THE EFFECT OF DIGITAL FINANCE BEHAVIOR TOWARD SHADOW ECONOMY IN SOUTHEAST ASIA COUNTRIES

Liliek Nur Sulistiyowati[1], Yulia Effrisanti[2]

Doctoral Program Students, Universita 17 Agustus 1945 Surabaya
E-mail: liliek1702@gmail.com[1] Yulia_effrisanti@yahoo.com[2]

Abstract

Digital finance behavior is increasing along with advances in information and communication technology. Digitalization in finance means an increase in the use of digital technology in the work and product development of the banking and financial sector. The purpose of this study is to determine the effect of digital finance behavior on the shadow economy. The study took the object of 6 countries in Southeast Asia, namely Indonesia, Singapore, Malaysia, Thailand, Vietnam and the Philippines. The selection of research objects is based on the consideration that the six countries represent countries in Southeast Asia with a large population and potential broad market. This research uses literature study method. The results of the literature study show that digital financial behavior increases the potential for the shadow economy in Southeast Asian countries.

Keywords: Digital Finance Behavior, Shadow Economy

INTRODUCTION

The rapid growth of the internet over the past 20 years has caused a variety of negative economic impacts. Various factors, including technical productivity, foreign direct investment, inflation, and political economy concerns, all have an impact on the economy. When examining the relationship between internet use and global trade, Freund and Weinhold (Elgin, 2013) found that the internet increases trade. Similar studies by Choi (Elgin, 2013) and Choi and Yi (Elgin, 2013) found evidence supporting the significant economic effect of the internet toward foreign direct investment, service trading, inflation , and economic growth in various countries.

The shadow economy (SE), sometimes also referred to the informal, underground, black, or hidden economy, throughout the world's national economies, which undoubtedly poses serious economic, social and political challenges, is other economic phenomena that have not been studied yet. There is

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a growing focus on the economic causes and impacts of *the shadow economy*, some because of newly developed and widely accepted methodologies or the approach taken by Elgin (2013) to different methodologies for estimating the size of the shadow economy. The relationship between internet use and the shadow economy is very important to examine because changes in economic, political, and social variables have a considerable impact on the size of *the shadow economy*.

Elgin (2013) in his research tries to link these two factors, such as the internet user and informality by examining whether the growth of the internet helps or harms the shadow economy (SE). For this purpose, Elgin (2013) investigates the empirical relationship between the level of internet user and *the shadow economy* level. The shadow economy uses a panel data set covering 152 countries from 1999 to 2007. The results of Elgin's research (2013) show a fairly large interaction between internet user and the extent of the shadow economy and GDP per capita. In particular, there is a negative relationship between internet use and the size of the shadow economy; however, as GDP per capita rises, this negative correlation decreases. Furthermore, the relationship has even the potential to turn positive at higher levels of GDP per capita.

According to the theoretical framework developed by Elgin (2013), different levels of internet user have the potential to have two different effects on the size of the *shadow economy* (SE). One of these two consequences comes from productivity shifts, while the other comes from taxes. So, researchers should anticipate an increasing (decreasing) in internet use will correlate with an increase (decrease) in production and an increase (decrease) in taxation. Internet use has the potential to have two contradictory effects toward *the shadow economy* because productivity is negatively related to the size of *the shadow economy* while taxes are positively correlated with *the shadow economy*. In addition, empirical studies show that the impact of internet use on *the shadow economy* through productivity is greater in countries with higher GDP per capita than the impact through taxes (Elgin, 2013). This mechanism provides an explanation of the relationship between shadow economy growth and usage. internet service ta how it affects GDP per capita.

The integration of financial services and digital technology is known as digital finance. Digitalization has been accelerated significantly by the development of big data analysis, artificial intelligence, and information technology (Syed, et al, 2021). Financial digitalization refers to the increased use of digital technology in business operations and creation new financial products. Various sustainable financial services are available to people and businesses through digital finance, including online payments, credit, investments, remittances, and savings. Through digital banking channels such as mobile apps, teller machines, point of sale terminals, etc., people and businesses use these digital services.

Some governments and monetary authorities define digital finance differently, including the classification of payment data, some of which are related

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to electronic transactions. Academics and practitioners also have different definitions of the term (PBI, 2018; Ramli, 2020). Financial services offered through mobile devices, personal computers, internet, mobile wallets, electronic wallets, and credit and debit cards are all considered part of the digital finance (Manyika et al; Durai & Stella in Risman, Sulaeman and Silvatika, 2021). Digital financial services, by Pazarbasioglu et al. (Risman, Sulaeman and Silvatika, 2021), defined as financial services (such as payments, remittances, and loans) accessed and delivered through digital channels, including through mobile devices and pre-existing instruments (such as debit and credit cards), Meanwhile, according to Ozili (2018b), digital finance refers to all goods, services, technological advances, or infrastructure that enable both individuals and businesses to access online payment, savings and credit facilities (via the internet) without visit to a bank or deal with a financial service provider. Based on the latest technical advances, digital finance also includes financial technology (fintech), which provides various investment products in the form of equities, commodities, financial derivatives, and gold, that is why called as "digital gold." Cryptoassets are another aspect of the future of digital finance that can be seen as a component of digital finance that promotes financial inclusion. This is because they are very effective and efficient form of payment (cryptocurrency). Cryptocurrencies have established themselves as unofficial payment methods in many developed countries, but the classification of cryptocurrencies as commodities or currencies is still debatable (Rahman, Sulaeman and Silvatika, 2021).

According to a study by the International Monetary Fund, digital payments, remittances, and financing have increased in developing countries that never happer before over the past three years (Syed, et al, 2021). Digital payment services in developing countries are increasing from $1.2 trillion in 2017 to $1.5 trillion in 2019. Over the same period, the number of mobile payments has grown by 50% in 2019 compared to 2018. In developing countries, the use of digital and mobile payments has grown steadily from in terms of value and user base. For example, the number of mobile payment users incease from 3.3 billion in 2017 to 4 billion in 2019—or about 64 percent of the population (Ogur, Peria and Rochon, 2020). Therefore, it can be concluded based on the statistics above that the development of financial technology digital drives for financial inclusion.

The ability of digital financial services to reach remote populations is called as financal inclusion. According to the technology spillover argument, financial inclusion occurs as a result of fintech and internet outreach to the public (Syed, et al, 2020). One of the main principles of the 2030 sustainable development target is inclusion. As a result, most developing countries seek to convert their non-banking population into a banking population.

To expand financial inclusion, developing countries are using the *financial technology* revolution and digital finance too much. However, most developing countries still lack of the resources and infrastructure that are needed to accelerate the process of financial inclusion (Ozili, 2021). For example,

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according to the research by the McKinsey Global Institute, from 2021 only 23 percent of the population is financially excluded in China, 48 percent in America Latin, and 39 percent in Eastern Europe and Central Asia. In addition, the report concludes that developing countries have a higher share of digital payments. lower than developed countries. For example, less than 1% of payments are made digitally in developing countries such as Bangladesh, India, Pakistan and Indonesia, compared to 77% in Australia, 55% in the UK, 49% in the United States, and 33% in Germany (Syed et al. al, 2021).

Shadow economy is another problem that developing countries face due to inadequate infrastructure and lack of resources.

The rise of the informal or parallel economy is referred to as *the shadow economy*. This includes both legitimate activities that fall outside of a country's official taxes and unlawful business transactions. Long-term economic progress is osbtructed by *the shadow economy*, which decreases the country's taxable income. In developing countries, *the shadow economy* accounts for more than 30% of the total economy (Medina and Schneider, 2018). The main factor affecting the shadow economy is the lack of access to banking services. About 70% of people worldwide do not have access to banking services for their finances needs (Mugoda, et al, 2020). 50% of the population in developing countries do not have access to financial services. However, in this challenging environment, the development of digital finance is the only opportunity to increase financial inclusion and limit the expansion of the shadow economy in developing countries. Although financial inclusion can help control the shadow economy, several recent studies have shown that systematic risks in digital finance can increase financial sector instability (Risman, et al, 2021). Excessive use of digital platforms and payments can lead to an increase in unethical behavior ethics and instability in the financial system.

According to the technology spillover idea, digital finance can benefit the financial industry in three different ways. Availability of technical staff, accelerating financial disintermediation and increasing financial inclusion. With technological advances, cutting costs, increasing outreach to the financial industry, and increasing the effectiveness of the financial system, digital finance and transforming conventional financial institutions into modern digital-based financial institutions. The assumption that a large proportion of the financially inclusive population owns a mobile phone serves as the foundation for the link between digital finance and financial inclusion. Financial access for these people can be improved through the delivery of financial services through mobile phones and related devices (World Development Report, 2016).

Digital finance is a combination of financial services with digital technology (Ozili, 2021). Previous research has shown a number of advantages of using digital finance. Digital finance supports sustainable development by encouraging financial inclusion and financial intermediation (Ozili, 2018). According to Srivastava (Syed, et al, 2021), converting to digital finance from the old model of financial transactions lowers the cost of financial services

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transactions and promotes the development of the country's financial sector. developing countries such as China and India. Also advances in fintech technology benefit the banking industry and encourage financial deregulation in developing countries (Scott, Loonam and Kumar in Syed, et al, 2021). A number of studies have looked at the effects of digital finance on inclusion financial inclusion after observing its beneficial effects on the banking and finance sectors. Evans (Syed, et al, 2021) looks at how financial inclusion in Africa relates to digital finance. Syed, et al (2021) confirm that the level of financial inclusion in the African region has increased significantly as a result of the use of cellular services in excessive internet caused by technological advances.

Information and Communication Technology (ICT) has made a major contribution to the development of low-cost financial services (Syed, et al, 2021). Branchless banking, digital wallets, online payment systems, and other ICT-enabled innovations have increased financial inclusion and financial reach (Niebel; Karakara and Osabouhien in Syed, et al, 2021). The creation of low-cost technologies has increased significantly over the past few years as a result of overspending on research and development activities in developing countries. Internet services have grown thanks to these low-cost technical advances. Mobile phones and other digital devices are more widely available now, which has increased digital payments in developing countries (Ramli and Hamzah, 2021). Traditional financial services have been replaced by digital financial services as a result of technological advances. For example, t card transactions replaced cash transactions and cryptocurrencies replaced paper money (Goldfard and Tucker, 2019). Using artificial tracking systems, this digital transformation has also helped debt recovery and loan disbursement. Parts of the population in some developing countries, however, are still unaffected by the changes. This digital sector is and continues to depend on the informal sector for its financial needs. This untapped population relies on the informal sector, sometimes known as the shadow economy, to reduce their tax obligations and bypass verification and disclosure procedures for financial services (Arvin, et al in Syed, et al, 2021).

A number of studies have found that the shadow economy is harmful to a country's ability to prosper economically (Schneider; Dreher; Schneider and Hametner in Syed, et al (2021). 2016). Zhao and Tewari (2019) stated that high levels of instability and corruption will encourage the shadow economy, which in turn will increase the danger of instability and banking in developing countries. However, other research has found that the shadow economy helps reduce poverty and creates job opportunities for the unemployed (Dreher in Syed, et al, 2021). Other studies have found that developing countries are less affected by the global financial recession than industrialized countries due to the shadow economy (Elsherif in Syed, et al, 2021). Based on previous research and the bigger picture, the shadow economy does have certain benefits, but the disadvantages outweigh the benefits by a wide margin. Over time, developing countries have turned to financial outreach initiatives to halt the rise of the shadow economy (Elgin, 2013). The International Monetary Fund's Global Financial Stability Report (Adrian,

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2019) also notes that developing countries are experiencing phenomenal developments in their banking sector, which shows a decline in the shadow economy. The analysis in previous studies came to the conclusion that digital finance helps in driving financial inclusion, and since financial inclusion also helps in regulating the shadow economy, some relationship between the shadow economy and digital finance can also be built.

Since 2010, ASEAN has begun to concentrate on advancing the use of information and communication technology, particularly in the use of the internet. This is demonstrated through the implementation of the ASEAN ICT Masterplan (AIM) program since 2010. The 2010–2015 period and the 2016–2020 period are 2 (two) phases. implementation of AIM. The aim of adopting AIM is to enable the ASEAN community to connect to the digital economy in a safe and sustainable way. ASEAN is now applying various techniques to fulfill its objectives. The first technique is to make people access the internet more often by introducing gadgets such as PCs, laptops, cell phones, tablets, and other electronic devices.The next idea is to enable internet connectivity on devices once the public knows about it and can use it. Broadband infrastructure is required for internet connection, therefore it must be developed faster so that anyone, anywhere can access the internet easily. Stage the last one is prepare a security system for internet access. In the second phase (2016–2020), AIM focuses on the use of ICT in various sectors, with the hope that ICT can improve human resource development and encourage innovation in various economic sectors. This is in response to the increase in internet access that is increasingly common among the people of ASEAN countries. It can seamlessly link economic activities among ASEAN countries. ASEAN countries will continue to advance ICT infrastructure development in AIM 2020 to enable expansion and the development of a sustainable digital economy (Pradana, 2020).

This article aims to investigate the impact of digital financial behavior on the shadow economy among a selected panel of ASEAN (Southeast Asia) countries. In ASEAN (Southeast Asia) there are eleven countries, and from these eleven countries there are six countries in ASEAN with the largest economies in Southeast Asia, namely Indonesia, Malaysia, the Philippines, Thailand, Vietnam and Singapore. These six countries are among the fastest growing markets in the world. The six countries also represent countries in Southeast Asia with a large population and broad market potential. The total market potential in the 6 countries according to include Indonesia (265 million), Philippines (105 million), Vietnam (96 million), Thailand (69 million), Malaysia (32 million) and Malaysia (6 million). The total market potential in the 6 (six) ASEAN countries reaches 573 million people (Temasek, 2019). The progress of these countries in terms of financial inclusion is relatively higher compared to other Southeast Asian countries.

Economic growth in the Southeast Asian region averaged 5% per year in the last five years (2014 to 2019) and has surpassed global economic growth where the average growth is around 2 percentage points over the last 10 years. This is an indication of stability and a rapidly growing region on its way to becoming the

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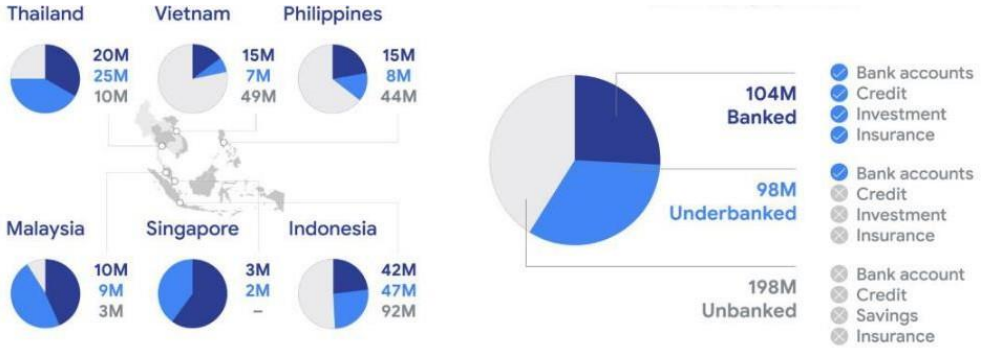
world's main economic locomotive in 2030 (Abrar & Hafiza in Imantoro, Ali and Handayani, 2019). Southeast Asia is expected to become the fourth largest economic bloc in the world. Another phenomenon is that Southeast Asia is growing fastest with connected and Internet-enabled communities that have taken root in recent years and are growing rapidly. A decade ago, nearly four in five Southeast Asians had no internet connectivity and limited access to information. Currently, the people of Southeast Asia are the largest mobile Internet users in the world (Allen, Franklin, et al in Imantoro, Ali and Handayani, 2019)

Of the nearly 400 million adults in Southeast Asia, only 104 million are fully "enjoy full access to Financial Services. Another 98 million are "Underbanked" i.e. where the population has a bank account but inadequate access to credit, investment and insurance, while 198 million are unbanked (Imantoro, Ali and Handayani, 2019) Millions of small and medium-sized companies also face a large funding gap, this can be seen in Figure 1.1 below



Picture 1
The Development of the Population of Financial Services Users in ASEAN
Source: Imantoro, Ali and Handayani, 2019

In a large area where most of the physical infrastructure is still disadvantages, because it is very expensive for financial institutions to build physical branches that can serve all customers. Other challenges include the absence of public registers, identification systems and reliable credit information, all of which are basic prerequisites for financial institutions. Cao Lu, and Zhou Xin in Imantoro, Ali and Handayani (2019). Moreover, banking is a highly regulated sector in many Southeast Asian countries. Competition and innovation are important factors, so as a result, the development of the banking industry is restrained. Increasingly aware of their financial needs, Southeast Asians are becoming more proactive in considering which financial services are best for them (Bardiev and Saunoris in Imantoro, Ali and Handayani, 2019). Although currently Financial Services most people do offline transactions, but online transactions are increasing. Research shows that 60% of Singaporeans and 50% of Vietnamese do research online before making an offline purchase. Around 72% of consumers in Indonesia see Google Search as an online gateway for credit information and the second most useful source of information for Financial Services after bank branches. Applications that have emerged today are helping consumers find places and businesses or suggesting the best route to their desired

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destination which is also a staple for many users in Southeast Asia. Waze and Google Maps, for example, use up-to-date maps, real-time traffic information and public transportation schedules to help millions of people save time (Vo and Ly in Imantoro, Ali and Handayani, 2019). At the same time, many ASEAN people rely on freely available cloud-based applications, such as Gmail, Google Docs, and Google Sheets, to work more efficiently. These applications help SMEs to cut costs, increase efficiency and increase collaboration. These are just a few of the many ways in which mobile internet is changing lives in Southeast Asia. Since most of the mobile Internet applications are free to use, they do not add any monetary value.

METHOD

In this article, the researcher uses the literature study method to answer the purpose of writing this article. Literature study is one of the research methodologies, which is often used to collect data by taking notes, reviewing literature or by reading (Abdhul, 2022). In conducting any research, literature studies must be used. Because the function of the literature study itself aims to develop theoretical aspects and practical aspects. Where this literature study is made, it is used to find theoretical foundations, frameworks of thought and search for research hypotheses. Where these points are basic in scientific research.

The definition of literature study according to Sugiyono (Abdhul, 2022) is a theoretical study, references and other scientific literature related to culture, values and norms that develop in the social situation under study. So it can be concluded that library research is the process of reading a number of references, which are generally in the form of writing (both books, articles, journals, etc.) The existence of references helps develop writing, not only so that it can be real or feel the real effect. But also to make writing more weighty or of higher quality (Abdhul, 2022)

In this study, the literature study was carried out by collecting research journals, articles and also literature studies on the shadow economy phenomenon, especially those that occur in countries in the Southeast Asian Region. In addition, a literature review was also conducted on the development of digital financial behavior, especially related to the development of digital finance in Southeast Asian countries. This article also discusses literature review on the influence of digital financial behavior on the shadow economy, especially in countries in Southeast Asia. Research journals, articles and literature studies are limited to research conducted during the period 2013 to 2022.

RESULTS AND DISCUSSION

The country's shadow economy has developed into a very serious problem with many different dimensions that have a major impact on economic growth (Bayar et al in Wibowo and Indrayanti, 2020). Behaviors that reflect the shadow economy are pervasive in all areas of life, whether at a lower or higher

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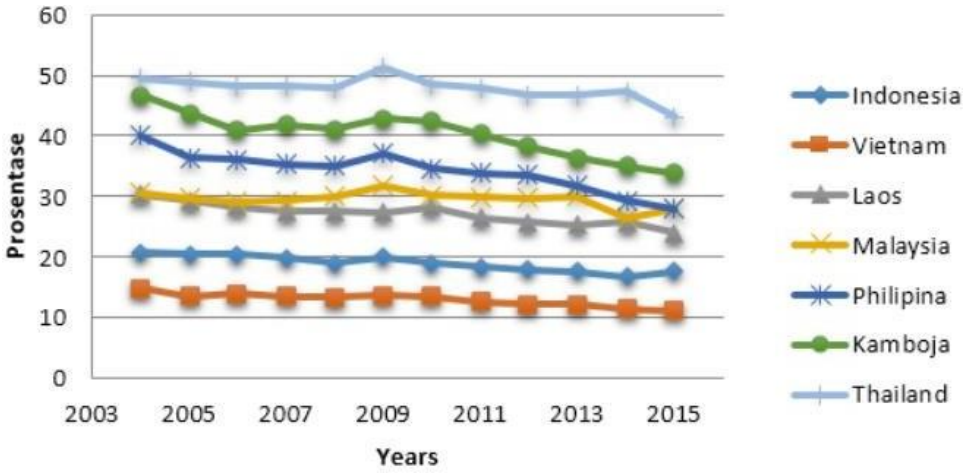
level. The term "shadow economy" can also refer to the "underground economy", "unofficial economy", "hidden economy", or "market economy". dark". The size of the shadow economy found by Schneider in Wibowo and Indrayanti (2020) in 7 ASEAN countries between 2004 and 2015 is depicted in Figure 2.



Picture 2 Shadow Economy in ASEAN Countries 2004-2015
Source: Scheider in Wibowo and Indrayanti, 2020

Based on picture 2, in the 7 largest countries in the ASEAN region, the average shadow economy from 2004 to 2015 represents 30% of GDP. Thailand, Cambodia, and the Philippines are among the countries with higher shadow economies than the ASEAN average. Since 2011, there has been no major reduction in the overall shadow economy. The ASEAN countries with the largest shadow economies are Thailand, Cambodia , and the Philippines, with an average shadow economy of 47.82 percent, 45.25 percent, and 34.26 percent of GDP. Two developing countries in ASEAN with the lowest shadow economies are Vietnam and Indonesia. The size of the shadow economy in both countries is below 20% of each country's GDP. Although the percentage of the size of Indonesia's shadow economy is the smallest compared to the other 7 ASEAN countries, the actual value is the second largest. In 2015, Indonesia's shadow economy had a value of $150 billion USD, ranking second in ASEAN. Thailand has the largest shadow economy in ASEAN, worth $173 billion USD. Laos has the lowest shadow economy value, which is only $3.4 billion in the US (Wibowo and Indrayanti, 2020).

Based on the research of Wibowo and Indrayanti (2020), it can be said that the institutional quality of 7 countries in the ASEAN region which is dominated by developing countries is still not good. Compared to other developing countries in the ASEAN region, Malaysia has higher quality institutions. good on five institutional indicators, namely political stability, government effectiveness, quality of legislation, rule of law and control of corruption. Meanwhile the Thai government's performance on regulatory quality scored high, but several indicators indicated that it was in poor condition. The political stability indicator (PV) in Vietnam shows a positive value of 0.22, revealing that Vietnam has achieved institutional levels on the political stability

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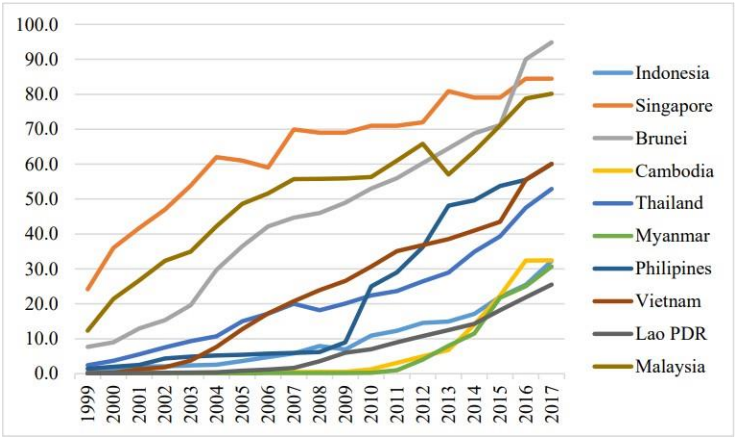
indicator. However, other evidence continues to show poor institutional quality. Institutional metrics for Indonesia and the Philippines are below zero overall. However, recent years have seen an overall improvement in the quality of institutions. In general, Vietnam, Cambodia and Laos still have substandard institutions.

Vo and Ly (2014) in their research aim to calculate the size and trend of the shadow economy for each Southeast Asian (ASEAN) country from 1995 to 2014, excluding Singapore and Brunei. The MIMIC technique is used to assess the size and trend of the shadow economy for these countries. ASEAN, including Vietnam. Vo and Ly (2014) using an estimate of 15.8% in 1999 as the base year, study findings show that Vietnam's shadow economy accounted for between 25% and 30% of the country's formal economy between 1995 and 2014. Compared to other countries in the sample, Vietnam's shadow economy has grown at a more significant rate over the past 20 years, from 1995 to 2014. The findings of Vo and Ly's (2014) study also show that the ASEAN region's shadow economy has been significantly affected by tax rates. , labor freedom, and company freedom.

To examine the impact of internet use and the shadow economy on economic growth in ASEAN countries between 2000 and 2015, Pradhana (2020) conducted a study using the panel data regression method. A random effect model was used to investigate the variable number of internet users. , shadow economy, the interaction between internet penetration and the shadow economy on economic growth. According to the research findings of Pradhana (2020), a 1% increase in the percentage of internet users results in an increase in economic growth of 1.75%. A 1% increase in the size of the shadow economy results in an increase of 2 .79% in overall economic growth. While a 1% increase in the size of the shadow economy based on the number of internet users led to a 4.71% decline in economic growth.

Internet growth in ASEAN continues to increase from time to time starting to enter the new millennium era until now. Figure 3 shows the growth of internet users in 10 ASEAN countries in the period 1999 to 2017



Picture 3. Internet users of 10 ASEAN countries 1999-2017
Source: Bakhtiyar Pradana (2020)

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Internet growth in ASEAN countries is not only about increasing internet users. The emergence of internet-accessible web applications such as e-commerce, as well as social media platforms such as Instagram, Facebook, and YouTube, as well as business applications that incorporate the latest industries such as the sharing economy, are evidence of this innovation. , consumers have access to a wealth of knowledge and ideas for new business opportunities. An emerging source of income is online commerce. Since most of these companies operating online are not legally registered, they are all tax free. Everyone, including those working in the informal sector or shadow economy, considers this type of business as a very profitable source of money (Pradhana, 2020).

Another study on the shadow economy in ASEAN was conducted by Pratiwi and Gitaharie (2018) who conducted research on the relationship between internet use and economic output by considering the shadow economy variable. As a means to support economic improvement, ASEAN countries are now concentrating on internet development. others, along with the development of the internet, including the informal economy players (shadow economy), now have access to new sources of income through online economic activities. Shadow economy actors use the internet to earn taxable income. The decline in economic output can be affected by this condition. Given the two narratives On the other hand, Pratiwi and Gitaharie (2018) examine whether internet growth has a beneficial or unfavorable effect on economic production when considering the existence of a shadow economy. According to Pratiwi and Gitaharie (2018), a 1% percentage increase in internet use resulted in a 1.9 percentage point increase in economic output in the 10 ASEAN countries during the period 1999 to 2015. Economic output rose 3.64% when the shadow economy decreased by 1% percentage. Meanwhile, 1% growth in the internet-based shadow economy resulted in a 5.36% decline in the overall economy.

According to Medina and Scheider (2018), the emergence of new business models such as the sharing economy as a result of advances in information technology, both of which have been made possible by the growth of the internet, provides opportunities for shadow economy actors to benefit from this innovation. , especially Instagram and Facebook, to use the internet for business supports this argument. Economic activities such as online shops, courier services, and endorsements are starting to appear on the two social networking platforms. Since these businesses are not registered, social media generates new revenue streams that are not taxed, which fosters a shadow economy.

Elgin (2013) in his research examines the relationship between the frequency of internet use and the level of the shadow economy. The research findings show that the relationship between internet use and the size of the shadow economy interacts strongly with GDP per capita. Elgin (2013) specifically emphasizes 2 (two) conflicting effects of internet use on the scale of the shadow economy: the first is an increase in productivity that reduces the size of the shadow economy and the other is an increase in tax avoidance that increases the size of the shadow economy. The effect of increasing internet use interacts with GDP per capita because the productivity effect is greater in developing countries including ASEAN, while the effect of tax avoidance is more pronounced in

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developed countries (Elgin, 2013). Policy makers should consider how internet use is related to the size of the shadow economy when developing economic policies. Policies should be designed to take into account these 2 (two) opposing effects and steps should be taken to promote the effect of increasing productivity relative to the effect of tax avoidance, given that internet use may have two (effect) on the shadow economy, one through productivity and more. through taxes (Elgin, 2013). In relation to Elgin's (2013) findings, ASEAN governments should take a number of actions, including implementing laws to subsidize investment in ICT use, improving infrastructure, and strengthening bureaucratic and fiscal institutions. Elgin (2013) does not claim that the proposed mechanism is the only one that explains the interaction between internet use and the shadow economy and GDP per capita.

Syed, et al (2021) in exploring the relationship between digital financial behavior and the shadow economy, researchers have included certain indicators. The indicators for measuring digital financial behavior are the percentage of GDP consisting of mobile money transactions and the number of ATMs per 100,000 people. This indicator is the most popular for measuring digital financial behavior because it shows how widespread the use of internet and mobile services is in a country (Syed, et al, 2021). According to the study findings of Syed, et al (2021) regarding control variables, increased industrial productivity, Foreign direct investment, and economic growth all contribute to the decline in the shadow economy. On the other hand, the percentage of the shadow economy increases as a result of unemployment. The research findings of Syed, et al (2021) support the findings of the model which states that the increase in the shadow economy in developing countries has been significantly influenced by the behavior of financial digitization. The growth of ATM and mobile money transactions, for example, as a result of fintech innovation, contributes to the decline of the shadow economy. increasing use of internet-based transactions and ATMs encourages financial inclusion, which has an inverse relationship with the growth of the shadow economy (Syed, et al, 2021). The results of the study are consistent with the findings of Ajide's research (Syed, et al, 2021) which states that the growth of the shadow economy is negatively affected by digital financial behavior. Financial technology innovation helps the development of banking infrastructure, and developing countries such as ASEAN are working to expand financial access, which further increases financial inclusion. Therefore, the shadow economy shows a declining trend among developing countries including ASEAN based on the combined efforts of financial technology innovation and activities to expand the reach of the banking sector (Syed, et al, 2021).

Schapper (2020) in his research on the black economy in Southeast Asian (ASEAN) countries stated several important facts, including: between 1991 and 2015, the level of black economy or shadow economy activity in Southeast Asia equaled 33.4% of regional GDP, higher than other East Asian countries and above the global average. However, in 2015, the ASEAN regional average for the shadow economy level has fallen to 28.3% of GDP. The highest level of black economy or shadow economy activity in Myanmar and Thailand, and lowest in Singapore and Vietnam. While black economy or shadow economy activity has

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declined, some problems remain. Tax collection is weak and poorly enforced in many ASEAN countries. Corruption is a major ongoing problem, as well as the illegal transfer of money out of China to Southeast Asia.

Schapper (2020) also stated that the additional threat that emerged from the Covid-19 pandemic would push many SME businesses out of economic regulation as they try to survive the downturn caused by the pandemic. The financial costs of Covid-19 could also weaken the country's ability to adequately fund law enforcement activities in the near future. Meanwhile, regarding digital finance, the ASEAN government forums have reached an agreement, where there is still much to be done. These include greater adoption of electronic banking and traceable online money transfers; increased tax collection rates in some jurisdictions; ongoing crackdown on smuggling; and regulation of cryptocurrencies to ensure they are not used as a trading tool on the black market. According to Schapper (2020) several emerging global trends will clearly help reduce the shadow economy sector, such as: the use of biometric indicators to reduce identity fraud, and the growth of electronic finance (as opposed to cash), where transactions are easier to detect by the authorities. At the same time, other developments run counter to increased compliance. Cryptocurrencies, for example, can provide an easy way for black economy participants to store financial value and move it undetected.

CONCLUSSION

Based on the results of the literature study, it can be concluded that digital financial behavior has a negative effect on the size of the shadow economy in countries in Southeast Asia (ASEAN). The development of several economic sectors in ASEAN has been greatly helped by advances in technical innovation. The revolution in financial technology, or digitalization, has had a positive effect on the financial sector. The financial technology revolution has also made financial services more widely available in ASEAN countries. This article looks at how the financial digitization of emerging ASEAN countries affects the size of the shadow economy.

The findings of the article have a number of consequences for banking regulation and the development of financial technology. First, policy makers should support further digitization of banking services in ASEAN countries. To compete with advanced industrialized countries, developing countries such as ASEAN need income and sufficient resources, and digitization makes it easier to access these resources by promoting inclusive growth and reducing the informal sector (shadow economy). Welfare-focused digital banking services should be promoted by policy makers for use by people, businesses and families. To encourage digital transactions, the government can also offer financial assistance or subsidies to both individuals and banking organizations.

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