STRENGTHENING RULE OF LAW TO CONTROL CRIME : A CROSS COUNTRY ANALYSIS

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ABSTRACT

Economists have studied the psychology of crime and how individuals react to changes in the economy. One basic idea is laws are enacted to lower down crime rates and discourage potential offenders from committing crimes. This research analyses how the effect of rule of law on crime index variates in countries with different unemployment rates. The paper uses a cross-country analysis of high, moderate and low unemployment rate countries to examine the relation between rule of law and crime index. Further, we see how migration and unemployment rate affects crime index. This paper investigates how the effect variates in different countries and if the variables have a negative, null or positive effect on levels of crime. In this paper, we examine and clarify the relationship between rule of law, migration, unemployment rates and crime index over the period 2012–2020 by developing a model that depicts the structural effect of these variables on the crime index of a country using panel data regression. Through this research, we find that the rule of law has a negative impact on the crime index. Further, we find that migration and unemployment have a positive impact on the crime index.

Keywords: Economics of Crime, Rule of Law, Crime index, Unemployment, Migration

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1. INTRODUCTION

By passing laws, rules, and regulations, we aim to achieve peace in our society where every person feels safe and secure. A strict law ensures that potential criminals know that they will face severe consequences before committing a crime, which brings fear into their minds. By enacting strict punishments, it is important to establish fear in public mind against any criminal activity. Rule of law is the only way nations can maintain law and order, control crimes, enforce contracts and ensure individual freedom and rights (Nwabuzor 2005).

The rule of law implies that laws are created, enforced, and regulated, such that no one, not even the most powerful official, is above the law. Laws bind rulers in the same way citizens are bounded by laws. Similarly, equality before the law, which holds that no legally recognized person should enjoy privileges that aren't extended to all, and no one should be immune from legal penalties, is closely related to this concept. The most important assurance required by people, both individually and as a society, is the rule of law principle, which is the cornerstone of rule of law and democracy. Factors such as restricting the state's power by law and protecting individual rights and liberties, providing an equitable and fair environment, and respecting the superiority of law above any individual all contribute to the rule of law notion. (Ozpolat 2016).

In many developed economies, a crime epidemic appears to have arisen, raising issues about whether more unemployment leads to higher crime rates and whether the rule of law is weak in such nations. When there is high unemployment, people lose their disposable income which causes them to be frustrated, their entire lifestyle changes which makes them suffer with anxiety. This forces them to find new ways to maintain their lifestyle, some might have the resources to find other options to generate an income but those that were entirely dependent on a particular skill or job have high chances of being exposed to part-take in criminal activities. Hence, we investigate if rule of law and involuntary unemployment increases participation in illegal activity. Further, we also examine the impact of migration on crime in a nation since, from a social standpoint, migration is frequently regarded as a possible cause of social chaos and criminality.

1.1. Objective

To examine the relationship between rule of law and incidents of crime across different categories of countries.

2. LEGAL FRAMEWORKS

The *Universal Declaration of Human Rights (UDHR)* provides a framework for understanding the relationship between rule of law, migration, unemployment rates, and crime index in different countries. The UDHR recognizes the inherent dignity and equal rights of all individuals and establishes a set of fundamental human rights that should be protected by all nations. Several articles of the UDHR are particularly relevant to our research topic. For example, Article 7 recognizes the right to be free from torture or cruel treatment, which is relevant in addressing issues related to crime. Article 9 recognizes the right to liberty and security of person, which is relevant in addressing issues related to migration. Article 23 recognizes the right to work and just conditions of employment, which is relevant in addressing issues related to unemployment rates. Furthermore, the UDHR emphasizes the importance of rule of law by recognizing the right to a fair trial (Article 10) and establishing principles such as equality before the law (Article 7) and presumption of innocence (Article 11). These principles are essential for ensuring that legal systems are fair and just. Overall, the UDHR provides a comprehensive framework for understanding how issues related to rule of law, migration, unemployment rates, and crime index are interconnected with fundamental human rights. By recognizing these rights and establishing principles for their protection, the UDHR provides a basis for promoting justice and equality in all nations.

One of the key provisions of the *International Covenant on Civil and Political Rights (ICCPR)* that is relevant to our topic is Article 14, which guarantees the right to a fair and public hearing by an independent and impartial tribunal. This right is closely tied to the rule of law, as it ensures that individuals are not subject to arbitrary or unjust treatment by the criminal justice system. By examining how the rule of law impacts crime, our research can contribute to the development of criminal justice systems that uphold this fundamental human right. Another relevant provision of the ICCPR is Article 9, which prohibits arbitrary detention or imprisonment. This provision highlights the importance of ensuring that criminal justice systems are fair and impartial, and that individuals are not detained or imprisoned without proper legal justification. Additionally, the ICCPR recognizes the right to privacy in Article 17. This right is closely tied to the rule of law, as it ensures that individuals are protected from

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arbitrary or unjustified interference with their privacy. Overall, the ICCPR provides an important framework for understanding the relationship between the rule of law and crime.

3.   THEORETICAL FRAMEWORK

According to the deterrence theory, people are less likely to engage in criminal behaviour when they believe the costs exceed the benefits. The threat of punishment and the efficacy of legal systems in enforcing laws impact this perception of costs. The deterrence theory suggests that factors such as migration and unemployment rates can influence an individual's perception of the costs associated with criminal behaviour in the context of the study subject. Individuals who migrate to a new nation, for example, may encounter economic challenges and a lack of legal employment opportunities. This increases their chances of engaging in criminal behaviour for survival or economic benefit. Similarly, unemployed people may see criminal activity as a means to get money or resources.

The social control theory suggests that factors such as migration and unemployment rates can weaken social bonds and increase the likelihood of criminal behavior. Individuals who migrate to a new country may lack social connections and support networks, which can make them more vulnerable to engaging in criminal behavior. Similarly, individuals who are unemployed may experience feelings of isolation and hopelessness, which can also increase the likelihood of criminal behavior. The theory also suggests that rule of law plays an important role in preventing criminal behavior by strengthening social bonds and promoting conformity to societal norms. When laws are enforced fairly and consistently, individuals are more likely to view them as legitimate and comply with them. This can help to strengthen social participation and bondings and reduce the possibility of involving in criminal activity.

The rational choice theory suggests that factors such as migration and unemployment rates can influence an individual's decision to engage in criminal behavior. Individuals who migrate to a new country may face economic challenges and lack access to legal employment opportunities. This can increase their likelihood of engaging in criminal behavior as a means of survival or economic gain. Similarly, individuals who are unemployed may view criminal activity as a way to obtain income or resources. The theory also suggests that rule of law plays an important role in preventing criminal behavior by increasing the perceived costs of engaging in such behavior. When laws are enforced fairly and consistently, individuals are more likely to view them as legitimate and comply with them. This can help to increase the perceived costs of engaging in criminal behavior and reduce its prevalence.

The procedural justice theory suggests that factors such as migration and unemployment rates can influence an individual's perception of fairness in legal systems. Individuals who migrate to a new country may face discrimination or bias in legal proceedings due to their status as immigrants. Similarly, individuals who are unemployed may view legal systems as biased against them due to their economic status. The theory also suggests that rule of law plays an important role in promoting procedural justice by ensuring that legal systems are transparent and impartial. When laws are enforced fairly and consistently, individuals are more likely to view them as legitimate and comply with them. This can help to promote greater levels of trust in legal systems and reduce the likelihood of criminal behavior.

4. LITERATURE REVIEW

The link between crime and the rule of law is a hotly debated issue in academic forums. There appear to be two primary categories of literature in this topic. The first strand of research analyses the link between crime and the rule of law by including other relevant variables, whereas the second strand of literature investigates the influence of the rule of law on crime. Our attention is drawn to the second strand, which assesses the impact. This study, on the other hand, contributes to the literature by empirically determining the association between incidents of crime and law enforcement, migration considering cross country differences.

The importance of strict devotion to the rule of law in crime control has not been decisively established. The burden of proof is on the opposite side. Even less evidence exists that illicit techniques are more effective. The best-known data indicates that the immediate gains of breaching the rule of law are at best small, if not mythical, and that the long-term consequences are significant. It is in the best interests, to follow the rule of law. There may be times when breaching it is justifiable, but such instances are few, and the value of doing so in any given case should not be assumed (Bayley 2002). Deterrence and prevention of crime are two very different things; neither is sufficient to prevent all criminal acts. A third method of deterrence is that of making the commission of a crime more difficult through physical means or careful planning (Biddle 1969).

The rule of law has various components. They include property rights, respect and enforcement, the operation of authorities for law enforcement and order maintenance, such as

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police and customs, and the judiciary. A robust rule of law ensures that people feel comfortable in the knowledge that their personal belongings will be protected. The rule of law stimulates economic activity because individuals save and invest when they know their property, assets, and the results of their labour will not be taken from them (Nwabuzor 2005). No country has achieved full democratic rule of law—and it may be undesirable to do so in the future. Furthermore, contrary to the rather positivistic inclinations of earlier legal views, virtually all legal theories today—despite their differences in other ways—hold that, like any other rule, the dominant or authorised interpretations define the true meaning or intent of the laws. One of the primary themes on which political wars are fought is the "correct" interpretation of laws and, indeed, constitutions. Contrary to technocratic and positivistic conceptions, we must never forget that the law, in its substance and application, is largely a dynamic stream of power relations, rather than a rationalised technique for the ordering of social relations. Modern societal change as well as ceaseless struggles for establishment of new rights and reinterpretation of old ones, make the rule of law, particularly the democratic rule of law, a movable target (Donnell 2004).

According to another study, an efficient institutional framework produces positive exogeneity, effectively distributes resources, eliminates asymmetric knowledge and market uncertainty. Important elements of institutional structure include the rule of law, the prevention of corruption, freedom of speech, political stability, the calibre of the bureaucracy, and the protection of property rights. Investigations have been done on the connection between economic growth and governance in high-, middle-, and low-income countries from 2002 to 2015. According to research findings, GDP in high income nations is positively connected with rule of law, corruption control, and voice and accountability (Ozpolat 2016). Police may reduce crime, but only if they use tactics that are blatantly at odds with those prescribed by the professional law enforcement paradigm, according to a chapter. Even seemingly pointless police initiatives like doorstep campaigns seem to be effective, perhaps because they engage neighbourhoods and make the "legal threat" known to plenty of prospective offenders (Homel 1994).

A recent study's findings imply that internalised moral standards are the most potent restrictions on dishonest behaviour across civilizations and cultures. Policy initiatives to promote moral internalisation may be more effective than measures to increase the frequency or likelihood of legal punishments. However, the process of internalisation is still little

understood, and it represents a significant area for future research targeted at lowering crime and improving social welfare (Mann 2016). A study examined how the old informal rules and regulations kept crime under control in China and how China has made much praiseworthy progress in the criminal justice field, but more needs to be done to make it truly representative and effective. "Government policies and legal practices influence public opinion, and public opinion then becomes a force of resistance against reforms of state policies" (Qi 2009).

In their paper by Debnath et al., (2013) where linkage between interstate migration and crime in India was examined, it was found that there is no significant association between these variables. Further, it was confirmed that poverty rate has a significant positive contribution on crime, while factors like percentage of civil police, education, and urban concentration act for reduction in crime. Thus, government should concentrate on boosting economic development by opening up more employment opportunities. Education can go a long way in preventing criminal activity by improving the skills and thereby increasing the reward and as such involvement in legal work and hence, increasing the opportunity costs of criminal activities. Whereas another study mentioned that population migration and immigration patterns have had distinct political, economic, and cultural effects. The necessity for work in the rising Western European economies attracted many immigrant groups to rather racially homogeneous national populations in the second half of the previous century. Furthermore, an influx of refugees and asylum seekers as a result of global instability, as well as population movement in Central and Eastern European countries following the fall of the Berlin Wall and the end of Communism, brought a game-changing number of ethnically and culturally diverse groups. These influences resulted in significant changes in European demographics. As a result, in recent decades, European countries have been populated by young people who are second-generation ethnic minorities. Many of these countries now have a multi-ethnic, multi-cultural society (Decker 2009). According to one study, internal migrants positively contribute to South Africa's crime problem. It is clearly no coincidence that the victims of crime survey conducted in South Africa likewise reveals that only a small percentage believed foreigners were responsible for the crime (Kollamparambil 2018). Again, the recent incident in France raises an eyebrow on this issue and the country is demanding a ban on in-migration. When unemployment is considered, a paper stated that crime imposes tremendous economic costs on society, with unemployment being thought to have a role in the supply function of crime. 2 The correlation between the

longest economic growth since World War II and the overall decrease in crime rates in the 1990s appears to support this notion. The yearly unemployment rate in the United States fell significantly between 1991 and 2000, from 6.8 percent to 4.8 percent (Lin 2008).

5. METHODOLOGY

5.1. Data Description

The paper intends to explore the effect of rule of law on crime. We obtained secondary data from three sources, including the World Bank, the Worldwide Governance Indicators (WGI) and the Numbeo database. This study selects three panel groups (High unemployment rate countries, moderate unemployment rate countries and low unemployment rate countries) composed of 30 countries in the world from 2012 to 2020[4]. The panel data of these countries are used as samples. To measure crime, we used the crime index which is an estimation of overall level of crime in a given city or a country[5]. Then, the impact on crime index is explored from the perspective of three variables, including rule of law (ROL) which reflects perceptions of the extent to which agents have confidence in and abide by the rules of society, and in particular the quality of contract enforcement, property rights, the police, and the courts, as well as the likelihood of crime and violence; net migration which is the number of immigrants minus the number of emigrants, including citizens and noncitizens.[6] Along with this, we have taken unemployment rate that largely impacts the level of crime in a country. unemployment rate (UR) which refers to the share of the labor force that is without work but available for and seeking employment. The selected countries are classified into three groups according to the World Bank Data (2020).

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[4] The list of each category of countries is given in **Appendix A**.

[5] We found that there were significant gaps and inconsistencies in the data available for specific crimes in many of the countries we studied, due to resource constraints or lack of political will. As a result of these limitations, we were unable to include specific crimes such as homicide, burglary, and fraud in our analysis.

[6] Countries with weaker economies and fewer job opportunities, such as Romania, Indonesia, Lithuania, and Jamaica tend to experience higher levels of emigration as individuals seek better economic prospects elsewhere. On the other hand, countries with stronger economies and more job opportunities, such as Singapore, Japan, and the Netherlands, tend to experience higher levels of immigration as individuals seek better economic prospects within these countries. Political stability, economic opportunity, and cultural factors all play a role in determining net migration patterns.

Variable	Abbreviation	Source
Crime Index	CI	Numbeo
Rule of Law	ROL	Worldwide Governance Indicators (WGI)
Net Migration in Lakhs	NMIG	World Bank
Unemployment Rate	UR	World Bank
Unemployment dummy = 1 for countries with high unemployment in model 2 =1 for countries with high and moderate unemployment in model 3	Dummy	World Bank

Table 1: Description of variables

5.2. Modelling Strategy

The deterrence theory of punishment serves as the theoretical foundation for this research. The theory states that that criminal punshments do not just punish violators, but also restricts others from committing such offenses. It states that the threat of punishment will discourage criminal behaviour and results a decline in the magnitude of offending in the society. As such, a causal relationship runs between law and crime. Initially, we conducted a regression analysis to examine the relationship between rule of law and crime rate, but the results did not give a nuanced understanding. We decided to add in more factors such as migration and unemployment rates to our analysis, which allowed us to develop a more comprehensive model that depicted the structural effect of these variables on crime rate. By including additional factors, we were able to control for potential confounding variables that may have influenced the relationship, and test more complex models that could better capture the relationship. We use panel regression model to examine the influence of rule of law, net migration and unemployment rate on crime index. The empirical approaches begin with a unit root test to verify the level of integration of the variables using the Levin, Lin, and Chu common root test. The unit root test must be used to avoid erroneous and irregular results in the panel regression

analysis. The LLC test is adequate for determining the level of integration of dynamic factors. In our empirical investigation, we employ the following model:

$$CI = \beta_0 + \beta_1\,ROL + \beta_2\,NMIG + \beta_3\,UR$$

where CI is the crime index, ROL represents the rule of law index, NMIG refers to the net migration in lakhs and UR denotes the unemployment rate. CI is the dependent variable in the regression model. ROL, NMIG and UR are the independent/input variables, β_0 is the intercept. β_1, β_2, β_3, β_4 and β_5 are the slope/regression coefficient values. Breusch–Godfrey Serial correlation LM test was used for checking and correcting autocorrelation. Breusch-Pagan-Godfrey test was used to check for heteroskedasticity. The estimates are free of heteroscedasticity and autocorrelation.

6. RESULTS AND DISCUSSION

This section provides a comprehensive analysis of the research findings while highlighting their broader implications for understanding crime rates in different countries.

6.1. Stationarity Test – Unit Root Analysis

The first step in the analysis is to evaluate the variables' stationarity, and we apply the Levin, Lin, and Chu (LLC) test to guarantee that all variables are integrated. When the data of a variable is time-invariant, the variable is integrated. It does not have a unit root problem if its mean and variance are unable to co-vary with time. LLC test is one of the most commonly used statistical test when it comes to analyzing the stationarity of panel groups. The test allows for individual effects, time effects and possibly a time trend in the panel. If there aren't any unit roots, the series is thought to be stationary.

Table 2 displays the examination's outcomes.

Table 2: Levin, Lin and Chu Unit Root Test Results

Variable	Order of Difference	t-statistics
CI	0	-10.85***
ROL	0	-22.16***
NMIG	0	-8.77***
UR	0	-4.52***

Notes: 1. Order of Difference: 0 indicates no difference. 2. ***denotes statistical significance at 1% level.

The findings of the LLC tests conducted on variables in the level form indicate that they are stationary, we obtain a test statistic that is significant at 1% level. It can be seen that all data series are stationary at level I(0). Therefore, the variables adopted in this paper are all stationary at level I(0). Since all the variables are stationary at level, there was no necessity to transform variables for our panel regression.

6.2. Descriptive statistic and correlation matrix

After conducting the unit root test, we obtained descriptive statistics and correlation matrices, which are presented in **Table 3**. Panel A provides the descriptive statistics, while Panel B displays the correlation matrix. The descriptive statistics include measures such as mean, standard deviation, minimum, and maximum values of the observed data. Notably, the Rule of Law (ROL) indicator exhibits the lowest mean value among the descriptive statistics, whereas the Crime Index (CI) variable displays the highest mean value. Additionally, the standard deviation analysis reveals that the CI variable demonstrates the highest variability, whereas the ROL variable is characterized by the lowest variability. Moving on to the correlation matrix in Panel B of Table 3, the results of the correlation test indicate varying degrees of correlation among most of the variables.

Table 3: Descriptive statistic and correlation matrix

	CI	ROL	NMIG	UR
Panel A				
Mean	39.609	0.673	2.442	9.811
Maximum	78.530	2.026	49.617	28.740
Minimum	5.750	-0.927	-26.634	2.400
Std. Dev.	15.465	0.872	11.247	6.639
Panel B				
CI	1			
ROL	-0.529	1		
NMIG	0.063	0.324	1	
UR	0.387	-0.441	-0.113	1

6.3. Panel Regression Results

Table 4 shows the log-run outcome of the regression analysis for the variables crime index (CI), rule of law (ROL), net migration (NMIG), and unemployment rate (UR) after providing the descriptive statistics and the correlation matrix. We have considered three models in this study, model 1 is the initial regression in which the study regressed rule of law (ROL) with crime index (CI) without considering any other factors. The aim was to study the relationship between these two variables and understand the impact of rule of law on crime. However, the results showed that the adjusted R square was low, indicating that other factors may be influencing crime rates in addition to rule of law. As a result, the study expanded its analysis to include other factors such as net migration and unemployment rates. By doing so, it was able to better understand how these factors interact with rule of law to influence crime rates in different countries. Hence, the newer models considered all these factors. Model 2 is the overall panel regression where we consider high, moderate and low unemployment rate countries altogether, model 3 is the panel regression of countries with a dummy for high unemployment rate countries, and model 4 is the panel regression of the countries with a dummy for moderate and high unemployment rate countries. We performed a diagnostic test on models (1-4) for normality, serial correlation, and heteroskedasticity to ensure the reliability of the results. The diagnostic tests were successful for all models.

The results of model 2 shows that rule of law (ROL) has a negative and significant relationship with the crime index (CI) of the selected countries panel group. It also tells us that net migration (NMIG) and unemployment rate (UR) has a positive and significant relationship with crime index (CI). Here, the independent variables ROL, NMIG and UR are found to be significant as $|t| > 2$ showing that these variables have a causal relationship with CI which is confirmed by the probability values being < 0.05. The adjusted R-square tell us that the model is 0.361 fit which is around the same as what the R-square interprets. However, here the coefficients are comparatively lower since we have also included low unemployment rate countries in the panel data but the problem with the low unemployment rate countries was that, there was no significant relation between unemployment and crime in these countries as their unemployment rates are very low, which is why further regressions need to be carried out using a dummy to actually understand the impact of explanatory variables on our dependent variable.

Furthermore, the results of model 3, wherein we include a dummy variable which is the unemployment rate dummy where low and moderate unemployment rate countries are the control group and high unemployment rate countries are the treated group, show that rule of

law (ROL) has a negative and significant relationship with the crime index (CI) of the selected countries panel group, and that, net migration (NMIG) has a positive and significant relationship with crime index (CI). Again, the independent variables ROL, NMIG and UR$_{Dummy}$ are found to be significant as $|t| > 2$ showing that these variables have a causal relationship with CI which is confirmed by the probability values being < 0.05. The adjusted R-square tell us that the model is 0.378 fit. The dummy that captures the unemployment shows that unemployment rate (UR) contributes higher to crime in this model as compared to model 2. Here, we observe that the coefficient values are significantly higher than the values for model 2. This implies that the independent variables have more effect on the crime index in this scenario wherein we use a dummy for high unemployment rate countries.

Additionally, the results of model 4, wherein we include a dummy variable which is the unemployment rate dummy where low unemployment rate countries are the control group and high and moderate unemployment rate countries are the treated group, show that rule of law (ROL) has a negative and significant relationship with the crime index (CI) of the selected countries panel group, and that, net migration (NMIG) has a positive and significant relationship with crime index (CI). Here too, the independent variables ROL, NMIG and UR$_{Dummy}$ are found to be significant showing that these variables have a causal relationship with CI. The unemployment dummy demonstrates that the unemployment rate (UR) contributes more to crime in this model than in models 2 and 3. In this case, the coefficient values are much higher than in models 2 and 3. This means that unemployment in the country has a greater impact on the crime index for moderate and high unemployment countries. Thus, we derive that the contribution of unemployment to crime varies across country category.

To reach a conclusion, we look at the findings of the panel data regression model (2-4), in which we look at the impact of significant coefficients of each independent variable on the crime index. We conclude from this similarity that (i) the rule of law has a negative impact on the crime index of the selected countries. (ii) Net migration has a positive impact on the crime index of the selected countries. (iii) Unemployment rate has a positive impact on crime index but the effect variates depending upon the level of unemployment in the country.

Table 4: Panel regression estimation results

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Variables	Dependent Variable - CI			
	Model 1	*Model 2*	*Model 3*	*Model 4*
ROL	-9.393 (-5.437)***	-9.444 (-5.437)***	-8.422 (-4.329)***	-7.330 (-4.452)***
NMIG	-	0.352 (3.716)***	0.338 (3.331)***	0.280 (3.254)***
UR	-	0.423 (1.658)*	-	-
DUMMY	-	-	8.130 (2.057)**	10.970 (4.478)***
C (Constant)	45.926(12.640)***	40.951(12.640)***	41.737(16.004)***	36.541(15.129)***
Diagnostic Statistics				
Adjusted R-squared	0.278	0.361	0.378	0.411
F-statistic	104.336	51.647	55.473	63.553
Prob (F-statistic)	0.000	0.000	0.000	0.000
Wald F-statistic	15.465	14.346	15.257	19.502
Prob (Wald F-statistic)	0.000	0.000	0.000	0.000
Durbin-Watson stat	1.980	1.980	1.980	1.999

*Note: ***, ** and * represent significance at 1%, 5% and 10% respectively. Source – estimated by the authors.*

7. CONCLUSION

Laws are implemented to reduce crime rates in the country and instil fear in potential offenders, causing them to refrain from committing crime. This study's main focus was to determine if there is a significant relationship between the crime index and indicators of law implementation, migration and unemployment over the period 2012–2020 using econometric analysis. Our dependent variable was crime index (CI) and independent variables were rule of law (ROL), net migration (NMIG) and unemployment rate (UR). The analysis of interactions between crime index, rule of law, net migration and unemployment rate in the context of the three panel groups (High unemployment rate countries, moderate unemployment rate countries and low unemployment rate countries) composed of 30 countries is carried out in this study.

As a primary step, a panel unit root analysis was conducted making use of Levin, Lin and Chu common root test. A panel unit root analysis was performed as a first step, using the Levin, Lin, and Chu common root test. Our objective was to check the effect of the explanatory variables on the crime index of the selected countries. The results from the panel regression models lend support for the feedback hypothesis that there is a causal relationship between the variables. The empirical findings state that there is some causality between crime index and indicators of law implementation, migration and unemployment over the period 2012–2020.

Rule of law, net migration, and unemployment rate all had varied degrees of impact on the crime index in the three panel groups (high unemployment rate countries, moderate

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unemployment rate countries, and low unemployment rate countries). As a result, the following conclusions summarise the most important findings of this study:

(i) From the perspective of rule of law, ROL has a negative and significant relationship with the crime index (CI) in all the three panel groups – high, moderate and low unemployment rate countries. This tells us that rule of law has some significant impact on the crime index of a country which supports the theory that law implementation does have a significant effect on the crime index of a nation.

(ii) From the perspective of net migration, NMIG has a positive and significant relationship with the crime index (CI) in all the three panel groups – high, moderate and low unemployment rate countries. This implies that net migration has a favourable effect on crime index, indicating that, with an increase in migration, crime index may also increase slightly.

(iii) From the perspective of unemployment rate, UR has a positive impact on crime index but the effect variates depending upon the level of unemployment in all the three panel groups – high, moderate and low unemployment rate countries. Unemployment rate (UR) contributes more to crime in countries with high and moderate unemployment rates as compared to countries with low unemployment rate countries as there is no significant relation between unemployment and crime in such countries. This indicates that countries with higher unemployment rates are more likely to experience the greater impact of unemployment rates on the crime index.

It is important to note that study also has a few limitations such as the several factors which haven't been considered in the estimation such as social factors, morality, cultural factors, poverty level, education, prevalent family structure and a few others which have a significant relationship with crime. Although the study wants to look at more country-specific indicators, it is constrained by the data that is available. These limitations are worth exploring in future research.

Appendix A

Description of Countries

Panel	List of Selected Countries	No.of Countries

Low Unemployment Rate Countries	Singapore, Romania, Japan, Netherlands, Malta, Indonesia, Germany, Hong Kong, Norway, Switzerland	10
Moderate Unemployment Rate Countries	Serbia, France, Sweden, Lithuania, Jamaica, United States, Saudi Arabia, Cyprus, Croatia, India	10
High Unemployment Rate Countries	South Africa, Georgia, Bosnia & Herzegovina, Greece, Spain, Colombia, Argentina, Brazil, Algeria, Uruguay	10

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