Socio-Economic Determinants of Crime in Malaysia: A Conceptual Framework

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Abstract
One of the ways to ensure that the current socio-economic development policies and strategies fall into place, socio-economic matters should be improved, and the well-being of Malaysians must be safeguarded. However, crime can pose a challenge to Malaysia as it can hinder the policies implementation. This study aims to provide a conceptual framework on socio-economic determinants of crime in Malaysia. This study is in the spirit of criminal motivation and criminal opportunity theory. Hence five socio-economic variables of interest are chosen namely as unemployment, income, inflation, the number of the labour force with tertiary education and female labour force participation are being discussed as potential socio-economic determinants of crime in Malaysia. This study provides a conceptual framework as a direction for further research as well as policymakers to prevent crime through continuously improve the socio-economic status of Malaysians.
Keywords: Socio-Economic Determinant, Crime, Unemployment, Malaysia, ARDL.

Introduction
The seventeen Sustainable Development Goals (SDGs) can be achieved by the year 2030 if public safety is always a priority in any development plan. In realizing Vision 2020, the Eleventh Malaysia Plan, (2016-2020) reaffirms the government's commitment to give the priority on the prosperity and well-being of Malaysians. A socio-economic status (SES) index is defined as a total measure of the social and economic standing of an individual or area that involves a combination of many variables that capture living standards (Rahman & Naeeim, 2018). In sustaining country's resources and people's prosperity, it is vital to ensure that there is a balance in economic, social, demographic and environmental development. Stable economic conditions such as better economic growth will result in a lower unemployment rate and give more opportunities for people to earn a legitimate income. However, a good economic condition must be combined with improvement in social conditions so as criminal activities can be lessened and thus improving the well-being of society.
Costs of crime are unquestionable. It can give detrimental effects not only on the victims but also to country performance as a society feel insecure when crime rates are high. Crime is

perceived to be an essential factor that can deprive the root of quality of life. Crime can have repercussions for societies because the victims have to suffer the loss of property, lives, and also plunge them into abject misery (Hamid, Habibullah, & Noor, 2013). This situation strongly implies that if crime spirals out of control, quality of life can be ruined.

Throughout this paper, the term crime index in Malaysia will be discussed as the criminal cases that are reported with sufficient regularity and with sufficient significance to be meaningful as an index to the crime situation (Sidhu, 2005). In other words, it means a regular or frequent crime case that has been reported to police only will be counted as a crime index. Thus, the crime index used in Malaysia consists of property crime and violent crime. In contrast, non –crime index includes drug abuse, fraud, cybercrime, white-collar crime, illegal gambling syndicate, corruption, domestic violence, child abuse etcetera.

On this issue, studies on variants factors that influence criminal activities are well-versed (Rehman & Gill, 2009). It indicates that the investigation of criminal behaviour is a complex phenomenon. Among these factors, the contribution of socio-economic factors to criminal behaviour is among the crucial determinants explaining criminal behaviour (Adewale et al., 2017). The relationship between crime and unemployment has gained interest from economists and sociologists. In numerous studies on economic factors on crime, unemployment and economic condition are regarded as important macroeconomics variables affecting crimes (Baharom et al., 2015; Habibullah & Baharom, 2009).

In Malaysia, the economist that attempts to examine the determinant of crime rate are found very few (Habibullah, H.Din, & Abdul Hamid, 2016; Hamid et al., 2013; Ishak & Bani, 2017; Lau, Hamzah, & Habibullah, 2019; Meera & Jayakumar, 1995; Tang, 2011; Tang & Darit, 2015). Besides, their research still lacks as it does not look into the number of female labour force participation as the potential determinant of crimes. Hence, a further study to re-examine on socio-economic determinants of crime rates is therefore suggested.

Literature Review

As usually found, in the literature, there are two commonly-used criminal theories for determining the relationship between socio-economic factors and crime rates; criminal motivation theory and criminal opportunity theory (Abdul Razak & Fabian Adekoya, 2018; Baharom et al., 2015; Habibullah & Baharom, 2009; Ishak & Bani, 2017; Tang & Darit, 2015; Tang & Lean, 2007). Broadly speaking, increases in either criminal motivation or criminal opportunity lead to an increase in crime. A seminal work of Becker (1968) argued that property crime increases during economic difficulty (criminal motivation theory) but there is also a tendency for this type of crime to decline due to less opportunity for criminal as argued by (Cantor & Land, 1985; Cohen & Felson, 1979). This effect refers to the criminal opportunity theory. Meanwhile, violent crime also takes place in areas where there are high population densities, swift changes in social environments and poor living conditions (Ghani, 2017).

Criminal motivation theory is explained as each criminal has a motive to commit crime due to economic and financial incentives. For instance, economic strain such as being unemployed, losing income, and being poor are factors that drive individual to become criminal. Despite this criminal motivation, crime will unlikely to happen if there are fewer victims and criminal opportunity. Due to this reason, criminal opportunity theory argued that a motivated offender, a suitable victim and opportunity for criminal (lack of guardianship) must be converged. To rectify these ambiguous findings, Cantor and Land (1985) have developed a

model of unemployment and crime that integrated both of these theories. Figure 1 shows these two distinct structural effects of unemployment on crime.
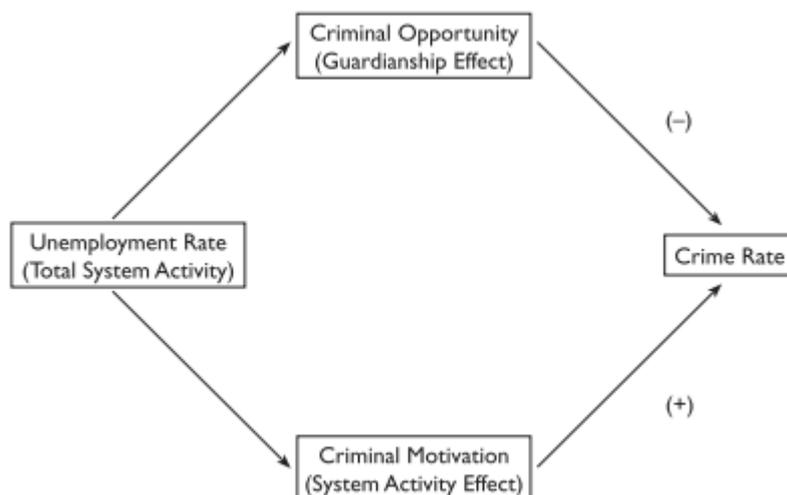

Figure 1: The Cantor–Land model of Unemployment and Crime
Source: Andresen (2015)

Selected Potentials Socioeconomic Determinants of Crime
Unemployment can cause strain. Thus, unemployment is considered one of the main causes of crime in both developed and developing countries (Abdul Hamid & Habibullah, 2008). An economic approach to crime by Becker (1968) viewed criminal motivation that explains unemployment is positively related to criminal activities since the lack of income has been a motivation for them to offend. In contrast, Cantor and Land (1985); Cohen and Felson (1979) advocated two effects on crime-unemployment linkage; criminal motivation effect and criminal opportunity effect. They argued that the opportunity effect has an immediate impact *(contemporaneous effect)* on crime, while the motivation effect occurs over time with the lagged unemployment. This lagged effect *(the system activity effect)* indicates that criminal motivation exists in the long run since it may take some time for an individual to commit crime after facing economic adversity. Despite this argument, still, an increase in unemployment can reduce criminal activities as there will be less opportunity for criminal activities. This effect has been explained as when people are unemployed, they prefer to stay at home and as a result, less probability for being crime's victim.

Majority of previous studies used unemployment as a determinant of crime (Abur & Clement, 2014; Ghani, 2017; Hamid et al., 2013; Janko & Popli, 2015; Lobonţ, Nicolescu, Moldovan, & Kuloğlu, 2017; Mulok, Kogid, Asid, & Lily, 2018; Saridakis & Spengler, 2012; Šileika & Bekerytė, 2013; Tang, 2009, 2011; Wilson, 2018). Most of their findings revealed that unemployment had affected positively on crime. However, Baharom et al. (2015) suggested that the unemployment rate has affected negatively on violent crime, murder, robbery, assault, and motorcycle theft in Malaysia.

Using the economic approach to crime, Ehrlich (1973) used legal and illegal income opportunities to explain his time allocation model. The effect of income on criminal activities can be viewed into two effects: As in the good state of the economic condition ensues legal

income opportunities to increase, then the time allocation tradeoff predicts that crime decreases. This situation happens because an individual who has legal income opportunities will not choose to earn illegal income. Conversely, criminal opportunity theory argued that as income increase, there would be more goods to be stolen. Jalles and Andresen (2015) suggested that gross domestic product (per capita) as a better measure of the state of the economy and can be used as a proxy for legal income. Several previous studies who used real GDP per capita to indicate a state of the economy or economic performance or economic growth (Janko & Popli, 2015; Levitt, 2004; Mulok et al., 2016; 2018). Apart from that, GDP per capita also has become a popular proxy for economic development (Debnath & Das, 2017) meanwhile Ekrem (2010) used GDP as a proxy for well- being of 81 provinces in Turkey.

Moreover, Tang (2009) justifies that inflation must be included in unemployment-crime specification model so as the misspecification problem can be avoided when using it as a policy instrument to reduce the crime rate in Malaysia. Inflation is believed as one of the factors that could affect purchasing power. During the inflationary period, the purchasing power decreases, especially for the lower and fixed income earners. It also implies the cost of living; thus, the difficulty in living to purchase the necessary goods tends to inflict a strain to the public. This strain will induce them to commit the crime. The structural strain theory by Merton (1938); Brezina, (2019) has well explained about this effect. In the same vein, Abdul Razak and Fabian Adekoya (2018) suggested that inflation as a stress builder be studied along with unemployment to represent economic distress in crime function adequately.

However, Tang and Darit (2015) used data from 1970 to 2013 to examine the effects of inflation on crime in Malaysia. They employed the bounds testing approach to cointegration, and the Granger causality tests revealed that inflation does not influence the crime rate in Malaysia. This outcome is contrary to most studies such as (Abdul Hamid & Habibullah, 2008; Adekoya & Abdul Razak, 2016; Rosenfeld & Levin, 2016; Tang, 2011; Tang, & Lean, 2007) who found findings as criminal motivation theory has explained. These majority findings will help this study to hypothesize that inflation has a positive relationship with crime due to the higher price of the property that becomes an attraction for the individual to commit the crime. Besides, inflation also drives the individual to become criminal due to economic strain (Hamid et al., 2013).

Apart from economic variables, social variables such as education also are considered as a secret to crime reduction (Gonzales, 2015). Lochner and Moretti (2004) have discussed the external effects of education on crime. The author stated that the first effect is a civic externality which allows an individual with higher education level refuse to accept the execution of the crime. Second, pecuniary externality leads to increase patience and risk aversion, thus lowering typical violent and property crimes *(criminal motivational theory)*. Several studies by prominent scholar Lochner (2010;2004; 2007) revealed there is a negative correlation between educational attainment and most types of crime. The author argued that an increase in educational attainment significantly reduces subsequent violent and property crime because years of schooling increases the legal income opportunities (relative to most types of crime) and thus increasing the opportunity cost of crime. The effects of education on crime is supported by Gonzales (2015) who studied on college graduation, and varying levels of educational attainment stated that increased college graduation rates lead to a significant

decrease in the crime rate. Generally, we would, therefore, expect a negative relation between educational attainment and crime.

Another crucial social variable to determine crime is female labour force participation. Female can be seen as a suitable target for victimization subject to their vulnerability. Rennison and Melde (2014) argued that females are generally viewed as passive victims who are lack of guardianship such as unlikely to carry weapons or put up much of a physical fight, thus easily being a criminal target. Cohen and Felson (1979) in their routine activity theory, asserted that increasing number in female labour force participation tends to increase higher rates of victimization for both violent and property crimes due to lack of capable guardian for themselves during their way to and from work. At the same time, their home and other properties will be less guarded and provide the opportunity for illegal entry. However, the findings of the female labour force participation-crime relationship are mixed. Seals and Nunley (2007) found that an increase in female labour force participation leads to a decrease in a robbery, and this outcome is contrary to that of Witt and Witte (1998) as they found that there is a positive relationship between these two variables. This somewhat contradictory result may be due to different statistical method, unit of analysis and data measurement of economic performance.

Today, due to changes in socio-economic status, females are considered as a catalyst for economic growth and development (Gaddis & Klasen, 2014). The authors explained that the empowerment is given to female and the equal opportunity to access education has spurred female into labour force participation, thus being provided with attractive and good job opportunities. It is proven by Ministry of Education, Malaysia (MOE, 2018), reported that female students outnumbered male students' enrolment at Public Higher Education Institutes, comprised 205,067 males and 333,488 females in 2018 as compared to 150,984 males and 185,730 females in 2001. It is suggesting that increasing economic growth, reducing poverty and unemployment level, coping with a higher cost of living, assessing better education can prevent crime. Then, it is remarkable that female labour force participation is the primary key to the solution. To date, the effect of female labour force participation and crime rates is not fully understood in Malaysia's crime studies. Therefore, this current study is motivated by the need for a further empirical work to fill this gap in the literature by providing some empirical evidence on the link between female labour force participation and the crime rates in Malaysia.

A Proposed Conceptual Framework
This combination of findings provides some support for the conceptual premise that these socio-economic factors can potentially influence crime rates in Malaysia. Figure 2 below depicts the proposed conceptual framework of this study in which it is firmly believed, and as past works of literature have suggested, economic variables are closely related in the occurrence of crime. The economic factors such as being unemployed, coping with high inflation and losing income indeed cause strain in the society, and as crime causation theories claimed, these induce crime. Besides, the social variables such as total labour force with tertiary education and female labour force participation also are expected to affect criminal activity negatively through the system activity effect *(motivation)* and positively related due to guardianship effect *(opportunity).*
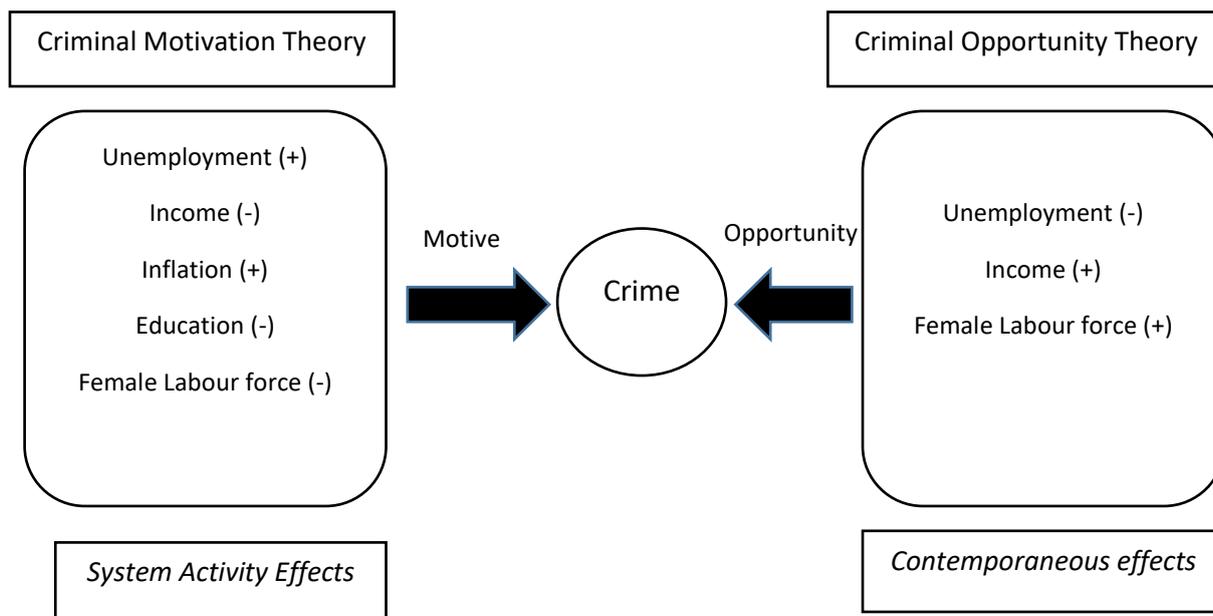
Figure 2: A proposed conceptual framework

Conclusion

This paper set out to shine new light on crime studies by identifying the potential socio-economic determinants of crime in Malaysia. This study draws on Cantor and Land (U-C) model as an underpinning theory. This paper has adapted the research framework by Tang & Darit (2015) to develop a proposed conceptual framework for crime model in Malaysia. However, further studies are in need to prove this conceptual framework empirically. It is hoped that these future findings can offer some critical insights into socio-economic determinants of crime particularly, the effects of a total number of the labour force with tertiary education and the total number of female labour force participation on crimes in Malaysia.

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