

East Meets West:
An Analysis of Islamic and Western Banking
By Siavosh Moshiri

An essay submitted to the Department of Economics
in partial fulfillment of the requirements for
the degree of Master of Arts
Queen's University

Kingston, Ontario, Canada
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Abstract

Islamic banking is growing at an unprecedented scale. At the end of 2012, over 1.55 trillion US dollars' worth of assets was controlled by Islamic Banks and Ernest & Young expects the over asset worth to reach 2 billion by 2015. However, even though this form of finance gains more customers every day, there is not a large body of economic literature regarding it. We question whether there exists a difference between countries that only allow Islamic banking and countries that give their consumers a choice between Islamic and conventional banking. Data from Iran is used to analyze the former while Indonesia represents the latter. First, through OLS we try to see what variables impact success in the two types of states. Afterwards, by pooling statistics from the two countries, we look to see which type of banking system would lead to more success. Both urban population and education spending showed significant statistical influence in Iran while the data for Indonesia showed no noteworthy results. Our most important finding was that countries with a mixed banking system experienced significantly elevated levels of financial success. This could have a tremendous impact on current policymakers as many countries in the Middle East and South East Asia are endeavouring to create an Islamic finance sector.

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1. Introduction

The differences between the Islamic and Western world are many. How the two worlds handle similar policy issues can often stand in stark contrast to one another. Banking is a perfect example. The Western style or 'conventional' style of banking is biased primarily around the idea of the interest rate. It governs many basic assets and tools of this industry (eg: loans, investments, deposits). Islamic banking on the other hand, adheres to the Islamic legal code (sharia) when it comes to its practices and operations. While some of these laws require banks to make small changes compared to their Western counterparts, there are other laws that change the structure of financial institutions in rather significant ways. The biggest of these changes is the prohibition of interest rates.

After the financial crash of 2008, there was a growing sense of appeal in how the Muslim world conducted its financial affairs. While many Western banks seemed to be going after bailouts or merging together to stave off bankruptcy, Islamic banks seemed secure. The Vatican, in their newsletter, went as far as recommending Islamic Finance as a cure for the recession that had gripped so many Western nations (Totaro, 2009). At the same time, many established financial institutions such as Citibank and HSBC started to provide services and instruments that met the specifications set out by Islamic law. Clearly, this brand of finance is more than just a passing fad.

This paper has two purposes. First, the current Economic literature regarding differences between the two banking systems is examined. Specific attention is paid to strengths and weaknesses. The most glaring weakness the papers suffer from is that researchers rarely

contemplate societal factors and their impact on Islamic banking success. This creates the impetus for the second part of our paper where we attempt to rectify this problem. To do this, regressions were performed that accounted for important public elements such as education and healthcare. The data used comes from Iran (which only allows Islamic banks) and Indonesia (which allows both types).

Our paper is structured in the following format. First, the basics of Islamic banking are detailed. After that, four papers that typify the research being carried out currently will be discussed. Their data source, methodology and results will be reviewed. Additionally, a brief analysis of the strengths and weaknesses of each paper is provided. Following the literature review, the results from six regressions will be presented. A discussion of the results follow, along with an examination of possible impacts the results can have on policy. In the final section, possible extensions for future studies are discussed. One should note that in this paper, Islamic and Muslim banking are used interchangeably as are conventional and Western style of banking.

2. Islamic Banking: Basic Structure and Background information

The rules that govern Islam in economics are numerous and cover many different aspect of the exchange of money. For our purposes, there are five basic principles that differentiate Islamic banking from what is offered by ‘normal’ finance (Derbel, 2011):

1. The prohibition of Riba (interest)

In Islam, to charge an interest rate when lending money is seen as exploitation of the fellow man. To lend to another person is to assist that person. Charging an interest rate would be to take advantage of the borrower’s situation

2. The prohibition of Maysir (speculation) and Gharar (uncertainty)

Gharar refers to an exchange in which there exists an ambiguous element on purpose. For a contract to be considered legal, the date of the sale should be known. This means that Futures contracts (which are very common financial instruments) cannot be used or offered by an Islamic bank. Maysir is a contract in which a part of the contract is based on a random event (eg a gambling event).

3. The prohibition of investment in illicit activities

Islamic banks cannot assist people in investing in illicit economic activity. What is defined as illicit comes from the Quran which lists many activities that are considered *haram* (sin). Examples of this include such activities like gambling, tobacco, weaponry production or pornography (Jamaldeen, “Seven Prohibited Industries in Islamic Financial Investments”).

4. Tangibility of assets

Financial transactions that a bank helps with or conducts must be backed by a tangible asset (e.g. real estate). This means that an instrument like subprime mortgages cannot be used. Also, Islamic banks do not provide simple open lines of credits because there is no tangible asset being given up in return.

5. Sharing of profits and losses

An investment transaction that distributes all of the risk to one party is forbidden. Similarly, a contract between the bank and the customer cannot have only one of the parties profiting. Accordingly, loans provided are equity based. For example, if a loan is given out by the bank to a person to start a pizza shop, the bank and the borrower negotiate over what percentage of the

business is owned by the bank. However, insurance contracts are allowed because they are not seen as a form of gambling but instead a way of protecting oneself from harm.

The fundamental difference between these rules and the principles that inform Western finance is that the rules for Islam are always concerned about ethical banking. Profits are a secondary motive for Islamic financial institutions. The main purpose of financial institutions is to provide services to customers that do not go against the teachings of the Quran (much like how Muslim-run food corporations make sure the meat consumed by customers has been prepared according to rules of the Quran). This is very much the opposite view point of standard of banking practices.

It goes without saying that most firms care about the legal standards that govern their business but they always are trying to come up with new financial instruments to gain higher levels of profit. This divergence in philosophies between the two systems means many devices available to conventional banking are not available in Muslim banking. This includes such tools like mortgage backed securities, derivatives, and bonds. Muslim firms are also forbidden from investing in companies that produce goods or provide services that are considered sinful by the Quran. No matter how profitable a company is, if its dealings are haram (for example a pork manufacturer) an Islamic firm cannot do business with them. It should be noted that Islamic banks do not discriminate against non Muslims and welcome all people of different faiths to use their services.

3. Literature Review

Article 1:

The first paper, written by Thorsten Beck (2012), attempts to see if there is any noticeable difference between Islamic and conventional banks in general and also during the recent financial crisis. The authors look at a large data set, using balance sheets from over 22 countries from 2006 to 2011. The information comes from Bankscope, a global database with data on both listed and non-listed banks. To construct and compare indicators they make the specific point of looking at only countries that contain both Islamic and Western style of banking. The countries involved range from Kuwait (where 41% of the banking sector is Islamic) to the United Kingdom (where it less than 1%).

One should also note that this decision leads them to omit countries with large amount of financial clout in the Muslim world such as Iran (a country that forbids Western style of banking). The reason they decided to make such a decision is never fully outlined in the paper. It could possibly be because they are interested in how these two banking styles interacted within the same legal regime. Nevertheless, not explaining the logic behind this decision is puzzling and important flaw.

The model used in the paper is linear regression equation. Three aspects of banking between the two worlds are analyzed. First, banking efficiency is looked at through overhead costs and cost-income ratio (overhead costs relative to gross revenues). Second, they examine asset quality by considering loss reserves, loan loss provisions and non performing loans (all of which were scaled by gross loans). As asset quality increases, the factors decreased. Finally, bank stability is inspected by running regressions on maturity matching ratio and Z- score. The former is a ratio of liquid assets to short term funding and assesses how sensitive a bank would

be to a bank run. The latter, is a score that indicates the number of standard deviations that a bank's return on assets has to drop below its expected value before equity is depleted and the bank is insolvent (Beck, 5). Thus, a higher z-score indicates that the bank is more stable. A linear regression was run with each of the aforementioned factors being the dependent variable. A dummy variable is added representing Islamic banks.

Banks from Muslim countries is found to have a 9.9 percent higher cost-income ratio, and 0.3 percent higher overhead costs. However, they also dealt with 2.2 percent less non performing loans and their higher capital-asset ratio was 2.9 percent higher. These results imply that Islamic banks are not as efficient as their Western counterparts but are much more stable and have better asset quality. These models are very basic in nature with only one being controlled for (dummy for Islamic bank).

Consequently, the authors split the Islamic banks into three dummy variables rather than one: large banks (banks above the 75th percentile in size), medium banks (between 25th and 75th percentile) and small banks (below the 25th percentile). The authors hypothesize that smaller Islamic banks might suffer from higher levels of inefficiency compared to conventional banks due to economies of scale. Also, they might not have access to diversification tools that a large bank may have.

The results show that large Islamic banks have higher cost income ratios than Western banks but do not differ regarding any other factors. Medium sized banks have lower non performing loans but similarly had no other statistically significant factors. The small sized Islamic banks show many statistically important relationships. With regards to asset quality, they have lower non performing loans while in terms of bank stability they have higher maturity

match ratio and z scores. The smaller Islamic banks fare much better than the authors had hypothesized. They show higher levels of asset quality and stability than the average bank.

A final model attempts to see if there exists any difference in the performance of stock returns of Islamic banks compared to Western banks during the recent financial crisis. Here the authors regress quarterly stock returns on an Islamic Bank dummy plus interactions with crisis (Q4-2007–Q4-2008) and recovery period (Q1–Q4–2009). They also control for such things like maturity match ratio, loan-deposits ratio, non deposit funding, and loan loss provisions.

The dummy variable for Islamic banking is statistically insignificant, but its interaction term with the crisis is found to be positive. During the crisis, conventional banks' stock return was 4 percent less when compared to the banks from the Muslim world. As for the variables, mature match ratio and loan deposit ratio both have a positive impact on stock returns. The authors argue that this means banking efficiency and asset quality are far better indicators of stock returns than whether the bank in question is Islamic or not. In the end, the authors believe that their models suggests that Islamic banks as a whole have a greater level of asset quality and stability compared to Western banks but also suffered from higher levels of waste from costs. During the recent financial downturn, there existed a difference between how the two systems' stock returns prospered but no difference was apparent after the crisis.

The biggest fault in the paper is that it suffers from omitted variable bias in terms of the regressions they used. Very little attention is given to issues that can have an impact on banking such as corruption, human development index, literacy rate. The countries involved in the paper are not all developed and range from a country like the United Kingdom (which enjoys a very high standard of living) to Yemen (which suffers from numerous problems such as high levels of corruption). The authors do attempt to fix this problem by splitting the Islamic banks into

different sizes but they still use very few other measures to see if there exists a relationship between the two systems.

A second major fault that lies within this paper is one that is noted by the authors: different accounting systems are not accounted for in the paper in any meaningful way. What defines a loan in the financial industry in Mauritania may not be the same that is considered in Kuwait. The authors stated that this could have an impact on the regression results regarding asset quality. Whether it would lead them to overestimate and underestimate the results, it cannot be determined.

Article 2:

Our second paper is written by Hassan Al-Tamimi and was published in 2010. It's main focus is to see what are the determinants of banking success for Islamic and Conventional Banks in the UAE. In the UAE, conventional banks dominate the market yet there are a growing number of customers who prefer the Islamic format in the past 10 years. The author is interested to see if the determinants of success for Islamic banking are different than Western banking (since the two styles of finance are different in terms of organization). The data used comes from three sources: the ORISIS database, UAE central bank reports and the UAE commercial banks annual reports (Al-Tamimi, 3). The information covers the time period of 1996 to 2008.

The author used simple linear regression to investigate this matter. In place of bank performance, two different dependant variables were used. The first was return on assets (ROA) while the other was return on equity (ROE). The factors controlled for were:

- Economic conditions through GDP per capita

- Bank's size measured by total assets
- Financial development (total assets/GDP)
- Banks liquidity (ratio of total loans to total deposits)
- Bank's concentration (measured by the percentage of bank's assets to total assets of UAE banks)
- Bank's cost (salaries to total assets)
- The number of branches for that specific bank

Two regressions are run for the conventional banks (one for ROA and another for ROE) and then another two are conducted for Islamic banks. The authors expected that liquidity would have a strong negative impact on Islamic banks' performance. The reasoning is that Muslim banks generally follow a conservative lending policy. They do not provide credit with the same ease of conventional banks due to the fact that since they cannot impose interest rates, there is far less opportunity for profit. Profit sharing is the basis of how loans are given and this forces Islamic banks to keep a high level of liquidity which the authors argue would negatively affect their levels of profit (Al-Tamimi, 6).

The results for the conventional banks show that liquidity and concentration have a statistically significant impact on both ROA and ROE. For the former dependent variable, concentration has a coefficient of 1.02 and liquidity has a coefficient of 0.95. The latter variable saw similar numbers with concentration and liquidity having coefficients of 1.306 and 1.01.

For the Islamic banks, the statistically significant variables are the number of branches the bank had and cost. A unit increase in the number of branches leads to an increase of 2.61 in the ROE and 2.95 in ROA. Cost has a negative influence on ROE; an increase cost means the

ROE decreased by 0.85. Expectations concerning liquidity and Islamic banks were not matched by the findings. The authors expected the result of liquidity being negatively related to performance of Islamic banks due to what they argue are the conservative policies of these banks regarding funds allocation. An Islamic bank retains equity in whatever project they invest in (as opposed to charging interest). This means that they only profit if the opportunity does well. As a result, the authors argued Islamic banks are expected to keep high liquidity which negatively affects the level of profits or performance. Nevertheless, the results did not prove this hypothesis correct.

This paper's strength is in its premise. While the two banking systems do exist beside one another, they are informed by very different principles. To see what can lead to success in one world as opposed to the other is a worthwhile policy question to ask and one that should be researched further. Furthermore, the model does attempt to control for societal conditions of the country - an important factor that clearly impacts the performance of the banks and can subsequently affect the results. The previous paper by similarly Beck failed to take into account such an important issue.

Nevertheless, this paper and the previous are alike in that they do not look enough into societal and political issues that could have bearing on the performance of the banks. For example, if a country has a very low level of freedom of speech then citizens may have a tougher time receiving proper information about general financial news. This could hamper the economic activity of a country and thereby affect the ROA and ROE of a bank. A second problem this paper suffers from is that it takes all of its data from the UAE. This is an understandable decision in some ways, given that it is a country with a tremendous amount of economic power and has both conventional and Islamic banks. But, the UAE is a unique country in terms of its current

political and economic state. Accordingly, the results that are born from this paper cannot be applied to other states, making its conclusions not beneficial in terms of policy.

Article 3:

Our third paper is by Martin Čihák and Heiko Hesse and was published in 2010. The authors wanted to examine Islamic and conventional banks and see if there exists a difference in stability between the two. The evidence used comes from 19 countries, each with varying levels of Islamic banking. The countries ranged from Sudan (where Western style of banking is unavailable) to Kuwait (where 16 percent of the financial market is controlled by Islamic banking). The data source was Bankscope. In total, 520 observations from 77 Islamic banks and 2,248 observations from Western commercial banks are assessed. The time period from which the data comes from is 1993 to 2004.

The model used to determine financial stability is a linear regression equation where the dependent variable is the z-score. As previously discussed, this score relates to the number of standard deviations a return realization has to fall in order to use up equity (Čihák, 98). The score can be defined as $z = \frac{k+\mu}{\delta}$ where the k value is equity value and reserves as percent of assets, μ is the average return as percent of assets and δ is standard deviation of return on assets (a proxy for return volatility). The authors posit that this is a proficient measure of soundness because it focuses on the risk of insolvency. The z-score applies both to banks that go for a low risk/return strategy (eg. Islamic banks) as well as those who go after a more aggressive high risk/return strategy (eg. Commercial banks in the USA). It should be noted that this is under the assumption that both strategies lead to the same risk adjusted returns (Čihák, 99). Two regressions are run,

one for large banks and another for small banks. The cut off between the two groups is having 1 billion dollars in assets (Čihák, 100).

The authors control for various factors such as:

- Islamic bank dummy
- Share of Islamic banks (Market share of Islamic banks in a country per year)
- GDP growth (Growth rate of nominal GDP, adjusted for inflation)
- Inflation
- Exchange rate depreciation
- Assets (total assets of the bank)
- Loan/asset ratio
- Cost/income ratio
- Income diversity (also included is an interaction term with income diversity and Islamic bank dummy)
- Governance

The last listed factor is the authors' attempt to account for the impact of governance on the stability of the banking sector. To do this, they used the indicators compiled by Kaufmann et al (2005) and averaged them out to create one single indicator. The paper by Kaufmann created six measures that he argued related to political governance. The list included a factor for political stability, government effectiveness, regulatory quality, rule of law, control of corruption, accountability (Kaufmann, 3).

The regression shows that large Islamic banks are less stable than large commercial banks. Conversely, small Islamic banks are more stable than their Western counterparts. Large Islamic

banks tend to have z scores that were 14 point lower than normal Western banks, while small Islamic banks tend to have z scores that were 8 points higher. The other control variables have coefficient signs that were expected by the authors.

Banks with higher loan to asset ratios are found to have lower z-scores in both regressions. This is logical since the more loans a bank has relative to assets the more susceptible it will be to bank runs. The interaction term between income diversity and large Islamic banks has a strong positive impact on z score. The authors contend that this may mean that Islamic banks (especially larger ones) should move away from lending based operation to other sources of income to help stabilize their institution. Governance has a strong positive impact on the z score for both large and small banks, suggesting that the more competent the bureaucracy is, the more stable the banks are.

This paper avoids some of the mistakes that the previous papers suffered from. The authors smartly choose to include many different countries instead of focusing on a particular nation and unlike the Beck paper (article 1) they make sure to include countries that only allow Islamic banks (such as Iran). Additionally, they attempt to control for societal factors that a country might suffer from rather than simply looking at possible financial factors that could affect the dependent variable. By including the governance factor their model takes into account the many societal issues that the countries suffer from (e.g. Sudanese government and their massive amounts of corruption). The paper by Hassan neglects to take this into account.

Nonetheless, this paper is not without problems. First, this data set does not use any information past 2004. While there was some significant market trends that occurred between 1993 and 2004, the fact that the data points does not include the recent financial crisis means that

we cannot really see how stable these banks are in the face of market pressure. Compared to 2007 to 2009, the time period this study pertains to is much calmer. Second, the authors never state why they averaged out the indicators created by Kaufmann rather than implementing each on an individual basis. One could argue that by using each indicator on its own (i.e. having one coefficient for accountability, another for rule of law and so on) would have given them a much more accurate view of how the interaction between the world of bureaucracy and financial performance works. By taking the average, we have a more opaque view since some of the factors averaged could have a positive impact while others negative.

Finally, many important financial institutions (including important global firms such as HSBC and Citibank) have specific branches; some that provide Western style services and others that conform to Islamic principles. The data that is available does not allow the authors to distinguish the financial performance of these different branches. Consequently, these important financial banks are not included in the data set thereby impacting the study's accuracy.

Article 4:

The authors of our fourth paper, by Bourkhis and Sami Nabi (2013), attempted to see if Islamic banks are more stable than conventional banks. However, unlike the previous paper they look at a time period which considers the recent financial crisis. This is because they want to test the hypothesis that Islamic banks are more resilient. Proponents of this type of finance believe that Islamic banks have higher quality assets that allow them to navigate the difficulties of the recession more easily than their Western counterparts.

The authors split the data up in three parts. The first data period is called 'pre-crisis' which was from 1993 to 2006. The second period is called 'crisis' and were the years 2007 and

2008. The final period is 2009 which is called post-crisis. They perform a regression for each period along with a regression for the entire time line (from 1993 to 2009). The dependent variable was the z-score. The Bankscope data used comes from 16 countries that provide both styles of banking. It included statistics from Africa (Tunisia), the Middle East (Saudi Arabia), and South East Asia (Malaysia). The independent variables included in the equation are the following:

- Total assets in bank
- Net Loan to asset ratio
- Cost income ratio
- Income diversity (equivalent to $(1 - \frac{\text{net interest-income-other income}}{\text{operating income}})$)
- Market share of Islamic banks
- Kaufman governance factor
- Islamic bank (dummy variable)
- GDP growth rate (Adjusted inflation)
- Inflation
- Exchange depreciation (year to year change in nominal exchange rate, US dollar to local currency)

The results indicate that only two variables have any statistical significance. The Islamic bank dummy variable does have an impact in both the precrisis and post crisis period but not in the actual crisis period. In the first period, an Islamic bank (on average) had a 12.69 higher z-score than normal banks. In the post crisis period, they had a 11.09 higher z-score. The second variable that is significant is the net loans to asset ratio. This had an influence on the z-score in

the crisis and post crisis period. During the crisis, a bank with a higher ratio had a 0.116 lower z-score. A bank with a higher ratio in the last period had a 0.105 lower z-score. This could be because a bank with more loans than assets generally has to deal with the dangers of bank runs. If a bank is highly leveraged then they would have a difficult time in meeting the demands of customers who want to withdraw their deposits. If a large enough group of customers decide to do this, then the bank could collapse since they would not have enough funds to liquidate to meet all of the demand.

The paper has three main strengths. Unlike the previous paper, it takes into account the recent financial crisis making it more relevant to today's analysis of the financial world. It also separates the data into three sectors allowing us to see if there is any difference during the different time periods. As a result, a more detailed account of the events of past decade was available for analysis.

Finally, the authors make the decision to only include countries that in which Islamic banks asset's accounted for more than 1 % of total banks' assets during the 1998 to 2009 period. This means that instead of concerning itself with the statistics of banks that had no real impact on the domestic economy of the countries, the study makes sure to focus on firms that are an essential part of the financial system and therefore worthy of study.

The paper does attempt to sidestep the problem some of the previous paper suffer from (not including any indicators for social forces) by including the previously outlined Kaufmann factors. But, much like the Čihák paper, the authors do not explain why they decide to average out the factors rather than implementing each one on its own as a variable (i.e. having a variable for accountability, rule of law and so on). Additionally, the authors only consider one year when

calculating statistics for the post crisis period (2009). This is far too small a sample size to make any important observations from. A country could have healthy banking statistics one year and then fail the next or vice versa where the recovery might be slow at first but in 2010 and 2011 it could speed up dramatically.

4. Statistical Analysis

A common problem in the papers reviewed above (and for the majority of literature regarding this topic) is that they do not consider indicators that can point to public trends occurring in the nations the bank are in. Our study attempts to resolve this issue by performing our own analysis concerning societal data and its relationship with banking performance. In what way do these two forces interact? For example, a dramatic change in educated people in a country could lead to a higher return on assets/equities because more educated people could hypothetically come up with more investment opportunities. Perhaps a decrease in the freedom of speech in the country would lead to a slower exchange of ideas (because people would have a harder time communicating). Banks would have a more difficult time ascertaining information concerning customers, investment projects and daily financial news. They potentially could miss out on successful projects, leading to lower profits.

There exists a key difference between our study and the papers reviewed: we will focus on differences between the Islamic banking countries (one in which only Islamic banking is allowed and another where both types of banking exist). This is opposed to the paper written by Al-Tamimi which only considers UAE data and the Beck paper which adds data from many different countries. Iran, an Islamic republic since 1979, by law forbids any conventional banking and embodies the first type of Islamic country. Indonesia on the other hand, is a more

diverse country with large Christian and Buddhist communities. As a result, both conventional and Islamic banking are offered in the country (thereby allowing us to use it as a representative of the second type). The period looked at is from 2001 to 2010.

We hope to examine three issues. First, we hope to see if there exists a level of influence between societal forces and the rates of return that banks enjoy. If some of the variables chosen end up having statistically significant results, this could impact the policies of countries as they may change public policy to better suit the financial needs of banks. Second, by using a data base from a country that only allows Islamic banking and another country that employs a mixed banking system, we should be able to see if the dynamics that affect the two types of countries are different in anyway. This will allow us to make more accurate policy recommendations as opposed to pooling all of the data from countries that have Islamic banking. Third, we wish to understand which system is associated with higher rates of return: a system more akin to Iran or Indonesia. More and more countries are pursuing the creation of an Islamic banking sector with some politicians arguing for fully Islamic systems. The result from this test could tell us whether such politicians are correct or a more conservative approach is required.

4.1 Method and Data

There are two parts to our statistical analysis. In the first part, two linear regressions are run for each country with the dependent variables, which are taken from Al-Tamimi's paper, acting as proxies for banking success. The first dependent variable is average return on assets (ROA) which is defined as the ratio of net income to total assets. The second variable is average return on equities (ROE) which is the ratio of net income to shareholders equity (A stock or any other security representing an ownership interest).

In the second part, the data from Iran and Indonesia are pooled together and once again two regressions are run. The same variables that were used in part one are used here as well as a new dummy variable. This dummy variable (named Indonesia Dummy) will allow us to theoretically compare and contrast banking performance in countries that only allow Islamic banking and countries where there exists a choice. For each line of data that comes from Indonesia we put a one value in the column. Conversely, for each line of data that comes from Iran we put a zero value.

Both of the dependent variables are averaged out over banks and came from Bankscope, the same source used by the reviewed papers. The World Bank and Reporters Without Borders provide the statistics for the independent variables. Our specific concern for the first part is Islamic banking data only. In the second part we include major Non-Islamic banks from Indonesia. The reasoning behind this is simple. The purpose of the first part is to see if there exists any difference between what affects Islamic banking success in countries that only Islamic finance and countries that allow both types. The second part is an attempt to see whether there is a difference in overall banking success between the two types of countries previously mentioned (having controlled for some important factors).

The first factor is spending education (as a percentage of GDP). The second variable is the unemployment rate. The third variable is public health expenditure (as a percentage of total health care expenditure). The fourth variable is percentage of the country that lives in urban areas. The fifth variable is public spending on education (as a percentage of GDP). The data from all of these variables come from the World Bank data base. The summary data for Iran is

represented in Table 1 of Section A of the appendix. Table 2 of Section A covers the data for Indonesia.

The final variable is the freedom of the press index of the country in that particular year. This index is based on a questionnaire sent out by the Reporters Without Borders organization to partners in every country in the world as well as researchers and academics. Through these questionnaires, an index is developed that ranks 150 countries in terms of how free the press. While not perfect, one would argue that this is a reasonable proxy for freedom of the press. Note: the compiled data is in section A of appendix (first table is Iran and second is Indonesia)

GDP per capita and unemployment rate serve as proxies of the well being of the economy. They will allow us to see if there is any correlation between a growth in the domestic economy and Islamic banking rates of return. Public spending on education and healthcare spending are suppose to represent the development of the school and medical systems. A better educated, healthy populace hypothetically would mean better innovation which should in turn positively impact rates of return of banks (as they would have better projects to invest in). Urban population was chosen because there is growing sentiment among policymakers that density in countries has a positive influence on advancement. The World Bank released a report in 2009 titled “Systems of cities: harnessing urbanization for growth and poverty alleviation” that argued that urbanization is correlated with rising productivity, fluid labor markets, and greater market access. We attempt to see if this factor’s influence reaches the Islamic banking world.

Finally, freedom of press index is in our regression equation because it allows us to see if the exchange of information has any effect on the rates of return on assets or equity. We consider this a significant factor because many Islamic countries have faced criticism for not doing more

to support freedom of speech; many of them instead have restrictive rules and regulations that punish people who openly discuss domestic matters in newspapers and on the internet. If this factor were to show a positive relationship with rates of return on equity or assets then one could see a shift in the policy of nations such as Iran by allowing the press more autonomy in terms of the actions they can take when reporting on current events.

$$\begin{aligned}
 Y_{ROA} = & \beta_{0it} + \beta_1 \mathbf{PublicSpending}_{it} + \beta_2 \mathbf{Unemprate}_{it} + \beta_3 \mathbf{Health}_{it} \\
 & + \beta_4 \mathbf{Urbanpop}_{it} + \beta_5 \mathbf{Freedompress}_{it} + \beta_6 \mathbf{GDPcapita}_{it} \\
 & + \mathbf{IndonesiaDummy}X_{it} + \varepsilon
 \end{aligned}$$

$$\begin{aligned}
 Y_{ROE} = & \beta_{0it} + \beta_1 \mathbf{PublicSpending}_{it} + \beta_2 \mathbf{Unemprate}_{it} + \beta_3 \mathbf{Health}_{it} \\
 & + \beta_4 \mathbf{Urbanpop}_{it} + \beta_5 \mathbf{Freedompress}_{it} + \beta_6 \mathbf{GDPcapita}_{it} \\
 & + \mathbf{IndonesiaDummy}X_{it} + \varepsilon
 \end{aligned}$$

A major challenge that needs to be overcome is deciding the Iranian data should come from which banks. As we saw in the Bourkhis paper, it would be a mistake to simply include data from all of the domestic banks in a Muslim country. In the financial world, there exists a huge range in terms of size between large and small firms. Iran is no exception. To simply pool all of the data from all of the banks and then to take an average would not provide an accurate view of the results. A stronger approach is to consider information from established banks that have a significant market share and asset size. For Iran the following banks are considered:

No.	BANK	Note
1	Bank Saderat	nearly 50 billion USD in asset
2	Bank Mellat	60 billion in asset
3	Bank Melli	72 billion in asset
4	Pasargard Bank	Ranked by Banker Magazine as one of the best 300 run banks in the world
5	Bank Maskan	Iran's only housing bank

Deciding which banks are to be included for Indonesia is an easier task since there exists only six banks that provide services according to sharia laws and only four of them have data on Bankscope. This included the following:

No.	BANK
1	Bank Syariah Mandiri
2	Bank Negara Indonesia
3	Bank Muamalat Indonesia
4	BPD Jawa Barat dan Banten

Indonesia decided to convert to a dual system to accommodate the growing sense of religious observance in their country. The Legal Act 10 allows banks to operate on the Sharia principles previously discussed (Siregar and Ilyas, 2000). It should be noted of the four banks listed above two of them (Jawa Barat and Mandiri) offer both styles. Unfortunately, the banks do not differentiate the assets/equities with regards to the system the use (i.e. they do not have a listing for rate of return for Islamic assets and another for Western assets). The conventional Indonesian banking data came from the following banks:

No.	BANK
1	Bank Central Asia
2	Bank Rakyat Indonesia
3	Bank Danamon Indonesia
4	Bank Internassional Indonesia
5	PT Bank CIMB Niaga
6	Bank Pan Indonesia
7	Bank Permata

The standard used to pick the above banks is that they have to be in top ten largest banks in the country (as determined by total assets) and their data is available on Bankscope.

There are some notable drawbacks with the data set used, which could impact the results. On the Iranian side, while the most important Iranian banks make their information available to Bankscope many do not. Others make their information available on a sporadic basis (available one year while the next year not). This means that we are not looking at the complete picture. A similar problem exists for the Indonesian data. While the banks available generally have consistent data output, a large segment of the population use individual Islamic finance firms as opposed to major banks. These firms only have one single location and do not have a tremendous amount of financial strength but they do cater to an important segment of consumers of this form of banking (namely those living around or below the poverty line). The final issue with our data is that it is impacted by some of the political tensions that currently exist in the Middle East. The United States along with other western nations have imposed heavy sanctions on the Iranian economy. Important goods like plastic, steel and medical supplies are harder to find and the unemployment has risen as a result. This impacts our result since the result from the data may not be due to the variables controlled for but due to these exogenous factors.

4.3 Results

Table 2 in section B of the appendix shows that Iran's banking system is impacted by three of the outlined variables with regards to ROA: percentage of the population in urban settings, unemployment rate and overall public spending on education. When the dependent variable is ROE, none of the variables chosen showed any level of statistically significant influence. This is seen in Table 4 in section B.

A unit increase in the urban population results in a 0.233 increase to the ROA at a 95 percent confidence level. A possible reason behind this could be that in urban setting people live

in far closer proximity to one another (when compared to rural settings). This means that an average person's number of interactions with other people will go up. As a result, it could be argued that this not only gives entrepreneurs a greater chance of meeting like minded individuals but also gives them the opportunity to recruit people for their projects. This means a higher probability of more quality investment projects for banks to pursue.

The apparent relationship between ROA and unemployment rate is puzzling. A unit increase in the unemployment rate leads to a 0.129 increase in the average return on asset at 95 percent confidence level. This could be a problem with the data set – a more data points may show less of a relationship than seen here. However, if we were to treat this as result as representative of what actually is occurring in Iran then we would posit that this is because the increase in unemployment rate leads people to save their money – thereby giving banks more funds. The banks could use their newly found wealth to pursue investments in other countries that are in a better economic state. Nevertheless, we suspect the former (a lack of data points leading to inaccurate results) is a more likely scenario.

The final variable that showed statistical significance was public spending on education (as a percentage of GDP). A unit increase in spending leads to a 0.529 increase in ROA at a 90 percent confidence level. This result, much like the one for urban population, makes logical sense. As spending on education increases, so does the level of human capital the country possesses because students get better textbooks, are put in smaller classes and generally receive a higher quality of attention. Subsequently, the people have a better grasp of topics that are important when it comes to the creation of investment projects such as mathematics, sciences and humanities. Banks would then be able to choose from a much better field of possible

ventures than before. In essence, an average person is far more likely to come up with a Google or a Microsoft if they had better schooling than not.

For Indonesia, section C of the appendix shows none of the variables chosen proved to be statistically significant. We use all of the information available to us but it is clear after conducting this regression that no analysis can take place until we have the data from the smaller Islamic banks. As previously mentioned these banks are not connected to a bigger organization (often just being stand alone firms) and cater to the less fortunate.

The second part of our statistical analysis leads to our most significant result and is found in section D of the appendix (Table 2 and 3). When looking at ROA, the Indonesian dummy is statistically significant at a 95% confidence level. When the country has a mixed banking system its ROA rate is greater than countries that only allow Islamic banking by a factor of 2.42. We believe that a possible reason behind this is a spillover effect between the conventional and Islamic banks. When two styles are in the same nation, banks see how and what financial instruments their counterparts use. Even though not every instrument can be duplicated by Islamic banks, some are. Another important force is the atmosphere of added competition. Having to vie for customers while going up against powerful firms like HSBC or RBC could hypothetically force Islamic banks to create more efficient instruments. In situations where only Islamic banking is allowed, banks are not under the same level of pressure to create advanced financial instruments since the only competition that exists are similar like minded banks that offer the same type of service.

Other significant variables in this section include unemployment rate, urban population and GDP per capita. A unit increase in the unemployment rate results in a 0.0724 increase in the

ROA. A rise in the urban population leads to corresponding boost of 1.47 in the ROE. Finally, GDP per capita was found to have a negative relationship with ROE; an increase in GDP per capita meant rate of return on equities would decrease by 0.00144. Having already looked at these factors previously on a more accurate country by country basis, they shall not be analyzed further.

4.4 Policy Relevance

The above study conducted points to some important relationships between financial success of banks and public issues. These relationships should be taken into deliberation by both economies, especially since both face significant challenges that can hinder any advancement. Such difficulties include a very young population with little jobs awaiting them, chaotic oil prices (Iran being a supplier and Indonesia a consumer) and ethnic conflicts that threatens peace.

For Iran, the situation seems complicated. While more analysis needs to be done before any conclusive statements can be made, we would argue that the Iranian government would benefit from three major changes. First, the results imply that countries that offer a mixed banking system (have both Islamic and conventional systems) will enjoy more success than their counterparts who only allow commerce occur according to sharia law. The Iranian economy has suffered in recent times. Some of this is due to political tensions (USA has enacted numerous sanctions against the economy affecting many valuable goods) but not all of it. Outside observers have criticized Iranian politicians for creating an economy that is devoid of innovation and dependent on state run firms. By giving consumers access to new types of banking, these politicians might spur private innovation. Citizens will be allowed to invest their funds in new ways which in turn allow a more diverse set of investments to occur inside a country.

Concurrently, increasing education spending and urban population could also lead to positive growth for Islamic banks. One would suggest a two pronged policy: provide a small tax break for those who move from rural to urban cities while at the same time increasing the level of education in those major cities. The tax breaks should attract a significant amount of the population. This would lead to greater increase in the exchange of ideas between people since people would be so much closer to one another. The increased education in those areas would allow more people to become financially literate and therefore more involved in the finance world. An uptick in consumers gives bank a bigger pool of projects to choose from which would lead to better rates of return for the country's firms.

No real policy implications can be inferred for Indonesia from the results of this paper. The lack of data from the individual firms proved to be important and future papers should make note of gaining access to these firms before they begin to conduct any research into this area. At the very least, the government of Indonesia should recognize that having a healthy conventional banking industry is just as important as an Islamic banking one; they should make sure to allow both industries to grow alongside one another rather than favouring one over the other.

5. Extensions

The evidence seems to suggest that banks that follow the Islamic protocol have to deal with higher levels of cost but at the same time are more stable than conventional banks. The number of branches seems to be significantly important for how stable an Islamic bank is, although the relationship between these two variables is unclear. Does a bank get more stable as it gains more branches? Or does it in fact gain more branches because it is stable? Determining which variable one of the variables is dependent will be a difficult task. A final important piece

of information that was revealed by one of the above articles is that the stock returns of the Islamic banks were considerably higher than conventional banks during the crisis but not after. This could be due to the fact that Islamic banks were not involved in the selling of financial instruments that were deeply involved in the downturn such as subprime mortgages.

Future studies should focus on three areas related to Islamic banking. First, there needs to be more of an emphasis on how societal factors impact the performance and stability of Islamic banks. The financial world does not exist in a vacuum and nor does the economy. Important social issues like education, political regimes and urbanization rate can significantly hinder or help the operation of the bank. We attempted to alleviate this problem by performing our own calculations but there were some flaws with the data set and there is still many unaccounted variables that could have interesting impacts on firms. A specific potential variable that I would be interested in seeing controlled for with respect to the stock returns or stability of an Islamic bank is the Human Development Index (HDI). HDI is a measure of human well being used by the United Nations. It is a composite of a country's life expectancy index, education index, and income index.

Many of the countries with high levels of Islamic banking (such as Sudan or Iran) tend to be less developed than those with lower levels of Islamic banking (UAE, United Kingdom). It could be possible to see Islamic banks succeed more with lower developed nations. There is less need from the population for advanced financial instruments and are then more likely to give their money to Islamic banks rather than conventional ones (e.g. the country has less money to invest so less likely to desire advanced instruments like subprime mortgages). On the other hand, HDI could further advance the bank's pursuit for higher levels of profit because people would be

living longer and would be more likely to invest their money as a result. A future paper should address these arguments.

A second topic that needs to be addressed is the recent addition of deposit insurance by certain Islamic banks. Many Islamic banks do not provide deposit insurance at all and most provide an incredibly small sum. In recent times, banks especially in Malaysia have been experimenting with providing more substantial levels of insurance to attract customers. This trend started in 2005 so there should exist a substantial period of data that can be used. This would most likely add more costs to the operations of Islamic banks (an area in which, studies have shown, they already struggle with). Yet it could also make the banks more attractive customers.

A third topic that deserves attention is Islamic Equity funds (IEF). As discussed in the beginning section, Muslims are forbidden from investing in certain industries. In spite of this, IEF's remain a popular instrument for those in the Muslim world. Future researchers should analyze the return and risk characteristics of IEF's compared to traditional equity funds. Was the performance of the IEF's better during the financial crisis? If not, what about after? Are their specialized IEF's that do perform well? The answers could make Islamic instruments much more attractive to potential consumers even if they do not necessarily subscribe to the faith in question.

A final topic worthy of future investigation is whether university educated are less likely to invest using Islamic banks. These individuals often times have more money than people with lower levels of education and consequently are interested in many different types of investment prospects. Oftentimes Islamic banks cannot provide access to these prospects because the financial instruments needed require interest rates or involve a business that is considered haram

(a sin). A way to test this would be to first survey a large segment of the population in Muslim countries asking if they use Islamic banking and other characteristics about them (including the level of education they have). Once the data is compiled, a probit model can be performed and one could understand if there is any sort of negative relationship between high level schooling and use of Islamic finance. If this were to be true, this would have a huge impact on policy of Muslim countries since they might have to pursue an expansion of conventional banking in their country to make sure these individuals don't use foreign banking (which would lead to a loss in profits and tax revenue).

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APPENDIX

Section A (Summary Statistics)

TABLE 1

IRAN	GDP per Capita	Unemployment rate	Health expenditure	Urban population	freedom of press index	Public Ed Spending	ROA	RROE
2010	10600	14.60	40.20	69.00	136.60	4.70	1.455	17.724
2009	10900	11.40	38.90	69.00	94.56	4.70	1.120	13.761
2008	12800	9.93	39.10	69.00	104.14	4.80	1.074	11.591
2007	11700	10.58	41.40	68.00	80.33	5.50	1.230	8.647
2006	8700	12.09	43.10	68.00	96.50	5.10	1.136	8.050
2005	8400	12.10	38.10	68.00	90.88	4.70	1.204	15.790
2004	7000	10.30	37.80	67.00	89.17	4.90	1.047	19.976
2003	7000	11.30	40.60	66.00	78.30	4.80	0.651	15.238
2002	7000	12.20	40.50	65.00	89.33	4.90	0.464	13.984
2001	7000	16.63	43.70	64.00	48.25	4.40	0.668	18.610

TABLE 2

INDONESIA	GDP per capita	Unemployment rate	Health expenditure	Urban population	freedom of press index	Public Ed Spending	ROA	ROE
2010	2947.00	7.10	36.10	50.00	68.00	3.00	1.63	18.42
2009	2272.00	7.90	40.00	49.00	35.38	3.50	1.25	15.87
2008	2178.00	8.40	40.20	48.00	28.50	2.90	1.44	18.09
2007	1871.00	9.10	39.70	48.00	27.00	3.00	1.19	14.28
2006	1601.00	10.30	35.20	47.00	30.50	3.60	1.24	13.99
2005	1273.00	11.20	32.30	46.00	26.00	2.90	1.40	15.80
2004	1161.00	9.90	39.50	45.00	26.00	2.70	1.87	21.34
2003	1076.00	9.50	40.10	44.00	37.75	3.20	0.84	18.67
2002	910.00	9.10	38.10	44.00	34.25	2.60	1.95	20.24
2001	757.00	8.10	43.20	43.00	20.00	2.50	1.97	17.56

Section B (Indonesia Regression Results)

ROA Regression

TABLE 1:

<i>Regression Statistics</i>	
Multiple R	0.85584689
R Square	0.7324739
Adjusted R Square	0.197421699
Standard Error	0.334654361
Observations	10

TABLE 2:

	<i>Coefficients</i>	<i>Standard Error</i>	<i>t Stat</i>	<i>P-value</i>	<i>Lower 95%</i>	<i>Upper 95%</i>	<i>Lower 95.0%</i>	<i>Upper 95.0%</i>
Intercept	5.042177196	18.65156751	0.270335305	0.804433303	-54.3154349	64.3997893	-54.3154349	64.3997893
Public Spending	-0.70407294	0.438503406	-1.60562708	0.20670438	-2.09958649	0.6914406	-2.09958649	0.6914406
Unemployment rate	-0.32188443	0.274169985	-1.17403235	0.325100096	-1.19441568	0.550646822	-1.19441568	0.550646822
Health expenditure	-0.08205956	0.093454591	-0.87806886	0.444550289	-0.37947378	0.215354652	-0.37947378	0.215354652
Urban population	0.12805439	0.398100484	0.321663487	0.768816891	-1.13887902	1.394987806	-1.13887902	1.394987806
freedom of press index	-0.00717719	0.023456318	-0.30598121	0.779623705	-0.08182566	0.06747128	-0.08182566	0.06747128
GDP per capita	-0.00068006	0.001485719	-0.45773082	0.678262656	-0.00540828	0.004048162	-0.00540828	0.004048162

ROE REGRESSION

TABLE 3

<i>Regression Statistics</i>	
Multiple R	0.830531056
R Square	0.689781834
Adjusted R Square	0.069345503
Standard Error	2.341359329
Observations	10

TABLE 4

	<i>Coefficients</i>	<i>Standard Error</i>	<i>t Stat</i>	<i>P-value</i>	<i>Lower 95%</i>	<i>Upper 95%</i>	<i>Lower 95.0%</i>	<i>Upper 95.0%</i>
Intercept	29.3305062	130.4929107	0.224767047	0.836599867	-385.9561751	444.6171875	-385.956175	444.6171875
Public Spending	-4.07706093	3.067923691	-1.32893166	0.275903862	-13.84056334	5.686441483	-13.8405633	5.686441483
Unemployment rate	1.714190508	1.918189413	0.893650281	0.437353706	-4.390344302	7.818725317	-4.39034430	7.818725317
Health expenditure	0.548817375	0.653841112	0.839374222	0.462878007	-1.531996856	2.629631606	-1.53199685	2.629631606
Urban population	-1.01204220	2.785250672	-0.36335767	0.740432779	-9.875952918	7.851868501	-9.87595291	7.851868501
freedom of press index	0.145220991	0.16410863	0.884907703	0.44137871	-0.377045913	0.667487894	-0.37704591	0.667487894
GDP per capita	0.003599608	0.010394614	0.346295522	0.751985121	-0.029480691	0.036679907	-0.02948069	0.036679907

Section C (Iran Regression Results)

ROA Regression

TABLE 1

<i>Regression Statistics</i>	
Multiple R	0.972602354
R Square	0.94595534
Adjusted R Square	0.837866019
Standard Error	0.124557106
Observations	10

TABLE 2

	<i>Coefficients</i>	<i>Standard Error</i>	<i>t Stat</i>	<i>P-value</i>	<i>Lower 95%</i>	<i>Upper 95%</i>	<i>Lower 95.0%</i>	<i>Upper 95.0%</i>
Intercept	-16.00935577	4.193161585	-3.817967766	0.031616796	-29.3538673	-2.664844177	-29.3538673	-2.66484417
Unemployment rate**	0.129254844	0.043698885	2.957852213	0.059646813	-0.00981451	0.268324198	-0.00981451	0.268324198
Health expenditure	-0.055258751	0.039926057	-1.384027259	0.260341706	-0.18232128	0.071803781	-0.18232128	0.071803781
Urban population**	0.233747347	0.0608142	3.843631031	0.031073302	0.0402094	0.427285274	0.0402094	0.427285274
freedom of press index	-0.004033423	0.003204699	-1.258596404	0.297210165	-0.01423220	0.006165361	-0.01423220	0.006165361
Public Spending**	0.529251538	0.24586157	2.152640357	0.120407741	-0.25318970	1.311692783	-0.25318970	1.311692783
GDP per capita	-2.789E-05	3.44262E-05	-0.810136523	0.47716001	-0.0001374	8.16697E-05	-0.00013745	8.16697E-05

ROE Regression

TABLE 3

<i>Regression Statistics</i>	
Multiple R	0.917288214
R Square	0.841417668
Adjusted R Square	0.524253005
Standard Error	2.762337053
Observations	10

TABLE 4

	<i>Coefficients</i>	<i>Standard Error</i>	<i>t Stat</i>	<i>P-value</i>	<i>Lower 95%</i>	<i>Upper 95%</i>	<i>Lower 95.0%</i>	<i>Upper 95.0%</i>
Intercept	122.4340381	92.9928927	1.316595652	0.27952159	-173.510849	418.378925	-173.510849	418.378925
Unemployment rate	1.335194567	0.969122138	1.377736113	0.26207040	-1.74898459	4.41937373	-1.74898459	4.41937373
Health expenditure	-1.766943612	0.885451092	-1.99552931	0.13993114	-4.58484416	1.05095694	-4.58484416	1.05095694
Urban population	-0.647589718	1.348693171	-0.48016089	0.66394972	-4.93973331	3.64455388	-4.93973331	3.64455388
freedom of press index	0.000842253	0.071071495	0.01185078	0.99128869	-0.22533896	0.22702347	-0.22533896	0.22702347
Public Spending	-1.339616599	5.452539363	-0.24568673	0.82177396	-18.6920303	16.0127971	-18.6920303	16.0127971
GDP per capita	-0.000328013	0.00076348	-0.42962852	0.69645453	-0.00275774	0.00210172	-0.00275774	0.00210172

Section D

Combined Summary Statistics and Regression Results

TABLE 1

	Indonesian dummy	Public Spending	Unemployment rate	Health expenditure	Urban population	freedom of press index	GDP per capita	*ROA	*ROE
2010	1	3.00	7.10	36.10	50.00	68.00	2947.00	1.92	18.65
2009	1	3.50	7.90	40.00	49.00	35.38	2272.00	1.41	20.38
2008	1	2.90	8.40	40.20	48.00	28.50	2178.00	1.51	18.98
2007	1	3.00	9.10	39.70	48.00	27.00	1871.00	1.67	25.49
2006	1	3.60	10.30	35.20	47.00	30.50	1601.00	1.67	18.27
2005	1	2.90	11.20	32.30	46.00	26.00	1273.00	1.89	16.29
2004	1	2.70	9.90	39.50	45.00	26.00	1161.00	2.63	16.41
2003	1	3.20	9.50	40.10	44.00	37.75	1076.00	1.70	16.41
2002	1	2.60	9.10	38.10	44.00	34.25	910.00	1.01	15.2
2001	1	2.50	8.10	43.20	43.00	20.00	757.00	1.06	19.08
2010	0	4.7	14.6	40.2	69	136.6	10600	1.455	17.724
2009	0	4.7	11.4	38.9	69	94.56	10900	1.12	13.761
2008	0	4.8	9.93	39.1	69	104.14	12800	1.074	11.591
2007	0	5.5	10.58	41.4	68	80.33	11700	1.23	8.647
2006	0	5.1	12.09	43.1	68	96.5	8700	1.136	8.05
2005	0	4.7	12.1	38.1	68	90.88	8400	1.204	15.79
2004	0	4.9	10.3	37.8	67	89.17	7000	1.047	19.976
2003	0	4.8	11.3	40.6	66	78.3	7000	0.651	15.238
2002	0	4.9	12.2	40.5	65	89.33	7000	0.464	13.984
2001	0	4.4	16.63	43.7	64	48.25	7000	0.668	18.61

TABLE 2

ROA	Coef.	Std. Err.	T	P>t	[95% Conf.	Interval]
Indonesiadummy**	2.421523	1.11323	2.18	0.05	-0.004	4.847044
Publicspending	0.018035	0.268697	0.07	0.948	-0.5674	0.603475
Unemploymentrate**	0.072464	0.034089	2.13	0.055	-0.00181	0.146739
Healthexpenditure	-0.02426	0.020826	-1.16	0.267	-0.06964	0.021113
Urbanpopulation	0.046757	0.057883	0.81	0.435	-0.07936	0.172873
Freedomofpressindex	0.002849	0.003412	0.84	0.42	-0.00458	0.010282
Gdppercapita	5.73E-05	5.18E-05	1.11	0.291	-5.6E-05	0.00017
_cons	-2.90874	4.524102	-0.64	0.532	-12.7659	6.948431

TABLE 3

ROE	Coef.	Std. Err.	T	P>t	[95% Conf.	Interval]
Indonesiadummy	16.90786	10.80956	1.56	0.144	-6.644157	40.45988
Publicspending	-3.82189	2.738265	-1.4	0.188	-9.788051	2.144281
Unemploymentrate	0.329015	0.516621	0.64	0.536	-0.7966062	1.454636
Healthexpenditure	0.163218	0.330478	0.49	0.63	-0.5568311	0.8832679
Urbanpopulation**	1.474606	0.641092	2.3	0.04	0.0777874	2.871424
Freedomofpressindex	-0.25445	0.056689	-0.45	0.662	-0.1489604	0.098071
Gdppercapita**	-0.00144	0.000677	-2.13	0.054	-0.0029174	0.0000305
_cons	-61.4766	44.37807	-1.39	0.191	-158.1682	35.21488