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Industrial China and its impact on Informality

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Abstract-*The informal economy has been the topic of debate for some time now and given its significant effect on the revenue, economists and policy decision makers alike have sought greater control to their dismay. This can be contributed to the lack of informal statistics on China, fueling assumptions that have not born results. To address the problem, this paper seeks to estimate the size of China's informal economy using the Currency Demand Model. The central theme forwarded in this research is that China is experiencing its Lewis Turning Point and the industry changes positively impact the growth of the underground economy. Given this statement, the authors present a conceptual model that depicts the growth and movement of the informal economy in relation to China's economic changes. As a means to provide intuition for decision makers as China transition to the 13th National Development Plan.*

JEL Classification: *J40; J61; J80; J82*

Key Words: *Informal Economy; Labor; Lewis Turning Point; China*

1. INTRODUCTION

The study of the relationship between a two sector economy from agrarian to commercialization is a well-researched area today, given the concern of whether or not China has realized the Lewis Turing Point (LTP) (Lewis , 1954)[39] (Ranis, 1961)[53]. The concept is based on the movement of labor within a dual economy. As labor gravitates from the agrarian to commercial sector the shift is insignificant to negatively affect the agrarian sector's marginal productivity while significantly improving the marginal productivity of the commercial sector thereby fueling economic growth. Actualization of LTP comes as the movement of labor becomes more inelastic, causing increases in wages, where the employ of additional labor diminishes returns thereby inhibiting commercial progress. Those against China's realization of LTP hold the view that there is no turning point but instead a period, where the conditions of labor shortage and wage increase are ongoing creating a paradox in China's labor economy (Zhu & Cai, 2012)[66]. In-fact China's labor shortages are a product of, among other, restrictions of the House Hold Registration System, reverse migration of migrant labor and mismatches (Du, Yang, & Wang, Meiyan, 2010)[19]. Those for hold the view that the LTP is a point in time of which most agree is circa 2004 where the assumptions of the Kuznets Curve seem to be in the secondary phase of decreasing economic inequality as China risk getting old before getting rich (Cai & Wang, 2010)[10]. Despite its universality, from the authors understanding given the conflicting results of the impact of LTP both statistics and interpretation of the model can and has impacted findings (Minami, 2010)[47] producing varying results. One cannot however ignore the fact that the Chinese economy is experiencing change over time which has implications for sub-sectors, I make reference to the informal economy. The notion of an informal sector was first molded by (Hart, 1973)[25] in his study of employment in Ghana. Whether for or against, the informal economy has impacted worldwide, (ILO, 2014)[33]: informal statistics are available for 46 developing countries/territories as an indicator of the recorded spread of informality but the statistics for China in this regard is inconclusive. This study seeks to understand and communicate the relationship between change in (wages and labor) and its impact on the informal economy. In this respect the LTP is relevant given its focus along with supporting statistics as required by the approaches adopted in this paper. Our findings are used to conceptualize the effect of changes in the factors: wages, tax, labor: formal and informal along Chinas long run supply curve.

2. PROBLEM STATEMENT

What are the effects of a changing economic structure on China's informal economy?

3. METHODOLOGY

An extensive review of informal labor literature via journals was conducted to understand the central themes forwarded. After which the scope of the research was tapered to journals with a focus on China's informal employment. This aided our understanding of Lewis

Turning Point in regards to informality which was used to conceptualize a pictorial display of the effects of informality brought about by LTP. A move to answer the problem statement will present us with the need to understand the factors that affect the LTP as well as the informal economy. With respect to the LTP macroeconomic data on labor, wages, total wage bill, primary, secondary and tertiary sectors were collected and analyzed to deduce economic change over time. While the informal economy statistics were calculated using the Currency Demand Approach (Tanzi , 1980)[59], to understand the variability that exist in data manipulation. The study's estimation approach was seconded by regression analysis to derive its predictive model. To aid with the analysis and calculation of data Matlab v2012 and SPSS v21 were employed along with Microsoft Office Tools.

3.1 Data Sources and Challenges

Data sources included: The National Bureau of Statistics of China[1], The Global Economy[2], Economic Research Federal Reserve Bank of St. Louis[3], Trading Economics, International Labor Organization (LABORSTA), Kneoma[4] and Quandl[5]. With aggregated secondary data researchers are unable to understand the true nature and movement with subsectors. Change in reporting style and formatting over time creates confusion which is further exacerbated by missing data or breaks in variable series. (Minami, 2010)[47] acknowledges the variances in China statistics which can impede results. The resulting impact is therefore to rely on data mining from multiple sources and although one is able to compare and contrast findings, researchers are faced with data that has been subjected to varying assumptions and estimates which in most cases alter results. Infamously so, the omission of China statistics can be seen in journals, global reports and data warehousing sites which without fail is the case for informality statistics and corresponding data. (Alvesson & Sandberg, 2011)[4] notes that: *"although appealing the problemization method can be a bit risky, since it involves challenging existing paradigms... questioning existing power relations"*. What's more challenging is, one cannot expect accurate results on informality by using macroeconomic data. Typically, all informal economic activities are in theory not shown in GDP such as the amount of corruption and smuggling. Nevertheless, for far too long there have been data gaps and inconsistencies which have a negative impact on model development and decision making. To create robust results, the authors used trend and forecasting techniques to smooth data. By no means is this approach the solution in fact given the estimates and assumptions to data modeling the authors hold the view that accuracy is mislaid but is contend with attempts to bring light to this issue as future work is needed to close such gaps.

[1]http://www.stats.gov.cn/english/Statisticaldata/AnnualData/

[2] http://www.theglobaleconomy.com

[3] https://research.stlouisfed.org

[4] https://knoema.com/ygjzieg/china-regional-dataset-may-2015?tsId=1022110

[5]https://www.quandl.com/data/ODA/CHN_GGR_NGDP-China-General-Government-Revenue-of-GDP

4. LITERATURE REVIEW

4.1 Definition of Informality

(ILO, 2012)*: "Informal employment is a job-based concept and encompasses those persons whose main jobs lack basic social or legal protections or employment benefits and may be found in the formal sector, informal sector or households."* Theoretically informal employment can be found in 3 schools of thought. Juridical informality concerns evasion of taxes and failure to comply with regulations which govern registered organizations; to their benefit, where informal groups arguably realize profits given menial overheads, or to their loss, as noted by lack of tenure and associated rights of workers (ILO, 2012)[31]. Given the notion of loss to worker and economy that informality poses traditional scholars believed that as an economy developed the informal sector would subside, a position known today as modernity (Hart, 1973)[25]. On the other hand, with functional informality profit driven marginal productivity is inconsequential. Output is a means of survival bringing into question productivity, quality and quantity of production (Gibson & Kelley, 1994)[24] alike the structuralist approach to informality (Castells & Portes, 1989)[11]. Which it is believed is an ill effect of capitalism manipulated in lure of capitalist will. Typically, the informal sector is looked upon with remorse in need of stability (Acemoglu & Robinson, 2012). However, there is a growing school of thought, the neo-liberalist, who views informality as a viable alternative (De Soto, 1989). Once both consumers and suppliers tend to gain from price advantages this market will thrive (Allingham & Sandmo, 1972), employing a significant percentage of the work force (Jütting & Laiglesia, 2009)[36]. Where researchers are now investigating the notion that the informal economy acts as an incubator for enterprise (Barbour & Llanes, 2013)[5], creating a paradigm shift given the continued growth of the sector. In line with investigating the progressive contributions of the informal sector in China (Wang, et al., 2013)[61]notes: *"most research related to the informal sector has been limited to investigations of toxicity. More research is needed from economics in order to understand the underlying social and economic aspects of the issue."* Investigation into productivity growth has explored factor mobility of capital and the spill off effects for the informal sector (Jones, 1971)[35].

In other words, the informal economy is driven by wealth and exist where there is capital investment. Even though both benefit from judicial absenteeism and are flexible to economic volatility, researchers of the informal sector have made a distinction between high productivity firms that may be voluntary and low productivity firms that may be involuntary informal agents (Maloney, 2004)[45]. While (Restuccia & Rogerson, 2008)[54] argues that the informal economy abuses resources that could be more productive in the formal economy. The studies mentioned either probe quantity or factors of productivity. Given the presence of informality this study supports (Gibson & Flaherty, 2013) view that the informal sector can improve macroeconomic performance but in order to manage we must first attempt measure it.

4.2 China Informal Economy

Where does China's informal economy come from? As China became more industrialized migrant agricultural low paid workers would leave the rural areas in seek of higher paying jobs in the urban areas (Lipton, 1976)[41]. More so as restrictions on provincial travel dissipated under the Hukou System over time (Chan, 2009)[14] to facilitate the Big Industrial Push. Employers sought to maximize return on their investment and therefore employed labor that can deliver the most productivity. This was an era of large foreign direct investment which fueled industry growth and the need to propel productivity by increasing manpower given spare capacity of bulk processing technology and Chinese government motivation to globalize. Much of what the LTP concept purports, in reality: "*There were reportedly 445,244 foreign-invested enterprises registered in China in 2010, employing 55.2 million workers or 15.9% of the urban workforce*"[6]. Circa 1990 inflows were approximately USD 29 billion while outflows USD 2 billion as Chinese companies increase their global market share (Alon, et al., 2011)[3].

Nevertheless, the formal economy was not able to absorb all workers due to its competitive requirements which resulted in an oversupply of migrant labor. The excess labor, with their need to progress developed intuitive ways to earn money and informal employment in urban China was born. From then to now informal employment has grown in sophistication as more and more people realize its benefits, as noted by the ILO conceptual framework for informal employment. Today we have many variations of how informality can exists from Hidden or Underground economies riddle with illegal activity to informal employment that positively contribute to an economy's gross domestic product while lowering unemployment (Hart, 2008). For purposes of this study the authors opted to use the International Labor Organization definition of an informal economy as there is a lack of consensus on a universal definition. Our discussion thus far of informal employment in China can be considered as the first two phases of its development along the economy's long run labor demand and supply curves from agrarianism to industrialization. It is in phase two that informal employment begins to expand consisting of informal sector workers and formal sector workers. Followed by phase three; shrinking of industrialization, as predicted by China's Lewis Turning Point, and Servitization of the economy. It is in phase three that the prices for industrial labor become too costly for employers thereby increasing unemployment and fueling the informal sector (Das & N'Diaye, 2013)[15]. China can now be considered to be in phase three with a highly educated labor force creating mismatches between skill and dated industrial systems as identified by the authors in earlier research. It is as though the economic system seems to reinforce informality and its' size from one stage to the next (McMillan & Rodrik, 2011)[46].

International Labor Organization Conceptual Framework for Informal Employment

Production units by type	Jobs by status in employment								
	Own-account workers		Employers		Contributing family workers	Employees		Members of producers' cooperatives	
	Informal	Formal	Informal	Formal	Informal	Informal	Formal	Informal	Formal
Formal sector enterprises					1	2			
Informal sector enterprises(a)	3		4		5	6	7	8	
Households(b)	9					10			

Diagram 1 Source ILO.

4.3 Currency Demand Approach

There are many approaches to measure the size of the informal economy which follow a direct, proxy or indirect method. Direct methods include: survey and tax auditing. Proxy methods include: electricity consumption and neighborhood proxies. Indirect methods include: labor market analysis, multiple causes and multiple indicators. The Currency Demand Approach is an indirect approach which uses macroeconomic variables to deduce informality given that informal transactions are typically conducted with cash; therefore, surplus cash can infer informal activity. The model was popularized by (Tanzi, 1983)[60] who estimated the size of the shadow economy of the U.S.A for a 51-year period 1929-1980. The general assumption here is that the shadow economy generates income by avoiding tax (Schneider & Enste, 2000)[56]. Ceteris paribus the difference between the conventional economic variables which derive observed money and the

[6] China's Economic Rise: History, Trends, Challenges, and Implications for the United States Wayne M. Morrison Specialist in Asian Trade and Finance February 3, 2014

incentive to engage in hidden activity, equates to currency in the economy that is unexplained (Cagan, 1958)[9]. Our model follows (Tanzi, 1983)[60] approach where the dependent currency to M2 ratio is expressed as a log regression function of Currency to M2, Urban Population, Gross Domestic Product per Capita, Interest Rates, Tax, Total Wage Bill, Household Consumption and Inflation. The proliferation of online shopping in China is represented by Household Consumption which is intended to represent the purchasing power of China's online consumers as well as records of other cash transactions that maybe lost in other consumption statistics. The coefficients β1 to β7 > 0 with both positive and negative relationships. Thereby our model can be written as follows:

$$\ln\left(\frac{C}{M2}\right)_t = \alpha + \beta_1 \ln(URBANPOP)_t + \beta_2 \ln(HHC)_t + \beta_3 \ln(TWB)_t + \beta_4 \ln(GPC)_t + \beta_5 \ln(INF)_t + \beta_6 \ln(INT)_t + \beta_7 \ln(TAX)_t + e_t$$

Equation I

$\ln\left(\frac{C}{M2}\right)_t$ = Currency to M2 ratio;
$(URBANPOP)_t$ = China Urban Population (a measure of city density);
$(HHC)_t$ = Household Consumption (a measure of use of money);
$(TWB)_t$ = Total Wage Bill (a measure of circulation of money);
$(GPC)_t$ = Gross Domestic Product per Capita (to proxy changes in the informal economy);
$(INF)_t$ = Inflation Rate (a measure of opportunity cost of holding money);
$(INT)_t$ = Interest Rate (a measure of opportunity cost of holding money);
$(TAX)_t$ = Total Tax per GDP (to proxy changes in the informal economy); e_t = Error Term.

The currency to M2 model can then be used to deduce further estimates in regard to the use of money in the Chinese economy. Following (Tanzi, 1983) method we calculate equation 1 to 6 where the outputs of each step feed into the next to derive our proxy values:

1. Illegal Money = $[\left(\frac{C}{M2}\right)_t - \left(\frac{C}{M2}\right)_{wt}]$ * M2; **Equation II**
2. $\left(\frac{C}{M2}\right)_t$ = C/M2 ratio with tax rate, $\left(\frac{C}{M2}\right)_{wt}$ = C/M2 ratio without tax rate. M2 = Broad definition of circulation of money;
3. Legal Money = M1 – Illegal Money, M1 = narrow definition of circulation of money; **Equation III**
4. Velocity of circulation of money = Gross Regional Product/Legal Money; **Equation IV**
5. Underground Economy = Velocity of circulation of money * Illegal Money **Equation V**
6. Tax Evasion = Underground Economy * $\left(\frac{Total\ Taxes}{Gross\ Regional\ Product}\right)$ **Equation VI**

4.4 Stationary Test

A Prerequisite of the Currency Demand Model is the test for stationarity which examines one's dataset for permanent or transitionary shocks. The latter over the long run will smooth towards its original equilibrium and is consider stationary while the former will not and can offset the direction of growth via policy changes as evident in China today (Perron, 1989)[50]. The standard test in this regard follows Augmented Dick Fuller Test (ADF test) (Dicky & Fuller, 1979)[18]: a test to determine if a unit root is present in times series data, the Null Hypothesis, or if this can be rejected in the absence of a unit root, the alternative, non-stationarity. And the Phillips and Perron Test (PP test) (Phillips & Perron, 1988) [51] which is alike and in support of ADF test for robustness given its focus on 1st difference and resolve of autocorrelation misguidances.

ADF Model:

Autoregressive Test for Null Hypothesis **Equation VII**

$$y_t = y_{t-1} + \beta_1 \Delta y_{t-1} + \beta_2 \Delta y_{t-2} + \cdots + \beta_p \Delta y_{t-p} + e_t$$

Test for Alternative, ∅ < 1 **Equation VIII**

$$y_t = \emptyset y_{t-1} + \beta_1 \Delta y_{t-1} + \beta_2 \Delta y_{t-2} + \cdots + \beta_p \Delta y_{t-p} + e_t$$

Drift against the alternative, c drift coefficient **Equation IX**

$$y_t = c + \emptyset y_{t-1} + \beta_1 \Delta y_{t-1} + \beta_2 \Delta y_{t-2} + \cdots + \beta_p \Delta y_{t-p} + e_t$$

Trend Stationary Test for Null Hypothesis **Equation X**

$$y_t = c + y_{t-1} + \beta_1 \Delta y_{t-1} + \beta_2 \Delta y_{t-2} + \cdots + \beta_p \Delta y_{t-p} + e_t$$

Trend Stationary against Alternative, **δ**trend coefficient **Equation XI**

$$y_t = c + \delta\emptyset y_{t-1} + \beta_1 \Delta y_{t-1} + \beta_2 \Delta y_{t-2} + \cdots + \beta_p \Delta y_{t-p} + e_t$$

PP Test Model: **Equation XII**

$$y_t = c + \delta_t + \alpha y_{t-1} + e_t$$

Unit test; model variant of different growth (c=0 or **δ**=0). Where e_t is the innovative process.

(Refer to Table 1 in Annexure)

The test of stationarity for both ADF and PP fail to reject the null hypothesis of a unit root, which according to literature on the macroeconomic data for unit root testing is the norm (Nelson & Plosser, 1982)[48]. (Kwiatkowski, et al., 1992)[38] Aggregated data are not very informative for unit root testing and have low power against stable autoregressive alternatives with roots near unity. The China macroeconomic data is no different in our study, what was interesting however is the way in which the variables failed and the relationship between them. Here I make reference to structural changes in tested variables which underwent experimentation to derive the lowest differenced value for most positive TSAT (T Statistic) and PV (p-Value) statistics. reg 2 refers to first difference and reg 3 second difference. The data shows the influence of policy implications over the period of study resulted in shocks and permanent change of the economy long run equilibrium with Household consumption having p-Value closet to one. This would imply that of all the variables tested Household Consumption seem to be the most multifarious and is an area for future research to deduce why. Although the scope of investigating more reliable unit testing approaches in out of the range of this research, in respect to China some authors have done so. (Li, 2000)[43] attempted to determine whether a stationary process can be model around a breaking trend function and found that China's major output time series are trend stationary with structural breaks. (Liang & Li, 2009)[40] found that the effects of the shocks on the Chinese economy is transitory except for significant natural disasters. There has been more recent work in this regard but the ongoing theme reflect breaks due to shock and trend in data much like above.

4.5 Empirical Analysis

(Refer to Table 2 in Annexure)

The Currency Demand Model was used to estimate the constant and coefficients from regression analysis, after which these values were multiplied by the log form of macroeconomic data for the period under study 1980-2015 inclusive of an error term. The table above possess estimated results as well as macroeconomic statistics relevant to the understanding of growth of the informal economy in China.

$$\ln\left(\frac{C}{M2}\right)_t = .818 + -.134\ln(URBANPOP)_t + -.057\ln(HHC)_t + -.059\ln(TWB)_t + .88\ln(GPC)_t + -.002\ln(INF)_t + .05\ln(INT)_t + .022\ln(TAX)_t + e_t$$

Equation XIII: Estimated constant and coefficients.

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	.101	7	.014	38.617	.000[b]
	Residual	.010	28	.000		
	Total	.111	35			

a. Dependent Variable: logcm2

b. Predictors: (Constant), logtax, inf, intr, hhc, logurbpop, twb, gpc

Diagram 2: Regression Model Summary

In-order to acquire values for M0, M1, M2 the ratio for given years was calculated and then forecasted where omissions existed. This created robust data for the entire period which was then used to calculate Illegal Money, Legal Money. Velocity of the Circulation of Money, Underground Economy and Tax Evasion. In the case of Tax Evasion and The Velocity of Money Gross Regional Product was used given that this figure represents all administrative divisions and provinces. If we begin by examining the percentage of tax collected which can be derive by dividing taxes by the summation of taxes and tax evasion, we will find that over the period 50% - 65% tax was collected assuming a loss of tax given informal economy tax evasion. Taxation increased as the economy moved from agrarian to industrial, being at its peak 1990 to 2004. Thereafter we begin to see a decline in the percentage of tax collected indicative of more people paying less taxes as the economy slows and informality grows. The price for industrial labor become too costly for employers thereby increasing unemployment and fueling the informal sector (Das & N'Diaye, 2013)[15]. Less taxation can be seen with a growing unemployment statistic. Despite the increase in labor supply for the years, the ratio between economically active population and unemployment increased intensity ranging from .05 to .1. With such movement in the labor market of the economy

we can expect that the underground economy would absorb workers, so using 1980 as our base year we experienced positive single digit growth until 1994 8.3%. After 1994 the values increased positively with double figures, ending with triple figures for the years 2011-2015, 135%-221% respectfully. As legal money grew so too did illegal money which supports our hypothesis that the illegal economy chases money and now we know at a mean of 4.44 for the period under study. Again, using 1980 as our base total wage bill had positive double digit growth from 1995 (10.48%) to 2012 (91.81%) ending with triple figures in 2015 (120%) which gives us an indication of the inverse relationship between unemployment and wages as predicted under the Lewis Turning Point (Lewis , 1954).

In accordance with the China's 13th Five Year Plan we begin to see the transition on industry. The new plan to is to become more innovation driven and environmentally friendly away from heavy industry[7] building upon the successes of past plans. This therefore will require a different skill set, one that is educated and technologically incline. One that can demand higher wages creating a frenzy; shrinking industry and growing wages. As this transition occurs what then happens to workers who cannot demand high wages, or the worker who is in a shrinking industry or the worker who is already redundant. One option, and we can see this by the growth of the underground economy is to subscribe in whole or in some degree to the conceptual framework by the ILO for informal employment. A comparison of the primary, secondary and tertiary sectors of China's economy reflects our intuition[8], that the percentage change share of employment has been experiencing negative growth for the primary and secondary sectors while experiencing positive growth for the tertiary sector. This birds eye view of the movement of data does not tell us much about diminishing returns and the increasing unemployment rate of the industrial sector but it does give us an indication of the trend which seems to reinforce informality and its' size from one stage to the next (McMillan & Rodrik, 2011)[46]. With total wage bill, although the secondary sector is still the cash cow, the trend is: a positive increase in all sectors indicative of the Chinese economy attempt to smooth development across sectors. The secondary sector pulls on primary sector wages as predicted in "*Getting Old Before Getting Rich*".

4.6 Policy Consideration

Contrary to (Lewis , 1954) theory of modernization the informal economy has not dissipated but in-fact has grown given China realization of the Lewis Turning Point (Das & N'Diaye, 2013)[15], where it necessitates labor seeking inventive ways to enjoy financial gain. Evidence of Labor shortages is plastered all over online media for example with headings like: *"As China Work Force Dwindles the World Scrambles for Alternatives[9]"* and *"China Facing Labor Shortages Due to One Child Policy.[10]"* In the authors view, The Lewis Turning point model effectively captures China's economic cycles over time as supported by (Fang & Wang, 2010) and is the best tool to illustrate the birth and transition of informality. **Diagram 4** seeks to highlight a grey area within China's Industry, The Informal Labor Economy. This diagram is derived from reworking the Lewis's Turning Point Model, along with the taxed supply and demand curves, given the assumption that the informal labor economy is tax adverse. To the authors knowledge there has been no other attempt to model China's informal labor following research using Lewis Turning Point. Prevailing graphical depictions of the informal sector make general assumptions on informal employment and seek to demonstrate where informality exists via a topology of inter linkages among workers (ILO, 2012) which is intended to be representative of the worldwide sector. This model goes a long way in our understanding of informal employment but generalists' models always seem to overlook intricacies that narrower models tend to highlight. While other scholars chose to depict informality by categorizing it in a bid to differentiate theoretical approaches (Kwame & Williams, 2014)[37], others examine economic contribution or decomposition of informal employment (He, 2003). Unlike **Diagram 4**, no other model illustrates the growth of informal employment in relation to formal employment for China as we have demonstrated that the informal economy is positively correlated. **Diagram 4** also seeks to depict the direction and movement of informal growth along China's long run labor supply curve as the economy transitions from one economic state to the next and its implications on labor demand.

(Refer to Industry Trends Diagram 3)

The quadrant AEJK sums up the effects of the Lewis Turning Point experienced in China. Profit seeking firms at D1 given available rural migrant labor, will seek to increase marginal productivity via the employ of additional workers causing a shift to D2. However, beyond quadrant CEFG as additional labor is demanded firms begin to earn diminishing returns as the pool of low cost migrant workers diminishes. China experiences its turning point Lewis Turning Point at quadrant GFJK; where labor supply becomes scarce and more sophisticated given increased education and skill consequent to higher wages K on D3. To illustrate tax and revenue D1 was intersected at point I with a short term labor supply curve FLSC 1. We can now identify

[7] https://en.wikipedia.org/wiki/Five-year_plans_of_China
[8] See Industry Trends Below
[9] http://www.wsj.com/articles/as-chinas-workforce-dwindles-the-world-scrambles-for-alternatives-1448293942
[10] http://www.china.org.cn/china/2015-10/21/content_36849280.htm

Tax BC and Revenue CD. The informal economy is predominantly outside of BC. The size of the informal labor supply INFLSC 1 determines its position in relation to FLSC 1, in this case to the left of FLSC 1 signifying a smaller employee base for the informal economy of China. The informal economy grows with the formal economy given increase consumption, therefore at D2 there is an increase to INFLSC 2 where more tax payers partake in the informal economy. This trend is true up until LTP where the informal sector will increase given reduce employment and increase consumption. Taxpayers however will experience an income or substitution effect where the former can add to the informal economy supply of labor.

4.7 Other Policy Considerations

If surplus labor from the agricultural sector is less and less an option; then we can begin to consider the positive impact the informal economy can bring. To effectively manage the informal sector, we need to effectively measure it. Macroeconomic data to often fails to reject stationarity test and there exists too many omissions and variations in statistical presentation (Minami, 2010) [47]for China. We have seen that base on one's approach and interpretation, data can result in contrasting results which can misdirect actions and policy implications. A move in the right direction would see historical data normalized by one official body. In this way research can start at the same point of interpretation as ideas are applied. Given that the informal economy is motivated by money effort should be put into ways to influence output. Be it by providing amenities that would encourage informal workers to work in a specify areas for example. Directing them to the gaps of a system in an economy. We have seen that household consumption in China is a complex variable and if it is too difficult to keep track of the circulation of money effort can be made to keep track of the products sold. Consumers therefore should be educated on the difference between official and unofficial providers and have a medium and incentive to report.

(Refer to Diagram 4 in Annexure)

5. CONCLUSION

Whether for or against the view that China is experiencing the Lewis Turning point, as the economy transitions the effects positively impact the growth of the informal economy. Guided by (ILO, 2012) definition of informality, this study can be credited to the fact that there is a need for social scientist to delve deeper into the mechanisms of informality to fill statistical gaps and build theory to aid policy and management of the sector. There are lessons from older, robust informal economies for economies that have not yet figured out how the cope this theirs. Policy on the issue of informality has researched many of ways to regulate its endeavor but it seems to stand the test of time. If the informal economy is to coexist with the formal sector, then we must turn our attention to find ways to allow this coexistence to be beneficial to all. One way to do this would be to adopt the approach discussed in this paper; that is to reposition the stakeholder's role giving influence to the regulated industry. This approach is not without imperfection but it is the authors hope that this contribution can enlighten further investigation. The author sort to model China's manufacturing informal sector using the Currency Demand Approach given the problemization of omissions of informal statistics for China. It is the hope of the authors that this research will trigger further and more concise work into the topic. An adaptation of the Lewis Turning Point model to depict informality movement along China's long run labor supply was conducted to demonstrate the close relationship the LTP plays on informality, which seems to reinforce informality and its' size from one stage to the next (McMillan & Rodrik, 2011)[46].

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ANNEXURE

Table 1: Unit Root Test Result Estimates by author via Matlab 2012.

ADFTest	Gross Dometic Product per Capita		Household Consumption		Gross Regional Product		Inflation		Interest Rate		Total Wage Bill		Tax		Urban Population		Cm2	
Difference	*reg 2*	*0.31*	*reg 2*	*0.87*	*reg 2*	*0.18*	*reg 2*	*0.12*	*reg 2*	*0.12*	*reg 3*	*0.22*	*reg 2*	*0.08*	*reg 3*	*0.16*	*reg 3*	*0.27*
	TSTAT	PV	TSTAT	PV	TSTAT	PV	TSTAT	PV	TSTAT	PV	TSTAT	PV	TSTAT	PV	TSTAT	PV	TSTAT	PV
c	2.77	0.01	2.12	0.04	3.08	0.00	2.41	0.02	3.29	0.00	2.95	0.01	3.50	0.00	3.02	0.01	2.65	0.01
d	2.47	0.02	1.75	0.09	2.81	0.01	-1.14	0.26	-2.53	0.02	2.71	0.01	3.31	0.00	2.97	0.01	-2.71	0.01
a	13.41	0.00	15.31	0.00	10.08	0.00	3.76	0.00	6.59	0.00	5.80	0.00	3.27	0.00	13.41	0.00	4.60	0.00
b1	5.42	0.00	4.51	0.00	4.65	0.00	1.50	0.14	0.58	0.56	1.13	0.27	1.76	0.09	1.78	0.09	1.49	0.15
b2											2.09	0.05			3.20	0.00	0.68	0.50
PPTest	TSTAT	PV	TSTAT	PV	TSTAT	PV	TSTAT	PV	TSTAT	PV	TSTAT	PV	TSTAT	PV	TSTAT	PV	TSTAT	PV
Difference	*reg 3*	*0.83*	*reg 3*	*0.90*	*reg 3*	*0.62*	*reg 2*	*0.20*	*reg 2*	*0.28*	*reg 3*	*0.43*	*reg 3*	*0.11*	*reg 3*	*0.80*	*reg 3*	*0.41*
	11.26	0.00	13.42	0.00	9.10	0.00	-0.91	0.37	-2.11	0.04	6.95	0.00	4.40	0.00	12.49	0.00	6.71	0.00

Table 2: Currency Demand Function Results Estimates by Author.

Year	Total Wage Bill	Labor supply	EAP	Un employment	Illegal Money	Legal Money	Velocity	Under ground Economy	taxes	Tax Evasion	% Tax collected
1980	772.4	48318	42903	5415	2203.608999	3230.36143	1.35365	2982.916	571.7	389.9883	59.45%
1981	724.436	48838.1	44443.11	4395	1553.828178	2288.30851	2.087385	3243.437	629.89	427.7137	59.56%
1982	840.421	49635	45841	3794	1224.484636	1812.09673	2.929082	3586.616	700.02	473.0232	59.68%
1983	1042.91	50053.2	47339.22	2714	1649.840632	2448.84084	2.435389	4018.004	775.59	522.5329	59.75%
1984	1115.64	51142.5	48785.53	2357	2706.723504	4049.44518	1.752877	4744.554	947.35	633.2261	59.94%
1985	1383	52497	50112	2385	2927.120506	4384.02334	1.954857	5722.103	2040.79	1362.593	59.96%
1986	1358.43	54190	51546	2644	2479.938675	3726.975	2.58028	6398.937	2090.73	1391.177	60.05%
1987	1771.75	55826	53060	2766	2063.995408	3118.80054	3.678626	7592.667	2140.36	1416.472	60.18%
1988	2124.45	57590	54630	2960	1672.123547	2539.25609	5.711893	9550.991	2390.47	1574.147	60.30%
1989	2618.5	59486	55707	3779	1502.869679	2282.38925	7.225402	10858.84	2727.4	1795.893	60.30%
1990	2951.1	60955	57123	3832	2437.223987	4513.47601	4.092274	9973.788	2821.86	1523.771	64.94%
1991	3323.9	69712	66190	3522	3041.919004	5591.381	3.797734	11552.4	2990.17	1626.764	64.77%
1992	3939.2	70613	67010	3603	4045.151803	7686.3482	3.381191	13677.43	3296.91	1735.089	65.52%
1993	4916.2	72101	67900	4201	5557.750835	10722.6492	3.191326	17736.6	4255.3	2205.602	65.86%
1994	6656.4	73534	68770	4764	7243.368339	13297.3317	3.410092	24700.56	5126.88	2792.732	64.74%
1995	8100	74856	69660	5196	8938.773715	15048.3263	3.823368	34176.22	6038.04	3586.623	62.74%
1996	9080	75193	69665	5528	10882.60208	17632.1979	3.843204	41824.06	6909.82	4264.745	61.84%
1997	9405.3	76348	70580	5768	13040.88034	21785.4197	3.504145	45697.14	8234.04	4928.945	62.55%
1998	9296.5	77140.7	71430.71	5710	14770.11354	24183.5865	3.413822	50422.53	9262.8	5657.251	62.08%
1999	9875.5	78541	72791	5750	17083.27663	28754.0234	3.06794	52410.47	10682.6	6346.711	62.73%
2000	10656.2	79942	73992	5950	19275.36433	33871.8357	2.908143	56055.51	12581.5	7159.73	63.73%
2001	11830.9	81242	74432	6810	22251.87245	37619.7175	2.885358	64204.62	15301.4	9050.689	62.83%
2002	13161.1	83060	75360	7700	25970.55764	44911.2324	2.684653	69721.94	17636.5	10198.53	63.36%
2003	15329.6	84075	76075	8000	30835.31563	53283.2544	2.613393	80584.8	20017.3	11584.13	63.34%
2004	17615	85093	76823	8270	35446.58184	60523.1182	2.768975	98150.69	24165.7	14153.12	63.06%
2005	20627.1	86267	77877	8390	41204.34403	66074.456	3.014877	124226	28778.5	17946.43	61.59%
2006	24262.3	86714	78244	8470	48265.21017	77769.9198	2.993642	144488.8	34804.4	21600.12	61.70%
2007	29471.5	86945	78645	8300	58040.54952	94519.5305	2.959561	171774.5	45622	28014.57	61.96%
2008	35289.5	88103	79243	8860	67852.46737	98364.6626	3.388554	229921.7	54223.8	37403.86	59.18%
2009	40288.2	86710	77510	9200	87093.65278	132907.857	2.748548	239381.1	59521.6	39004.11	60.41%
2010	47269.9	87488	78388	9100	107360.5714	159260.929	2.744188	294617.6	73210.8	49352.67	59.73%
2011	59954.7	87799	78579	9220	126566.6533	163281.047	3.193519	404193	89738.4	69560.36	56.33%
2012	70914.2	88074	78894	9180	143336.2128	165327.987	3.487321	499859.5	100614	87230.66	53.56%
2013	93064.3	88600	79300	9300	159107.8795	178183.17	3.840247	611013.6	110531	98697.9	52.83%
2014	83645.2	89043.5	79543.53	9500	165775.3115	194441.246	3.473598	575836.8	114582	97689.29	53.98%
2015	92916.6	89263.7	79563.74	9700	185841.6132	207721.425	3.558657	661346.5	126003	112731	52.78%

Diagram 3: Industry Trends

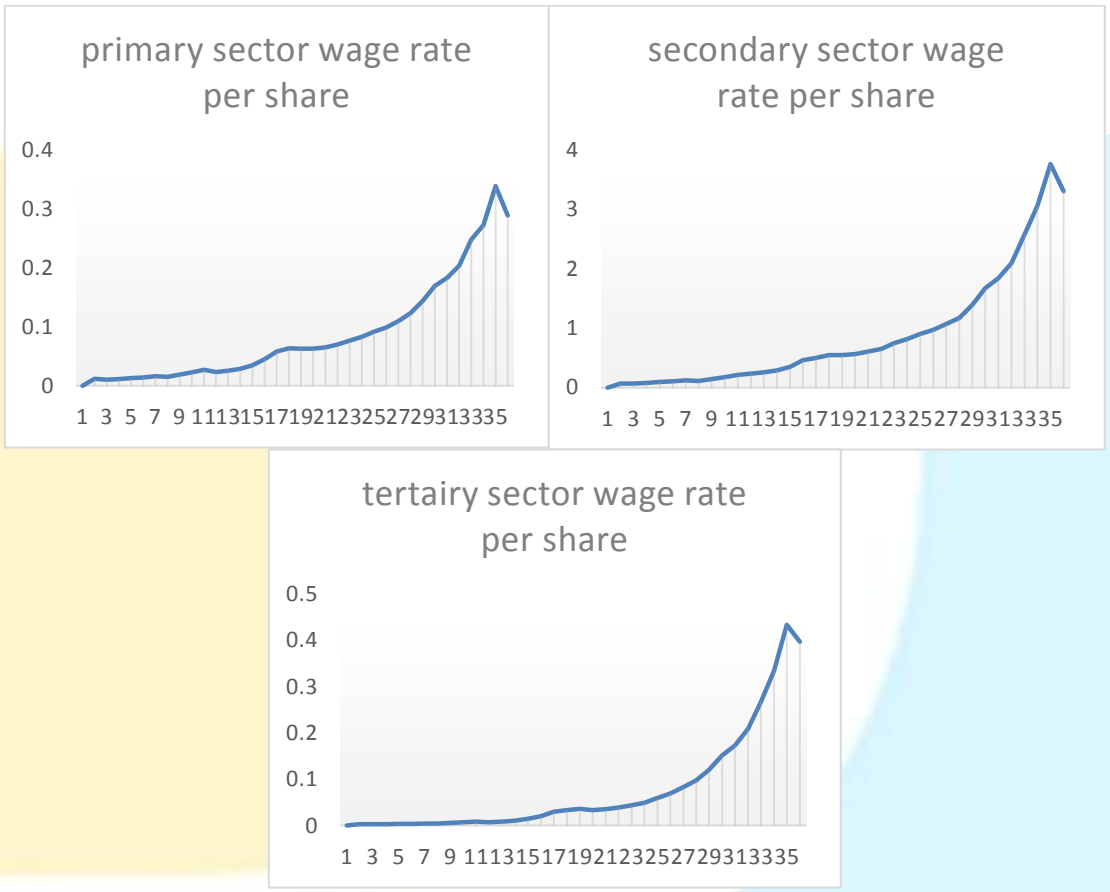

Diagram 4: LTP and China's Informal Economy adapted by authors