Policy Brief

Key Messages:

- The ASEAN digital economy is growing quickly; in fact, the COVID-19 pandemic has accelerated this growth. The digital economy will play a very important role in the post-pandemic recovery. **Narrowing the digital gender divide now is key** to building inclusive digital economies across the region;

- **The ASEAN region is doing relatively well in terms of basic access** to digital technologies and tools (such as usage of computers, mobile phones, and internet access) for women;

- However, **ASEAN girls and women lag behind with respect to more advanced forms of access,** such as access to digital-related skills, jobs, and careers; access to digital-driven entrepreneurship; and access to leadership positions in the digital economy both in the private and public sector;

- To increase women's participation, the digital economy needs to be a safe environment for women and girls. This requires actively fighting cyber violence and fixing **emerging discriminatory practices, stereotypes, and biases** associated with new digital technologies and tools;

- All 10 ASEAN countries have developed policy strategies and initiatives to encourage women economic empowerment, however **initiatives explicitly targeting the digital gender divide are still the exception rather than the rule.**

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Women's Participation in the Digital Economy: Improving Access to Skills, Entrepreneurship, and Leadership Across ASEAN

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This policy brief provides evidence of the persistent digital gender divide across ASEAN and explains how it is of key importance to close this divide in order to 'build back better' based on more inclusive digital economies during the post pandemic economic recovery. This calls for a region-wide policy strategy and action plan to maximise access to skills, entrepreneurship, and leadership positions for girls and women in the digital economy across ASEAN. This policy brief is based on the discussion paper 'Gender Digital Equality Across ASEAN' prepared by Dr Araba Sey for ERIA's Strategy and Partnership Programme.

1. ASEAN digital gender divide

Women have been disproportionally affected by the coronavirus disease (COVID)-19 pandemic worldwide and are more at risk of losing their jobs than men. That is for many reasons: women tend to be overrepresented in sectors heavily affected by the pandemic (such as tourism and hospitality) or at risk from automation – a phenomenon that the pandemic may accelerate – (such as retail, textile, clothing, and footwear) (J.-H. Chang et al., 2016a; Gavalyugova and Cunningham, 2020, J.-H. Chang et al., 2016b; An, 2020). The majority of women entrepreneurs across the Association of Southeast Asian Nations (ASEAN) runs or manages micro, small, and medium-sized enterprises (MSMEs) (ERIA 2020), which are significantly more at risk of bankruptcy in times of economic downturns compared with larger firms for which access to capital is less of a constraint.

Women also have less access to opportunities linked to the digital economy. Given the rapid acceleration of the digital economy across ASEAN (Google, Temasek, and Bain, 2020), many of the post-pandemic recovery jobs will be digital-related or digital-enabled. However, the ASEAN digital economy success story has so far predominantly benefited men in hyper-connected metropolitan cities. Women, especially in rural areas, do not have access to the same opportunities and risk continuing to be worse off in the future, thus enlarging the digital gender divide across ASEAN. Addressing this divide is both a social

imperative and a tremendous economic opportunity as an increased participation of women in the digital economy can significantly contribute to the post-pandemic economic recovery.

2. While there is a small digital gender divide in basic digital access ...

Compared with other regions in Asia, ASEAN countries have relatively high levels of gender equality with respect to basic access metrics. A 2018 McKinsey assessment (Woetzel et al., 2018) scored all ASEAN Member States higher than the Asia–Pacific average on the measure of gender digital inclusion.

In the six ASEAN countries for which data is available from the International Telecommunication Union (ITU),

computer use is fairly even between males and females. With respect to mobile phone use, the largest difference (6%) is in Indonesia where 71% of women use a mobile phone, compared to 77% of men. Gender differences in internet use range from no difference (Cambodia) to 10% (Myanmar).

... the divide gets bigger with respect to more advanced metrics of access related to skills, entrepreneurship, and leadership in the digital economy

Evidence shows that women lag behind in terms of participation in more advanced types of access to the digital economy: access to skills, entrepreneurship opportunities, and leadership positions.

Figure 1: Women Are a Minority in Tech Occupations in ASEAN
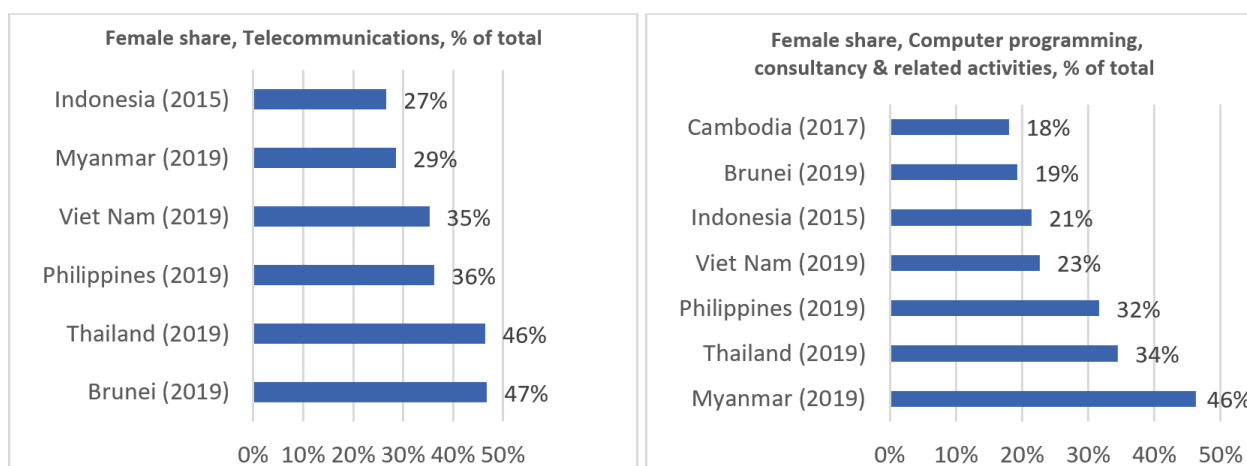
ASEAN = Association of Southeast Asian Nations, Brunei = Brunei Darussalam.
Source: International Labour Organisation (2020), ILOSTATS (Employment by sex and economic activity – ISIC level, 2), 2020. Geneva: ILO. https://ilostat.ilo.org/data/ (accessed 31 August 2020).

Access to skills and career opportunities

Like other regions of the world (Sey and Hafkin, 2019), ASEAN girls and women are under-represented in science, technology, engineering, and mathematics (STEM) education, jobs, and career opportunities. Women in the ASEAN region tend to dominate non-science disciplines such as social sciences, business, and law. When technology-related programmes such as STEM, ICT, and Engineering are separated out, it becomes clear that women in science are specialising more in the health sciences and much less in technology and math-oriented programmes (J.-H. Chang et al., 2016a; Sey and Hafkin, 2019).

Moreover, high female education in technical fields does not appear to translate into equally high female

representation in related professions. Women have limited representation in advanced technology jobs that require higher skill levels and are better-paying (An, 2020; Aneja, 2019; Gavalyugova and Cunningham, 2020; Hilal, 2018). Even in ASEAN countries where data on STEM graduates show a high proportion of females, there appears to be a drop-off after graduation, with female graduates not continuing on into related employment.

Access to entrepreneurship opportunities

While the number of women entrepreneurs across ASEAN was growing before the COVID-19 pandemic, with 60 million women entrepreneurs across the region (Global Entrepreneurship Monitor 2018), the majority of ASEAN women entrepreneurs owns and manages MSMEs, with more limited use of sophisticated digital tools, if any

(ERIA 2019). This means that women entrepreneurs across ASEAN are less likely to be able to compete and thrive in the digital economy. With the flexible options they offer, digital opportunities open avenues for women to overcome barriers to paid employment by becoming digital entrepreneurs (J.-H. Chang et al., 2016a).

Access to leadership positions

It is not enough for women to have jobs in the digital economy: the types of jobs also matter. In particular, the ability of women to progress into top-management and policymaking roles determines the extent to which women can have an equal voice in the development of systems that affect their lives. Furthermore, there are economic benefits to including women in decision-making positions – EIU–IFC (2019) found that companies with more than 30% female board members performed better financially than companies with no female board members.

Unfortunately, globally and across ASEAN in particular, there is no systematically collected data on female representation in management positions in technology-related industries (Sey and Hafkin, 2019). However, research in different contexts points to a lack of women in top-management and executive positions. For instance, the Information Technology and Business Process Management (IT–BPM) sector is one of the largest employers of women in the Philippines and Thailand, and credited with giving women better incomes, access to health care, and opportunities to develop news skills (Dahlquist, 2018). However, several researchers have observed that women in this and similar sectors tend to hold low-skill jobs whilst men have the positions requiring medium to high skills (An, 2020; Dahlquist, 2018).

3. Discrimination based on digital tools may be on the rise if measures are not taken

To increase participation in the digital economy, it is important to provide a safe environment for women and girls. This involves fighting cyberviolence, discrimination, biases, and stereotypes affecting women. Moreover, artificial intelligence and machine learning tools depend on data to train the algorithms that run their processes. The quality and representativeness of the training data therefore shape the type of 'knowledge' the systems acquire – this can have serious consequences when the systems are used for automated decision-making. Already, evidence is emerging that algorithms tend to have embedded racial and gender biases (Borgesius, 2018; Collett and Dillon, 2019; Dastin, 2018; Leavy et al., 2020; West et al., 2019) that lead to discrimination.

4. The digital gender divide is not explicitly addressed in most policy programmes across ASEAN

All 10 ASEAN Member States have developed policies and initiatives to support women's economic empowerment over the last decades. However, most of these national strategies do not address the digital gender divide specifically. At the regional level, ASEAN members have already initiated several programmes on women's empowerment and gender equality such as through the ASEAN Ministerial Meeting on Women (AMMW), the ASEAN Commission on the Promotion and Protection of the Rights of Women and Children (ACWC), ASEAN Committee on Women (ACW), the ASEAN Women Entrepreneurs Network (AWEN), and the ASEAN Women for Peace Registry (AWPR).

But the emphasis on the digital gender divide at the regional level is very recent. In 2020, during the ASEAN Chairmanship of Viet Nam, the ASEAN Intergovernmental Committee on Human Rights inaugurated a Special Session on Women's Empowerment in the Digital Age, to focus specifically on digital gender equality for the first time and the first ASEAN Women Leader's Summit took place. The recently adopted ASEAN Comprehensive Recovery Framework aims at mainstreaming women's economic empowerment as an important pillar of the post-pandemic recovery. These initiatives represent an important starting point to gain a better understanding of digital gender equality across ASEAN, including by means of data and indicators, as well as development of regional actions aimed at closing the digital gender divide.

5. Policy recommendations

• **Policymakers need to reject cyberviolence and fight potential discrimination, biases, and stereotypes** that exacerbate the digital gender divide. For example, new legal frameworks and regulations to promote internet safety should explicitly address these challenges. Making sure that women are well represented and their point of view taken into account in various expert groups contributing to this type of legislation is a good starting point.

• **Policy programmes supporting the post-pandemic economic recovery in ASEAN need to explicitly make reference to the digital gender divide** and include initiatives to narrow it, with special emphasis on girls and women in rural areas where basic connectivity and access to digital technology and skills is more problematic. Given the fast acceleration of the ASEAN digital economy, it is now time to reflect, discuss, and identify initial solutions in relation to this emerging divide during the development of national strategies and programmes supporting the economic empowerment of women.

• **The business sector has an important role to play to promote equal participation of women in the digital economy.** Public–private partnerships should be encouraged, to provide different forms of access to the digital economy (from more basic to more advanced) for girls and women. Examples include partnerships between the business sector and relevant ministries and public organisations to provide STEM-related skills to women and girls, programmes to recruit more women in digital tech jobs, and initiatives to support women entrepreneurs and start-uppers in digital technology.

• **There is still a lack of gender-disaggregated data on the participation of women in the digital economy across ASEAN.** Policymakers need to invest in better data collection and partner with the private sector (such as digital platforms and providers) to gain a more accurate understanding of the digital gender divide and formulate evidence-based policy programmes. This will also help to keep track of progress towards some of the sustainable development goals (SDGs).

• **There is a growing need to invest and focus efforts not only on basic digital access but also on more advanced types of access to the digital economy including STEM skills,** jobs, and careers; leadership positions (in both the private and public sector); and digital-driven entrepreneurship. Policymakers should reflect on a broad and integrated set of measures to attain this goal: from coding education to young girls at school, to ad hoc support (i.e. grants) for enrollment in STEM higher education, to support of female tech entrepreneurs (i.e. dedicated funding schemes, coaching, and mentoring programmes), to mechanisms to balance the number of women and men in senior management positions.

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