

Economic Capital of Illinois

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Abstract

This paper explores the contributions of market economy to sustainable development using the 'capability theory' framework. The operational (production of goods and services) and dynamic (innovation) capabilities of firms promote wellbeing in communities, but not in an optimal manner; firms offer a number of low-paying jobs and economic growth often comes at huge costs to the environment. Public policy should be concerned with optimal economic growth; create jobs that pay a living wage and economic growth that is not (or least) harmful to the environment.

Keywords: Capital, GDP, Illinois.

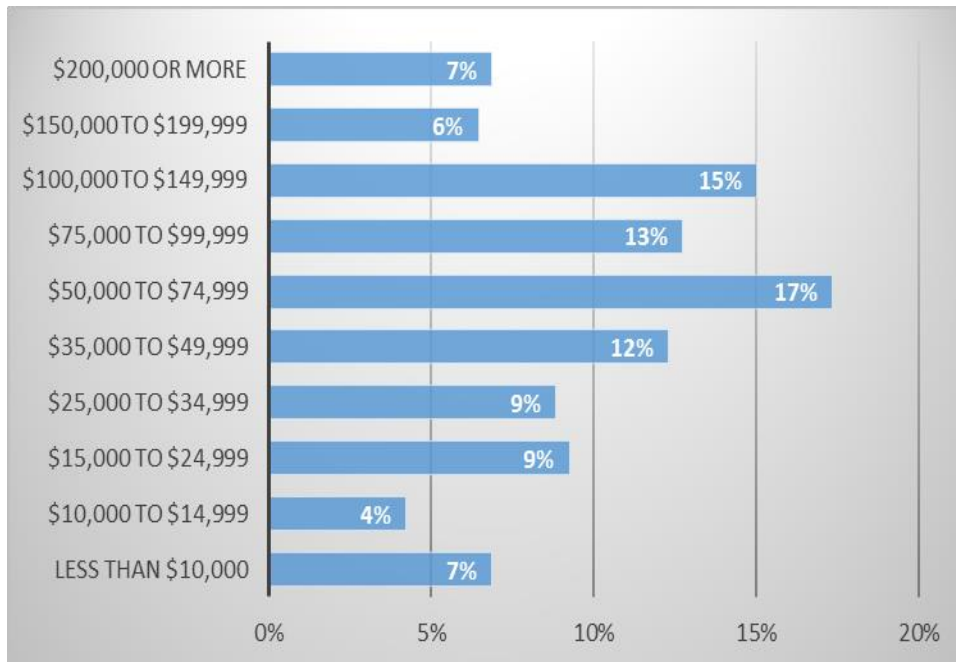
1.0. Introduction

This paper highlights the relevance of economic capital for a region' sustainable development. It is based on the premise that wellbeing of persons is enhanced by participation in the market economy. A principle actor in the market economy is the firm². The operational and the dynamic capabilities of firms ensure supplies of goods and services that persons need to enhance their wellbeing (Teece, 2017). The question is whether the firms' outputs enhance everyone's wellbeing. Figure 1 is an attempt at addressing this question.

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² The role of firms in the market economy is discussed by Williamson (2010).

Figure 1: Income Distribution among Illinois Households, 2017



Source: American Community Survey, Table DP3

The differences in purchasing power among Illinois households suggest that access to goods and services is skewed towards the high-wealth households. Consequently, it is reasonable for citizens to be concerned about inequality³ in the market economy and expect that public policy provides all persons access to housing, health, and education services independently of their household income.

Yet another way that firms can expand opportunities for wellbeing is by offering jobs that pay living wages. Employment is the primary means by which persons earn income to purchase goods and services that contribute to the kind of life they value. Table 1 shows the quality of private-sector employment in Illinois; quality is defined as wages high enough⁴ to provide families with the essentials of life (Athiyaman, 2019a). For workers in 35% of the sectors, employment is not sufficient to guarantee that they can afford to purchase goods and services needed to create a level of wellbeing judged reasonable by the standards of the day, these sectors are highlighted (in bold) in Table 1.

Why do these sectors pay low wages? Is it because that lack of capital is hampering growth in the sectors? These questions are addressed next.

³ The \$200,000+ income group registered a 5.9% growth during the period 2012-2017.

⁴ For the purposes of this paper, a family is a household with two adults (one wage earner) and one child (less than 18 years of age). The living wage calculator (Athiyaman, 2019a) was used to compute living wages for a geography of ~30,000 residents (Knox County was the county input for the calculator); \$48,783 is the annual amount required for the family to lead a normal (sufficient wellbeing) life.

Table 1: Annual Wages in Illinois: NAICS Two-Digit Sectors, 2017

Sector	Annual Wages
Agriculture, forestry, fishing and hunting	\$ 37,623
Mining, quarrying, and oil and gas extraction	\$ 75,161
Utilities	\$ 116,980
Construction	\$ 70,893
Manufacturing	\$ 70,174
Wholesale trade	\$ 80,599
Retail trade	\$ 30,411
Transportation and warehousing	\$ 54,188
Information	\$ 85,328
Finance and insurance	\$ 115,715
Real estate and rental and leasing	\$ 65,800
Professional and technical services	\$ 96,860
Management of companies and enterprises	\$ 126,552
Administrative and waste services	\$ 40,096
Educational services	\$ 50,798
Health care and social assistance	\$ 49,069
Arts, entertainment, and recreation	\$ 35,644
Accommodation and food services	\$ 20,715
Other services, except public administration	\$ 41,240
Unclassified	\$ 40,110

Source: BLS Employment Tables for the US States.

2.0. Economic Capital

Economic capital denotes physical and financial capital including machinery and equipment, structures, intellectual property products, inventories, and land. Economic policy pays a lot of attention to investment in new physical and financial capital. This is because the quantity of equipment and other assets available for production impacts economic growth. Table 2 explores the capital to GDP ratio for salient IL industries, industries that account for 75% of the industrial output of the state.

Table 2: Industrial Sector’s Contribution to GDP and Capital-Output Ratio⁵

Industrial Sector	GDP Contribution (%)	Capital-Output Ratio⁶
NAICS 52-53: Finance, Insurance, Real Estate, Rental and Leasing	22%	0.36
NAICS 54-56: Professional and Business Services	13.8%	0.15
NAICS 31-33: Manufacturing	12.5%	0.18
Government & Government Enterprises	9.5%	NA
NAICS 61-62: Education, Healthcare, and Social Assistance	8.7%	0.06
NAICS 42: Wholesale Trade	8.2%	-4.65 ⁷
All Industries	\$742,271 mil (100%)	0.22

2.1. Is Capital Currently on Track?

Figure 2 shows the capital-output ratio for the period 2001-2016. The ratio is on a positive trend (see the parameter of the linear trend in Figure 2). In terms of current conditions, although the ratio for 2016 lies above the trend line it masks the fact that the growth rate of financial investments⁸ were down by more than half a percentage point during the period 2001-2016 and growth rates in physical capital were mostly responsible for the net positive movements of capital⁹.

⁵ Sourced from BEA integrated industry-level production account, 2016.

⁶ Based on yearly changes to capital and GDP.

⁷ Changes in GDP contributions were negative for NAICS 42, hence the negative ratio.

⁸ The ACGR for “Securities, commodity contracts, and other financial investments” (NAICS 523) was -0.55%

⁹ The ACGR for real estate (NAICS 531) was 0.97%.

Figure 2: Capital-Output Ratio ($\frac{k}{y}$) 2001-2016



2.2. Is economic capital promoting wellbeing?

Piketty (2013) posits that if financial returns to the ownership of capital grow faster than income from wages, the consequence is concentration of wealth and power. The growth in the high income group in the state suggests that Piketty's hypothesis could be true for Illinois (see Figure 1 and footnotes 3, 8, and 9 for evidence). Also, OECD (2015) contends that the current patterns of physical capital investment are having negative impacts on the environment. Put another way, economic capital is important for wellbeing, but issues such as concentration of wealth and power and impacts on the environment must be addressed for it to contribute more positively to wellbeing.

3.0. Market Participation and Economic Capital of Illinois Counties

To understand how the market economy supports human wellbeing in Illinois counties, we have compiled the "IncWages" and the "EconCap" software. The IncWages software opens to the screen which requires the county-name input.

For example, for Knox County as input, the software run¹⁰ indicates that one-in-four households earn less than \$25, 000 per year and wages in the arts and accommodation sectors are well below the county’s living wages (Athiyaman, 2019a).

Income Distribution among Illinois Households, 2017
 Version 1.2019 Developed by Adee Athiyaman
 Input County Name, for example, "Adams County":

Income Level	Households =	Annual Wages
Less than \$10,000	7.8	Local government NA
\$10,000 to \$14,999	7.6	State government NA
\$15,000 to \$24,999	13.8	Accommodation and food services 17650
\$25,000 to \$34,999	12	Administrative and waste mgt. Services 26352
\$35,000 to \$49,999	16.2	Arts, entertainment, and recreation 11891
\$50,000 to \$74,999	18.2	Construction 29470
\$75,000 to \$99,999	10.8	Educational services NA
\$100,000 to \$149,999	9.6	Federal civilian 85881
\$150,000 to \$199,999	2.3	Finance and insurance 29399
\$200,000 or more	1.6	Forestry, fishing, and related activities NA
		Health care and social assistance NA
		Information 36572
		Mgt. of companies and enterprises NA
		Manufacturing 58672
		Military 30532
		Mining, quarrying, and oil and gas extraction NA
		Other services (except gov't) 24129
		Prof., scientific, and technical services NA
		Real estate and rental and leasing 9136
		Retail trade 25307
		State and local 63236
		Transportation and warehousing NA
		Utilities NA
		Wholesale trade 60873
		Gov't and gov't enterprises 63456
		Private nonfarm compensation 39412

The EconCap software provides metrics related to changes to the county’s real GDP and capital from 2015 to 2016¹¹. Using Knox County as an example, the software run provides the following information¹²: health services (including hospitals) are investing in capital and thus gaining in productivity, petroleum sector is disinvesting in capital and hence losing productivity. In general, the correlation between productivity growth and capital investment in the county is 0.95.

¹⁰ The results for the income category represents percentage of households in the categories. The number of households in the county (N) is highlighted in blue, at the top of column 2.

¹¹ 2016 is the most recent year for which data are available.

¹² In \$mil, chained 2012 dollars.

Changes to GDP and Capital-Output Ratio, 2016

Version 1.2019 Developed by Adee Athiyaman

Input County Name, for example, "Adams County":

Knox County

Industrial Sector	Knox County	
	GDP Change	Capital Change
Accommodation	-0.38	-0.91
Ambulatory health care services	0.19	4.59
Chemical manufacturing	0	0
Computer and electronic product manufacturing	0	0
Electrical equipment, appliance, and component manufacturing	0	0.03
Fabricated metal product manufacturing	0	0
Food services and drinking places	0	-0.05
Funds, trusts, and other financial vehicles	0	NA
Furniture and related product manufacturing	0	0
Hospitals	2.77	68.69
Insurance carriers and related activities	0.04	0.05
Machinery manufacturing	0	0
Miscellaneous manufacturing	0	0
Motor vehicles, bodies and trailers, and parts manufacturing	0	0
Nonmetallic mineral product manufacturing	-0.35	-1.63
Other transportation equipment manufacturing	0	0
Paper manufacturing	0	0
Petroleum and coal products manufacturing	-0.03	-0.21
Plastics and rubber products manufacturing	0	0
Primary metal manufacturing	0.05	0.69
Printing and related support activities	0	-0.01
Real estate	0.1	0.37
Securities, commodity contracts, and other financial investments and related activities	-0.07	0.44
Social assistance	-0.21	-13.35

4.0. Conclusion

The market economy supports wellbeing, but not in an optimal way. This chapter offers evidence for this assertion. A principle actor in the market economy is the firm, but they also offer jobs that pay less than the living wage. Growth in economic capital results in improvements in material living standards, but economic growth is also associated with greater concentration of wealth and environmental degradation. Athiyaman (2019b) poses the question, "how can child poverty be culturally acceptable to Illinois residents". This paper shows that a key causal factor is employment that doesn't pay a living wage. The conclusion of this research: policy must pay attention to how the economy is growing; creating more low paying jobs is harmful to community wellbeing.

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