup>2</sup>	0.5260530			
Prob (F-statistic)	0.0000000			

Table 2: Regression analysis of industrial product export and time

Variables	Coefficient	SE	t-statistic	Prob.
C	1592.537000	447.967400	3.555030	0.0005
T	78.16131000	5.176866	15.098190	0.0000
R <sup>2</sup>	0.875282000			
Prob (F-statistic)	0.000000000			

Newey-West HAC standard errors and covariance (lag truncation = 4)

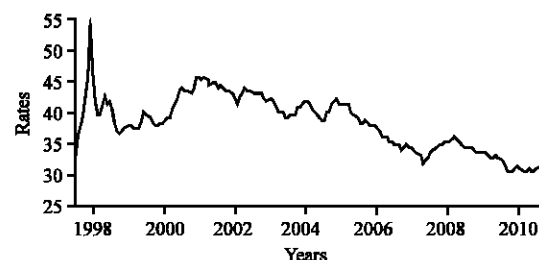


Fig. 1: Exchange rate

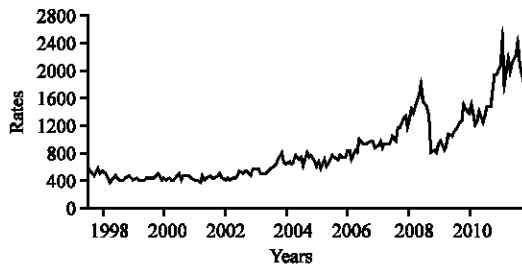


Fig. 2: Industrial product export

Table 3: Regression analysis of exchange rate and industrial product export

Variables	Coefficient	SE	t-statistic	Prob.
C	37131.37	2845.08000	13.05108	0.0000
ER <sup>2</sup>	-757.3445	71.59938	-10.57753	0.0000
R <sup>2</sup>	0.671881			
Prob (F-statistic)	0.000000			

Newey-West HAC standard errors and covariance (lag truncation = 4)

Table 4: Johansen's cointegration test on exchange rate and industrial product export

Hypothesized No. of CE (s)	Eigen value	Trace statistic	5% critical value	1% critical value
None	0.055705	9.963403	15.41	20.040
At most 1	0.002341	0.391457	3.76	6.650

Trace test indicates no cointegration at both 5 and 1% levels

0.01. For each THB (to USD) that changes in the exchange rate, the industrial product export would shift in the opposite direction by 757.34 million USD. Moreover, the variable of exchange rate can explain 67.19% of the variation in the industrial product export (Table 3).

It is concluded at this stage that the discourse on the relationship between the exchange rate and the industrial product export created by the authorities, in the same manner as on the overall export and the agricultural product export, claiming that THB revaluation would affect price competitiveness and cause the industrial product export to decline is not exactly true. The regression analysis has shown contrariwise that the two variables may have an actual relationship with each other but in the opposite direction, contrary to such claim or dominant discourse aforementioned.

Nonetheless, the relationship identified up this point, resulted from the intentional utilisation of non-stationary series data in the regression analysis may just be spurious (Box and Jenkins, 1976) and thus requires a double check by means of Johansen's cointegration test.

**Cointegration test between the exchange rate and industrial product export:** Through Johansen's cointegration test, it is found that the exchange rate and industrial product export have no cointegrating relationship at statistical significance of 0.05. In other

words, the relationship identified in the regression analysis is not only a negative relationship between the pair but also a spurious one (Table 4).

## CONCLUSION

The advanced quantitative methodologies so far have not only empirically shown that the exchange rate is unrelated to either the exports and the agricultural product export, it is also unrelated to the industrial product export as well.

However by using the same data set, logic and methodology as the construction and linkage of the perspective on the exchange rate to the country's export competitiveness, even just on the industrial products, under such claim regarding the price advantages in comparison to the competitors in direct correlation, it has not only revealed the issues of superficiality and lack of empirical evidence of the academicians but also the lack of verification of the authorities in both public and private sectors.

Under the basis of the structuralist philosophers, which states that every man speaks with purpose (Chaika, 2007), it might not be an error made in good faith but another example of the endeavours to establish and instil a belief on the legitimacy of authorities (Weber, 1977) through language, as such is a powerful and efficient tool, including the reproductions of discourses to domineer, take economic advantages and exploit the people of different social classes, all of which are the roots of Thailand's significant and persistent structural problems, through the abuse of power of authorities to conceal/mask their own perspectives as knowledge and the truths which other members dare not to question nor dispute.

## RECOMMENDATIONS

Although, the outcome of the empirical discourse analysis may not be of interest to discourse analysers in the current paradigm, the application of this new type of approach could fill the voids in criticisms and empirically reveal the logical inconsistency and crevice of the discourse through falsification on the fundamental hypotheses which is the apparent source of critical inquiry on the texts that have been (repeatedly) produced by the authorities until they become a norm, often overlooked and accepted by the society without any questions nor verification, totally different from the vague process that inclines people to question whether such might be the approach that solely rely on presumptions as previously was.

The application of such methodology as a tool for monitoring and preventing any reproduction of similar discourse would not only raise hopes that the mass public would be able to advance towards enlightenment and awareness further and easier but also foster streams of criticisms which are an essential condition to further development of this approach.

## REFERENCES

- Alvesson, M. and D. Kärreman, 2000. Varieties of discourse: On the study of organizations through discourse analysis. *Human Relations*, 53: 1125-1149.
- Bangkok Biz News, 2006. [BOT ordered commercial banks to reserve other currencies 30%]. December 19, 2006, Bangkok Biz News, Bangkok, Thailand (In Thai).
- Bangkok Biz News, 2010. [FTI indicated strong Thai currencies caused export units lost one hundred billion THB]. October 14, 2010, Bangkok Biz News, Bangkok, Thailand (In Thai).
- Bank of Thailand, 2001. Rates of exchange of commercial banks in Bangkok metropolis (1996-2001). [http://www2.bot.or.th/statistics/Download/FM\\_FX\\_001\\_S2\\_ENG.PDF](http://www2.bot.or.th/statistics/Download/FM_FX_001_S2_ENG.PDF).
- Bank of Thailand, 2011. Total value and quantity of exports classified by product group (US\$). <http://www2.bot.or.th/statistics/BOTWEBSTAT.aspx?reportID=748&language=ENG>.
- Bank of Thailand, 2012. Rates of exchange of commercial banks in Bangkok metropolis (2002-present). <http://www2.bot.or.th/statistics/ReportPage.aspx?reportID=123&language=eng>.
- Box, G.E.P. and G.M. Jenkins, 1976. *Time Series Analysis: Forecasting and Control*. Holden-Day Publisher, Oakland, CA., USA., ISBN-13: 9780816211043, Pages: 575.
- Chaika, E., 2007. *Language: The Social Mirror*. 4th Edn., Heinle Publishers, Massachusetts, USA., ISBN-13: 978-1424004324, Pages: 596.
- Chareonwongsak, K., 2006. [Strong bath currency: Problem and solutions for Thai exporters]. <http://www.kriengsak.com/node/296> (In Thai).
- Charoensinolarn, C., 2006. *Development Discourse: Power, Knowledge, Truth, Identity and Otherness*. 4th Edn., Wipasa Press, Bangkok.
- Charoensinolarn, C., 2008. [Language and Politics/the Political]. Thammasat University, Bangkok, Thailand (In Thai).
- Cheek, J., 2004. At the margins? Discourse analysis and qualitative research. *Qual. Health Res.*, 14: 1140-1150.
- Crichton, I., 2010. *The Discourse of Commercialization: A Multi-Perspectived Analysis*. Palgrave Macmillan, Basingstoke, UK., ISBN-13: 9780230579118, Pages: 222.
- Foucault, M., 1980. *Power/Knowledge: Selected Interviews and other Writings 1972-1977*. Pantheon Books, New York, ISBN: 9780394739540, Pages: 270.
- Foucault, M., 1994. *The Order of Things: An Archaeology of the Human Sciences*. Vintage Books, New York, USA., ISBN-13: 978-0679753353, Pages: 416.
- Freshwater, D., J. Cahill, E. Walsh and T. Muncey, 2010. Qualitative research as evidence: Criteria for rigour and relevance. *J. Res. Nurs.*, 15: 497-508.
- Gadavani, S., 2006. *Discourse Studies for Social Research: Theoretical Framework for Empirical Research*. In: Look at Society through Discourse, Hongladarom, K. and C. Iamanon (Eds.). Chulalongkorn University, Bangkok, pp: 23-48.
- Heywood, A., 2000. *Key Concepts in Politics*. Palgrave Macmillan, Hampshire, UK., ISBN: 9780312233815, Pages: 281.
- Hodge, B.D., A. Kuper and S. Reeves, 2008. Qualitative research: Discourse analysis. *Br. Med. J.*, 337: 570-572.
- Jemsittiparsert, K., 2010. Watako (vit) [Review of the book Watako (vit), by K. Wongsurawat]. *J. Social Sci. Humanit.*, 36: 186-192.
- Johansen, S., 1988. Statistical analysis of cointegration vectors. *J. Econ. Dyn. Control*, 12: 231-254.
- Johansen, S., 1991. Estimation and hypothesis testing of cointegration vectors in gaussian vector autoregressive models. *Econometrica*, 59: 1551-1580.
- Jorgensen, M. and L. Phillips, 2002. *Discourse Analysis as Theory and Method*. SAGE Publications, London, UK., ISBN-13: 9780761971122, Pages: 229.
- Moreland, J.P., 2005. Truth, contemporary philosophy and the postmodern turn. *J. Evangelical Theol. Soc.*, 48: 77-88.
- Pamornmast, C., K. Jemsittiparsert and T. Sriyakul, 2012. [An empirical discourse analysis on correlations between exchange rate and exports]. *MUT J. Bus. Admin.*, 9: 31-43 (In Thai).
- Pamornmast, C., K. Jemsittiparsert and T. Sriyakul, 2013. [An empirical discourse analysis on correlations between exchange rate and exports of agricultural products]. *PSAKU Int. J. Interdisciplinary Res.*, 2: 48-62 (In Thai).
- Patchimnan, A., 2011. [Concept and Theories in Political Economy]. Pappim, Bangkok, Thailand (In Thai).
- Piana, V., 2001. Exchange rate. <http://www.economicswebinstitute.org/glossary/exchrte.htm>.
- Schembri, L., 1989. *Export Price and Exchange Rate: An Industry Approach*. In: Trade Policies for International Competitiveness, Feenstra, R. (Ed.). 2nd Edn., University of Chicago Press, London, UK., ISBN-13: 9780226239491, pp: 185-216.
- Schiffrin, D., D. Tannen and H. Hamilton, 2001. *The Handbook of Discourse Analysis*. Blackwell Publication, Massachusetts, USA.

- Stillar, G., 1998. *Analyzing Everyday Texts: Discourse, Rhetoric and Social Perspectives*. Sage Publication, California, ISBN: 9780761900603, Pages: 206.
- Van Dijk, T., 2007. *Discourse Studies*. Vol. 1-5, Sage Publications Ltd, London, UK., ISBN-13: 978-1412936170, Pages: 2128.
- Vighi, F. and H. Feldner, 2007. Ideology critique or discourse analysis? Zizek against foucault. *Eur. J. Political Theory*, 6: 141-159.
- Weber, M., 1977. *The Theory of Social and Economic Organization*. Free Press, New York.
- Wongsurawat, K., 2010. Watako (vit). Aksornkaosuary, Bangkok, Thailand.