IMPACT OF THE PRIMARY MARKET ON ECONOMIC GROWTH, PRODUCTIVITY AND ENTREPRENEURSHIP: A CROSS COUNTRY ANALYSIS

A THESIS

SUBMITTED IN PARTIAL FULFILMENT OF THE REQUIREMENTS FOR THE FELLOW PROGRAMME IN MANAGEMENT

INDIAN INSTITUTE OF MANAGEMENT

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ABSTRACT

The Primary equity market (Primary market) motivates adoption of new technologies and promotes business through entrepreneurs, contributing to economic development. Economic growth theories postulate that economic growth and development happens through two routes - factor accumulation and factor productivity. Schumpeter (1911) argued that credit is essential for entrepreneurship and further entrepreneurship leads to innovation absorption, productivity improvement and economic growth. McKinnon (1973) contended that financial development leads to accumulation of entrepreneurial capital and thereby drives growth in developing countries. While Schumpeter (1911) argued in support of the role of entrepreneurs in the factor productivity route of growth, McKinnon (1973) stressed on the role of entrepreneurs in the capital accumulation route of growth. Literature provides empirical evidence in support of the roles of Banks and the Stock Market in economic growth, total factor productivity (TFP) growth and entrepreneurial growth. However, to the best of our knowledge, only one study is available (Andriansyah, et al. 2014) which examines the Primary market-Growth relationship. However, he did not use all available data on Primary market. We could not find any empirical study on the role of Primary market in TFP and Entrepreneurship. This study aims to fill this gap.

We empirically examined major arguments of Schumpeter (1911) related to impact of entrepreneurial finance on entrepreneurship, growth and productivity. Further, we examined the arguments of classical economics and McKinnon (1973) on Finance-Growth/TFP relationship. We tested whether the 2008 financial crisis weakened the Primary market-economic growth relationship.

Responses to the first set of research questions on Primary market-Growth relationship reveal that growth in Primary market impacts economic growth in general. The relationship is stronger in lower income economies (as classified by World Bank) and in higher inflation (CPI inflation >5%) economies. The impact of Primary market on growth in high income economies is weak. The Primary market-growth relationship is not affected by the 2008 financial crisis. Also, causality runs from Primary market to economic growth and not the other way around.

From responses to the second set of research questions, we find that Primary market-TFP relationship is positive and strong. The relationship is not affected by income level and inflation. We further found that Primary market drives non-TFP growth in low income economies (McKinnon, 1973) but has no impact on high income economies (Classical). The Primary market-TFP relationship is not affected by the 2008 financial crisis. Causality runs from Primary market to TFP and not from TFP to Primary market.

Responses to the third set of research questions on Primary market-entrepreneurship relationship reveal that Primary market-TEA (total entrepreneurship activity as defined by global entrepreneurship monitor) relationship follows Schumpeter's hypothesis in high income economies, but the IPO-TEA relationship is found negative in lower income economies. Our analysis suggests that the relationship between TEA and Primary market is quadratic in Primary market. The magnitude of coefficient of square term increases with income level and that of linear term decreases with income level. This, coupled with the fact that the size of Primary market rises with income level of economies, explains why Primary market-TEA relationship is positive in

high income economies and negative in low income economies. To solve the puzzle of the negative relationship between Primary market-TEA in lower income economies, we further explored the relationship of Primary market with Schumpeterian 'innovation driven' entrepreneurs and non-Schumpeterian 'forced entrepreneurs'. The findings suggest that Primary market has positive and significant relationship with Schumpeterian entrepreneurs in all economies, and negative relationship with non-Schumpeterian entrepreneurs. Higher ratio of non-Schumpeterian entrepreneurs in low income economies explains the negative relationship between Primary market and TEA. However, component of non-Schumpeterian entrepreneurs decreases with increasing Primary market and Growth.

In conclusion, our result suggests that Primary market-economic growth relationship follows Schumpeter (1911) model. Further, Schumpeter (1911) and Classical, McKinnon (1973) models are complementary in explaining the Primary market-Growth relationship.

The role of Primary market in TFP growth and innovation driven entrepreneurship has policy implication for all countries, and its role in capital accumulation driven growth has implications for lower income countries. The Primary market, as leading indicator of Growth, is useful for portfolio management.

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Acronyms used

1. IPO = Initial Public Offering; but in this thesis, IPO stands for "all Primary market issues".
2. GDP= Gross Domestic Product of a country
3. PGDP= GDP/capita
4. IVA= Industry Value Added; but in this thesis, is used for IVA/capita also.
5. MVA= Manufacturing Value Added; but in this thesis, is used for MVA/capita also.
6. SVA= Service Value Added; but in this thesis, is used for SVA/capita also.
7. TFP= Total Factor Productivity, as defined in economic growth theory
8. TEA= Total Entrepreneurship Activity as percentage of working age population
9. LLC= Number of Limited Liability Companies registered in a year.
10. L, LM, UM, H category= Low income country, lower middle income country, upper middle income country, higher income country respectively

Variable definition (acronym)

(All data are annual series)

1. **Gross domestic product (GDP)** - It is the total production of goods and services in the economy in a year. The proxy used is lag of annual GDP.
2. **Economic growth per capita (PGDP**) - This is the proxy for economic growth in the economic models estimated. This is measured by natural log of annual GDP divided by total population so that difference in the variable represents percentage growth.
3. **Primary equity market (Primary/primary market/IPO)** - This is proxy for primary equity market. In the estimated model, proxy for Primary market includes all kinds of actual priced and issued primary capital, divided by lagged GDP. The data is taken from Thomson Reuter's. Doidge (2013) argued that coverage of Thomson Reuters for global primary market is complete.
4. **Stock market (STOCK)** - This is proxy for secondary equity market. The proxy is total traded value of equity as percentage of GDP.
5. **Banking development (BANK) -** This is proxy for Banking development. The proxy is total private credit as percentage of GDP.
6. **Industrial value added (IVA)** - This is proxy for industrial sector development. The proxy is natural log of total industrial value added (as provided by World Bank WDI database) per capita.
7. **Manufacturing value added (MVA) -** This is proxy for manufacturing sector development. The proxy is natural log of total manufacturing value added (as provided by World Bank) per capita.
8. **Service value added (SVA) -** This is proxy for service sector development. The proxy is natural log of total service value added (provided by World Bank) per capita.
9. **Total factor productivity (TFP**) - It accounts for the economic growth not explained by capital accumulation and labour inputs accumulation. The data is taken from Conference Board TED dataset.
10. **Total entrepreneurship activity (TEA**) - It is proxy for entrepreneurship activity in a country. The proxy is total entrepreneurial activity as percentage of working age population. The data is taken from Global entrepreneurship monitor database.
11. **Limited liability companies (LLC) -** The data is the number of all companies listed as limited liability companies. The data is provided by World Bank.
12. **GINI –** It is a measure of income inequality. Data is provided by World Bank.
13. **Patent** – It is proxy for innovation in an economy. The data includes patent of both resident and non-resident citizens. Data is provided by World Bank.
14. **Income categories**. World Bank publishes classification of various countries based on the income level of the country. World Bank divides countries in 4 income groups, lower income countries (L), lower middle income countries (LM), upper middle income countries (UM), and high income countries (H). We used non-H countries or lower income countries for L, LM and UM countries jointly.