



1967 - 2017

**CELEBRATING ASEAN:
50 YEARS OF EVOLUTION
AND PROGRESS**

A STATISTICAL PUBLICATION



The Association of Southeast Asian Nations (ASEAN) was established on 8 August 1967. The Member States are Brunei Darussalam, Cambodia, Indonesia, Lao PDR, Malaysia, Myanmar, Philippines, Singapore, Thailand and Viet Nam.

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Foreword

Celebrating ASEAN: 50 years of evolution and progress is a statistical publication released on the occasion of the 50th anniversary of the signing of the Declaration establishing the Association of Southeast Asian Nations (ASEAN).

Since its foundation in 1967, ASEAN has made extraordinary progress in preserving peace and security, promoting economic co-operation and integration as well as social development.

An important milestone in this 50-year journey was the formal establishment of the ASEAN Community at the end of 2015, which was preceded by the implementation of the Roadmap for an ASEAN Community comprising of the three Community Blueprints for the three pillars of the ASEAN Community namely the ASEAN Political-Security Community, the ASEAN Economic Community and the ASEAN Socio-Cultural Community.

The establishment of the ASEAN Community was accompanied by the adoption of the ASEAN Community Vision 2025 to realise “a rules-based, people-oriented and people-centred ASEAN Community, where our peoples enjoy human rights and fundamental freedoms, higher quality of life and the benefits of community building, reinforcing our sense of togetherness and common identity, guided by the purposes and principles of the ASEAN Charter.”

Three successor Community Blueprints, covering the period of 2016-2025, were also adopted alongside the Vision to ensure the parallel achievements of the three pillars of the ASEAN Community.

A key cooperation area under ASEAN is the development of its regional statistical cooperation between the Statistics Division (ASEANstats) and respective national statistical systems, leading to the establishment of the ASEAN Community Statistical System (ACSS) in 2011.

This publication presents a collection of statistical indicators from ASEANstats’ databases, and highlights the main findings observed to showcase the evolution and progress of ASEAN over the past decades.



LE LUONG MINH

Secretary-General of ASEAN
Jakarta, July 2017

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ASEAN: A brief history



1967
the founding
of **ASEAN**

The Association of Southeast Asian Nations (ASEAN) was established on 8 August 1967 in Bangkok, Thailand, with the signing of the **ASEAN Declaration**¹ (the Bangkok Declaration). The Declaration was signed by the founding members of ASEAN, namely Indonesia, Malaysia, Philippines, Singapore and Thailand, also known as ASEAN-5.

Brunei Darussalam joined the association on 7 January 1984, followed by Viet Nam on 28 July 1995, Lao People's Democratic Republic (PDR) and Myanmar on 23 July 1997, and Cambodia on 30 April 1999, making up what is today the ten ASEAN Member States (AMS) or ASEAN-10. The latter four i.e. Cambodia, Lao PDR, Myanmar and Viet Nam are also known as "CLMV Countries."

2015
the establishment
of **ASEAN
COMMUNITY**

The ASEAN Vision 2020² was adopted by ASEAN Leaders on the 30th Anniversary of ASEAN in 1997, in which the ASEAN Leaders agreed on a shared vision of ASEAN as "a concert of Southeast Asian nations, outward looking, living in peace, stability and prosperity, bonded together in partnership in dynamic development and in a community of caring societies."

The goal to establish the ASEAN Community was first stipulated in the Bali Concord II³, adopted at the 9th ASEAN Summit in Bali, Indonesia, in 2003, and to be comprised of three pillars, namely political and security cooperation, economic cooperation, and socio-cultural cooperation. Efforts toward the establishment of the ASEAN Community intensified, first, with the adoption of the AEC Blueprint (2008-2015) in 2007, and later the Roadmap for an ASEAN Community, 2009-2015⁴ at the 14th ASEAN Summit in Cha-am, Thailand in 2009, which consolidates the 2015 Blueprints of all three Community pillars.

The **ASEAN Community**⁵ was formally established on 31 December 2015, comprising the ASEAN Political-Security Community, the ASEAN Economic Community and the ASEAN Socio-Cultural Community. For the next ten years, ASEAN integration will be guided by the ASEAN Community Vision 2025 and its three corresponding 2025 Community Blueprints.

¹Available at <http://asean.org/the-asean-declaration-bangkok-declaration-bangkok-8-august-1967/>

²Available at http://asean.org/?static_post=asean-vision-2020

³Available at http://asean.org/?static_post=declaration-of-asean-concord-ii-bali-concord-ii

⁴Available at http://www.asean.org/wp-content/uploads/images/ASEAN_RTK_2014/2_Roadmap_for_ASEAN_Community_20092015.pdf

⁵See <http://asean.org/kuala-lumpur-declaration-on-the-establishment-of-the-asean-community/>











ASEAN Cooperation in Statistics

“

The ASEAN Framework of Cooperation in Statistics 2010-2015 was adopted by the ASEAN Heads of Statistical Offices Meeting (AHSOM) in 2010, and acknowledged by the ASEAN Leaders at the 17th ASEAN Summit in Ha Noi, Viet Nam. The Framework provided the mandate to establish the ASEAN Community Statistical System (ACSS). AHSOM was then reconstituted into the ACSS Committee. The Committee was officially endorsed at the 43rd Meeting of the ASEAN Economic Ministers (AEM) in 2011; and held its first session in November 2011 in Jakarta, Indonesia.

”

50 years of ASEAN in figures

In 1967: ASEAN-5	In 2016: ASEAN-10
 Population: 185 million	 Population: 634 million
 Land: 2,950 thousand km²	 Land: 4,326 thousand km²
 Life expectancy: 56 years	 Life expectancy: 71 years
 GDP / capita: US\$122 (current prices)	 GDP / capita: US\$4,021 (current prices)
 Trade: US\$9,707 million	 Trade: US\$2,218,534 million



Note: Years refer to the year of accession of each country to ASEAN

Since its foundation in 1967, ASEAN has made extraordinary economic and social progresses, deepened intra-ASEAN cooperation and narrowed the development gap within and across ASEAN Member States.

ASEAN total population reached 634.5 million in 2016, three and a half times more than the population who lived in the five founding Member States in 1967, an increase due to natural population growth and the Association's membership expansion. ASEAN now represents 8.5% of the world population.

From five founding Member States in 1967 to ten now, ASEAN economy has expanded over 100-fold from its establishment, to reach a total GDP of US\$2.55 trillion in 2016 (current prices), with robust growth during the last five decades.

Economic growth raised the standard of living in ASEAN with nominal GDP per capita averaging at US\$4,021 in 2016 for the ten current ASEAN Member States, while in 1967 the five founding AMS had an average nominal GDP per capita of just US\$122.

Economic growth and development led to social progress for the ASEAN population, and contributed to poverty reduction. The proportion of the ASEAN population living with less than US\$1.25 purchasing power parity (PPP) per day, fell from 47% in 1990 to 14% in 2015. Improved nutrition and health contributed to longer life expectancy: a newborn today in ASEAN will live, on average, 15 years longer than his/her counterpart born in 1967.

These 50 years of development have also made ASEAN a major player in the global economy. ASEAN merchandise trade expanded considerably, with exports and imports valuing over US\$1 trillion each in 2016, representing more than 200 times the value of exports and imports traded by the five founding AMS in 1967. ASEAN now represents almost 7% of total world trade, and is collectively the world's 4th largest trade powerhouse after the major world economies of the European Union, the USA and China.

This **statistical publication** presents an overview of ASEAN evolution and progress over 50 years since its founding, through a selection of key socio-economic indicators. The publication is organised into four key themes, namely economic progress, social progress, economic connectivity, and narrowing development gap. The tables and figures show, wherever possible, data for the ASEAN aggregates according to the accession dates of new members. However, the time-series presented may vary depending upon the indicators under consideration and data availability. A list of symbols and abbreviations is presented at the end of the publication along with the Statistical Notes on the methodology used to calculate the ASEAN aggregates.

THEME 1



ECONOMIC PROGRESS IN ASEAN



ASEAN 50
*****2017*****

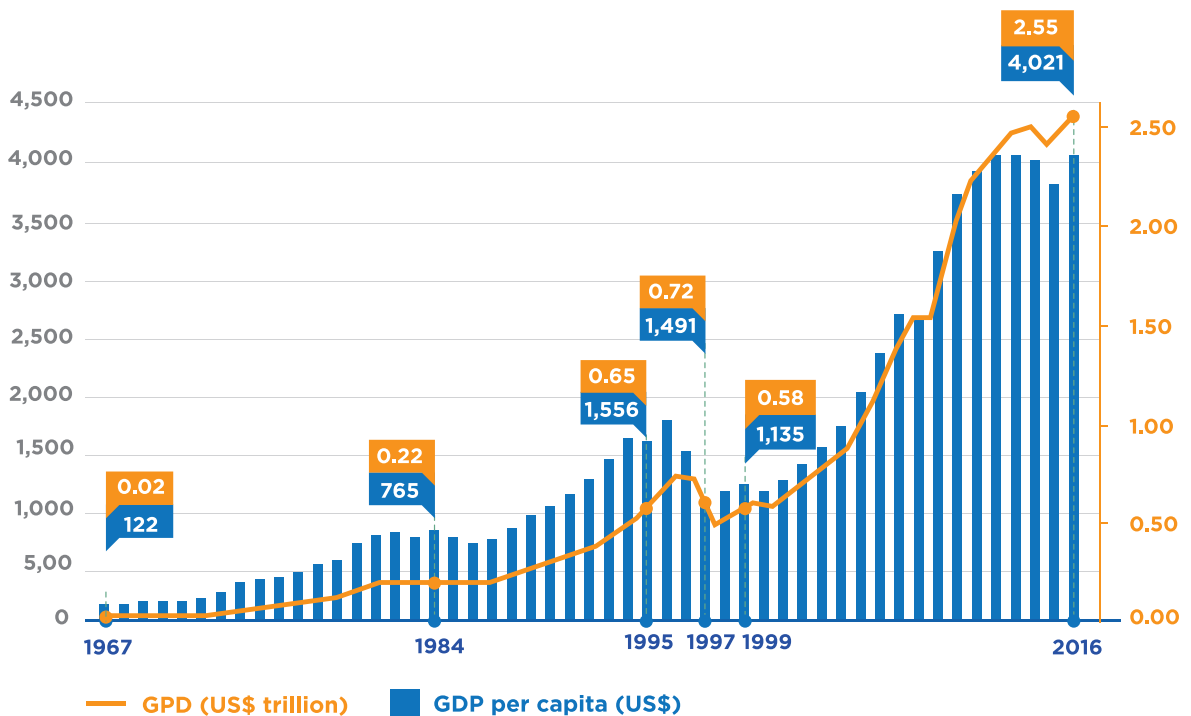
This first theme presents an overview of ASEAN economic progress through key macro-economic indicators and highlights the main trends. The chapter includes various economic indicators covering national accounts, merchandise trade, trade in services and investments. It also presents agricultural production and food trade in ASEAN to give a general picture of food security in ASEAN; albeit from a narrower perspective of food production and trade and cognisant of its cross-cutting nature. The trends show the robust growth of ASEAN economy over the years, reflecting the dynamism of the region.

ASEAN

represented **6.2%** of the world GDP in **2016**, almost doubled the share in **1967** at just **3.2%**

Economic progress is commonly measured by gross domestic product (GDP). GDP measures the monetary value of all final goods and services (i.e. those bought by the final users) produced in a geographic area in a given period of time. In 2016, the combined GDP of ASEAN-if it were a single economy- placed it as the 6th largest in the world and the 3rd largest in Asia, at US\$2.55 trillion, more than four times the level in 1999 when it first achieved the full membership of ASEAN-10.

Figure 1.1. Evolution of ASEAN GDP and GDP per capita (at current prices)



Source: ASEAN Secretariat.

Note: 1967-1983: ASEAN-5; 1984-1994: ASEAN-6; 1995-1996: ASEAN-7; 1997-1998: ASEAN-9; 1999-2016: ASEAN-10.

GDP per capita is the simplest proxy measurement of standard of living. It is a measure of ASEAN economic output that accounts for population, obtained by dividing ASEAN nominal GDP by its total population.

The evolution of ASEAN GDP per capita follows the same trends as its GDP. Over the first decade of ASEAN, the GDP per capita progressed slowly, and a slight decrease was observed in the mid-eighties. After that, however, it increased to US\$1,556 in 1995.

Between 1996 and 2001, ASEAN GDP per capita fluctuated and saw some sharp decreases; reflecting the period of the Asian financial crisis and the fact that the last few acceding AMS- including its three least developed countries - had much lower GDPs than the ASEAN-6 Members and at the same time, some were relatively populous, hence lowering the level of average GDP per capita of the region.

Following the region's post-crisis recovery, ASEAN GDP per capita grew strongly from 2002 to 2014, with just a small decrease in 2009, likely reflecting the 2007-2008 global financial crisis. A slight decrease was also observed in 2015, to US\$3,870, before increasing to US\$4,021 in 2016.

Table 1.1 presents a selection of indicators describing the evolution of select ASEAN GDP indicators.

Table 1.1. Evolution of ASEAN GDP - selected indicators

	1967	1984	1995	1997	1999	2005	2010	2016
GDP (US\$ at current prices)	22,542	215,522	647,596	715,802	576,519	936,162	1,926,264	2,548,538
GDP annual growth rate (%)	4.3	4.4	8.1	4.5	3.4	5.8	7.5	4.8
Share of ASEAN in the world GDP (% based on \$ PPP)	3.3%	3.6%	5.1%	5.3%	4.8%	5.2%	5.6%	6.2%
GDP per capita (US\$ at current prices)	122	765	1,556	1,462	1,135	1,701	3,268	4,021

Source: ASEAN Secretariat.

Note: 1967-1983: ASEAN-5; 1984-1994: ASEAN-6; 1995-1996: ASEAN-7; 1997-1998: ASEAN-9; 1999-2016: ASEAN-10.

Since 1967, ASEAN real GDP growth rate has consistently been positive, except in 1998 at the height of the Asian financial crisis. Since 1999 – the year ASEAN achieved full membership, ASEAN GDP growth rate varied between 2.5% and 7.5%.

The share of ASEAN GDP within world GDP is calculated based on PPP⁶ for better comparison. Between 1967 and 1997, the share of ASEAN GDP within world GDP grew from 3.3% to 5.3%. The

ASEAN

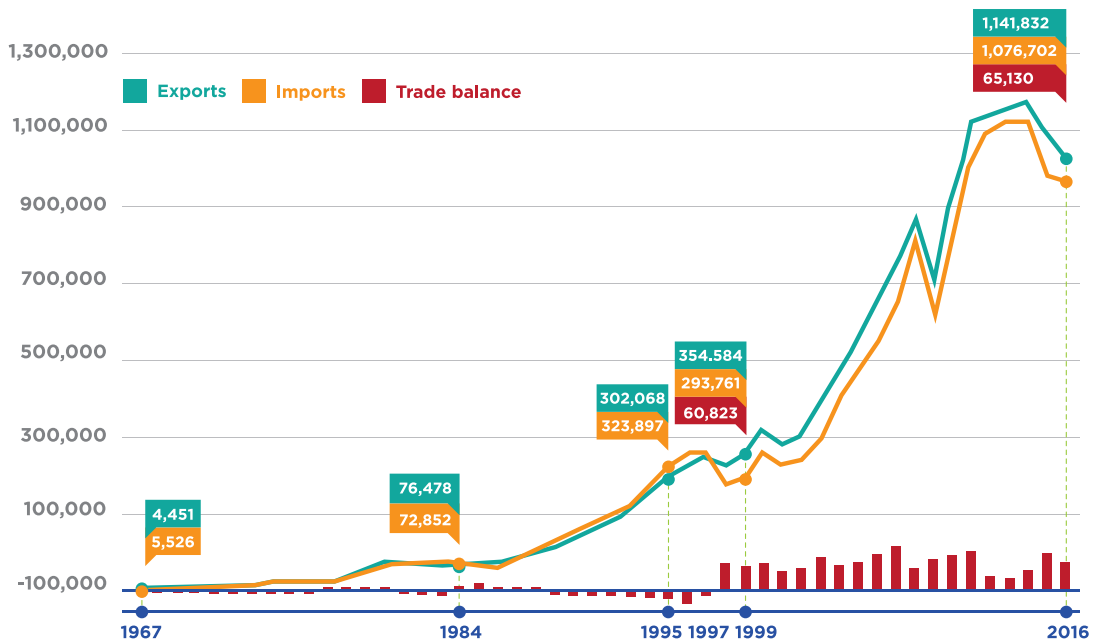
trade in goods balance has been positive since 1999

Asian financial crisis saw the share decreased to 4.8% in 1999, before increasing again to reach 6.2% in 2016.

Trade in goods – or international merchandise trade, is an important component of ASEAN economy. Both exports and imports markedly increased over the last 15 years: their values more than tripled since 1999.

Since 1967, exports and imports of goods followed the same trends: both grew at relatively moderate pace from 1967 to 1995, followed by some sharp decreases in 1998 and 2001, reflecting the period of Asian financial crisis at the end of the 1990's. This period of fluctuation was followed by a high and rapid increase until 2014, with significant dip observed in 2009. Slight drops were also recorded in 2015 and 2016— in step with the moderating trend in global trade, as shown in Figure 1.2 below. The trade balance (i.e. exports minus imports) was negative during ASEAN first decade, with the trend continuing to the 1980s and 1990s. However, starting from 1999 trade balance in the region has consistently recorded a surplus.

Figure 1.2. Evolution of ASEAN exports and imports of goods (US\$ million)



Source: ASEAN Secretariat.

Note: 1967-1983: ASEAN-5; 1984-1994: ASEAN-6; 1995-1996: ASEAN-7; 1997-1998: ASEAN-9; 1999-2016: ASEAN-10.

⁶Purchasing power parity (PPP) GDP is used to compare GDP between countries. It creates parity, or equality, between countries by removing the differences in prices. One PPP buys the same of goods/services in all countries. Thus, the use of the PPP eliminates price level differences between countries, allowing a fairer comparison of living standards.

Table 1.2 presents a selection of indicators showing the evolution of ASEAN trade in goods. ASEAN exports of goods amounted to US\$1.1 trillion in 2016, an increase of 220% as compared to 1999 when ASEAN first achieved full membership. Over the same period, ASEAN imports of goods increased by 270% to reach just under US\$1.1 trillion in 2016.

The share of Intra-ASEAN exports in total ASEAN exports has continued to be on an increasing trend since 1995-when data first became available, varying between 21% and 28%. The share of Intra-ASEAN imports increased even more over the same period, from 16.5% in 1995 to 22.2% in 2016, peaking at 26.4% in 2010.

The share of ASEAN exports within total world exports, have also increased markedly, from just 2.0% in 1967 to 7.2% in 2015. Even if the share of ASEAN exports almost quadrupled during the period, the share of ASEAN imports in world total imports fluctuated much more, and almost tripled over the same period from 2.3 to 6.6%.

Trade to GDP ratios measure the relative importance of international trade in the economy of a country or a region. It is also a measure of the openness of a region to international trade. In 1967, ASEAN was actively engaged in international trade, with the ratio of trade (exports plus imports) to GDP accounting for 43.1%. ASEAN economy opened steadily over the decades, contributed to an extent by its economic integration efforts. ASEAN trade to GDP peaked in 2005, at 130.8%. In 2016, ASEAN trade to GDP ratio stood at 87.0%, in step with the observed trend of global trade moderation.

Table 1.2. Evolution of ASEAN trade of goods - selected indicators

	1967	1984	1995	1997	1999	2005	2010	2016
Exports (US\$ million)	4,451	76,478	302,068	352,856	354,584	647,970	1,051,614	1,141,832
Share of intra-ASEAN exports (%)	na	na	23.1%	24.1%	21.1%	25.3%	28.1%	24.7%
Share of ASEAN in the world exports (%)	2.0%	3.9%	5.8%	6.3%	6.2%	6.2%	6.9%	7.2%
Imports (US\$ million)	5,256	72,852	323,897	366,097	293,761	576,608	957,502	1,076,702
Share of intra-ASEAN in the world imports (%)	na	na	16.5%	17.6%	19.7%	24.5%	26.4%	22.2%
Share of ASEAN in the world imports (%)	2.3%	3.6%	6.1%	6.4%	5.0%	5.3%	6.2%	6.6%
Trade to GDP ratio (%)	43.1%	69.3%	96.7%	100.4%	112.5%	130.8%	104.3%	87.0%
Trade balance (US\$ million)	-805	3,626	-21,829	-13,241	60,823	71,362	94,112	65,130

Source: ASEAN Secretariat.

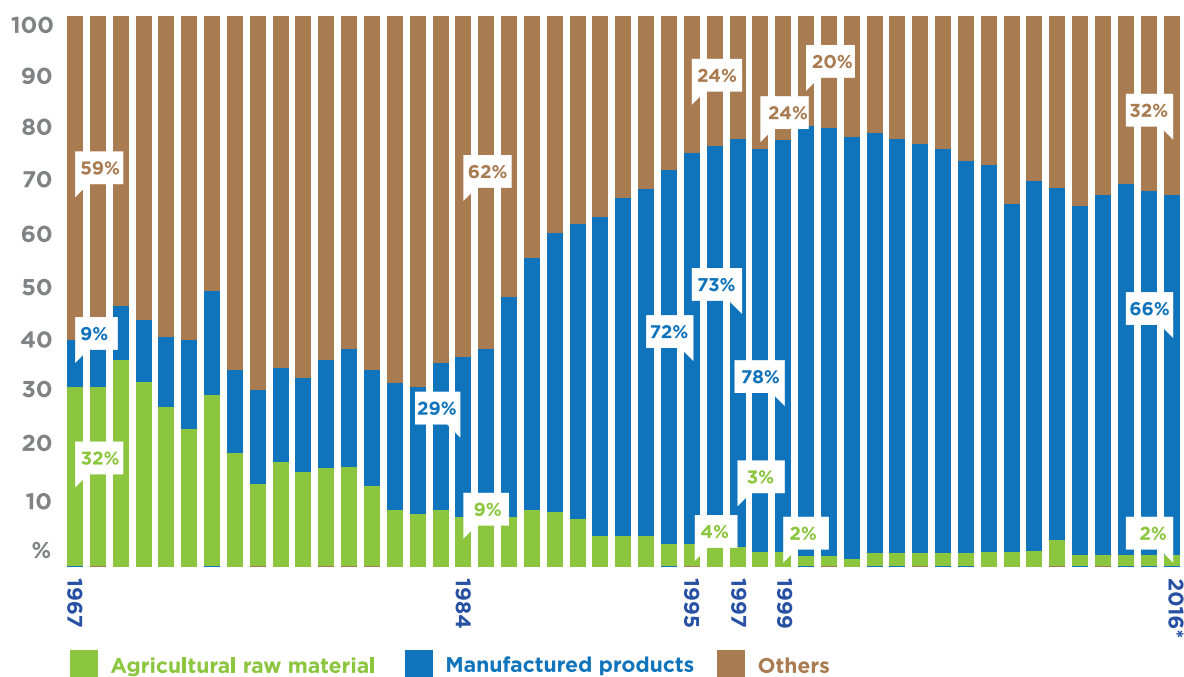
Note: 1967-1983: ASEAN-5; 1984-1994: ASEAN-6; 1995-1996: ASEAN-7; 1997-1998: ASEAN-9; 1999-2016: ASEAN-10. Intra-ASEAN Trade: Myanmar started to report data in 1999, Cambodia in 2000, Lao PDR in 2003 and Viet Nam in 2004.

Figures 1.3 and 1.4 present the type of goods exported from and imported into ASEAN. More precisely, the share represented by agricultural raw products and manufactured products in ASEAN total exports and imports is shown for the period 1967 to 2016.

Figure 1.3 also shows that at the founding of ASEAN in 1967, the region mainly exported agricultural raw products at 32.4% of total, and exports of manufactured products were minimal, at 8.7% of total. In ASEAN first two decades, the share of manufactured products in total exports doubled every ten years, and continued to grow until the end of the 1990's when they represented 77.8% of total exports. In 2016, manufactured products represented 2/3 of all exports. Meanwhile, exports of agricultural raw products declined sharply until the early 1980's and stabilised around 2-3% of total exports since the late 1990's.

Regarding imports, agricultural raw products have accounted for only a small share (below 5% of total imports) since the beginning. The figure has become even lower at less than 3% of all imports since 1990. On the contrary, manufactured products have represented a significant proportion of total ASEAN imports, varying between 57% and 81% in the past five decades. The proportion has started to decrease since the beginning of the 2000s, and in 2016, manufactured products represented 2/3 of all imports.

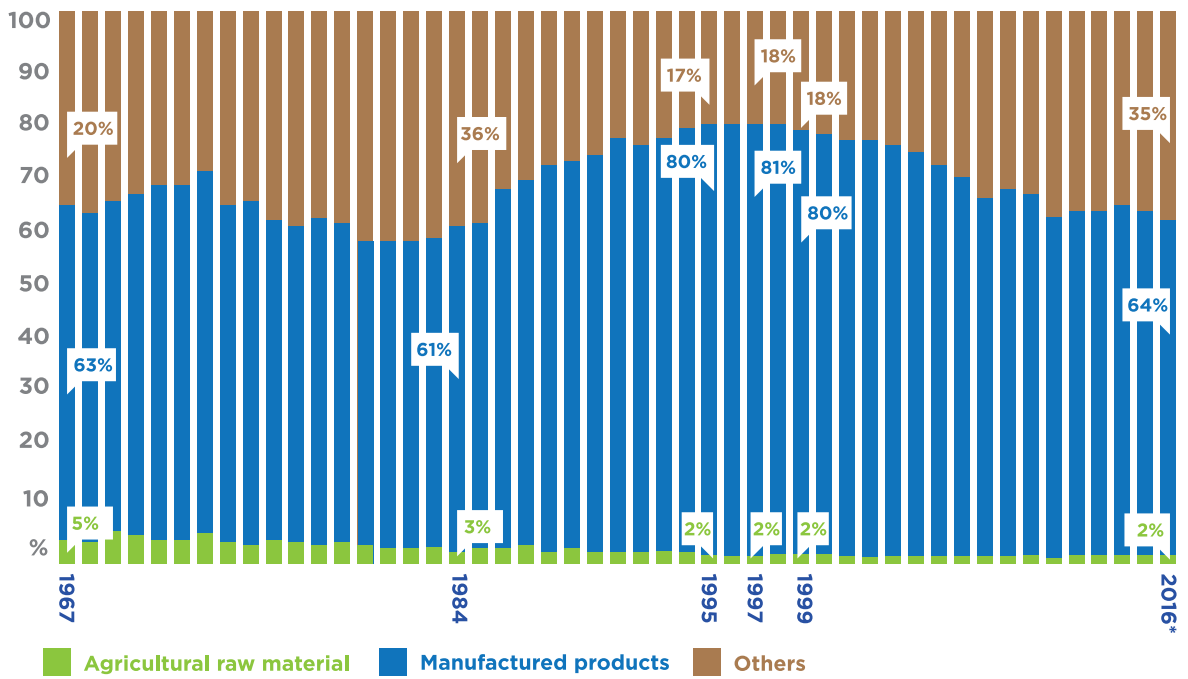
Figure 1.3. Evolution of ASEAN exports of goods, by type of product (%)



Source: ASEAN Secretariat.

Note: Coverage includes all countries available and varies between years, but is > 80% for almost all years. *: Estimation.

Figure 1.4. Evolution of ASEAN imports of goods, by type of product (%)



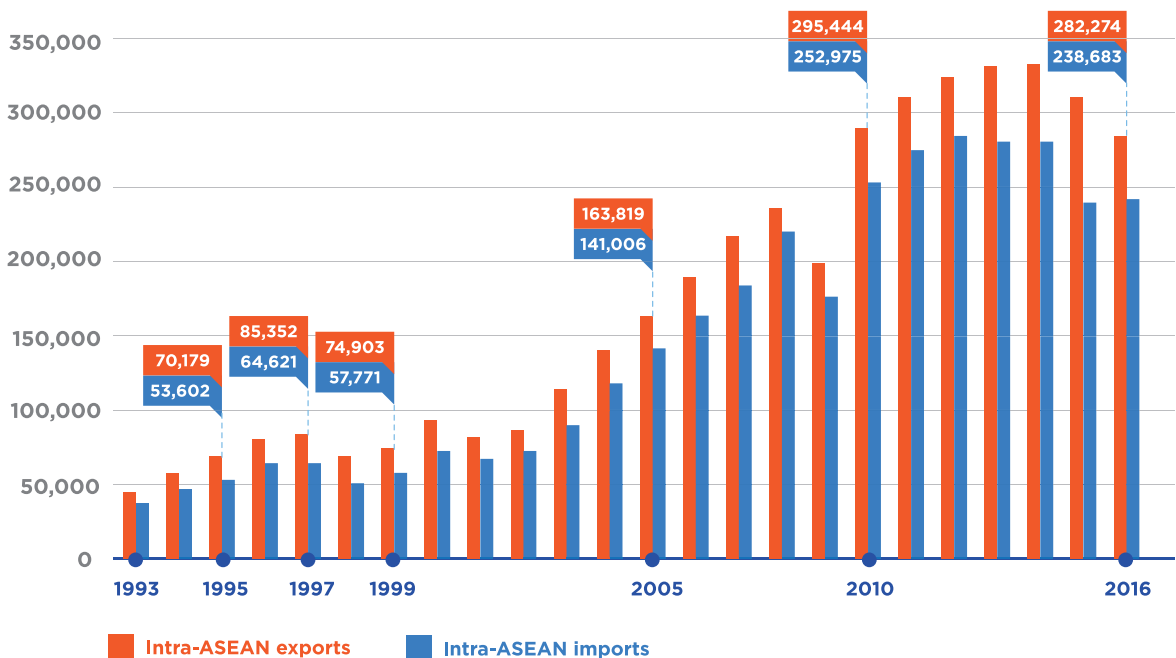
Source: ASEAN Secretariat.

Note: Coverage includes all countries available and varies between years, but is > 93% for almost all years. *: Estimation.

Intra-ASEAN market is the largest for ASEAN trade

Collectively, the intra-ASEAN market is the largest for ASEAN trade. Figure 1.5 shows, since 1993 - the year data became available, that intra-ASEAN exports and imports of goods followed the same trends: after a first decade of slow growth, both accelerated beginning in 2001, except for a sharp decrease in 2009 following the global financial crisis. The value of exports and imports quadrupled between 2001 and 2013, followed by slight decreases over 2014-2016 period, in step with global trend.

Figure 1.5. Evolution of intra-ASEAN exports and imports of goods (US\$ million)



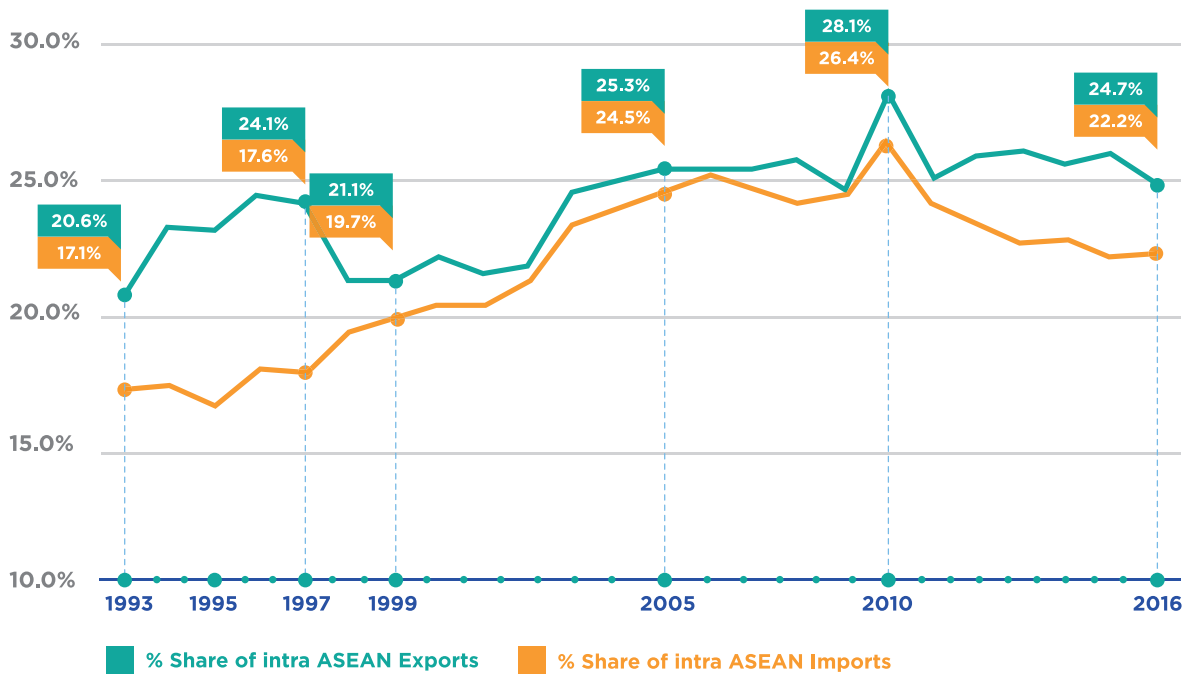
Source: ASEAN Secretariat.

Note: 1993-2016: ASEAN-10. Myanmar started to report data in 1999, Cambodia in 2000, Lao PDR in 2003 and Viet Nam in 2004.

Intra-ASEAN exports amounted to US\$282,274 million in 2016, representing almost 25% of total ASEAN exports (US\$1,141,832 million in 2016), up from just 21% in 1999- the year ASEAN achieved full membership, as indicated in Figure 1.6.

Likewise, Figure 1.6 also shows that intra-ASEAN imports stood at US\$238,683 million in 2016, representing more than 22% of total ASEAN imports (US\$1,076,702 million in 2016), up from 20% in 1999. The observed trends in intra-ASEAN trade follow broadly the overall trends in ASEAN total trade.

Figure 1.6. Evolution of shares of intra-ASEAN exports and imports of goods (%)



Source: ASEAN Secretariat.

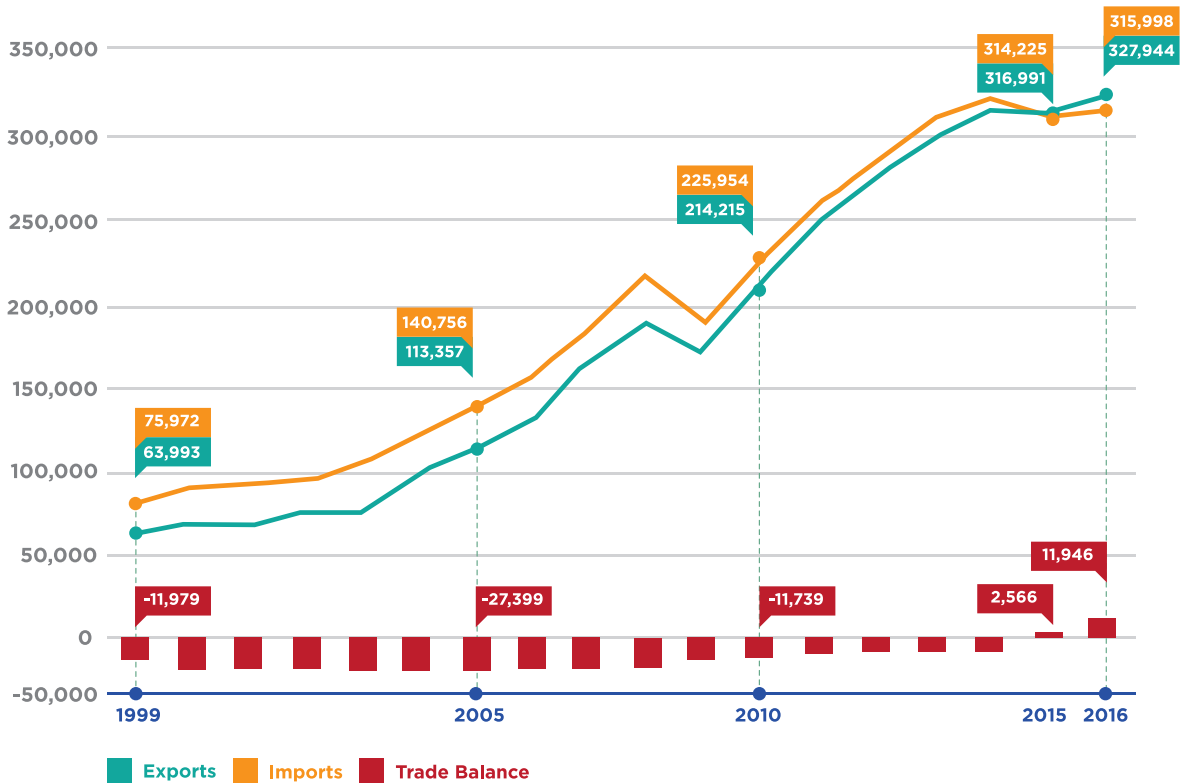
Note: 1993-2016: ASEAN-10. Myanmar started to report data in 1999, Cambodia in 2000, Lao PDR in 2003 and Viet Nam in 2004.

ASEAN

trade in services
more than
quadrupled since
1999

Trade in services records the value of services exchanged between residents and non-residents of the AMS and the rest of the world. Figure 1.7 shows that ASEAN experienced a significant growth in trade in commercial services in the last decade, reflecting the growing importance of services sector to the region.

Figure 1.7. Evolution of ASEAN exports and imports of services (US\$ million)



Source: ASEAN Secretariat.

Note: 1999-2000: ASEAN-10 without Brunei-Darussalam; 2001-2015: ASEAN-10.

ASEAN exports in services grew continuously at an average annual growth rate of 10.3% from US\$63,993 million in 1999 to US\$305,934 million in 2015, with only a decrease in 2009 and a slight dip in 2015. ASEAN imports in services followed the same trend and increased at an average annual growth rate of 9.3% over the same period, or from US\$140,565 million to US\$313,069 million.

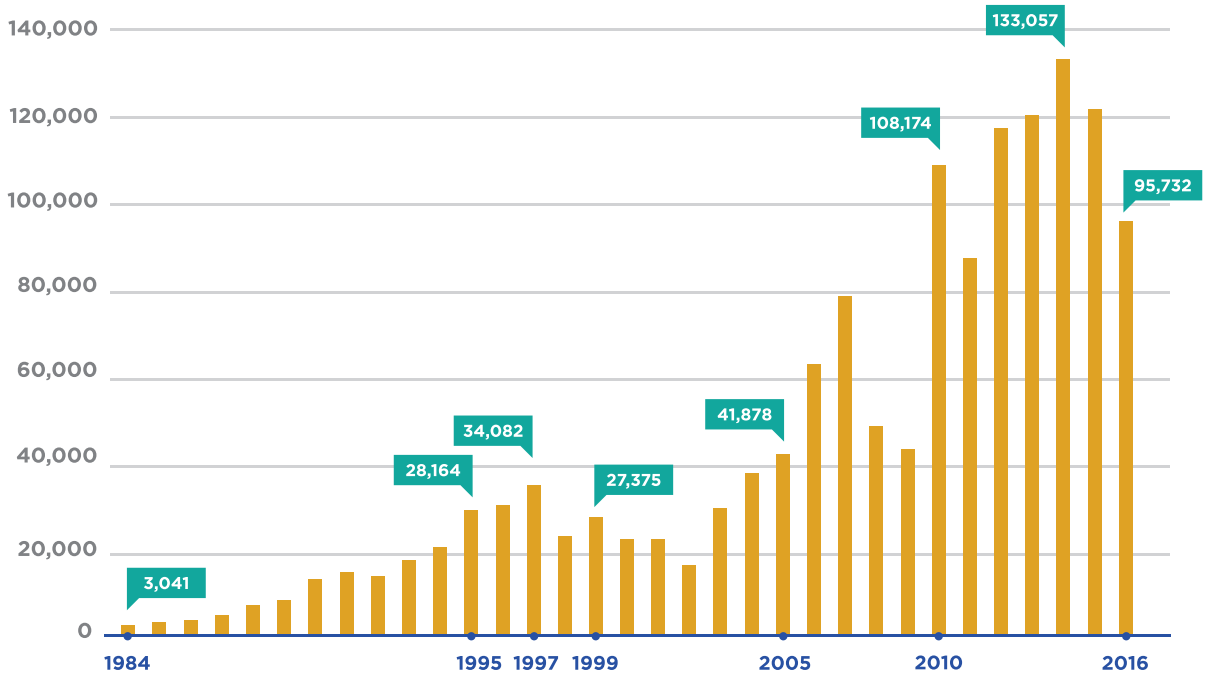
Over the whole period, the trade balance has been negative, but the trade deficit for services has reduced considerably since 2010, as indicated in Figure 1.7.

FDI flows into ASEAN more than tripled between 1999 and 2016

Foreign direct investment (FDI) is a category of cross-border investment associated with a resident in one economy having control or a significant degree of influence on the management of an enterprise that is resident in another economy (usually, owning 10% or more of the business). FDI inflows thus measure the investments made in a country by residents of foreign countries.

Figure 1.8 reports that levels of FDI made by foreign investors in ASEAN has been on an increasing trend since 1984 when data first became available, albeit with fluctuations including sharp drops in 1998, 2002, 2008, 2009, 2011 and 2016. Flows of foreign direct investment are closely linked to global economic situation, and this may explain some of the apparent slowdowns in investment levels during these years. However, the level of investments into ASEAN has increased significantly since 2009 to reach more than a 100,000 million USD per year, except in 2011 and 2016.

Figure 1.8. Evolution of FDI net inflows to ASEAN (US\$ million)



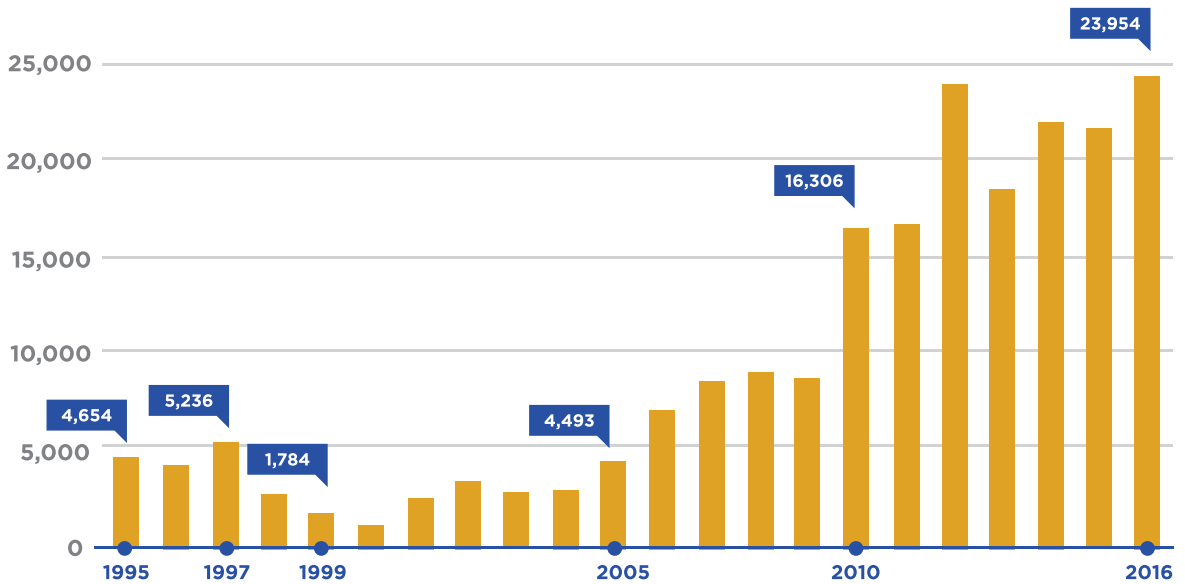
Source: ASEAN Secretariat.

Note: 1984-1994: ASEAN-6 without Brunei Darussalam; 1995-1996: ASEAN-7; 1997-1998: ASEAN-9; 1999-2016: ASEAN-10. 2016 data: preliminary.

Value of
**intra-ASEAN
FDI increased
rapidly over the
last seven years**

Intra-ASEAN FDI corresponds to the investments made by residents from one AMS in another AMS. Until 2009, intra-ASEAN FDI remained at a low level and did not exceed US\$9,000 million, as shown in Figure 1.9. Since 2010, intra-ASEAN investments increased markedly, first by doubling between 2009 and 2010. Since 2010, intra-ASEAN Investment has kept to a level of over US\$15,000 million every year, peaking at US\$24,000 million in 2016.

Figure 1.9: Evolution of intra-ASEAN FDI net inflows (US\$ million)

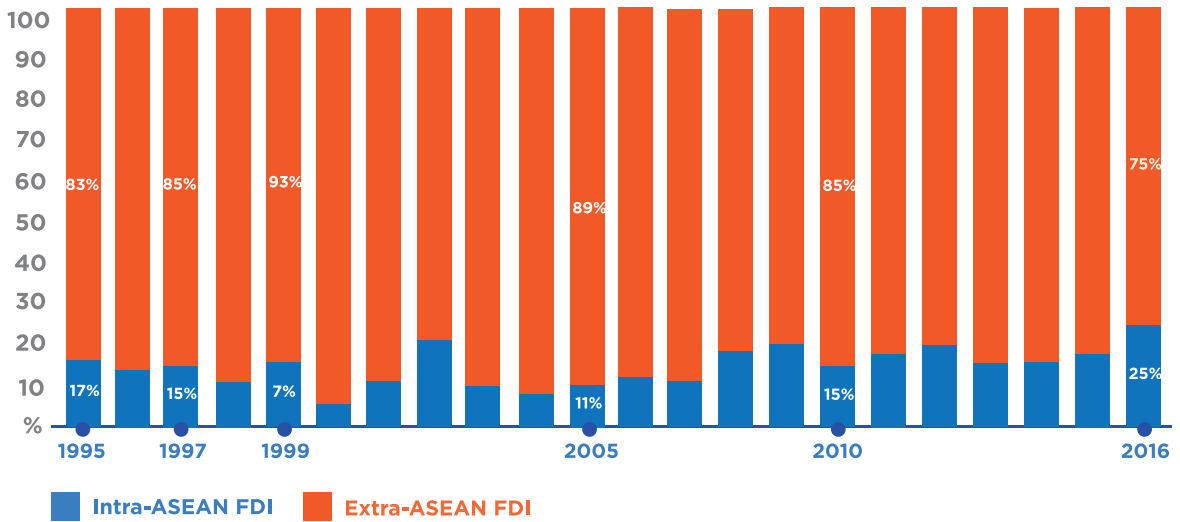


Source: ASEAN Secretariat.

Note: 1995-1996: ASEAN-7; 1997-1998: ASEAN-9; 1999-2000: ASEAN-10 without Cambodia; 2001-2016: ASEAN-10.

Figure 1.10 presents the share of intra-ASEAN FDI in total FDI in ASEAN. While the share has fluctuated over the years, the broad trajectory is positive with intra-ASEAN FDI accounting between 15% and 20% of total ASEAN FDI since 2010.

Figure 1.10: Evolution of the share of intra-ASEAN in ASEAN total FDI net inflows (%)



Source: ASEAN Secretariat.

Note: 1995-1996: ASEAN-7; 1997-1998: ASEAN-9; 1999-2000: ASEAN-10 without Cambodia; 2001-2016: ASEAN-10.

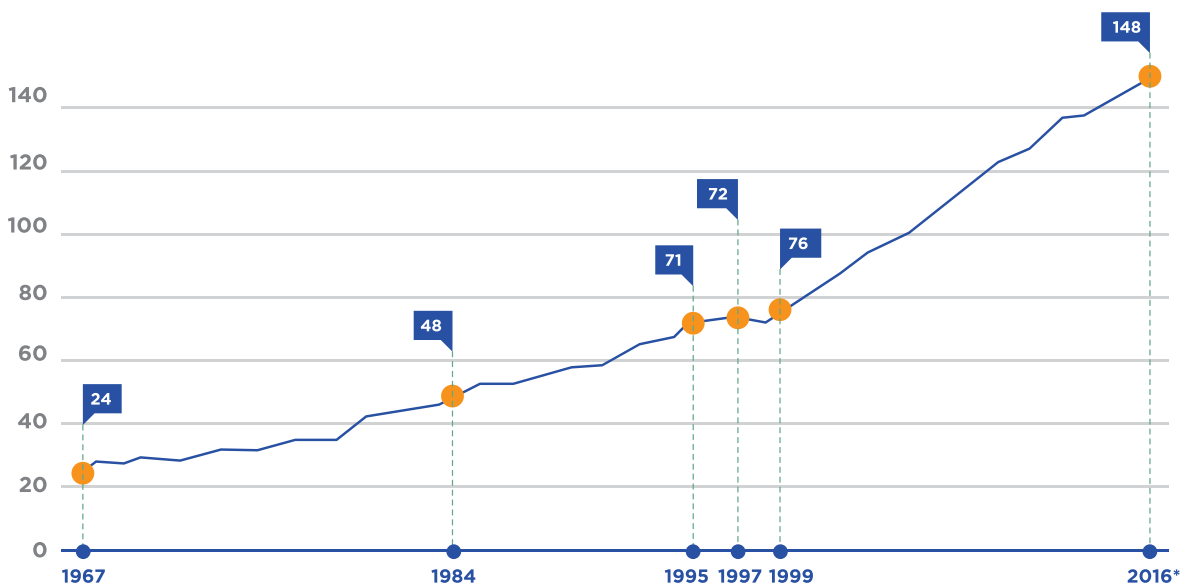
ASEAN

food production
increased by
more than
40% in the last
decade

Cooperation in food and agriculture began almost immediately following the establishment of ASEAN in 1967. Food production and food trade are important components of food security.

Food production includes commodities that are considered edible and that contain nutrients; it covers all crops and livestock products except fodder crops. Food production index measures the changes (i.e. the growth rate) in the production of food commodity for each year in comparison with the base period 2004-2006 average value.

Figure 1.11: Evolution of ASEAN food production index (2004-2006= 100)



Source: ASEAN Secretariat.

Note: 1967-2016: ASEAN-10. *: Estimation.

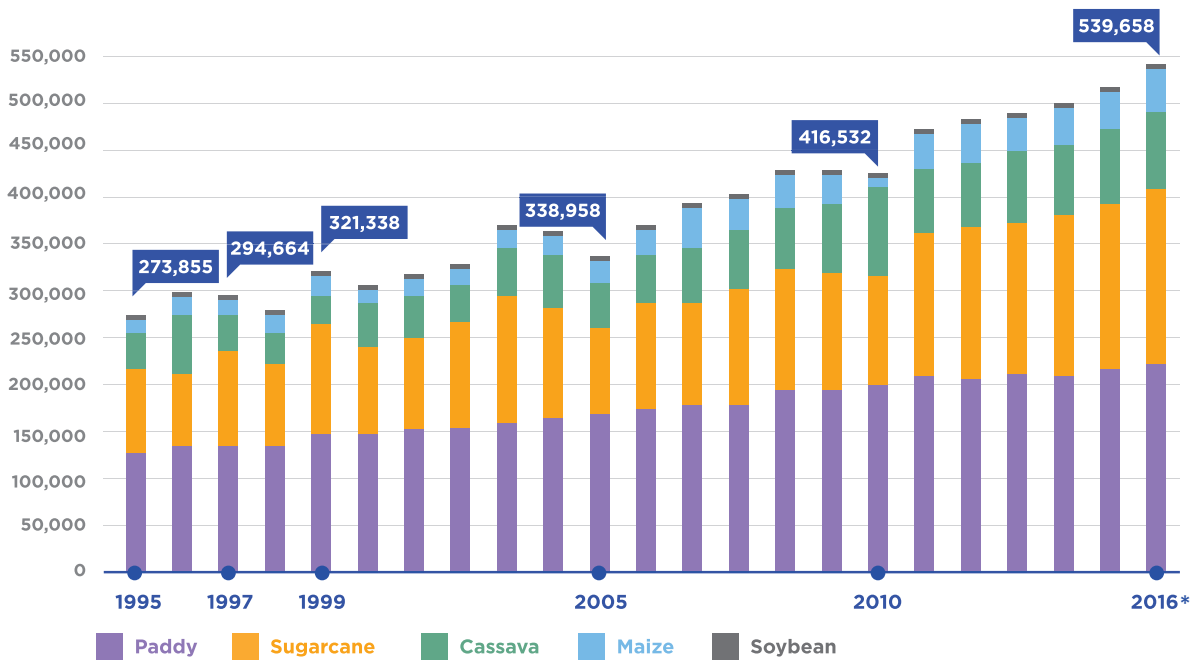
Figure 1.11 presents progressive increases in food production in the ASEAN region since 1967, with a higher increase observed in the last two decades. The production increased by around 50% from 1967 to 1999, and by more than 70% between 1999 and 2016.

Production of five main agricultural products increased by 68% between 1999 and 2016

The five main agricultural products produced in ASEAN are paddy, sugarcane, cassava, maize and soybean. In 2016, over 500 million tonnes of these five products were produced in ASEAN, an increase of around 68% in volume since 1999.

As observed in Figure 1.12, paddy and sugar cane have always represented more than 3/4 of this total, however their proportion decreased over the period 1999-2016: by four percentage points for paddy and two percentage points for sugar cane; the decrease was mainly compensated by an increase of four percentage points in the production of cassava and two percentage points for maize. In terms of volume, the production of soybean was the only one to decrease, but its level is marginal, representing less than 0.5% of the total in 2016.

Figure 1.12: Evolution of ASEAN production of main agricultural products (thousand tonnes)



Source: ASEAN Secretariat.

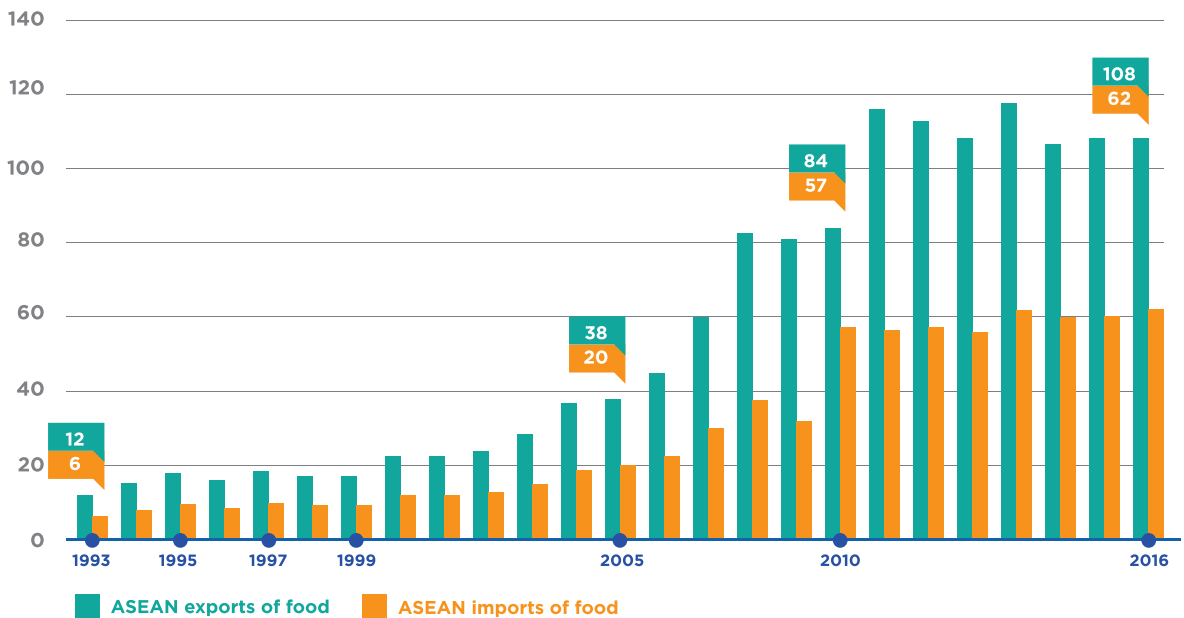
Note: 1995-2016: ASEAN-10. *: Estimation.

Share of food in ASEAN Exports and Imports almost doubled between 1993 and 2016

Food security also depends on the capacity of an economy to trade food, including by using imports to fill the gap in domestic production. Food products considered in Figure 1.12 include live animals and animal products; vegetable products; animal or vegetable fats and oils and their cleavage products, prepared edible fats, animal or vegetable waxes; and prepared foodstuffs.

Both food exports and imports increased over the period 1993-2016, with the values of food exports always being higher than food imports, as shown in Figure 1.13. By 2016, ASEAN food exports amounted at US\$108 billion, as compared to only US\$12 billion in 1993. Likewise, ASEAN food imports were valued at US\$62 billion in 2016, an increase by over 10 times from the value in 1993 at US\$6 billion.

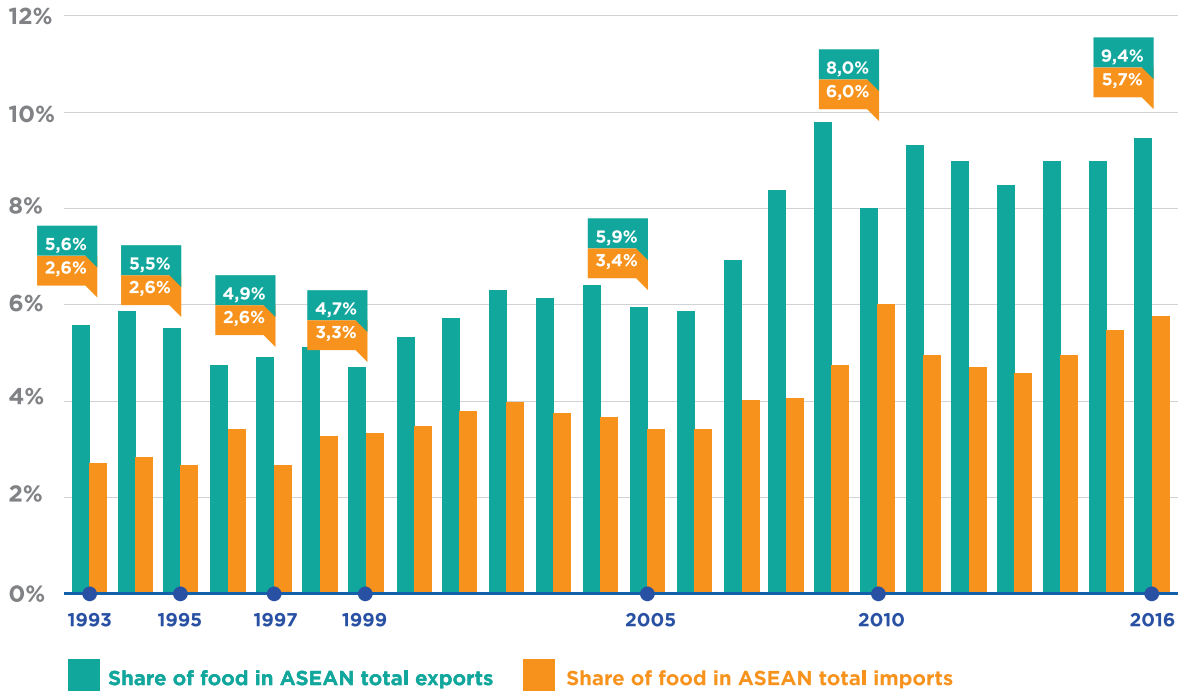
Figure 1.13: Evolution of ASEAN exports and imports of food (US\$ billion)



Source: ASEAN Secretariat.

Note: 1993-2016: ASEAN-10. Myanmar started to report data in 1999, Cambodia in 2000, Lao PDR in 2003 and Viet Nam in 2004. Food products include HS 2-digit: 01, 02, 03, 04, 07, 08, 09, 10, 11, 12, 13, 15, 16, 18, 19, 20 and 21.

Figure 1.14: Evolution of the shares of food in ASEAN total exports and imports (%)



Source: ASEAN Secretariat.

Note: 1993-2016: ASEAN-10. Myanmar started to report data in 1999, Cambodia in 2000, Lao PDR in 2003 and Viet Nam in 2004. Food products include HS 2-digit: 01, 02, 03, 04, 07, 08, 09, 10, 11, 12, 13, 15, 16, 18, 19, 20 and 21.

In terms of the share of food exports in ASEAN total exports, Figure 1.14 shows that this increased by almost four percentage points over the period 1993-2016, from 5.6% in 1993 to 9.4% by 2016. The share of food imports in ASEAN total imports increased by three percentage points over the same period, from 2.6% in 1993 to 5.7% in 2016.

THEME 2



SOCIAL PROGRESS IN ASEAN



ASEAN

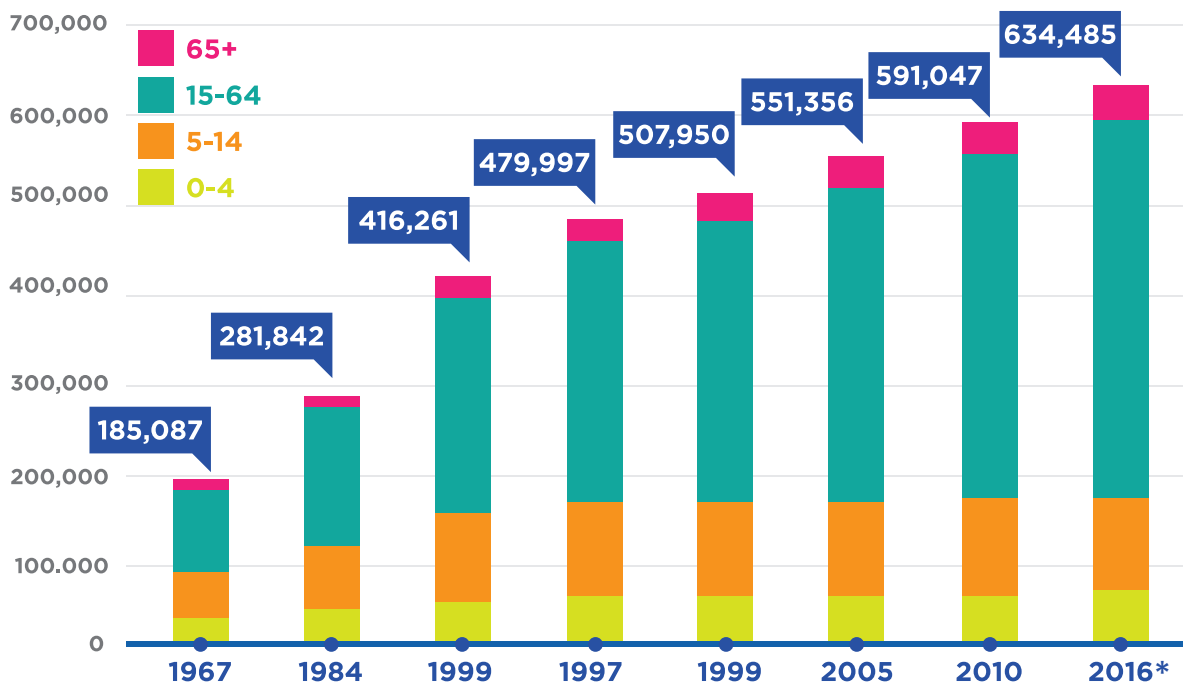
population accounted for around **8.5%** of the total world population since 2016

The second theme explores the social progress achieved in ASEAN since its founding 50 years ago. It presents a comprehensive overview of how living conditions have evolved in ASEAN, through the main trends on a variety of social indicators, including on demography, labour force, poverty and undernourishment, health and education.

The data showed that significant social progress has been achieved in ASEAN following sustained economic development over the last five decades.

There were 634 million inhabitants in ASEAN in 2016, 3.4 times as many as the 185 million inhabitants that lived in the five founding AMS in 1967.

Figure 2.1: Evolution of ASEAN population structure (thousand people)



Source: ASEAN Secretariat.

Note: 1967-1983: ASEAN-5; 1984-1994: ASEAN-6; 1995-1996: ASEAN-7; 1997-1998: ASEAN-9; 1999-2016: ASEAN-10. 2016*: estimation.

Figure 2.1 shows the evolution of population structure in ASEAN over the period from five founding Member States in 1967 to ten nowadays.

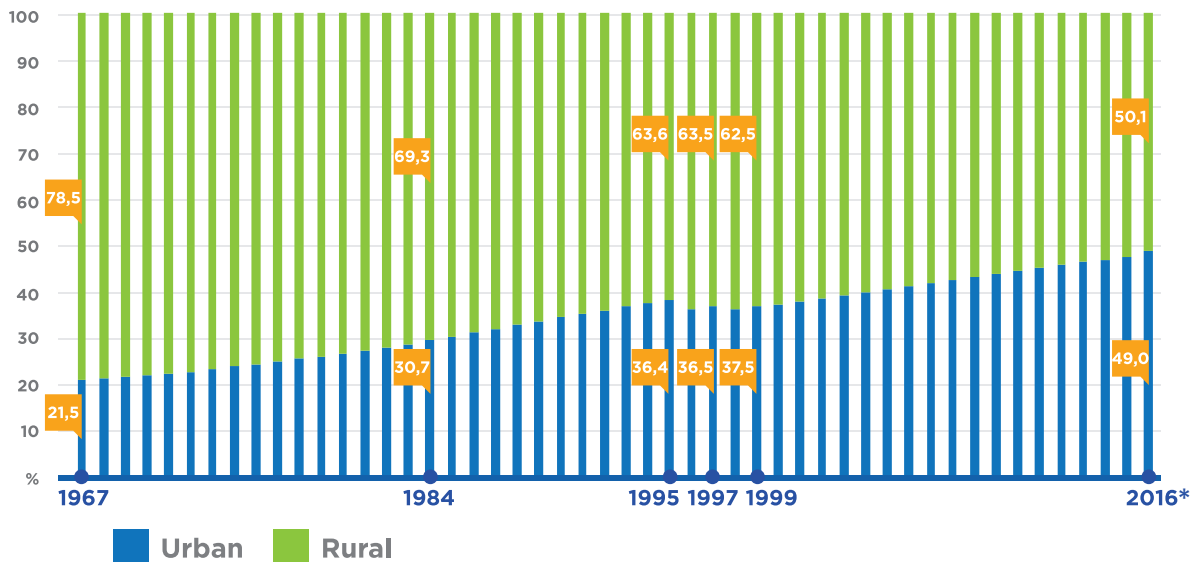
There has been a notable decline in the share of population aged between 0 and four years in ASEAN total population from 16.9% in 1967 to 9.0% in 2016. The share of the working age population (between 15 and 64 years) increased significantly since 1967 and represented 430 million people in 2016, 67.8% of ASEAN total population. The share of people aged over 65 years almost doubled over the last 50 years, consistent with the increase in life expectancy and due to fewer babies being born within ASEAN in the last 30 years.

The share of ASEAN urban population more than doubled between 1967 and 2016

Another very important aspect in the evolution of ASEAN demography in the last 50 years is the increase in the share of urban population, which is also a worldwide trend. ASEAN share of urban population in 2016 (49.0%) was still under the World's average of 54.3%.

Figure 2.2 shows that ASEAN share of urban population to total population has continuously increased, from 21.5% in 1967 to 37.5% in 1999 and 49.0% in 2016.

Figure 2.2. Evolution of urban population in ASEAN (%)



Source: ASEAN Secretariat.

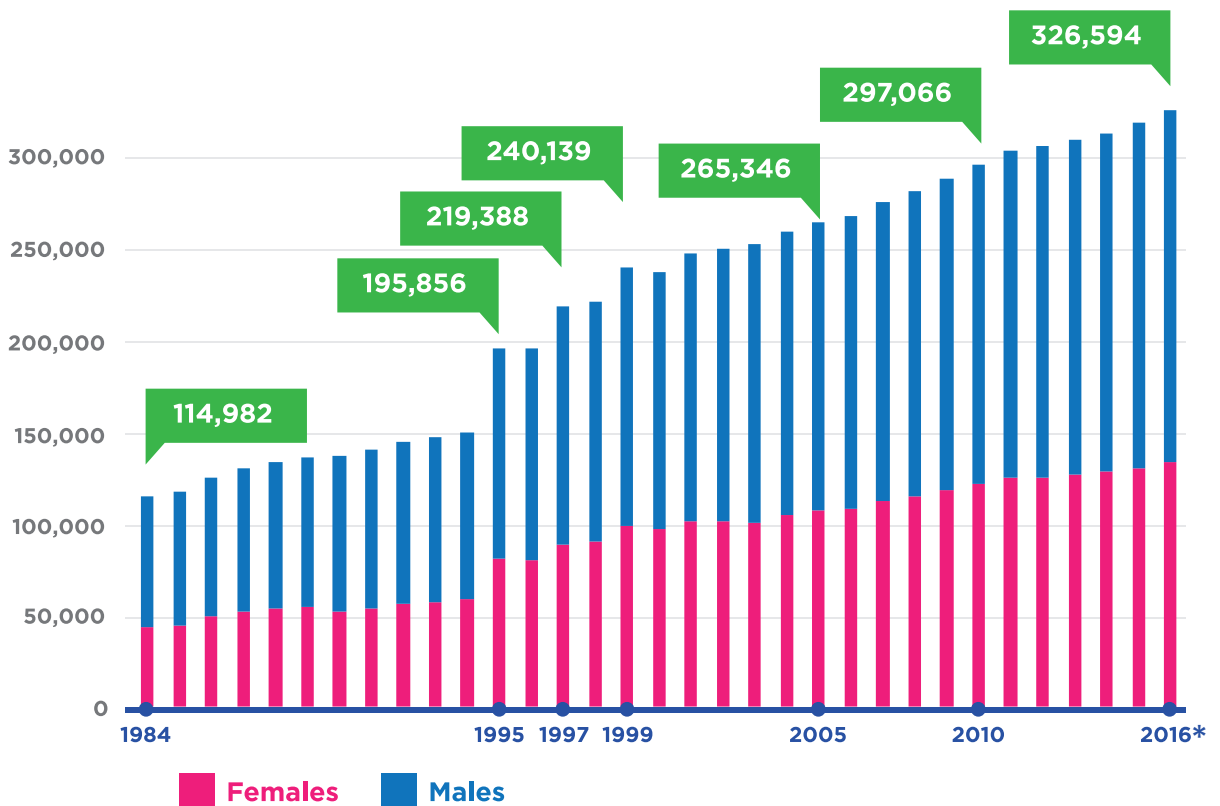
Note: 1967-1983: ASEAN-5; 1984-1994: ASEAN-6; 1995-1996: ASEAN-7; 1997-1998: ASEAN-9; 1999-2016: ASEAN-10. *: Estimation.

The labour force is comprised of persons aged 15 and older who supply labour for the production of goods and services during a specified period. It includes persons that are economically active i.e. those who are currently employed, who are unemployed but looking for work as well as first-time job seekers. Growth in population adds to a labour force, provided that they are employed or are seeking work.

Since 1984, the labour force participation rate in **ASEAN** remained stable for men, and increased for women

Figure 2.3 presents the absolute numbers of persons included in ASEAN labour force. ASEAN labour force stood at 327 million persons in 2016, almost three times the number it was in 1984. The accession of the CLMV – Cambodia, Lao PDR, Myanmar and Viet Nam – between 1995 and 1999 added around 70 million persons to ASEAN labour force, representing approximately 30% of ASEAN total labour force in 1999. Since 2000, there has been a regular increase of ASEAN labour force at an average annual growth of 2%.

Figure 2.3. Evolution of labour force in ASEAN (thousand persons)



Source: ASEAN Secretariat.

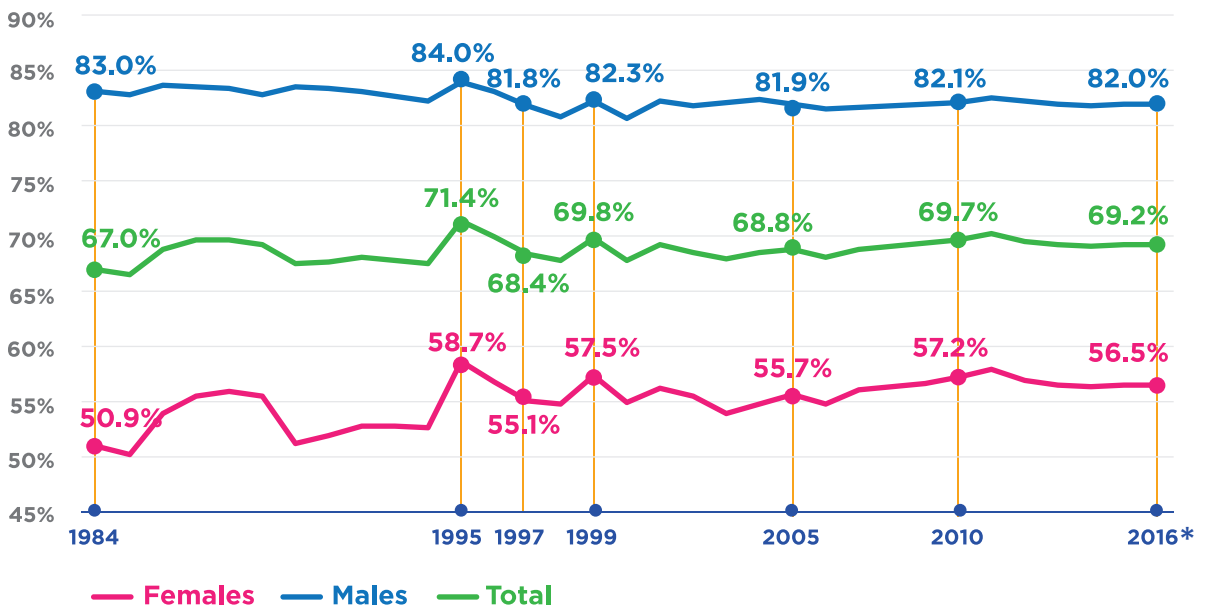
Note: 1984-1994: ASEAN-6; 1995-1996: ASEAN-7; 1997-1998: ASEAN-9; 1999-2016: ASEAN-10. *: Estimation.

The labour force participation rate is the proportion of the working-age population (aged 15 to 64 years) that is economically active. The labour force participation rate in ASEAN stood at 69.2% in 2016, an increase of 2 percentage points compared to its 1984 level (when data was first available) of 67.0% (see Figure 2.4 below).

ASEAN total labour force participation rate increased regularly over the period of 1984-1995, with a higher increase observed for women than for men. The accession of new members into ASEAN in the second half of the 1990's positively impacted the region's labour force participation rate. Since 2000, there has been very little variation, with only 1.5 percentage point increase between 2000 and 2016 in total labour force participation rate.

Over the whole period, the participation rate of women in the labour force remained lower than of men, and stood at 56.5% compared to 82.0%, respectively, in 2016. However, the gap considerably reduced over the period: from a 32 percentage point difference in 1984 (50.9% for women and 83.0% for men) to a 25 percentage point difference in 2016, largely contributed by the relatively higher increase in the labour force participation rate for women.

Figure 2.4. Evolution of labour force participation rate in ASEAN (% of total working-age population aged 15 to 64 years)



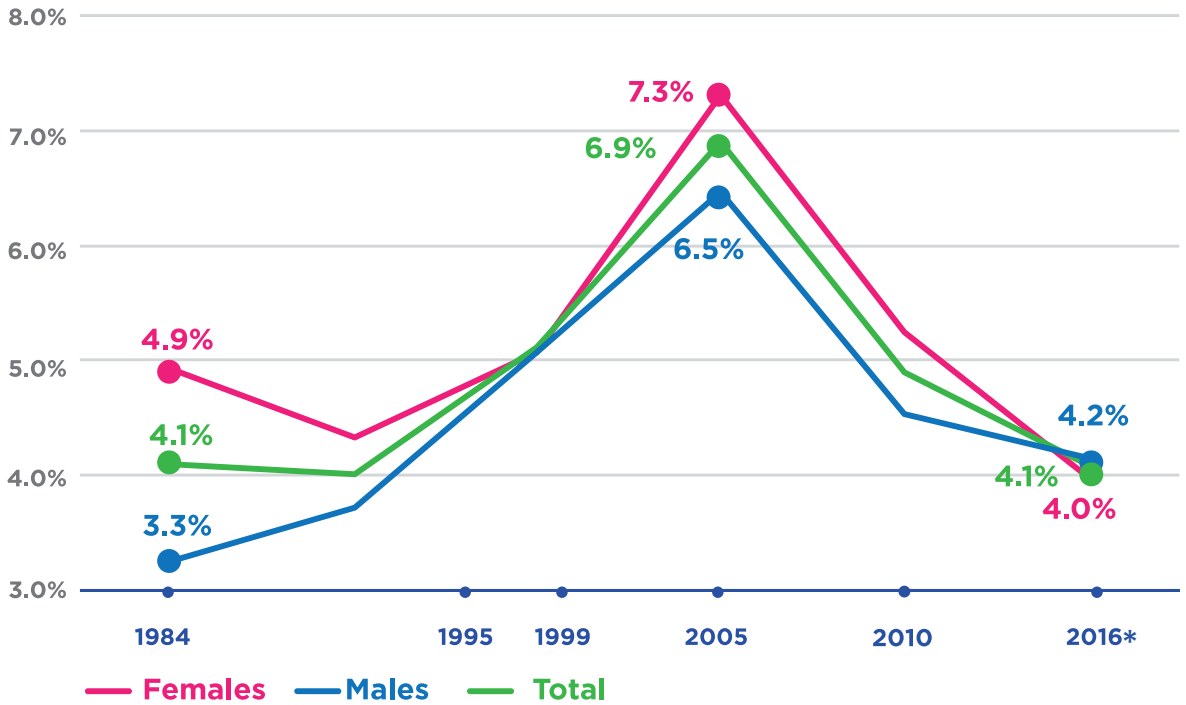
Source: ASEAN Secretariat.

Note: 1984-1994: ASEAN-6; 1995-1996: ASEAN-7; 1997-1998: ASEAN-9; 1999-2016: ASEAN-10. *: Estimation.

Youth unemployment decreased steadily over the last decade

Another important indicator for the labour force is the unemployment rate, which refers to the share of the labour force that is without work but available for, and seeking, employment.

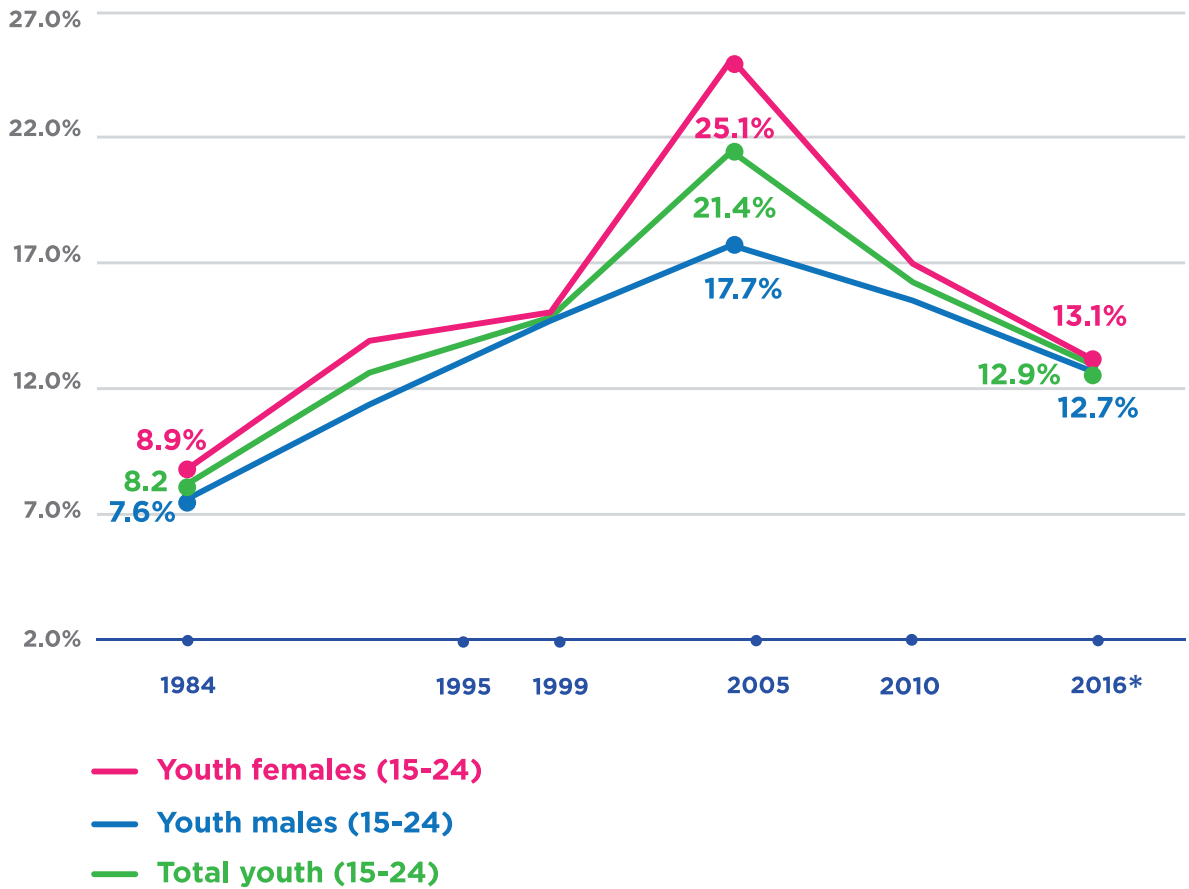
Figure 2.5. Evolution of total unemployment rate in ASEAN (%)



Source: ASEAN Secretariat.

Note: 1984: ASEAN-6; 1995: ASEAN-7; 1999-2016: ASEAN-10. *: Estimation.

Unemployment in ASEAN remained at a low level (<5%) over the period of 1984 to 1999, as shown in Figure 2.5. It increased progressively over the next five years to reach 7.3% in 2005, before decreasing gradually over the last decade to reach 4.0% in 2016. Similar trends were observed for both women and men. The unemployment rate for women used to be slightly higher than for men. However, this trend was reversed in 2014 when for the first time, the unemployment rate for women was lower than it was for men, at 4.2% and 4.3%, respectively. In 2016, the unemployment rate for women stood at 4.0%, while that for men at 4.2%.

Figure 2.6. Evolution of youth unemployment rate in ASEAN (%)

Source: ASEAN Secretariat.

Note: 1984: ASEAN-6; 1995: ASEAN-7; 1999-2016: ASEAN-10. *: Estimation.

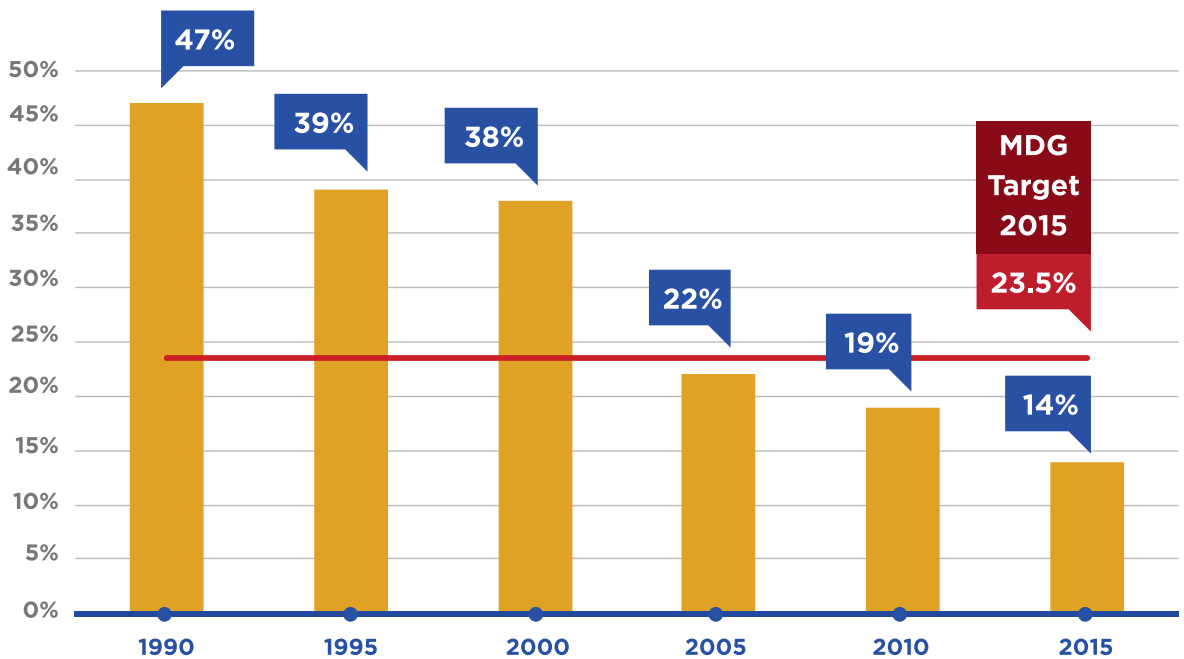
The youth (15-24 years old) unemployment rate is much higher than the total unemployment rate. Figure 2.6 clearly indicates that since 1984 the youth unemployment rate has increased regularly and peaked at 25.1% for women and 17.7% for men in 2005, the year when total unemployment rate was also the highest. Since then, it decreased progressively while at the same time reducing the gap between gender, before stabilising at around 13%, both for women and men in 2016.

At **14%** in 2015, poverty rate in **ASEAN** was less than a third of its peak in 1990

Economic progress observed in past decades has contributed to sharp reductions in poverty across ASEAN. The proportion of ASEAN population living with less than \$1.25 PPP per day fell from its highest level of 47% in 1990 to just 14% in 2015, as reported in Figure 2.7.

The proportion of ASEAN population living in poverty decreased continuously between 1990 and 2015, at an average decline of 4.7 percentage points each year over this period. This progress enabled ASEAN to reach the Millennium Development Goal (MDG) on poverty target (MDG 1 target) ahead of time, which was to halve the proportion of people whose income is less than one dollar per day between 1990 and 2015.

Figure 2.7. Poverty rate in ASEAN (% of population living with less than \$1.25 PPP per day)



Source: ASEAN Secretariat.

Note: 1990-2015: ASEAN-10 without Brunei Darussalam and Singapore (not applicable) and Malaysia and Myanmar (not available).

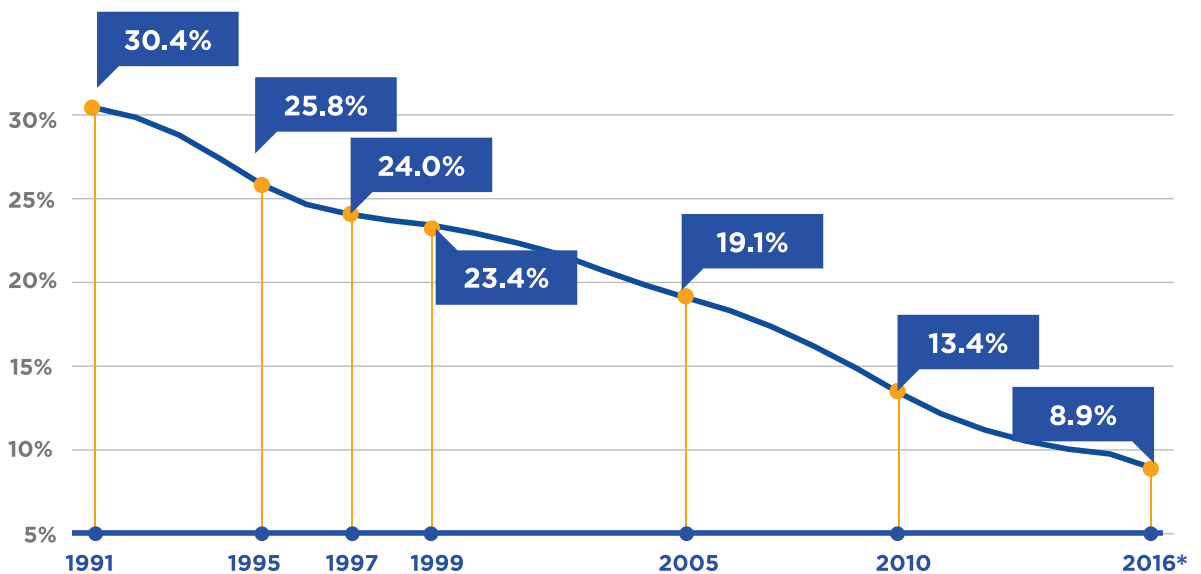
The share of the undernourished population in

ASEAN
declined from
30.4% in 1991
to **8.9%**
in 2016

Reduction of poverty has an important impact on lowering malnutrition. Prevalence of undernourishment refers to the probability that a randomly selected individual from the population consumes an amount of calories that is insufficient to cover her/his energy requirement for an active and healthy life. Undernourishment has an important implication on health and may also affect cognitive development.

Figure 2.8 shows that almost a third, or 30.4%, of ASEAN population was undernourished in 1991, the year when data was first available. The proportion fell considerably and by 2016, undernourishment affected less than 9% of ASEAN population. Over this period (1991-2016), an average annual decrease of 4.8 percentage points was recorded, suggesting progressive improvements in the nutritional status of ASEAN population.

Figure 2.8. Evolution of the prevalence of undernourishment in ASEAN (% of population)



Source: ASEAN Secretariat.

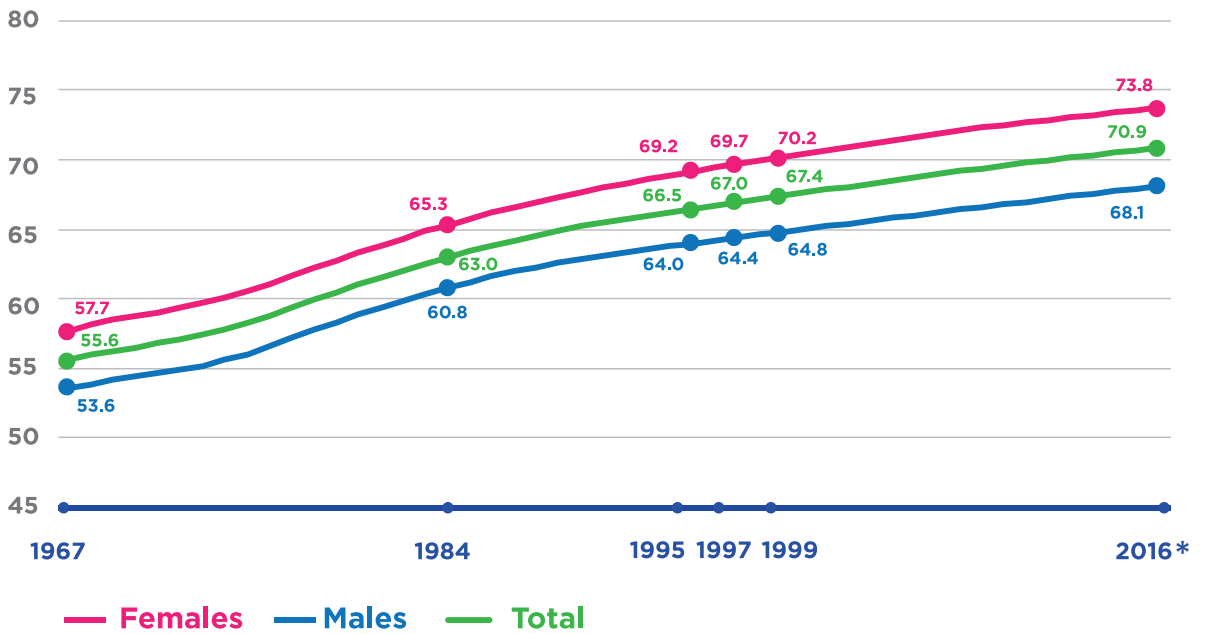
Note: 1991-2016: ASEAN-10 without Singapore. *: Estimation.

Life expectancy in **ASEAN** grew from 56 years in 1967 to 71 years in 2016

The average life expectancy in ASEAN has risen considerably, with an increase of almost 15 years for both women and men over the last five decades, from 56 years in 1967 to 71 years in 2016. A baby girl born in 2016 could expect to live on average to 74 years old (from 58 years in 1967) and a baby boy to 68 years old (as compared to 54 years in 1967).

The increase in life expectancy has been the highest until the mid-1990s, following which life expectancy continued to increase, albeit at a slower pace until recently.

Figure 2.9. Evolution of life expectancy in ASEAN (years)



Source: ASEAN Secretariat.
Note: 1967-2016: ASEAN-10. *: Estimation.

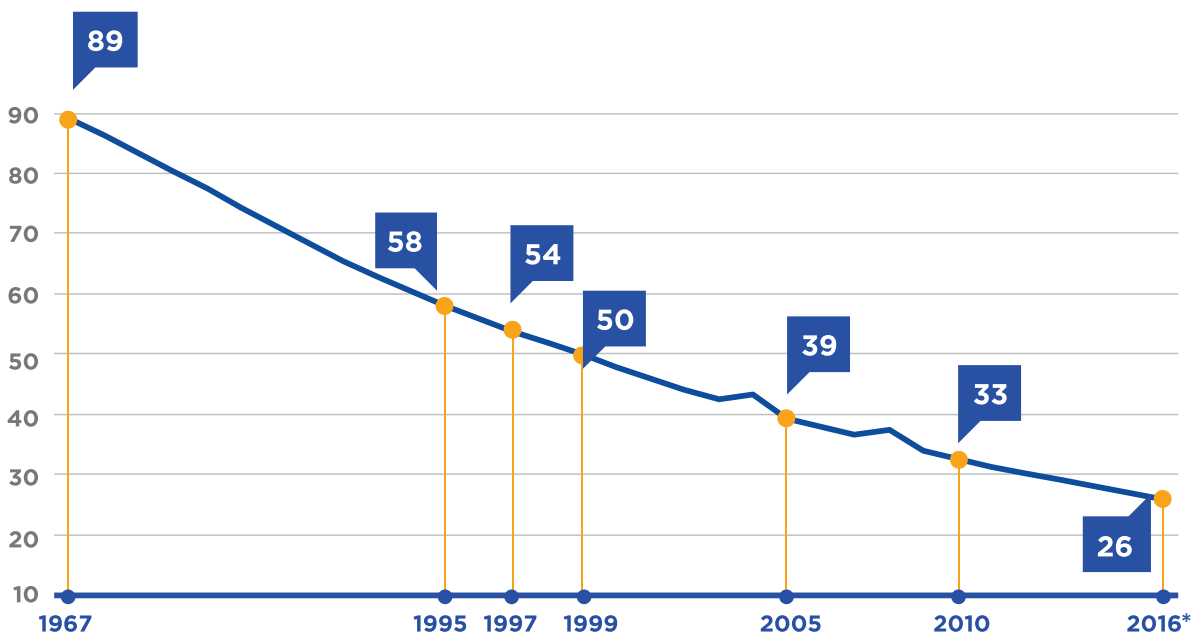
The under-five mortality rate in ASEAN in 2016 has fallen to less than a third of the 1984 level

One of the factors contributing to longer life expectancy is the decrease in the under-five mortality rate. Under-five mortality rate measures the probability that a newborn baby will die between birth and exactly five years of age, expressed per 1,000 live births. It reflects the social, economic and environmental conditions in which children live, including their access to health care.

ASEAN under-five mortality rate saw a sharp decline over the last three decades: from 89 deaths per 1000 live births in 1984-when data was first available- to 26 deaths per 1000 live births in 2016, representing an average decrease of 3.8% each year (see Figure 2.9).

MDG 4 target was to reach a 2/3 reduction in the under-five mortality rate between 1990 and 2015. ASEAN almost reached this target, with a reduction of 62.3% in its under-five mortality rate between 1990 and 2015.

Figure 2.10. Evolution of under-five mortality rate in ASEAN (per 1,000 live births)



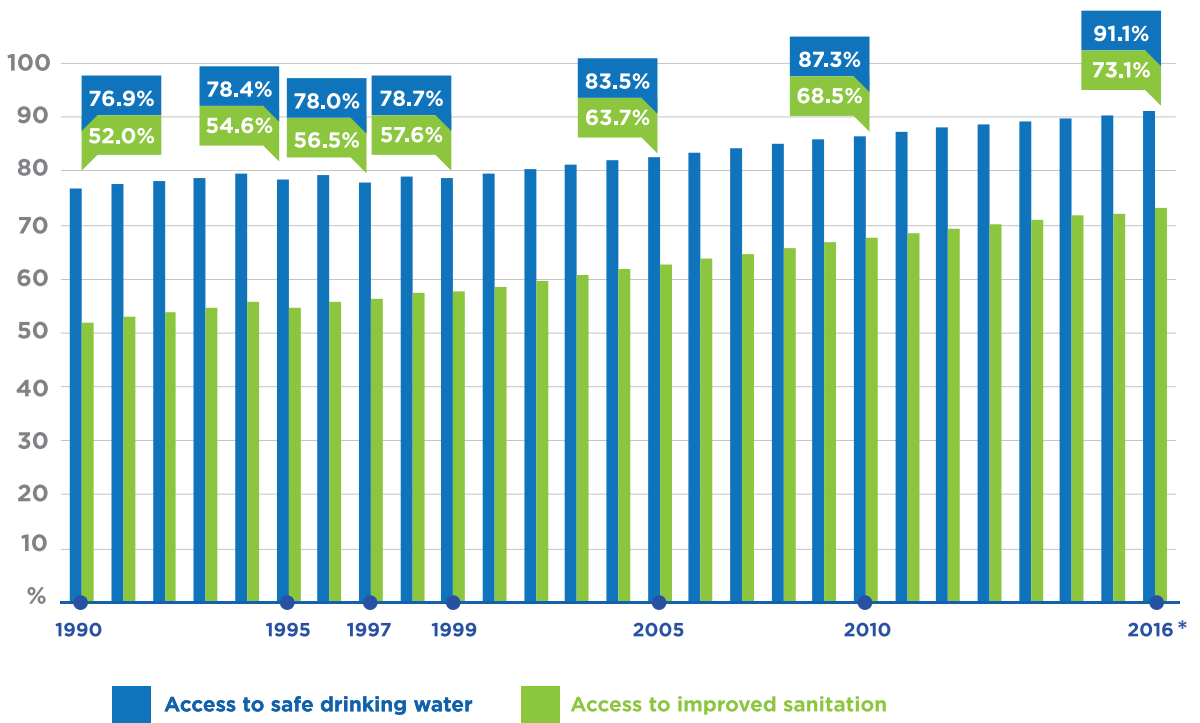
Source: ASEAN Secretariat,

Note: 1984-2016: ASEAN-10. *: Estimation.

More than **91%** of **ASEAN** population had **access to safe drinking water and 73% to improved sanitation in 2016**

Better living conditions and improved health rely to a considerable extent on access to safe drinking water and sanitation. The share of ASEAN population with access to safe drinking water and improved sanitation both increased steadily over the last three decades, with an average growth of 0.7 percentage points each year for safe drinking water and 1.3 percentage points for sanitation.

Figure 2.11. Evolution of access to safe drinking water and improved sanitation in ASEAN (% of population with access)



Source: ASEAN Secretariat.

Note: 1990-1994: ASEAN-6; 1995-1996: ASEAN-7; 1997-1998: ASEAN-9; 1999-2016: ASEAN-10; without data for Brunei Darussalam. *: Estimation.

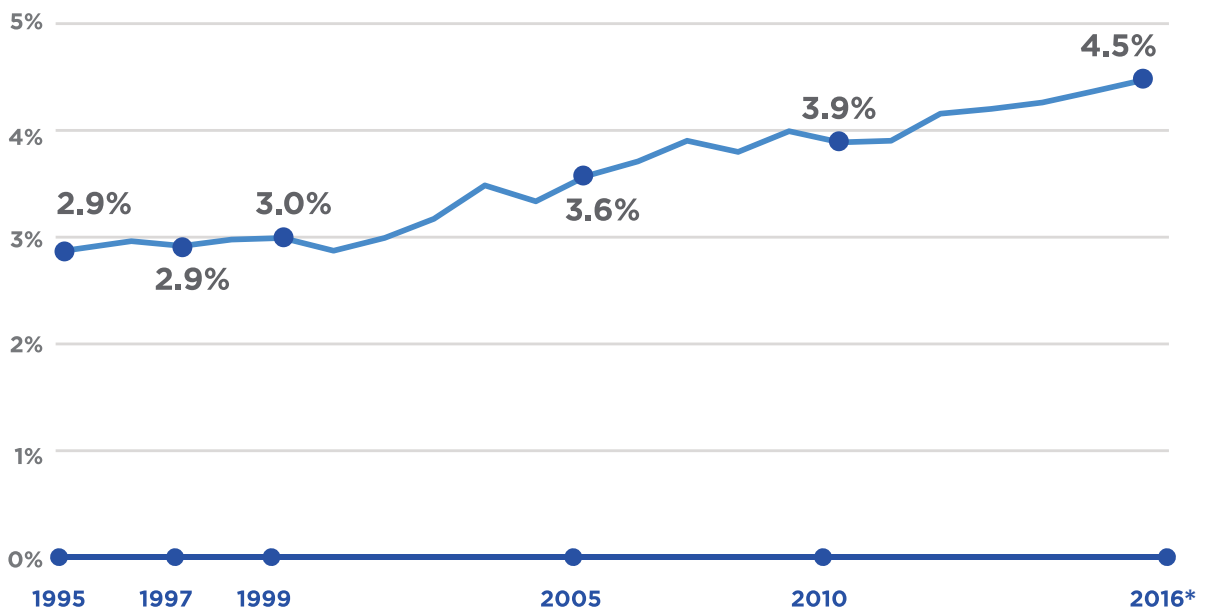
After slight drops over the period from 1995-1999, when CLMV joined ASEAN, access to safe drinking water and improved sanitation increased continuously since 1999, the year ASEAN achieved full membership. Over the period 1999-2016, access to safe drinking water increased by 12 percentage points in ASEAN, while access to improved sanitation increased by 16 percentage points. The improvement occurred across AMS, including in the CLMV countries.

In 2016, 91.1% of ASEAN population had access to safe drinking water and 73.1% had access to improved sanitation, up from 76.9% and 52.0%, respectively, in 1990. ASEAN has therefore achieved MDG 7 target to halve the proportion of people using the safe drinking water between 1990 and 2015 and almost achieved the target for the proportion of people using the improved sanitation over the same period.

Health expenditure in **ASEAN** grew from **2.9% of GDP** in 1995 to **4.5% of GDP** in 2016

Total health expenditure includes public and private health expenditure and commonly covers the provision of health services (preventive and curative), family planning activities, nutrition activities and emergency aid designated for health, but does not include provision of water and sanitation.

Figure 2.12. Evolution of health expenditure in ASEAN (% of GDP)



Source: ASEAN Secretariat.

Note: 1995-1996: ASEAN-7; 1997-1998: ASEAN-9; 1999-2016: ASEAN-10. *: Estimation.

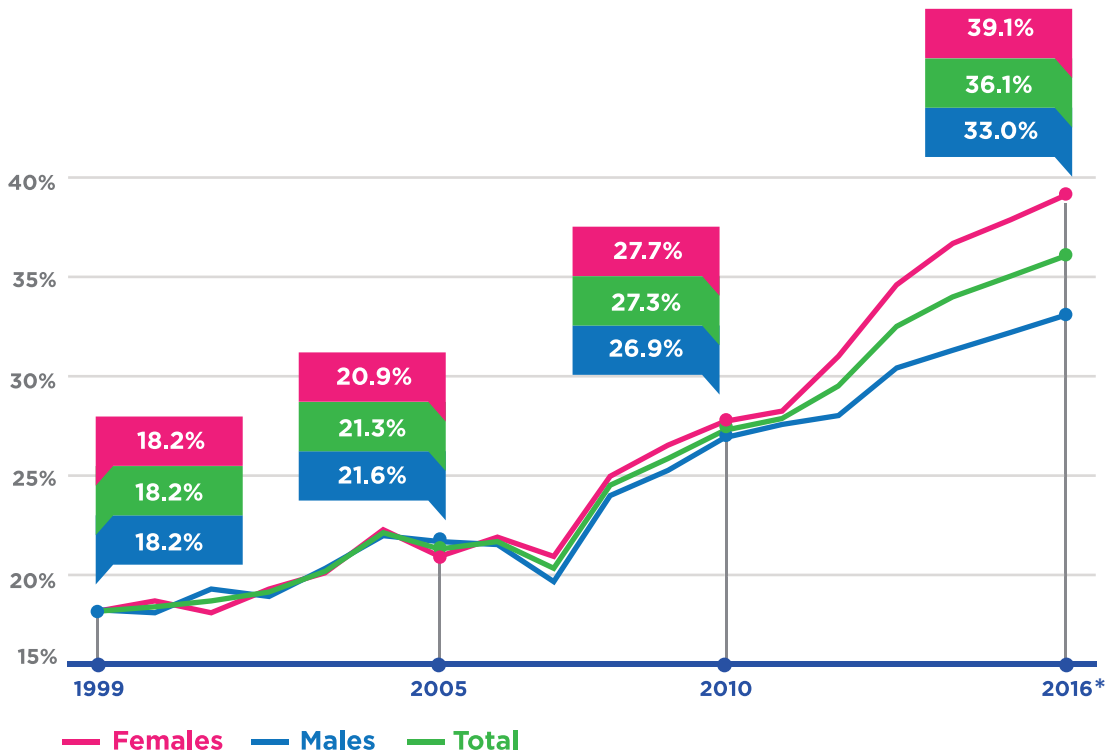
Total health expenditure in ASEAN has increased continuously over the last two decades. Health expenditures remained below 3% of GDP until 2001 and started to progress from 2001 onwards. From 3.0% of GDP in 2001, health expenditures rose regularly to reach 4.5% of ASEAN GDP in 2016.

Tertiary education corresponds to short-cycle tertiary, bachelor, master or doctorate degrees. The enrolment rate is the total enrolment in tertiary education, regardless of age, expressed as a percentage of the total population of the five-year age group following on from secondary school leaving (18-23 year olds).

A third of 18-23 year olds in **ASEAN** attended tertiary level education in 2016, double the share in 1999

The continuous economic growth in ASEAN also benefited the education sector as shown by the steady progress in tertiary education enrolment rate since the end of the 2000's in ASEAN. Higher living standards and increased public expenses in education contributed to more students attending tertiary education over the last decade.

Figure 2.13. Tertiary education enrolment rate (gross) in ASEAN (%)



Source: ASEAN Secretariat.

Note: Coverage includes all countries available and varies between years, but is > 70% for all years. *: Estimation.

The increase in tertiary education enrolment rate was slow until 2007, for both women and men. The growth accelerated over the period of 2007-2016, increasing from 21.6% to 39.1% for women and from 20.9% to 33.0% for men. By 2016, over a third of 18-23 year olds attended tertiary-level education, doubled the share in 1999 (see Figure 2.13).

Whereas tertiary enrolment rate levels were similar for women and men until 2011, the rate progressed much faster for women in the last three years; by 2016 women's tertiary enrolment rate was six percentage points above the men's.

As of 2016, more than **95% of ASEAN adult population are able to read and write**

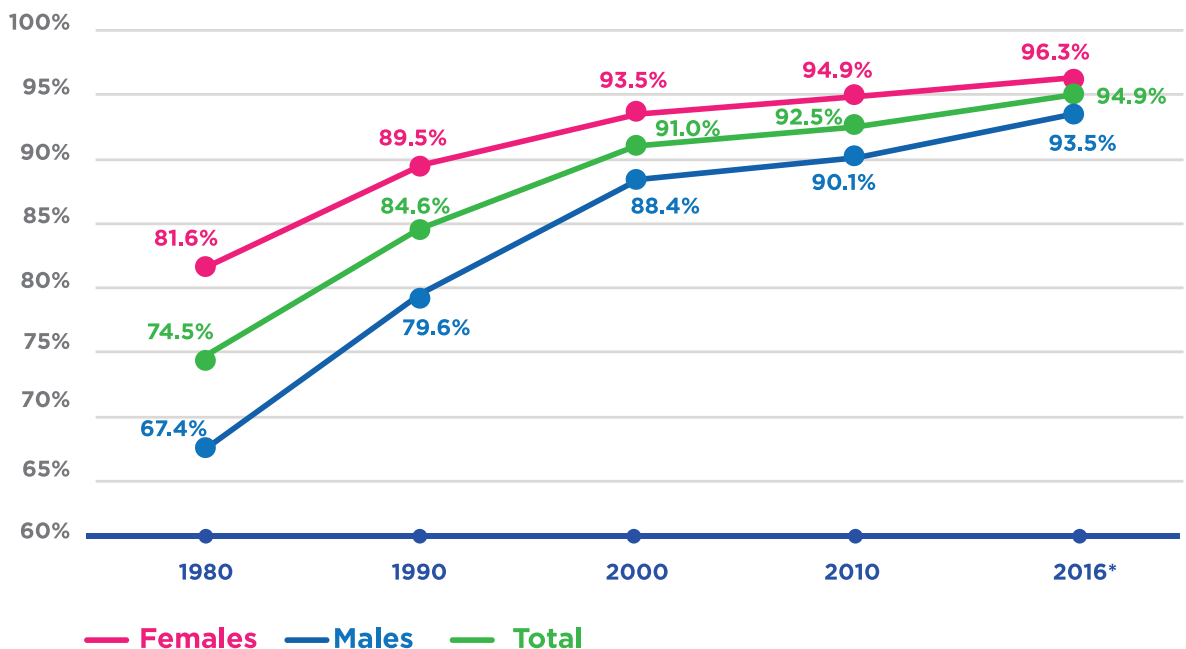
Adult literacy rate corresponds to the percentage of the population aged 15 and above who can, with understanding, read and write a short simple statement on their everyday life. Another aspect of progress in education is the increase in adult literacy rate in ASEAN to 94.9% overall in 2016, or 96.3% and 94.3.5% for women and men, respectively.

Literacy rate in ASEAN increased significantly between 1980 –when data was first available - and 2000, by more than 10 percentage points for women and by over 20 percentage points for men. The increase continued at a slower pace from 2000 onwards. In 2008, ASEAN reached the threshold of 90% of literacy rate for both women and men.

Over the whole period presented in Figure 2.14, literacy rate has been higher for women than for men, but the gap has reduced to below 5 percentage points since 2008.

Reducing illiteracy supports economic and social progresses as literacy creates opportunities to escape poverty for a higher number of people.

Figure 2.14. Adult literacy rate in ASEAN (%)



Source: ASEAN Secretariat.

Note: Coverage includes all countries available and varies between years, but is > 70% for all years. *: Estimation.

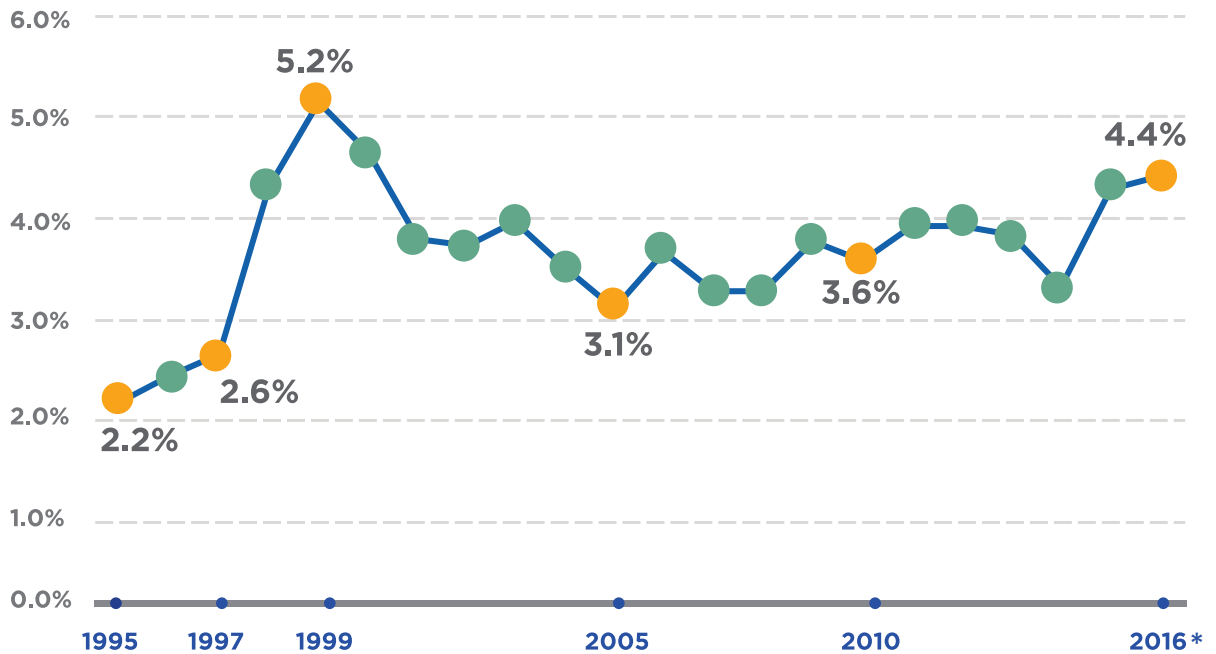
ASEAN expenditure on education doubled between 1995 and 2016

Government expenditure on education has noticeably increased from the first available data in 1995 to reach 4.4% of ASEAN GDP in 2016. Government expenditure includes expenditure from local, regional and central governments.

Since 2002, public education spending has represented more than 3% of ASEAN GDP, rising to more than 4% in 2016. The peaks in the share from 1998-to 1999 might be due to the contraction in ASEAN GDP in the aftermath of the Asian Financial Crisis.

Investment in education was among the factors that contributed towards the improvement in adult literacy and tertiary school enrolment in the region.

Figure 2.15. Evolution of government expenditure on education in ASEAN (% of GDP)



Source: ASEAN Secretariat.

Note: Coverage includes all countries available and varies between years, but is > 70% for all years. *: Estimation.



THEME 3



ECONOMIC CONNECTIVITY IN ASEAN

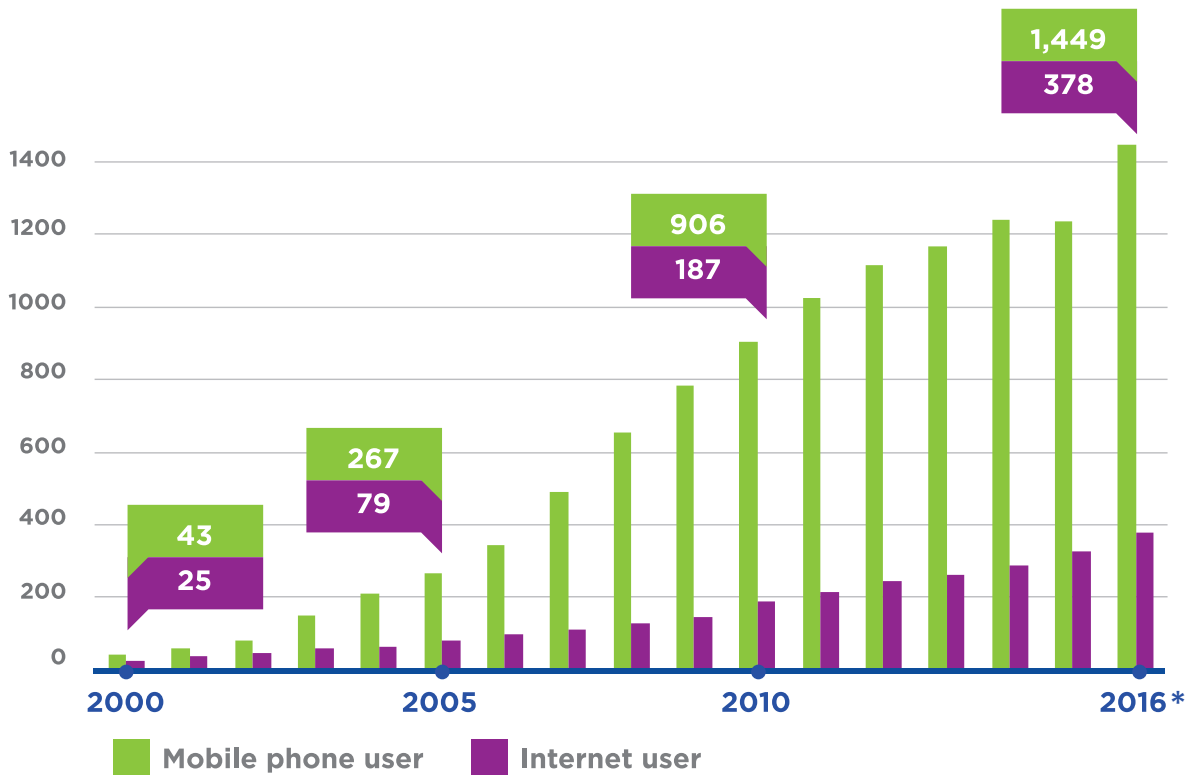


This chapter explores the growing connectivity in ASEAN as observed through the development of telecommunications and tourism.

The number of mobile phone and internet users in **ASEAN** has grown significantly since 2005

The development of mobile telecommunication and the internet were at the core of the technological revolution that took place in the two last decades. The expansion of technological infrastructures and development of regulatory framework that support internet and mobile connections as well as the resulting reduction in prices in recent years, contributed to the rapid increase in the use of mobile phones and the internet in ASEAN. These new communication technologies have highly contributed to increase in connectivity among AMS and beyond.

Figure 3.1. Evolution of mobile phone and internet users in ASEAN (per 1,000 persons)



Source: ASEAN Secretariat.

Note: 2000-2016: ASEAN-10. *: Estimation.

Starting from a very low base in 2000, when data first became available, the number of users of mobile phone and the internet expanded rapidly over the last decade.

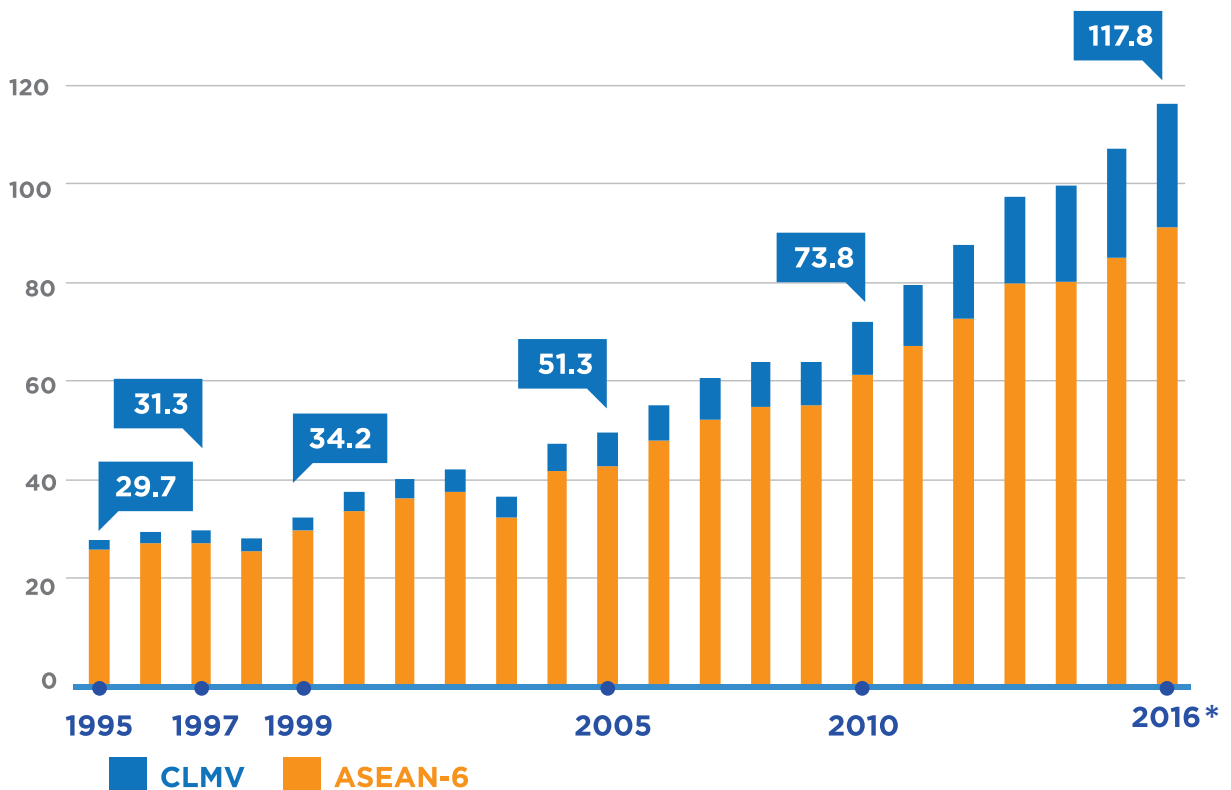
The number of mobile phone users in ASEAN grew from just 43 per 1,000 persons in 2000 to 1,449 users per 1,000 persons in 2016, meaning that some users have more than one mobile phone. Growth has been continuous over the whole decade, except for a slight (0.5% year-on-year) decrease, recorded in 2015.

The evolution of internet users (i.e. subscribers to fixed wired-broadband internet lines) followed the same pattern, growing from 25 users per 1,000 people in 2000 to 378 users per 1,000 people in 2016.

International
visitor arrivals in
**ASEAN grew
sharply, more
than tripling
since 1995**

Tourism is one of the key growth sectors in ASEAN, commanding almost one eighth of ASEAN whole economy based on the estimate by the World Travel and Tourism Council.⁷ One indicator commonly used to estimate the size of the tourism sector is international visitor arrivals, although care should be taken, given that not all international visitor arrivals are for tourism purposes. In 2016, ASEAN received 118 million international visitor arrivals, almost four times the number in 1995 (30 million), when data first became available. Tourism is one of the key growth sectors in ASEAN, commanding almost one eighth of ASEAN whole economy based on the estimate by the World Travel and Tourism Council. One indicator commonly used to estimate the size of the tourism sector is international visitor arrivals, although care should be taken, given that not all international visitor arrivals are for tourism purposes. In 2016, ASEAN received 118 million international visitor arrivals, almost four times the number in 1995 (30 million), when data first became available.

Figure 3.2. Evolution of international visitor arrivals in ASEAN (number)



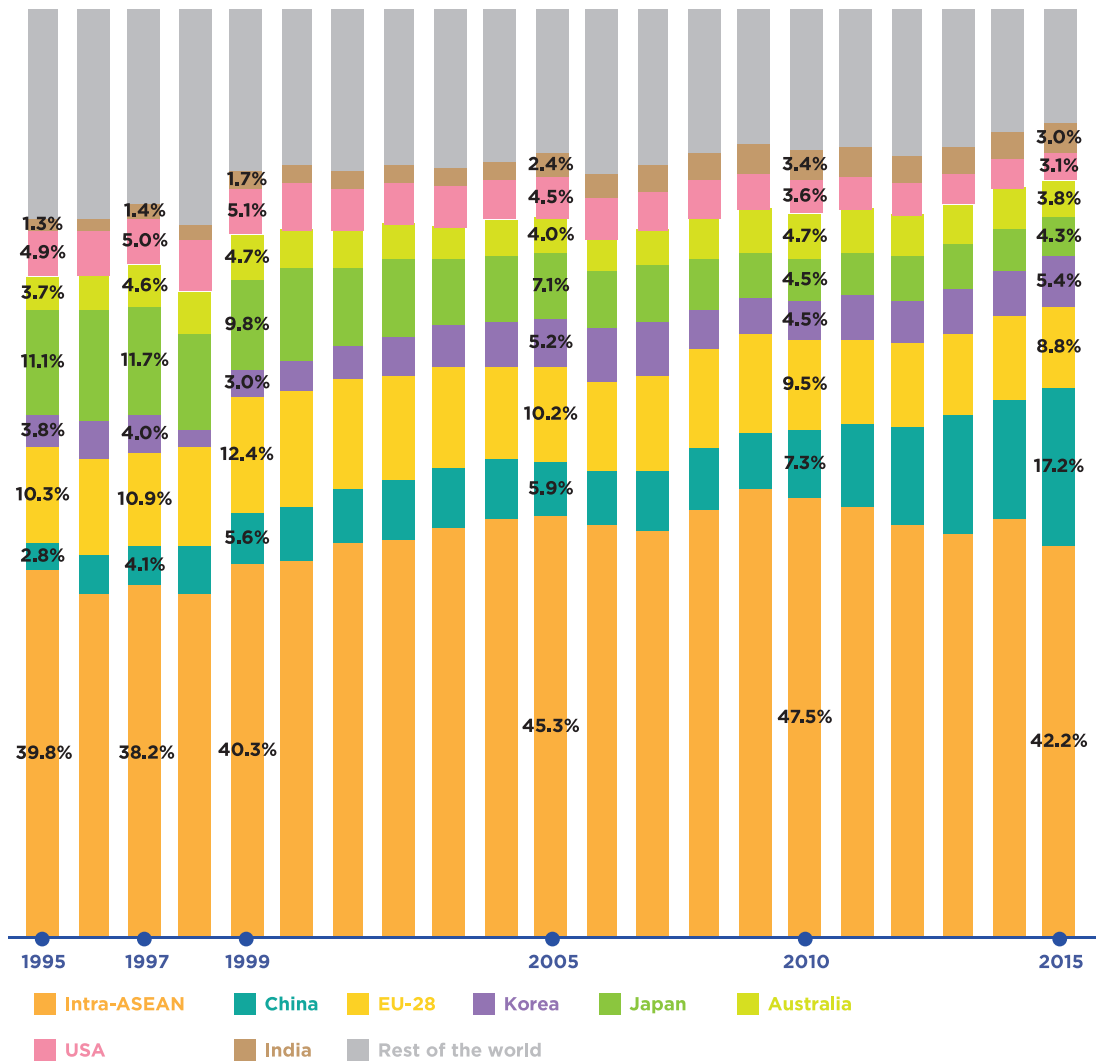
Source: ASEAN Secretariat.

Note: ASEAN-6: Brunei Darussalam, Indonesia, Malaysia, Philippines, Singapore and Thailand. CLMV: Cambodia, Lao PDR, Myanmar and Viet Nam. *: Estimation.

International visitor arrivals increased at a slow pace between 1995 and 2005; then the number more than doubled between 2005 and 2016. Since 2010, CLMV countries have seen a significant increase in visitor arrivals, which at 25 million in 2016 was more than double the number in 2010.

7The total contribution of travel and tourism to South East Asian Countries' GDP was estimated at US\$307.5 billion or 11.9% of GDP in 2015, and forecast to rise to US\$528.7 billion (12.6% of GDP) in 2025 (World Travel and Tourism Council, 2016).

Figure 3.3. Evolution of visitor arrivals in ASEAN, by country of origin (%)



Source: ASEAN Secretariat.
Note: 1995-2015: ASEAN-10.

Intra-ASEAN visitor arrivals represent the highest proportion of ASEAN visitors. The share of Intra-ASEAN arrivals varied between 37.1% to 40.7% over the period 1995-2000, and accounted for over 42.7% from 2001 onwards, peaking at 48.3% in 2009. In 2015, 42.2% of international visitor arrivals in ASEAN came from another AMS. Other main sources of international arrivals are China, the European Union and Korea, at 17.1%, 8.8% and 5.4%, respectively, in 2015.

THEME 4



NARROWING THE DEVELOPMENT GAP IN ASEAN



The entry of Cambodia, Lao PDR, Myanmar and Viet Nam (the CLMV countries) into ASEAN in the second half of 1990s raised concerns over the possible emergence of a “two-tier ASEAN” resulting from the “development gap” between the six ‘older’ AMS and the newer four members, three of which (Cambodia, Lao PDR and Myanmar) are least developed countries (LDCs).

Against this backdrop, the **Initiative for ASEAN Integration** (IAI)⁸ was launched in 2000 to narrow the development gap within and between AMS through a framework of regional cooperation with a view to assist the CLMV countries by building their capacity to effectively participate in and benefit from the region’s integration process.

CLMV have continued to increase their prosperity in **ASEAN**

This section focuses on the economic and social developments observed in the CLMV countries after they joined ASEAN in the second half of the 1990’s. In 1999, CLMV represented less than 8% of ASEAN economy and their collective share has continued to increase until 2016 where collectively they represented 12% of ASEAN GDP. CLMV share in ASEAN total merchandise trade have also more than quadrupled over the same period from 4% to 17%.

CLMV population represents around 27% of ASEAN total population, with a population structure comparable to the ASEAN-6. CLMV had a relatively higher weight in ASEAN tourism sector-compared to the size of their economy- accounting for a fifth of total international arrivals in the region.

Table 4.1. Summary of selected economic indicators for CLMV, 1999-2016

	1999		2005		2010		2016*					
	CLMV	ASEAN-6	% of		% of		% of					
			CLMV in ASEAN	CLMV	CLMV in ASEAN	CLMV	CLMV in ASEAN					
GDP (US\$ billion)	42.1	534.4	7.3%	78.4	857.7	8.4%	175.3	1,751.0	9.1%	299.8	2248.8	11.8%
GDP growth rate (%)	6.6	3.0	-	9.6	5.3	-	7.4	7.5	-	6.1	4.6	-
GDP per capita (US\$)	300	1,453	-	524	2,140	-	1,111	4,057	-	1,803	4,816	-
Exports of goods (US\$ billion)	13.5	341.1	3.8%	35.0	613.0	5.4%	87.8	963.8	8.3%	201.5	940.3	17.6%
Imports of goods (US\$ billion)	14.3	279.5	4.9%	37.8	538.9	6.5%	96.0	861.5	10.0%	206.4	870.3	19.2%
FDI Inflows (US\$ billion)	2.1	25.3	7.6%	2.6	39.3	6.2%	11.4	96.8	10.5%	18.9	76.8	19.8%
Exports of services (US\$ billion) ⁽¹⁾	3.7	60.3	5.7%	5.7	107.7	5.1%	10.3	203.9	4.8%	15.9	289.0	5.2%
Imports of services (US\$ billion) ⁽¹⁾	4.3	71.7	5.6%	5.7	135.1	4.0%	11.8	217.8	5.2%	15.4	270.5	5.4%
Tourist arrivals (million persons) ⁽²⁾	2.9	31.4	8.4%	6.6	44.6	13.0%	10.9	62.9	14.7%	25.0	92.8	21.2%

Source: ASEAN Secretariat.

Note: CLMV: Cambodia, Lao PDR, Myanmar and Viet Nam; ASEAN-6: Brunei Darussalam, Indonesia, Malaysia, Philippines, Singapore and Thailand. (1) 1999: ASEAN-6 without Brunei Darussalam; 2015 instead of 2016. (2) 2016: Estimation.

⁸See <http://asean.org/asean-economic-community/initiative-for-asean-integration-iai-and-narrowing-the-development-gap-ndg/>

Figure 4.1 shows the evolution of the share of CLMV in the ASEAN total, in selected economic indicators.

Between 1999 and 2010, the share of CLMV GDP within ASEAN total GDP increased by one percentage point every five years, since then it has increased much faster i.e. by three percentage points over the last five years.

The **CLMV**
countries
accounted
for **20%** of
ASEAN
total
international
visitor arrivals
in 2015

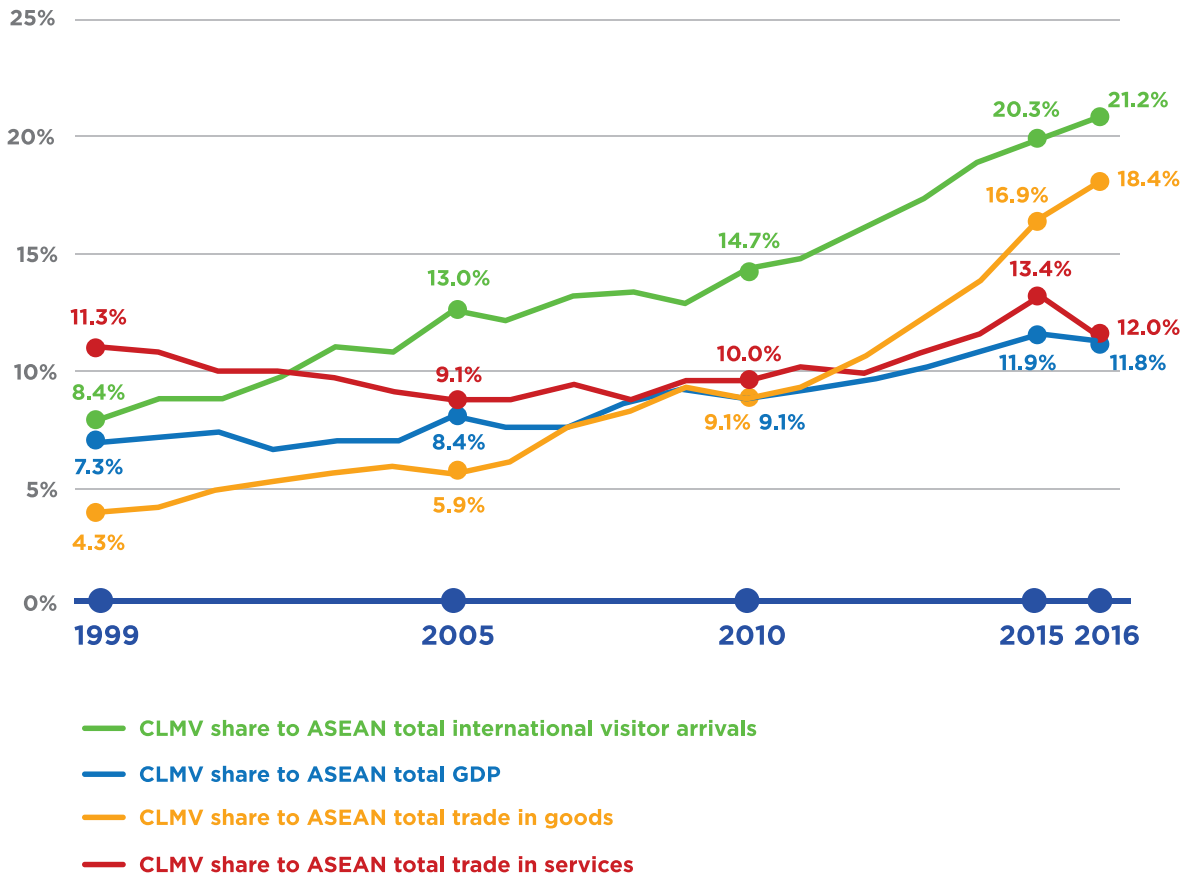
Tourism (indicated by international visitor arrivals) and trade in goods were the sectors in which the share of CLMV in ASEAN total expanded the most between 1999 - the year when the ASEAN-10 membership was achieved - and 2016: the increase exceeded 10 percentage points in both cases.

As shown in Figure 4.1, the increase of CLMV share in ASEAN total trade in goods between 2010 and 2016 was double the increase in the previous decade, showing an increase in the CLMV importance in ASEAN economy. CLMV represented only a small share (3.8%) of ASEAN exports in goods in 1999, they have continuously increased their share in ASEAN total exports to reach 17.6% in 2016.

CLMV accounted for around 8% of Intra-ASEAN exports in the same year, twice their share in 2005, indicating their enhanced participation in the regional value chains. Similar trends were observed for CLMV imports of goods: the CLMV share has continuously increased from 4.9% of ASEAN total imports in 1999 to reach 19.2% in 2016. The same year, CLMV accounted for around 15% of Intra-ASEAN imports, almost twice their share in 2005.

It is worth noting, however, that the CLMV share of trade in services in ASEAN total has remained at a relatively lower level, with decline in share observed over the period from 11.3% in 1999, before rising again in the last few years to reach 12.0% in 2016. That said, even though CLMV exports represented only 6.5% of total ASEAN exports in services in 2016, a slight increase from 5.7% in 1999, their export value has increased more than five times, to reach almost US\$20 billion in 2016. Likewise, CLMV represented 6.9% of total ASEAN imports in services in 2016, a slight increase from 5.6% in 1999, but their import value has also increased by more than five times, to reach approximately US\$22 billion in 2016.

Figure 4.1. Evolution of CLMV share of ASEAN total in selected economic indicators (%)



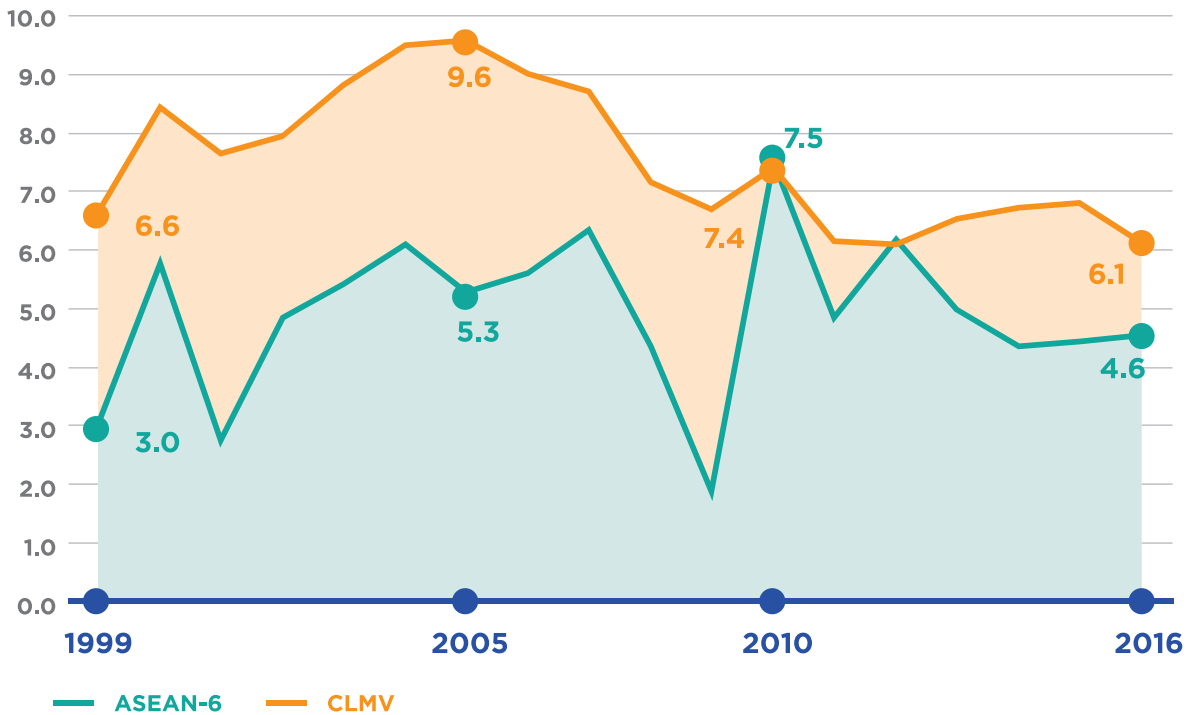
Source: ASEAN Secretariat.

Note: CLMV: Cambodia, Lao PDR, Myanmar and Viet Nam; ASEAN-6: Brunei Darussalam, Indonesia, Malaysia, Philippines, Singapore and Thailand. Trade in services 1999-2000: ASEAN-6 without Brunei Darussalam. International arrivals: Estimation for 2016.

The **CLMV countries** accounted for **20%** of **ASEAN total international visitor arrivals in 2015**

The average annual growth rate of CLMV GDP has stayed at over 6% since 1999, peaking at 9.6% in 2005. The rate dipped in 2011 and 2012, but has been increasing again since 2013 before dropping slightly to 6.1% in 2016.

Figure 4.2: Evolution of CLMV and ASEAN-6 GDP annual growth rate (%)



Source: ASEAN Secretariat.

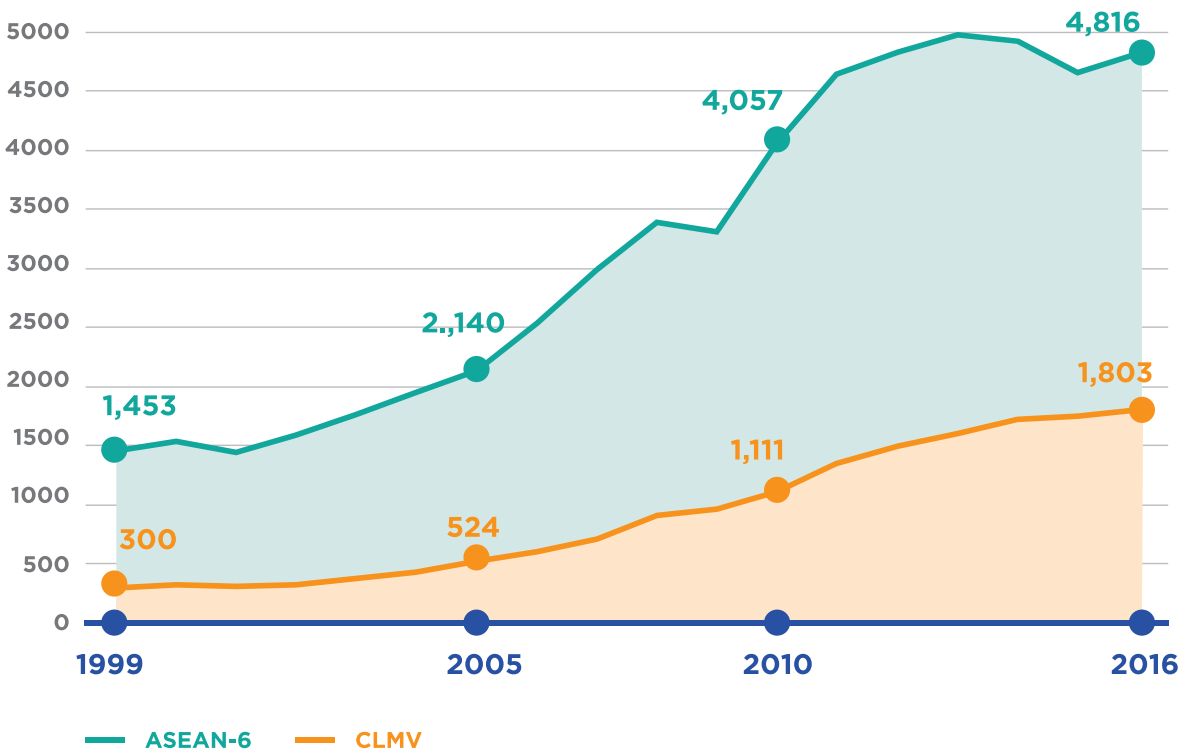
Note: CLMV: Cambodia, Lao PDR, Myanmar and Viet Nam; ASEAN-6: Brunei Darussalam, Indonesia, Malaysia, Philippines, Singapore and Thailand.

The gap between **ASEAN-6** and **CLMV** GDP per capita has progressively reduced since 1999

In 1999, ASEAN-6 GDP per capita was almost five times higher than GDP per capita in CLMV. This gap has reduced considerably, and in 2016 ASEAN-6 GDP per capita was only 2.7 times larger than that of the CLMV.

CLMV GDP per capita increased from US\$300 in 1999 to US\$1,803 in 2016, an average growth of 11.1% each year or an increase of over six-fold over this period.

Figure 4.3: Evolution of CLMV and ASEAN-6 GDP per capita (in US\$ at current prices)



Source: ASEAN Secretariat.

Note: CLMV: Cambodia, Lao PDR, Myanmar and Viet Nam; ASEAN-6: Brunei Darussalam, Indonesia, Malaysia, Philippines, Singapore and Thailand.

Social progress in CLMV narrowed the gap with ASEAN-6

CLMV economic integration within ASEAN moved in parallel to the narrowing of the development gap in the social sphere. CLMV achieved significant progress in tertiary school enrolment rate, as well as in access to improved water and sanitation.

Table 4.2. Summary of social indicators for CLMV, 1999-2016

	1999			2005			2010			2016 ⁽¹⁾		
	CLMV	ASEAN-6	Ratio CLMV / ASEAN-6	CLMV	ASEAN-6	Ratio CLMV / ASEAN-6	CLMV	ASEAN-6	Ratio CLMV / ASEAN-6	CLMV	ASEAN-6	Ratio CLMV / ASEAN-6
Population (thousand persons)	143,691	373,948	27.8%	153,254	408,914	27.3%	160,715	434,936	27.0%	171,537	468,906	26.8%
Urban population (%)	24.2%	42.6%	0.57	27.1%	46.7%	0.58	29.9%	50.0%	0.60	33.3%	53.8%	0.62
Labour force (thousand persons)	71,544	168,596	29.8%	74,869	190,477	28.2%	86,104	210,962	29.0%	93,874	232,406	28.8%
Labour force participation rate (%)	77.0%	67.2%	1.15	70.8%	68.0%	1.04	74.7%	67.8%	1.10	74.6%	67.3%	1.11
Life expectancy (years)	67	67	1.00	69	69	1.01	71	69	1.02	71	70	1.02
Access to safe drinking water (%) ⁽²⁾	68.1%	82.8%	0.82	76.6%	86.1%	0.89	83.7%	88.6%	0.94	90.6%	91.3%	0.99
Access to improved sanitation (%) ⁽²⁾	50.2%	60.4%	0.83	60.0%	65.2%	0.92	68.2%	68.6%	0.99	76.5%	71.9%	1.06
Health expenditures (% of GDP)	4.1%	2.9%	1.44	4.4%	3.5%	1.26	4.9%	3.7%	1.31	5.4%	4.2%	1.29
Tertiary school enrolment rate, female (%)	7.8%	21.0%	0.37	11.3%	23.9%	0.47	20.5%	30.0%	0.68	31.4%	39.4%	0.80
Tertiary school enrolment rate, male (%)	10.6%	20.3%	0.52	16.1%	23.3%	0.69	21.7%	28.5%	0.76	29.9%	32.7%	0.92

Source: ASEAN Secretariat.

Note: CLMV: Cambodia, Lao PDR, Myanmar and Viet Nam; ASEAN-6: Brunei Darussalam, Indonesia, Malaysia, Philippines, Singapore and Thailand.

(1) 2016: Estimations.

(2) Access to improved water and sanitation: ASEAN-6 without Brunei Darussalam.

CLMV population represents around 27% of ASEAN total population, with a population structure comparable to the ASEAN-6 in terms of age groups. However, the distribution of the urban and rural population is different in CLMV countries as compared to ASEAN-6, with a rural population remaining relatively significant in the former. In 1999, only a quarter of CLMV population lived in urban areas. By 2016, a third of CLMV population was living in cities, as compared to over a half in ASEAN-6.

CLMV countries recorded high labour force participation rates (between 70% and 77%) over the period of 1999-2016, and accounted for 29% of ASEAN labour force in 2016.

In 1999, the enrolment rate in tertiary education in CLMV countries was low, at 7.8% and 10.6% for women and men, respectively, but has since increased continuously to reach 31.4% for women and 29.09% for men in 2016, much closer to ASEAN-6 level of 39.4% and 32.7%, respectively.

Towards ASEAN Community 2025

The formal establishment of the ASEAN Community at the end of 2015 is not the end of ASEAN integration agenda. While significant progress has been achieved over the past five decades, based on the work at both the national and regional levels, ASEAN has continued to evolve.

In today's era of growing interconnectivity and interdependency, the success of the ASEAN Community will be incumbent on its ability to remain united, agile and relevant in the face of possible external shocks and global uncertainties. Having a clear vision and roadmap for the next phase of ASEAN integration as a Community is therefore imperative.

At the 27th ASEAN Summit held in Kuala Lumpur, Malaysia, on 22 November 2015, the ASEAN Leaders **adopted the ASEAN 2025: Forging ahead Together**⁹, which succeeded the **Roadmap for an ASEAN Community (2009-2015)**¹⁰. This integral document comprises the Kuala Lumpur Declaration on ASEAN 2025: Forging ahead Together, the ASEAN Community Vision 2025, the ASEAN Political-Security Community Blueprint 2025, the ASEAN Economic Community Blueprint 2025 and the ASEAN Socio-Cultural Community Blueprint 2025. The Initiative for ASEAN Integration (IAI) Work Plan III¹¹ and the Master Plan on ASEAN Connectivity 2025¹², were adopted a year later in 2016, and both form integral parts of the ASEAN 2025: Forging ahead Together.

The ASEAN Community Vision 2025 envisions a peaceful, stable and resilient community with enhanced capacity to respond effectively to challenges, and ASEAN as an outward-looking region within a global community of nations, while maintaining ASEAN centrality. It also envisions vibrant, sustainable and highly integrated economies, enhanced ASEAN connectivity as well as strengthened efforts in narrowing the development gap, including through the IAI. It further envisions ASEAN empowered with capabilities, to seize opportunities and address challenges in the coming decade.

The **ASEAN Political-Security Community by 2025**, shall be a united, inclusive and resilient community. The people shall live in a safe, harmonious and secure environment, embrace the values of tolerance and moderation as well as uphold ASEAN fundamental principles, shared values and norms. ASEAN shall remain cohesive, responsive and relevant in addressing challenges to regional peace and security as well as play a central role in shaping the evolving regional architecture, while deepening the engagement with external parties and contributing collectively to global peace, security and stability.

The **ASEAN Economic Community by 2025**, shall be highly integrated and cohesive; competitive, innovative and dynamic; with enhanced connectivity and sectoral

⁹Available at http://asean.org/?static_post=asean-2025-forging-ahead-together

¹⁰Available at http://asean.org/?static_post=roadmap-for-an-asean-community-2009-2015

¹¹Available at http://asean.org/?static_post=initiative-asean-integration-iai-work-plan-iii

¹²See <http://asean.org/asean/asean-connectivity/master-plan-on-asean-connectivity-2025/>

cooperation; and a more resilient, inclusive, and people-oriented, people-centred community, integrated with the global economy.

The **ASEAN Socio-Cultural Community by 2025**, shall be one that engages and benefits the peoples, and is inclusive, sustainable, resilient, and dynamic.

ASEAN forward journey and success as a Community will call for effective achievement of its 2025 Vision through implementation of its corresponding Community Blueprints and work plans.

Signs and abbreviations

Geographical aggregates

ASEAN-5	Indonesia, Malaysia, Philippines, Singapore and Thailand
ASEAN-6	ASEAN-5 and Brunei Darussalam
ASEAN-7	ASEAN-6 and Viet Nam
ASEAN-9	ASEAN-7 and Lao PDR and Myanmar
ASEAN-10	ASEAN-9 and Cambodia
CLMV	Cambodia, Lao PDR, Myanmar and Viet Nam

Symbols

:	Data not available or unreliable
-	Not applicable or not relevant
%	Percentage
1,234.5 separator	For numbers ‘,’ (coma) is used as thousands separator and ‘.’ (full stop) as decimal separator

Units

Billion	1,000 million
Trillion	1,000,000 million
Km ²	square kilometre
US\$	United States Dollar

Abbreviations

ACSS	ASEAN Community Statistical System
AEM	ASEAN Economic Ministers
AHSOM	ASEAN Heads of Statistical Offices Meeting
AMS	ASEAN Member States
ASEAN	Association of Southeast Nations
FDI	Foreign direct investment
GDP	Gross domestic product
HS	Harmonised Commodity Description and Coding System
MDG	Millennium development goals
PPP	Purchasing power parity
SITC	Standard International Trade Classification

Statistical notes

Overview of the ASEAN aggregate and estimation data

ASEAN aggregates may take the form of ASEAN totals, weighted averages of either rates of growth, ratios, shares or other aggregate values such as indices. As much as possible, data are presented by ASEAN-6-CLMV category. ASEAN-6 composed of the first five founding countries (Indonesia, Malaysia, Philippines, Singapore, and Thailand) and Brunei Darussalam; while CLMV stands for Cambodia, Lao P.D.R., Myanmar, and Viet Nam.

For many indicators (series) with complete/nearly complete country coverage, aggregates are also presented by various groupings of ASEAN Member States (AMSs) to represent ASEAN as an entity, the memberships of which changed in 1984, 1995, 1997, and 1999, since its establishment in 1967. Brunei Darussalam joined ASEAN in 1984. Viet Nam started her ASEAN membership in 1995, followed by Lao P.D.R and Myanmar in 1997, and Cambodia in 1999.

Many data series are therefore presented by the following categories and baselines:

- 1) ASEAN-5 (Indonesia, Malaysia, Philippines, Singapore, Thailand) with 1967 as the baseline.
- 2) ASEAN-6 (ASEAN-5 and Brunei Darussalam), with 1984 as the baseline.
- 3) ASEAN-7 (ASEAN-6 and Viet Nam), with 1995 as the baseline.
- 4) ASEAN-9 (ASEAN-7 and Lao P.D.R and Myanmar), with 1997 as the baseline.
- 5) ASEAN-10 (various composition), since 1967, with 1999 as the baseline.
- 6) CLMV (Cambodia, Lao P.D.R, Myanmar and Viet Nam), with 1999 as the baseline. CLMV of various compositions is also provided since 1984.

A number of indicators involve missing data; in the first case, a few countries have no data for the entire period (referred to as 'missing countries'); and in the second case, all AMSs are represented but some have missing values for some years (referred to as 'missing values'). In the case of missing countries (the first case) no estimation was conducted. In the case of missing values (the second case) some data estimation was carried out based on the available information, using the appropriate data estimation techniques and employing reasonable assumptions (briefly outlined below). No estimation was done in the absence of sufficient information or when no reasonable assumptions could be imposed.

Data aggregation was carried out using the most appropriate weights, in the case of rates of growth, ratios, or shares, or simply by summing up the values of the AMSs as in the case of aggregate

totals. Since the weights must be available for all AMSs and all the years, weight estimation also involved some estimation processes such as in the case of construction of labour force share weights. No estimation was involved in weights construction in the case of complete data such as in the construction of trade-related share weights and land area. Weight construction is further described in the Methodological Documentation. In a few cases, when data were not available for the construction of the appropriate weights, proxy indicators were used, such as in the case of school enrolment ratio, which uses the population 15-24 years of age as the weights.

Following data aggregation, few estimation was carried out to provide baseline figures, as necessary, to allow for analysis of ASEAN evolution. Aggregation rules were applied to provide estimates of the aggregates that are consistent over the years, or at least for the baseline years. Only aggregate totals which satisfy the aggregation rules could be used to estimate the ASEAN full coverage totals. Only aggregate values that satisfy the aggregation rules are provided for users. The aggregation rules are briefly outlined below.

In general, the aggregates can be considered acceptably consistent if no more than 3 countries are missing and if the share of the countries for which the data are missing is less than or equal to 20%. Small exception applied to some social indicators, which could not meet the aggregation rules, provided that reasonable assumptions can be imposed. To facilitate users, for each series, information about country coverage and the total share of the countries with available data is also provided.

In cases where the coverage is not full due the missing data involved in the series, ASEAN aggregates and aggregates of other ASEAN groupings should be treated as approximation of unknown totals, rates of growths, ratios and other aggregate values.

Weights for data aggregation

1. Aggregates of ratios, and shares

Aggregation of the unemployment rate, for example, requires the share of labour force of country i in ASEAN total labour force. GDP, mathematically, is not the right weight. Another example, the share of export of high technology commodities in manufacturing export, which require the share of manufacturing export of country i in the ASEAN total manufacturing export as the weight. GDP share nor merchandise export share is not the mathematically right weight.

Unemployment rate

$$\text{Let: } UNER^* = \frac{UNE^*}{LF^*}$$

be the unemployment rate of ASEAN, UNE^* be the number of the unemployed of ASEAN, and LF^* be the number of ASEAN labor force,

$$\text{and } UNER_i = \frac{UNE_i}{LF_i}$$

be the unemployment rate of country i , UNE_i be the number of the unemployed of country i , and LF_i be the number of labor force of country i

and

$$W_i = \frac{LF_i}{LF^*} \quad \text{the share of country } i \text{ labour force in ASEAN total labour force}$$

$$UNER_i \cdot W_i = \frac{UNE_i}{LF_i} \frac{LF_i}{LF^*} \quad \text{and thus,}$$

$$\begin{aligned} \sum_{i=1}^{10} UNER_i \cdot W_i &= \frac{UNE_1}{LF_1} \frac{LF_1}{LF^*} + \frac{UNE_2}{LF_2} \frac{LF_2}{LF^*} + \dots + \frac{UNE_{10}}{LF_{10}} \frac{LF_{10}}{LF^*} \\ &= \frac{\sum_{i=1}^{10} LF_i}{LF^*} = \frac{UNE^*}{LF^*} = UNER^* \end{aligned}$$

$$\text{thus: } \sum_{i=1}^{10} UNER_i \cdot W_i = UNER^*$$

$$\text{where } W_i = \frac{LF_i}{LF^*}$$

Replacing the labour force share with the GDP or other share will not provide the right aggregate ASEAN unemployment rate.

Export of High Tech

Let: $XHTECS^* = \frac{XHTEC^*}{XMNF^*}$

be the share of high tech export in Manufacturing export of ASEAN, $XHTEC^*$ be the value of hightech export, and $XMNF^*$ be the value of manufactured procuts export,

and $XHTECS_i = \frac{XHTEC_i}{XMNF_i}$

be the share of high tech export in Manufacturing export of country i, $XHTEC_i$ be the value of export of hightech of country i, and $XMNF_i$ be the value of export of manufactured products of country i, and $W_i = \frac{XMNF_i}{XMNF^*}$ share of country i manufacturing export in ASEAN manufacturing export

and thus, $\sum_{i=1}^{10} XHTECS_i \cdot W_i =$

$$\begin{aligned} & \frac{XHTEC_1}{XMNF_1} \frac{XMNF_1}{XMNF^*} + \frac{XHTEC_2}{XMNF_2} \frac{XMNF_2}{XMNF^*} + \dots + \frac{XHTEC_{10}}{XMNF_{10}} \frac{XMNF_{10}}{XMNF^*} \\ &= \frac{\sum_{i=1}^{10} XHTEC_i}{XMNF^*} = \frac{XHTEC^*}{XMNF^*} = XHTECS^* \end{aligned}$$

Thus: $\sum_{i=1}^{10} XHTECS_i \cdot W_i = XHTECS^*$ where $W_i = \frac{XMNF_i}{XMNF^*}$

Replacing the share of manufacturing export with the GDP share or the share to merchandise export will not provide the right aggregate ASEAN share of export of high tech.

The weights for other series of ratios and shares were constructed in the above manner. The list of weights for each series is provided in the database of ASEAN@50 indicators.

2. Aggregates of rates of growth

For rates of growth of most series, such as in the rate of growth of the real (constant price) GDP, the rates do not involve any denominator in the same sense as in the ratios and shares indicators; but since they are computed using any previous (e.g. last year's) value as the basis, these previous year values in a sense serve as the denominator. Therefore, in this case, the weights for ASEAN Real GDP rates of growth would be the share of the AMSs GDP.

In the case of inflation rates, which are the rates of growth of Consumer Price Index (CPI), the appropriate weight would be the Gross National Income (GNI) because as used in the World Bank Atlas method, GNI is compiled using CPI, rather than the GDP deflator as the deflator. However, because GNI is not available for a sufficiently long series, the GDP share weights is used.

Rates of growth of Real GDP

Let R^* be the ASEAN real GDP growth rate, and R_i be the individual country's real GDP growth rate

$$R_t^* = \left(\frac{Y_t^*}{Y_{t-1}^*} - 1 \right) = \frac{\Delta Y_t^*}{Y_{t-1}^*} \quad \text{measured in decimals; in which:}$$

Y_t^* be the combined GDP of ASEAN of year t, and Y_{t-1}^* be the combined GDP of ASEAN of year t-1, and $\Delta Y_t^* = Y_t^* - Y_{t-1}^*$, and

$$R_{i,t} = \frac{\Delta Y_{i,t}}{Y_{i,t-1}} \quad \text{be the rate of growth of real GDP of}$$

country i, year t, in which: $\Delta Y_{i,t} = Y_{i,t} - Y_{i,t-1}$

and $Y_{i,t}$ be the GDP of country i of year t, and $Y_{i,t-1}$ be GDP of country i of year t-1.

And Let $W_{i,t} = \frac{Y_{i,t-1}}{Y_{t-1}^*}$ be the GDP share of country i in ASEAN GDP of the year t-1.

$$W_{i,t} \cdot R_{i,t} = \frac{\Delta Y_{i,t}}{Y_{i,t-1}} \frac{Y_{i,t-1}}{Y_{t-1}^*}$$

$$\sum_{i=1}^{10} W_{i,t} \cdot R_{i,t} = \frac{\Delta Y_{1,t}}{Y_{1,t-1}} \frac{Y_{1,t-1}}{Y_{t-1}^*} + \frac{\Delta Y_{2,t}}{Y_{2,t-1}} \frac{Y_{2,t-1}}{Y_{t-1}^*} + \dots + \frac{\Delta Y_{10,t}}{Y_{10,t-1}} \frac{Y_{10,t-1}}{Y_{t-1}^*} = \frac{\sum_{i=1}^{10} \Delta Y_{i,t}}{Y_{t-1}^*} = \frac{\Delta Y_t^*}{Y_{t-1}^*} = R_t^*$$

Thus: $R_t^* = \sum_{i=1}^{10} W_{i,t} R_{i,t}$ whrew $W_{i,t} = \frac{Y_{i,t-1}}{Y_{t-1}^*}$

and: $R_{i,t} = \frac{\Delta Y_{i,t}}{Y_{i,t-1}}$,

the rate of growth of real GDP of country i, measured in decimals.

In a sense, the denominator of the rates of growth of GDP, or inflation is the measure of the economy size of the country. In practice the current is used instead of the previous year's value.

Thus, $W_{i,t} = \frac{Y_{i,t}}{Y_t^*}$. For comparability,

the GDP PPP\$ is used in aggregation of the real GDP rates of growth instad of the GDP USD.

The weights for other rates of growth of other series were constructed in the above manner. The list of weights for each series is provided below.

3. Aggregates of totals

For aggregate of Totals, aggregation was simply done by taking the total of all the countries' aggregate totals.

Let T_t^* be the ASEAN total aggregates, and T_i be the total aggregates of country i.

ASEAN total is therefore:

$$T_t^* = \sum_{i=1}^{10} T_{i,t}$$

ASEAN total was computed by omitting the missing countries' totals.

4. Aggregates with no or complex denominator

Denominator of some aggregates may not be available. In the case of a composite indicator such as Human Development Indicators, life expectancy rates, Global Innovation Index, the aggregates involve a complex process of combining several indicators as the denominators. In such cases, proxy weight could be used, as appropriate. Alternatively, ASEAN aggregates will simply be represented by their Median or/and or Range values, and proxy weighted averages.

Data aggregation rules and estimation of aggregate values

1. Aggregates of ratios and shares

Aggregation Rules

Aggregate of ratios and shares was computed by omitting missing values. Because of the data availability, the number of countries covered and the total shares of the available countries vary from year to year and from one indicator to another. The following rules are applied to obtain the ASEAN aggregates of ratios and shares:

- 1) Number of countries missing should account for no more than 3, and
- 2) The total shares of the countries for which the data are missing should not exceed 20%.

Therefore ASEAN aggregates of ratios and shares will represent at least 7 countries and represent at least 80% of the ASEAN values, in cases where full coverage is not possible.

Assumption

The rules imply that, for the years with missing values, the missing countries are assumed to have the same average ratio as the average of the available countries. Thus the rules imply that this assumption is reasonable provided that the series satisfy the rules of maximum 3 countries and 20% share are missing. Should all series meet the rules, no estimation is needed.

Estimate of the missing Aggregate Totals

Should more than 3 countries are missing, or the share weights of the missing countries is more than 20%:

- 1) Attempts were made to estimate the missing values of one or more countries, in particular to provide estimate of the baselines figures, as appropriate, using the most appropriate methods or best proxy indicators.
- 2) No estimates were made if sufficient information was not available and if no reasonable assumption can be justified to carry out the estimation.

2. Aggregate of rates of growth

Aggregation Rules

Aggregates of rates of growth were computed by omitting missing values. Therefore the number of countries covered and the total shares of the available countries vary from year to year and from one indicator to another, provided that they meet the following aggregation rules:

- 1) Number of countries missing should account for no more than 3, and
- 2) The total shares of the countries for which the data are missing should not exceed 20%.

No attempts were made to estimate the missing values because rates of growth could be computed from the series of totals, on which attempts may have been made to estimate their missing values.

ASEAN aggregates of rates of growth, therefore, represent the rates of growth of at least 7 countries and represent the rates of growth of countries with total shares of at least 80% of the ASEAN values.

Assumption

The rules imply that, for the years with missing values, the missing countries are assumed to have the same average rates of growth of the available countries. Thus the rules imply that this assumption is reasonable provided that the series satisfy the rules of maximum 3 countries and 20% share are missing. No estimation is needed.

3. Aggregate of totals

Aggregation Rules

ASEAN Totals were computed by omitting the missing countries' totals, and if the series meet the rules, estimate of the full ASEAN coverage Totals could be performed. The aggregation formula, below, sets the minimum number of countries and the minimum share of the available countries in order for the ASEAN totals to be acceptably estimated based on the available data.

- 1) Number of countries missing should account for no more than 3, and
- 2) The total shares of the countries for which the data are missing should not exceed 20%.

Before full coverage estimation, the ASEAN aggregates of ASEAN Totals, therefore, show the totals of values of at least 7 countries and represent at least 80% of the expected ASEAN values. Based on a ratio estimate, provided the above rules are met, estimate of the full coverage of ASEAN could be obtained.

Estimate of the ASEAN Full Coverage Aggregate Totals

In the case of less-than full coverage due to missing data, ASEAN Totals could be estimated using the ratio estimate based on the ratio of the available countries to all countries of the benchmark year(s).

Let T_t^* be the ASEAN total aggregates, and A_t^* be the total of available countries.

$$T_t^* = \sum_{i=1}^{10} T_{i,t} \quad | \text{all 10 countries' values are available}$$

$$A_t^* = \sum_{i=1}^{10} T_{i,t} \quad | \text{missing countries' values are excluded}$$

For a given year t (a benchmark year), for which data of all 10 countries are available, the ratio of a_k can be computed:

$$a_k = \frac{A_t^*}{T_t^*} = \frac{\sum_{i=1}^{10} T_{ki}}{\sum_{j=1}^{10} T_{kj}} \quad | \quad i=1,2,\dots,10$$

with missing i excluded; and $j=1, 2, \dots, 10$.

ASEAN Totals can be estimated as follows: $T_t^* = \frac{1}{a_k} A_t^*$

Benchmark ratio may also be computed based on a number of years rather than a single year, either using the simple average of the available year or by applying simple regression technique.

4. Aggregates with no or complex Denominator

Aggregation Rules

For these classes of indicators, as mentioned above, ASEAN aggregates are represented by the Median value or the Range value, and at best, by proxy weighted averages. Because Range value and Median value are very sensitive to data availability, the Range value and Median value should be used with care if full coverage of 10 countries is not possible.

Estimate of the missing aggregates

Because of the requirement to have data of all 10 countries, estimate needs to be carried out. However, in the case of indicators with complex denominator, such an estimate is not possible.

Data estimation

As country level data involves missing values, estimation of country level data was conducted, mainly for purpose of arriving at reasonable ASEAN aggregates. Country level data estimation was performed only if sufficient information is available and if assumption can be reasonably justified to allow for the application of a reasonable estimation technique.

The following techniques (further elaborated in the Methodological Documentation) were employed to estimate some of the missing values of country data.

- 1) E1: Estimate by using simple trend, based on the available data of the series.
- 2) E2: Estimate by using extrapolation techniques, applying the same rate of exponential growth of the benchmark period of the series.
- 3) E3: Estimate by taking a simple average of two closest years within which the missing year is located. This is particularly practical, rather than applying E2, in cases where the two values are literally very close to each other.
- 4) E4: Estimate by applying the same trend of the closest series/country.
- 5) E5: Estimate by applying the same rate of exponential growth of the benchmark year(s) of closely relevant country/series.
- 6) E6: Ratio estimate, based on the ratio of the benchmark year(s) of the closest series/country. For example, if two series are available from two different sources, provided that the two series from these different sources are more or less consistent, a fraction based on benchmark year(s) could be applied.
- 7) E7: Estimate based on bold assumption that the same value as in the previous or closest year would apply. This technique applies, for example, for indicators which do not fluctuate much in the short term, such as life expectancy rate.

When growth rates need to be computed, an exponential rate of growth formula is applied. More details information about data estimation is provided in the Methodological Documentation.

Metadata

Metadata is provided in details in the ASEAN@50 database. For the purpose of the ASEAN@50 publication, the following information is provided.

Data Sources

Where data are available at ASEANStats database, data from ASEANstats database were used, except when there were strong evidences that did not justify the figures. Data from other sources were used in the following manner:

- 1) To estimate the missing values and for the purpose of weight construction. In this event, the data from ASEAN was used and the data from the alternative data sources were used as they are, to expand the series, provided that they are largely comparable. Otherwise, some adjustment/estimation was performed using the above techniques.
- 2) The trend of the data from the alternative data sources were used to estimate the missing values.
- 3) The ratio (fraction) between the two series, ASEAN and alternative sources, were computed to estimate the missing values.
- 4) The rates of growth from the alternative series were applied.

ASEAN stats data and the following major data sources were used (described in more details in the Metadata).

- 1) ASEANstats database: was used as the main, basic data. Missing values and extrapolation to estimate the baselines' figures were carried out based on other data sources. Among others, the following data were based on ASEANstats database: Population, GDP (various measures), merchandise trade, trade in services, FDI statistics, Tourist arrivals, labour force, unemployment rates, Food Securities, Land area, Life expectancy ratio, under five mortality, number of internet users per 1000 people, number of mobile phones users per 1000 people, share of ICT exports, Improved water as a percent of population, Improved Sanitation facilities, and a few others. Poverty headcount under the national poverty lines, number of and a few other social and economic variables.

- 2) United Nations: UN Population estimates, population by age structure and gender. Total population for the years of 1980-2016 were taken from ASEANstats database. Estimation of missing gaps and for the years prior to 1980 was based on UN Population estimates. Age structure and gender apply the UN Population estimate of age and sex composition.
- 3) UNCTAD: Merchandise Trade data including exports and imports. ASEANstats trade data are available from 1980 to 2016, with some years are missing for some countries. Comparison of ASEAN and UNCTAD trade data suggest minor discrepancies with UNCTAD data. Thus trade data from UNCTAD were used, as they are, to complete the ASEANStats data, to provide the data prior to 1980. Intra-ASEAN trade is based on ASEANstats database.
- 4) IMF World Economic Outlook, October 2016, were used to provide the GDP PPP\$ share weights, for the years 1960-2015. The GDP PPP\$ share weights were used as they are. However, the GDP per capita, GDP at USD current market prices, and rates of growth of GDP (hence GDP at constant prices) were based on ASEANstats data. Some discrepancies, therefore, occurred in the implicit PPP\$ exchange rates. The implicit PPP\$ exchange rates which are consistent with ASEANstats database GDP USD were used to ensure consistency of the GDP USD series with the ASEANstats database series. The GDP Per capita was also slightly different from the IMFWEO because of the different population figures.
- 5) World Bank, World Development Indicators and Popular Indicators were used to complete ASEANstats data, in cases where the ASEANstats and World Bank data are reasonably comparable, and used for estimating missing values using various methods, in the case of missing values. The following data, among others were taken from the World Bank data.
 - a. Social Indicators such as life expectancy ratios, under five mortality rates, under nourishment rates, number of nurses per 1000 population, Poverty Head count under \$1.90 poverty line, Poverty Headcount under the national poverty line, and a few more social indicators.
 - b. Economic indicators such as agricultural raw material export, manufacturing export, food production index, trade in services, government expenditure on health and education, market capitalisation of stock markets and a few other economic variables.
 - c. Innovation and Environment such as number of internet users per 1000 people, number of mobile phones users per 1000 people, share of ICT exports, share of High Tech export, Improved water as a percent of population, Improved Sanitation facilities, and a few others.

Units and Scale

Units and Scales were indicated in the series. For rates, ratios, and rates of growth, unless otherwise indicated, the values were expressed in decimal points.

Classification used in data analysis

Type of goods in ASEAN total exports and imports, as presented in Figure 1.3 and 1.4

- **Agricultural raw products:** covering food and live animals, beverages and tobacco, animal and vegetable oils, fats and waxes, crude animal and vegetable materials, hides, skins and furskins, raw, Crude rubber, Cork and wood, Pulp and waste paper, etc.
- **Manufactured products:** Chemicals and related products, n.e.s., Leather, leather manufactured ,n.e.s. and dressed furskins, Rubber manufactures, n.e.s., Cork and wood manufactures (excl. furniture), Paper, paper board, articles of paper, paper-pulp/board, Textile yarn, fabrics, related products, Non-metallic mineral manufactures, n.e.s., Iron and steel, Manufactures of metal, n.e.s., Machinery and transport equipment, Miscellaneous manufactured articles
- **Others:** the remaining products not covered in both agricultural raw and manufactured products.

List of the Weights

List of the weights used for aggregation and documentation of the Workbooks and the Excel Sheets were also provided in the Metadata.

References

ASEAN (1967) The ASEAN Declaration (Bangkok Declaration) Bangkok, 8 August 1967, <http://asean.org/the-asean-declaration-bangkok-declaration-bangkok-8-august-1967/>

ASEAN (1997) ASEAN Vision 2020, Kuala Lumpur, 15 December 1997. http://asean.org/?static_post=asean-vision-2020.

ASEAN (2009) Roadmap for an ASEAN Community 2009-2015, Jakarta: ASEAN Secretariat, April 2009.

ASEAN (2012) Declaration of ASEAN Concord II (Bali Concord II), Bali, 11 May 2012.

ASEAN (2015) Kuala Lumpur Declaration on The Establishment of The ASEAN Community, November 2015. <http://asean.org/kuala-lumpur-declaration-on-the-establishment-of-the-asean-community/>

World Travel and Tourism Council (2016) Travel & Tourism Economic Impact 2015 Southeast Asia, London: WTTC.

ASEAN (2017) ASEAN Final Statistical Report on the Millennium Development Goals 1990-2015: ASEAN Final Achievements on the Millennium Development Goals 1990-2015 and Potential ASEAN Sustainable Development Goal Indicators, Jakarta: ASEAN Secretariat.



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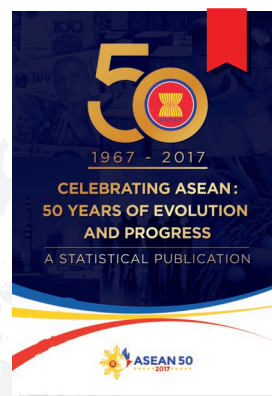
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