Impact of Technology Transfer Channels on Economic Growth of the Kyrgyz Republic

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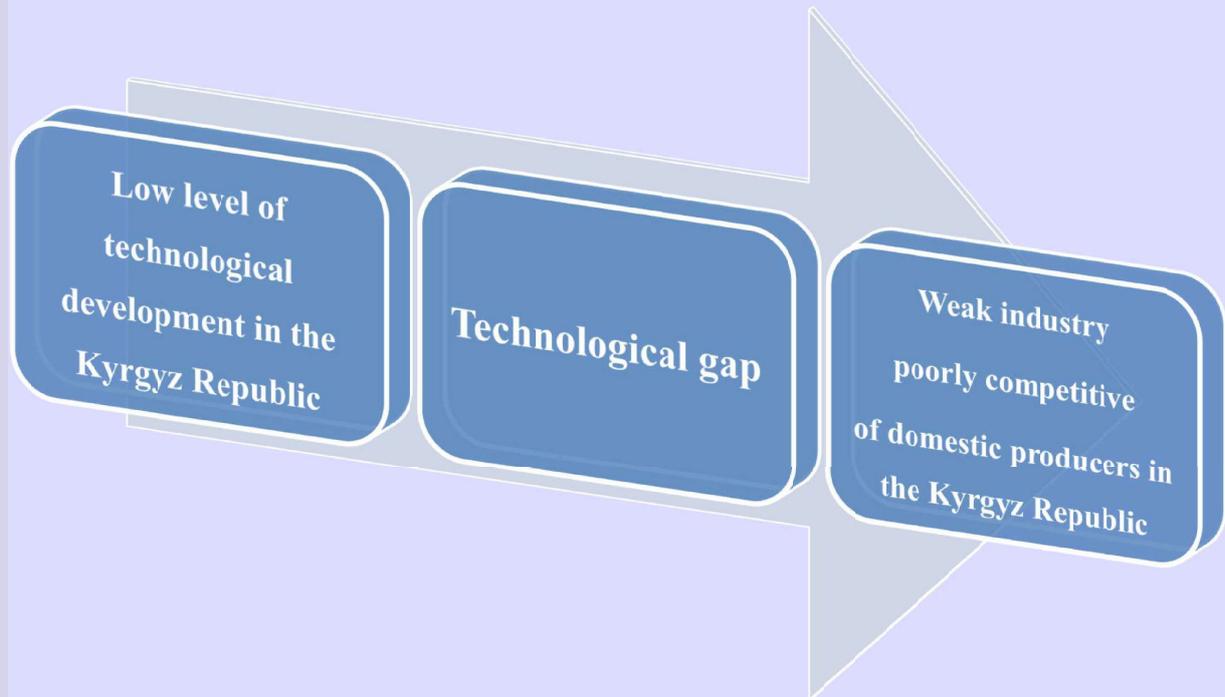Yongin, Republic of Korea

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Motivation

Why ITT channels in the Kyrgyz Republic?

Low level of technological development in the Kyrgyz Republic → Technological gap → Weak industry poorly competitive of domestic producers in the Kyrgyz Republic

Conceptual Framework

Developed countries → ITT channels: FDI Imports → GDP of the Kyrgyz Republic

- Crispolti and Marconi (2005)
- Ben and Wei (2011)
- Ghazouani and Teraoui (2014)
- Osano and Koine (2016)
- Awosusi and Awolusi (2014)
- Fotros and Ahmadvand (2017)

Contribution

Academic gaps	Contribution
Limited literature on the topic "Impact of ITT channels in the Kyrgyz Republic"	❑ Fill the gap in the empirical literature on the study of this topic ❑ The first research work on this object of study in the Kyrgyz Republic ❑ Recommendations for the effective integration of imported technologies in the economy of the Kyrgyz Republic
Examine impact of ITT channels through FDI and import t on the economic growth of the Kyrgyz Republic using **multiple regression analysis and correlation analysis**	**Highlight empirically:** 1. The main channel of ITT in the Kyrgyz Republic 2. Impact of ITT channels on economic growth of the Kyrgyz Republic

Methodology

➤ Model: Ordinary Least Squares

➤ Secondary Quantitative Analysis

➤ Data period: 1993-2017

✓ Multiple Regression Analysis

$$ln Y = \alpha + \beta_1 lnFDI + \beta_2 lnIMP + \varepsilon$$

(multicollinearity; heteroscedasticity; normality)

✓ Correlation of two variables (Gross Industrial Product and Import)

✓ Measurement for technology transfer

▪ $Integration\ of\ Technology\ Index = \dfrac{growth\ of\ GIP}{growth\ of\ IMT}$

▪ $Imported\ Technology\ as\ \%\ of\ GIP = \dfrac{Machinery\ \&\ Equipment * Value\ of\ MI}{GIP * Value\ of\ GDP} * 100$

Variable selections

S/N	Variable	Author	Data source
		Multiple Regression Analysis	
1	Gross Domestic Product	Crispolti and Marconi 2005; Acharya and Keller 2007; Ghazouani and Teraoui 2014; Ben and Wei 2011; Awosusi and Awolusi 2014; Fotros and Ahmadvand (2017); Adeel Abid, Parveen and Iqbal (2018)	World Bank, National Statistic Committee of the Kyrgyz Republic, National Bank of the Kyrgyz Republic.
2	Foreign Direct investment		
3	Merchandise Import		
		Correlations between GIP and MIT as a Percentage of GIP	
1	**Gross Industrial Product** (total output of manufacturing, industry, construction)	Jafarieh (2001)	World Bank, National Statistic Committee of the Kyrgyz Republic, National Bank of the Kyrgyz Republic.
2	**Import of technology** (manufacturing imports, ICT goods import, computer and communication imports)		

Major Findings

LnGDP	Coef.	Std.err	t	P>t	[95% Conf.	Interval]
LnFDI	.0087062	.0384016	0.23	0.823	-.0709338	.0883462
LnIMP	.6184939	.0643867	9.61	0.000	.484964	.7520239
_cons	8.605505	.8953578	9.61	0.000	6.748646	10.46236

Correlations between GIP and Imported Technology

$$y = -7{,}0648x + 1{,}6912$$
$$R^2 = 0{,}3092$$

IMT % of GIP

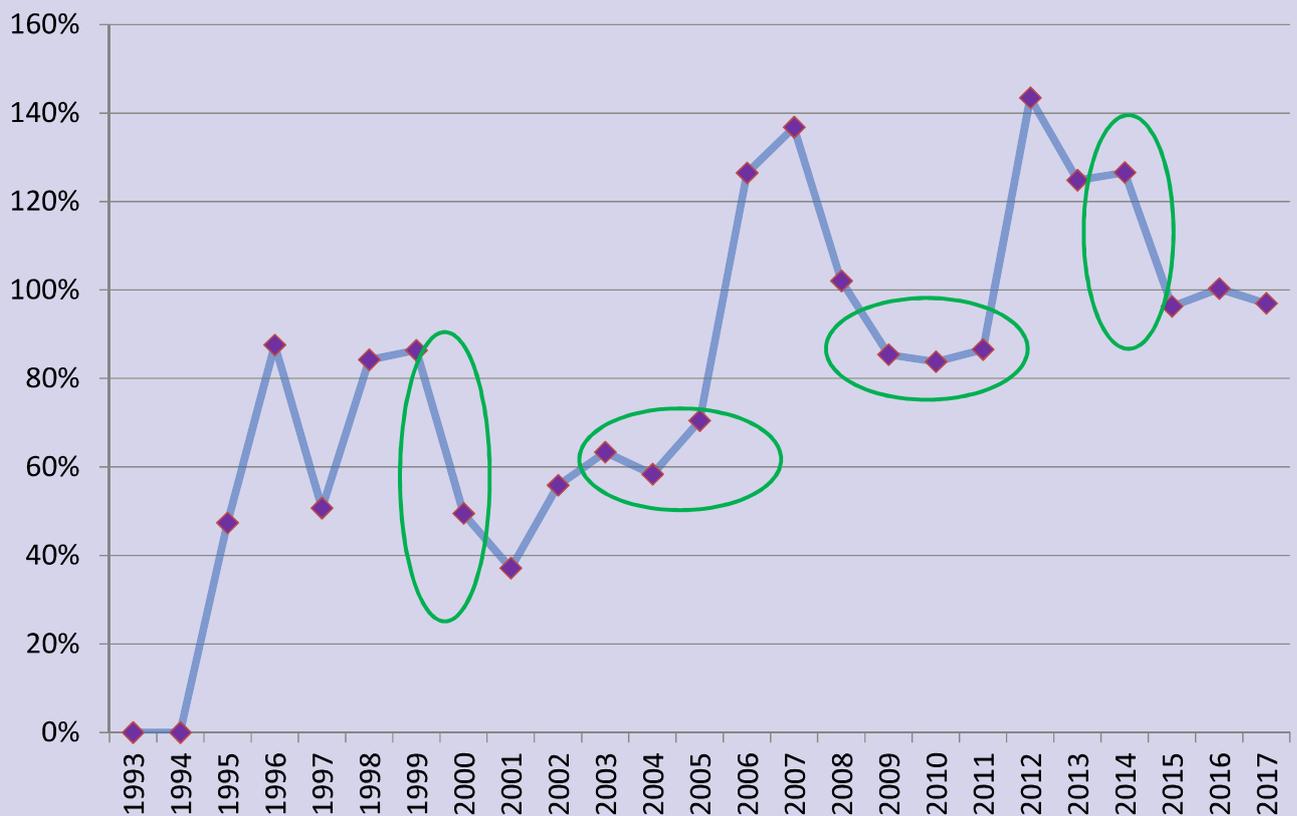GIP%
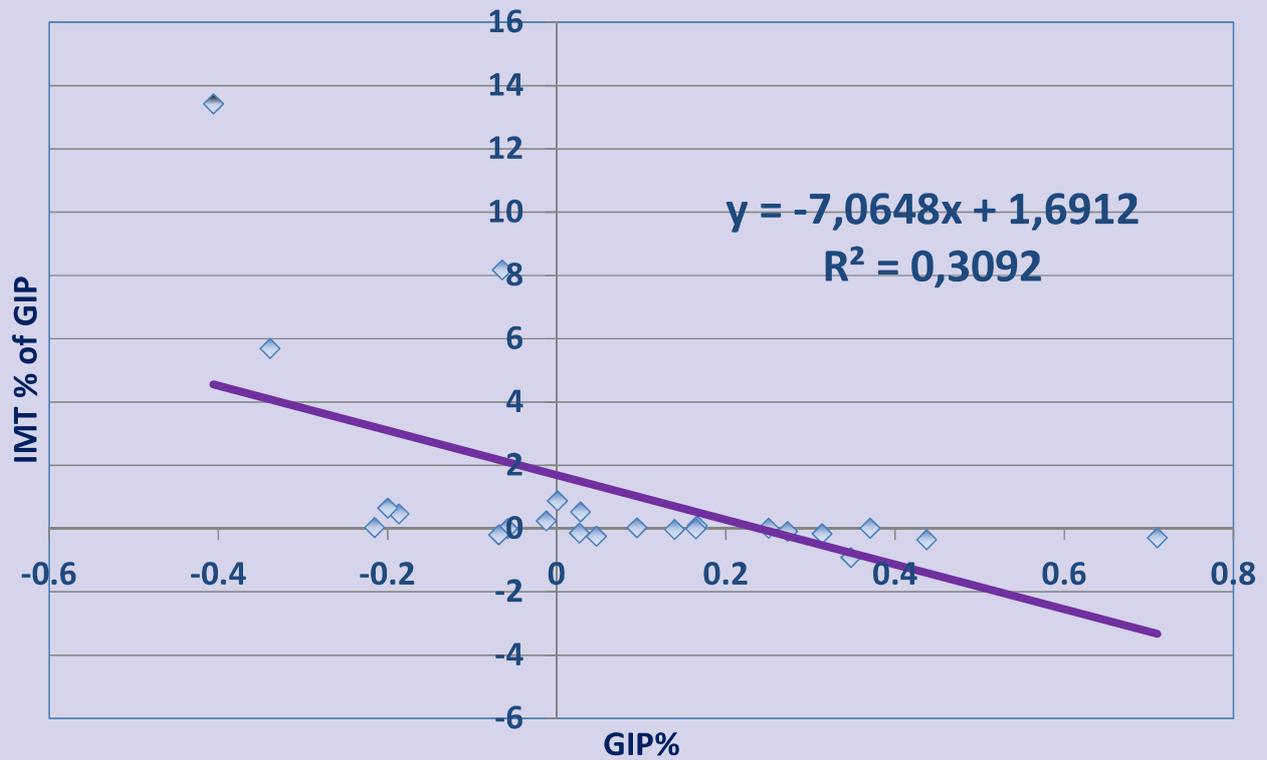
Integration technology index of the Kyrgyz Republic
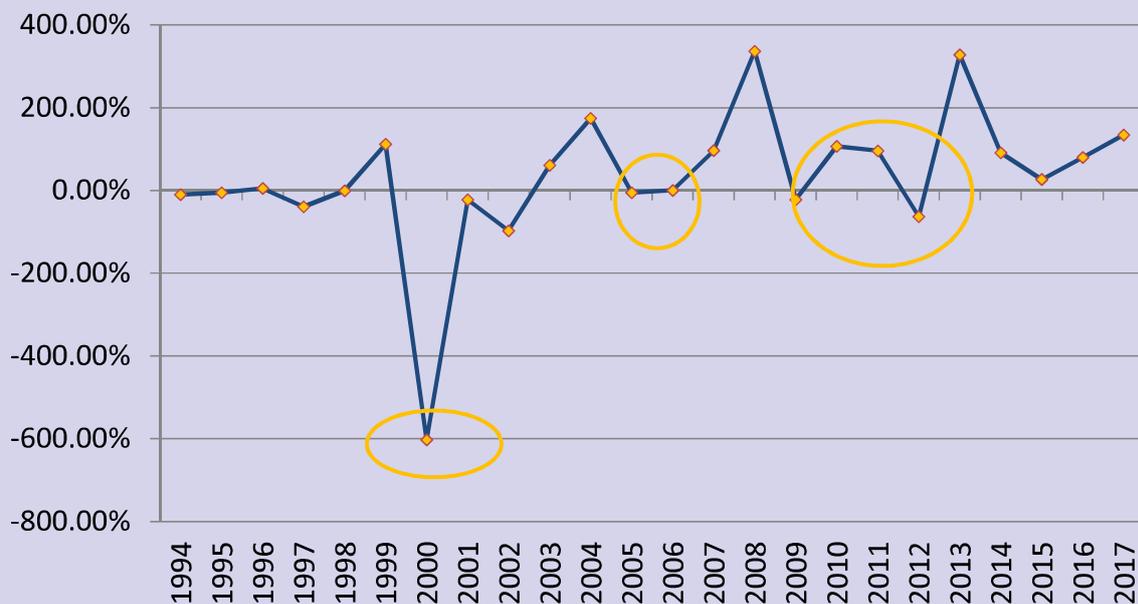
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Imported Technology as Percentage of GIP of the Kyrgyz Republic

Conclusion and Recommendation

Major Finding	Recommendations
Import is the main channel of technology transfer in Kyrgyz Republic (Crispolti and Marconi 2005; Osano and Koine 2016; Fotros and Ahmadvand 2017)	▪ To diversify FDI structure in the economy of the Kyrgyz Republic (Awosusi and Awolusi 2014)
FDI, as a ITT channel, is associated positively, but does not influence significantly on economic growth (Shahbaz and Rahman 2012; Awosusi and Awolusi 2014; Hunjra et.al. 2014; Ghazouani and Teraoui 2014)	▪ To invest in the R&D (Awosusi and Awolusi 2014) ▪ To develop a policy for the cooperation of national R&D, universities and firms
Weak correlation between the imports of technology and GIP (Jafarieh 2001)	• To increase the level of the technological management at firm level for the effective integration of foreign technologies ▪ To import technologies by technological level of firms . (Ben and Wei 2011; Lai, Wang, and Zhu 2009) ▪ To develop internal R & D policy (Ghazouani and Teraoui 2014)