

NUEVAS TENDENCIAS TECNOLÓGICAS EN LOS MERCADOS GLOBALES DE CONSUMO

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Fundación Ramón Areces
7 de febrero de 2018

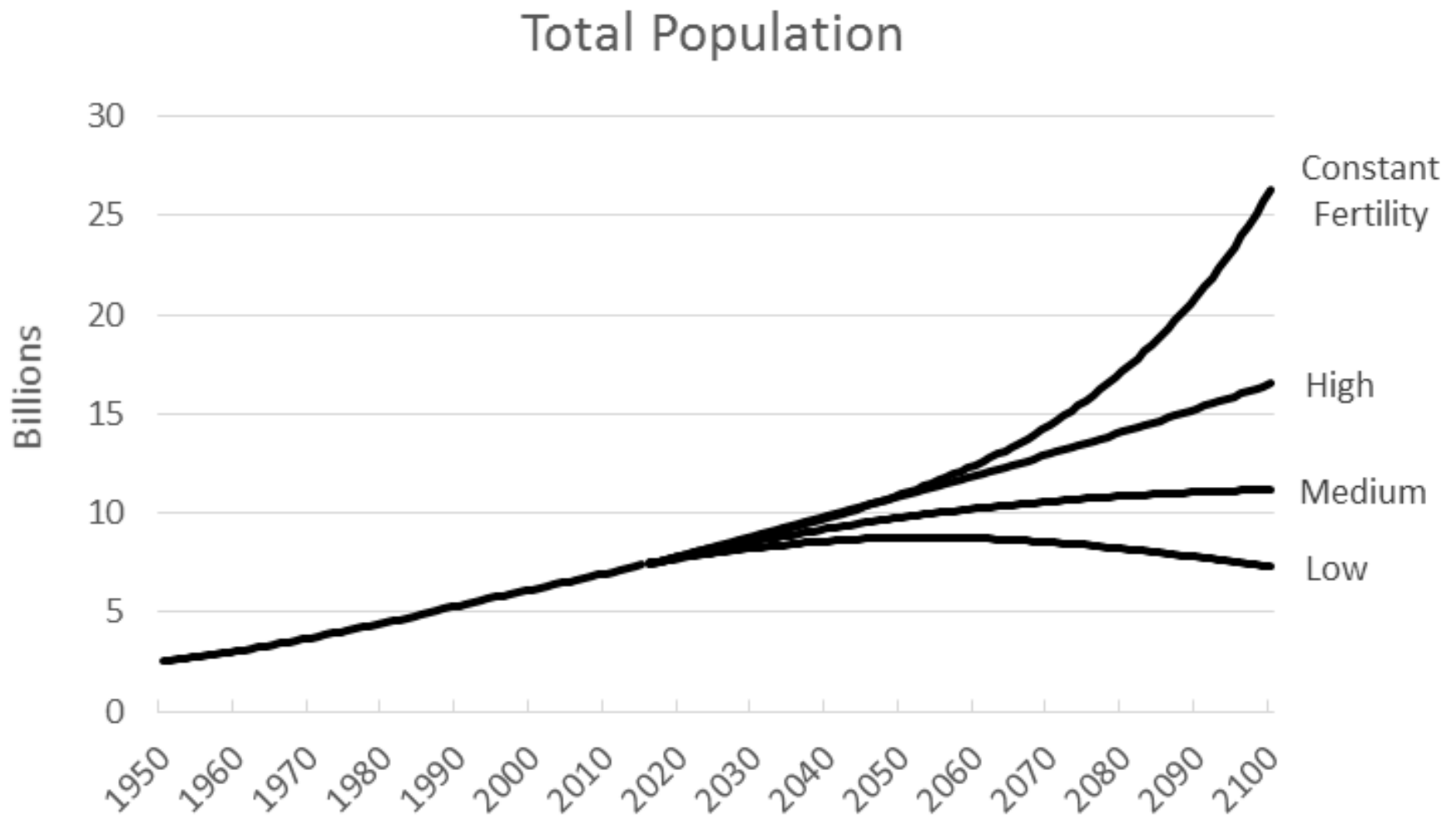


The Lauder Institute
Wharton • Arts & Sciences
UNIVERSITY of PENNSYLVANIA

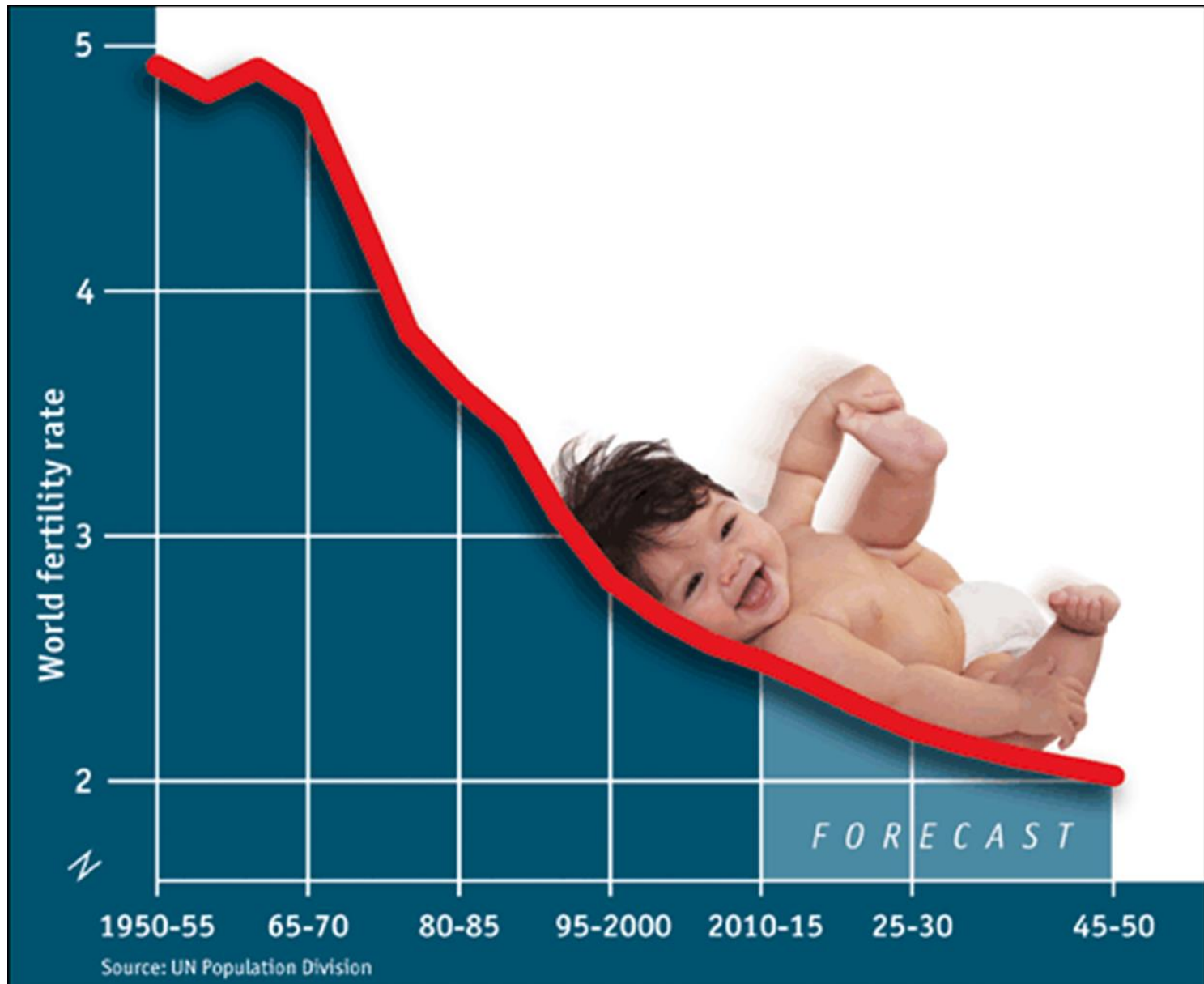
2030

(A) CAMBIO DEMOGRÁFICO

POBLACIÓN MUNDIAL 1950-2100

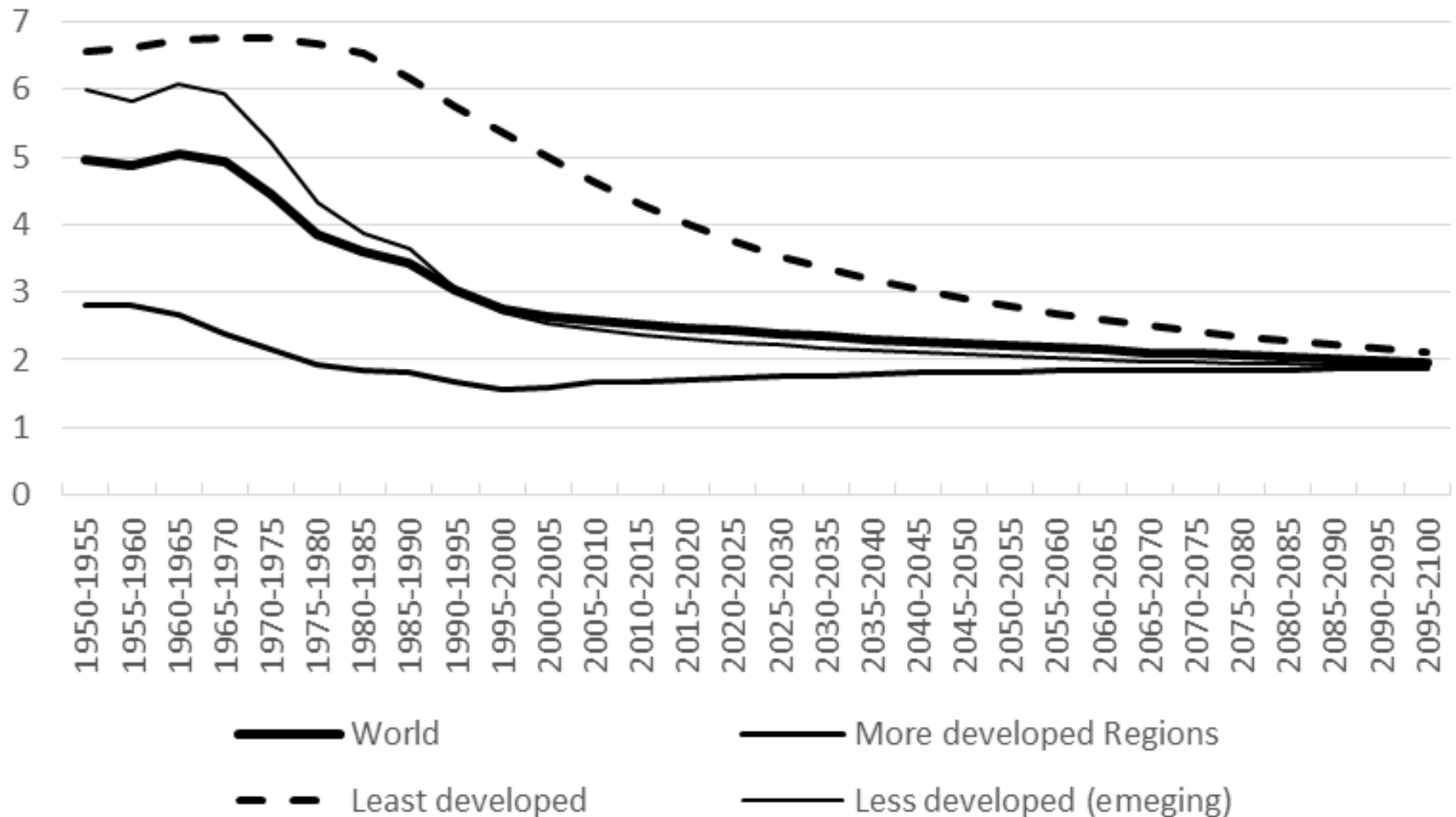


Source of the data: United Nations Population Division, *World Population Prospects: The 2017 Revision*.



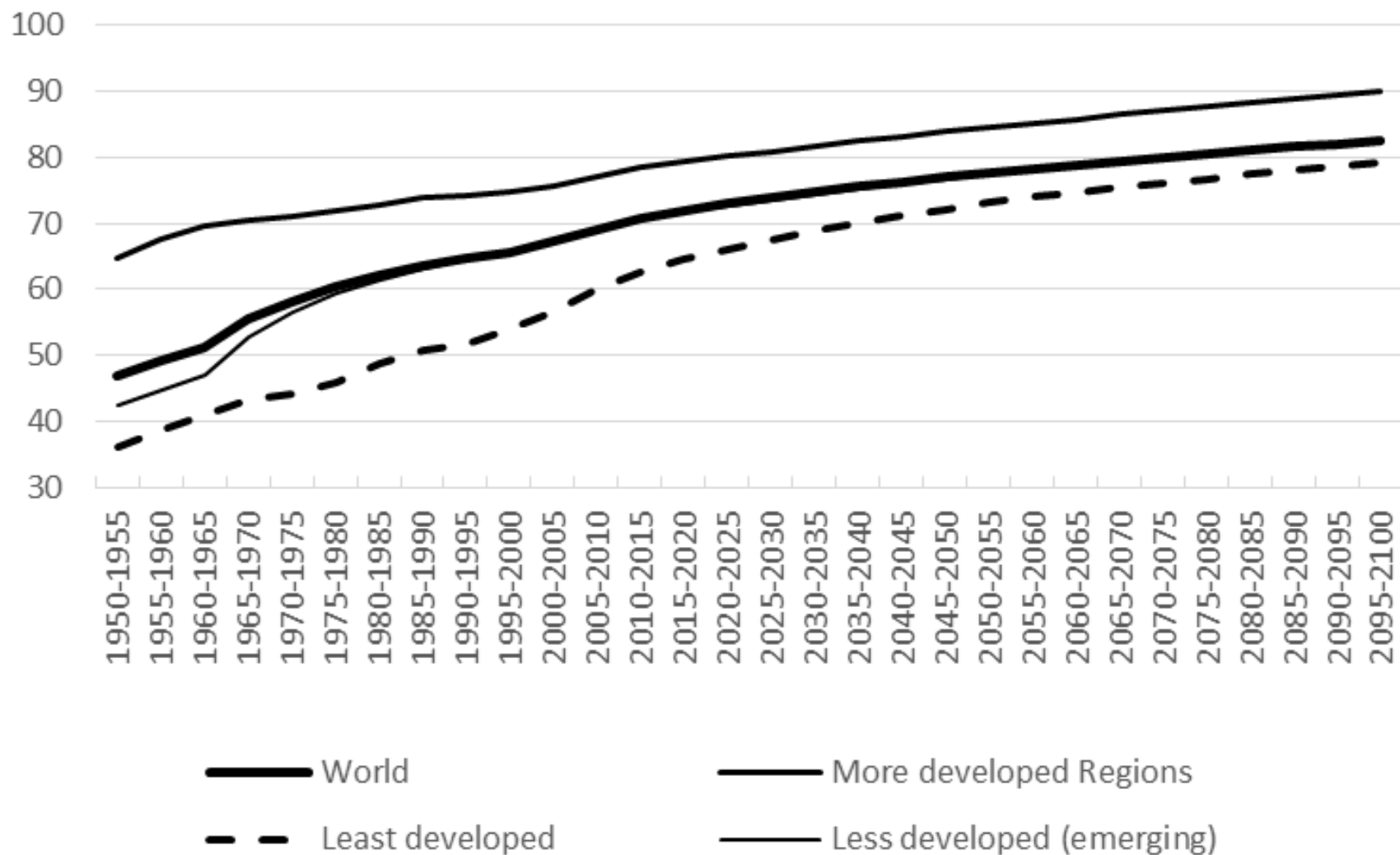


Total Fertility (children per woman)



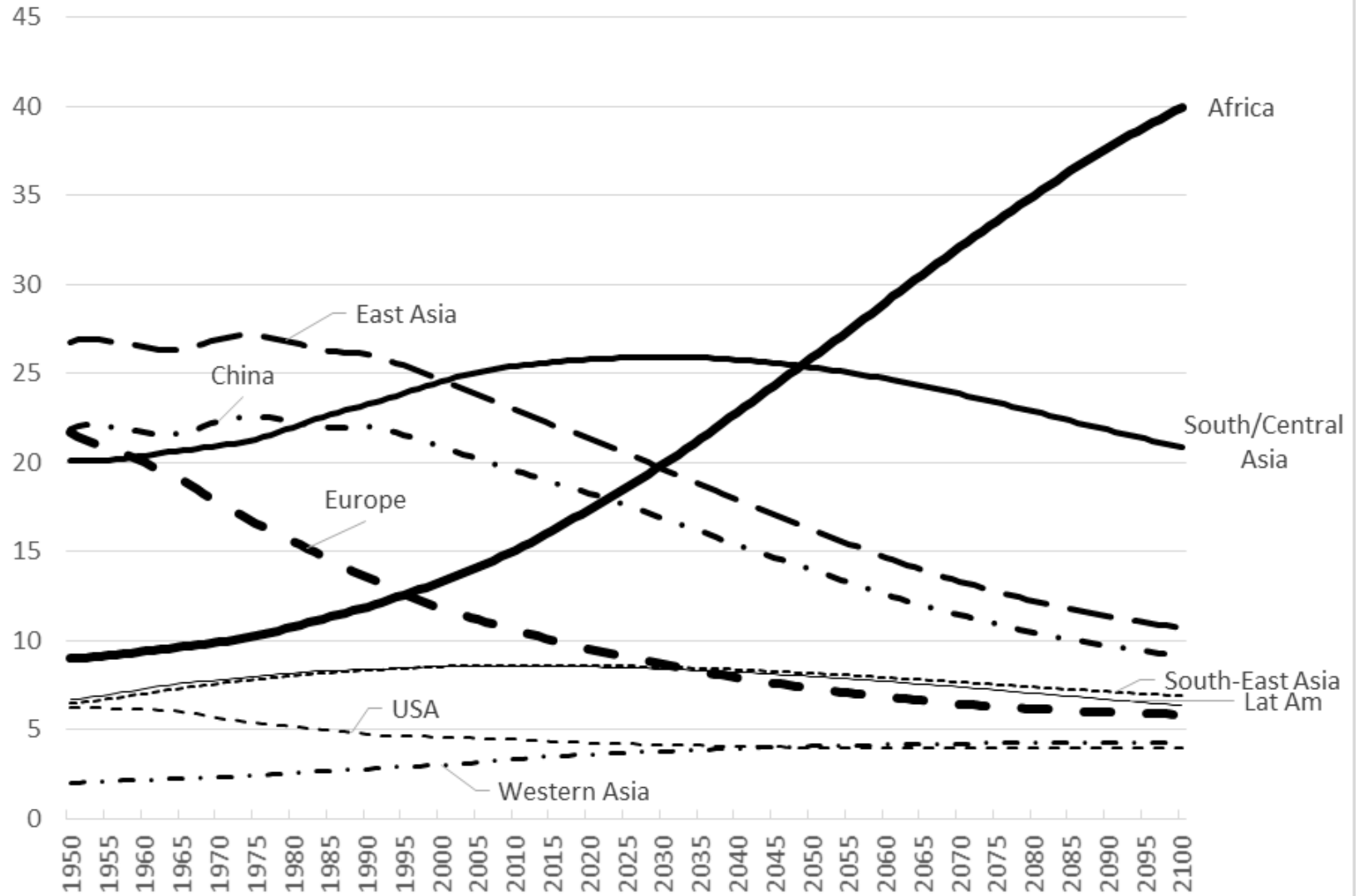
Note: A total fertility rate of 2.1 children per woman is generally considered to be necessary for population replacement.
 Source: United Nations Population Division, *World Population Prospects: The 2017 Revision*.

Life Expectancy at Birth (years)

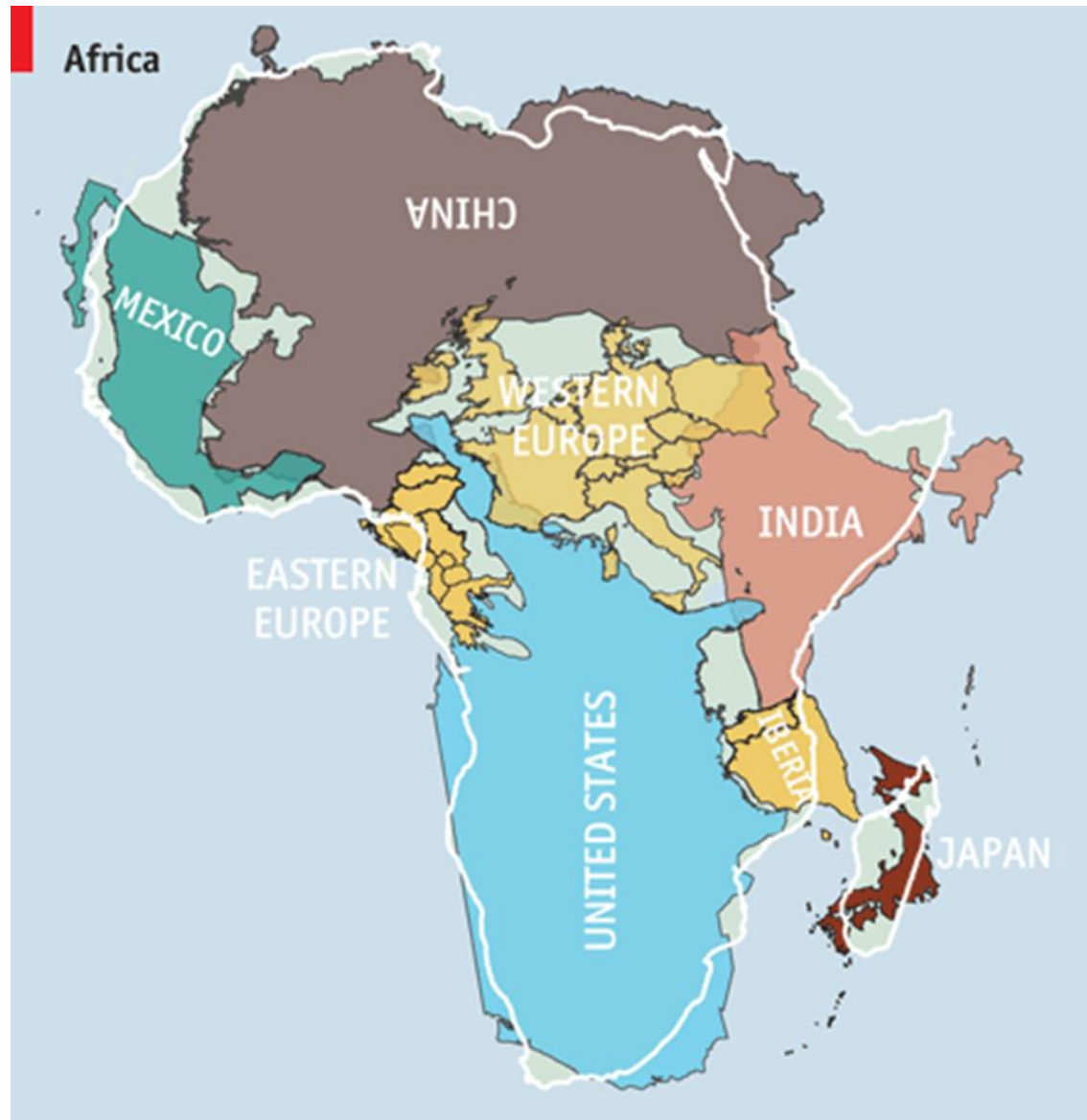


Source: United Nations Population Division, *World Population Prospects: The 2017 Revision*.

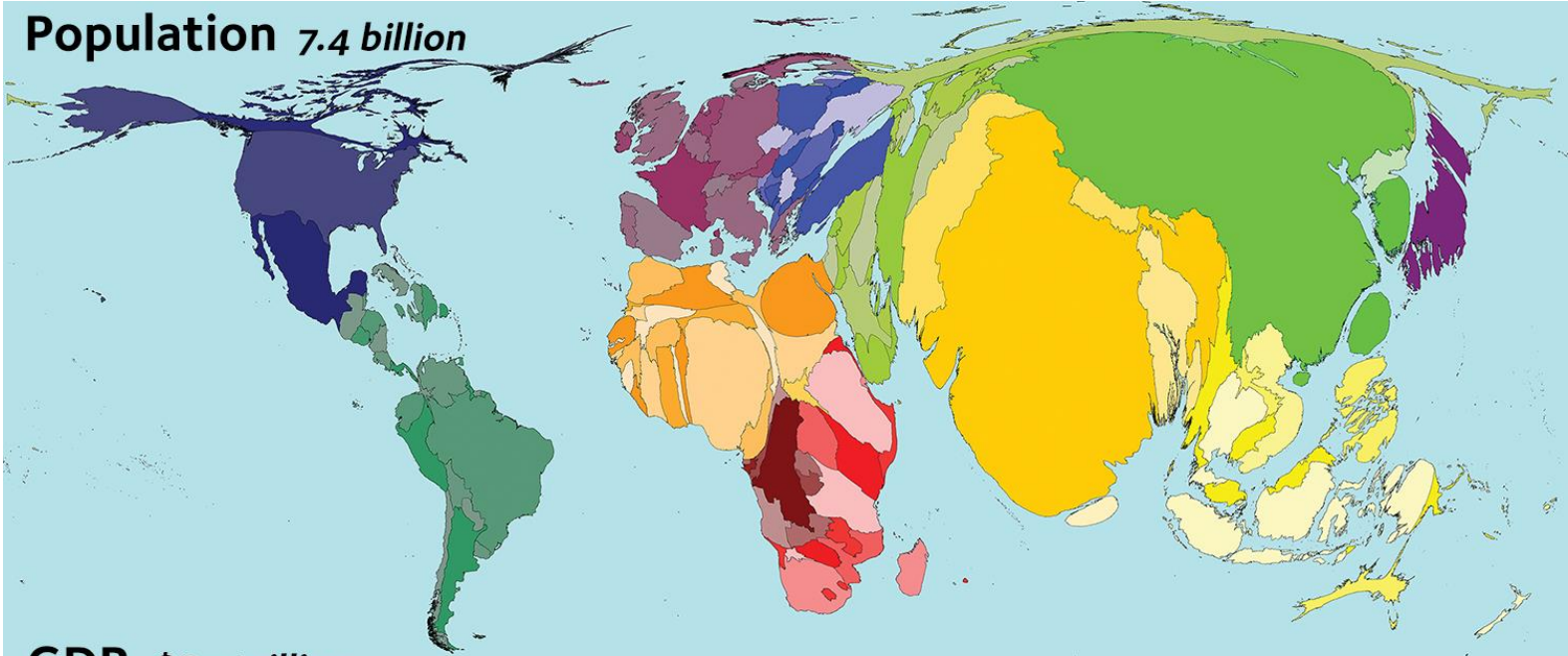
Regional Distribution of Total Population (%)



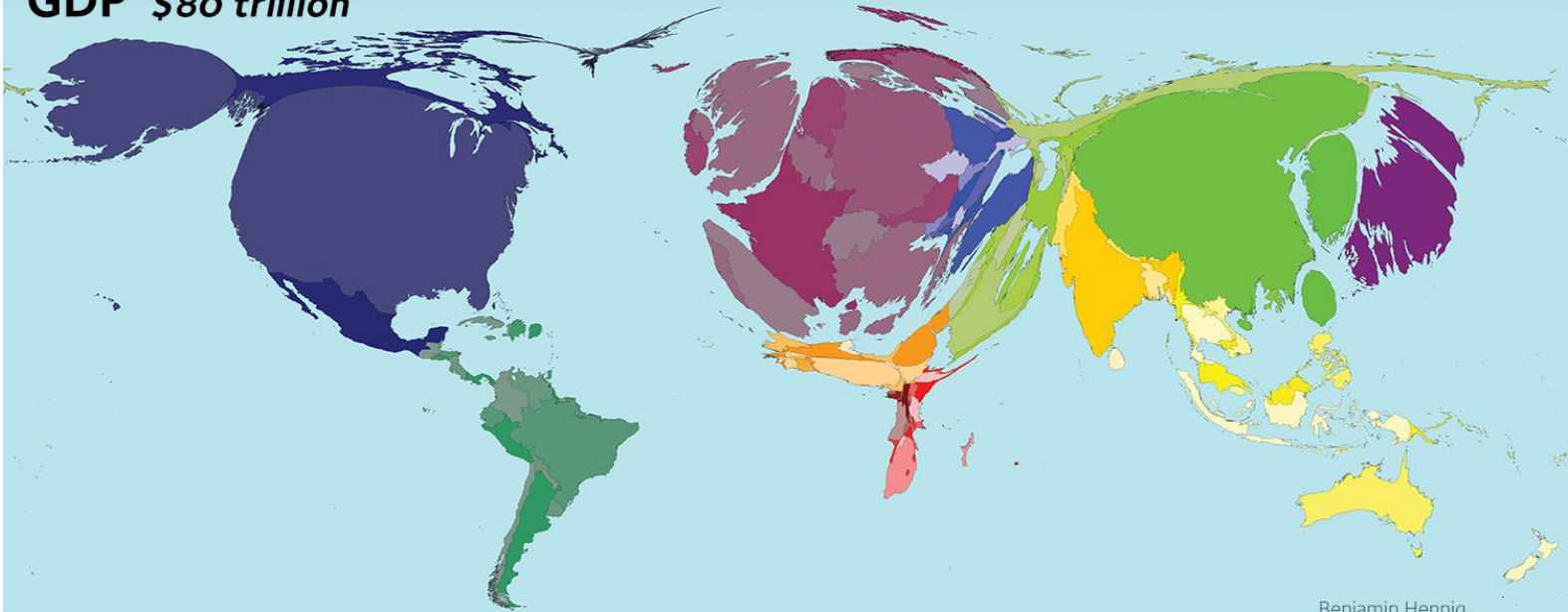
Source: United Nations Population Division, *World Population Prospects: The 2017 Revision*.



Population 7.4 billion



GDP \$80 trillion

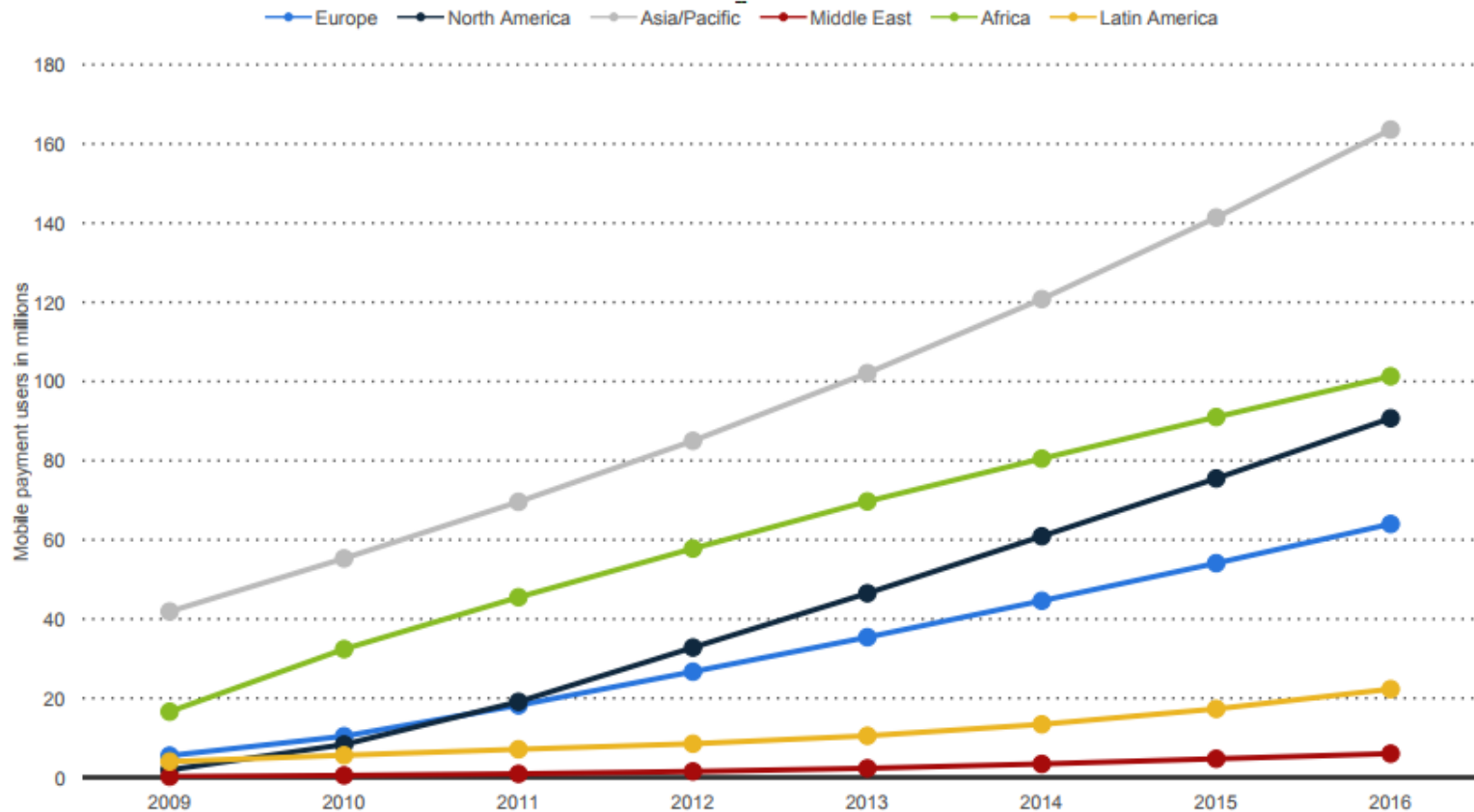


Data sources: IMF World Economic Outlook, WorldBank, UN World Population Prospects (2016)

Benjamin Hennig
www.viewsoftheworld.net

SALTOS DE RANA TECNOLÓGICOS

Number of mobile payment users from 2009 to 2016, by region (in millions)



Note: Worldwide; 2009 bis 2012

Further information regarding this statistic can be found on [page 66](#).

Source: Gartner; TechCrunch [ID 279957](#)

SERVICIOS DE “DATING”

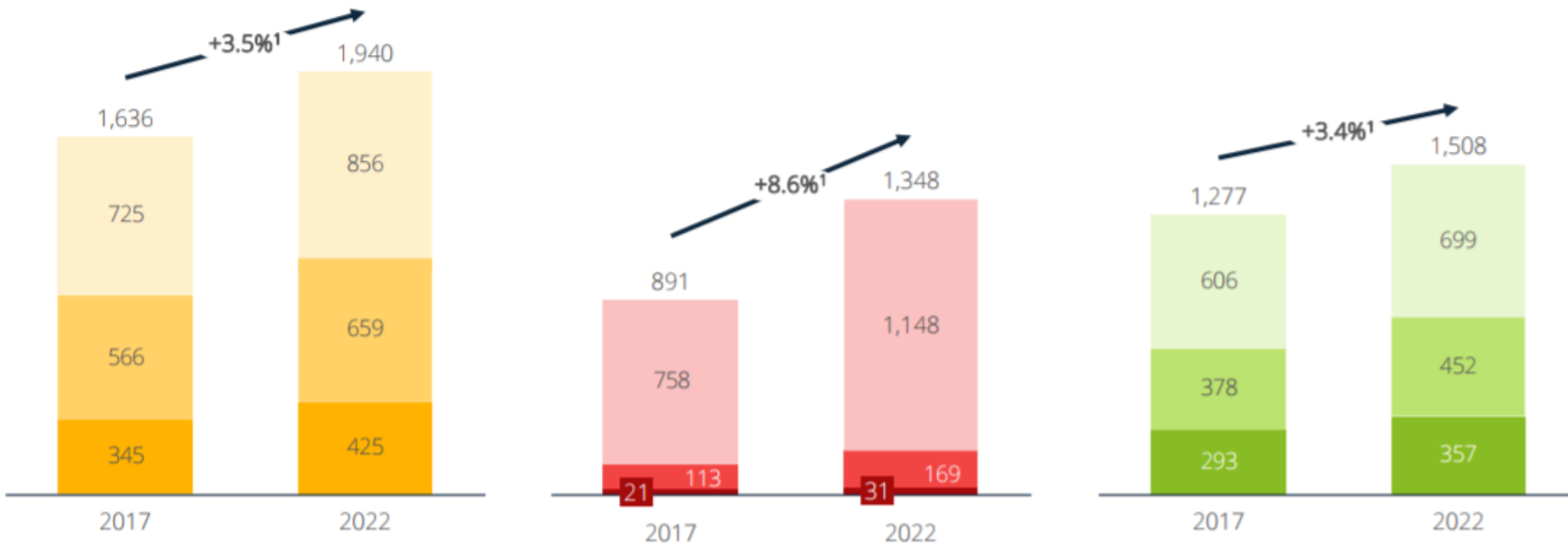
Revenue forecast in million US\$

Matchmaking Online Dating Casual Dating

United States

China

Europe



1: CAGR: Compound Annual Growth Rate / average growth rate per year

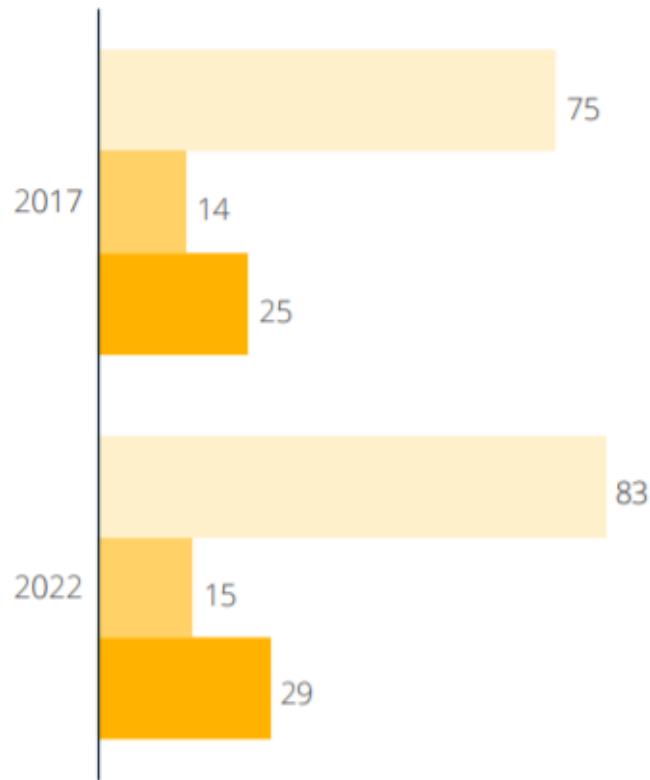
Source: Statista Digital Market Outlook 2017

Source: Statista, eServices Report 2017.

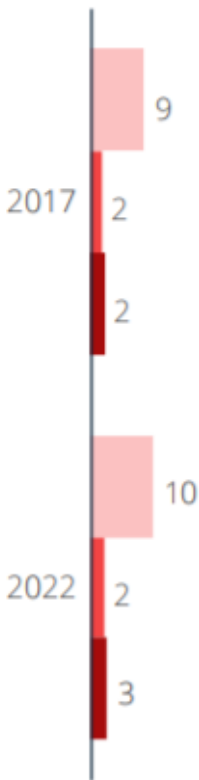
Revenue per user in US\$

Matchmaking Online Dating Casual Dating

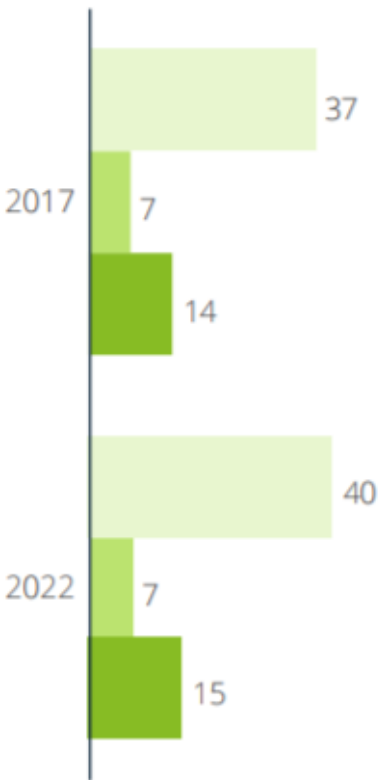
United States



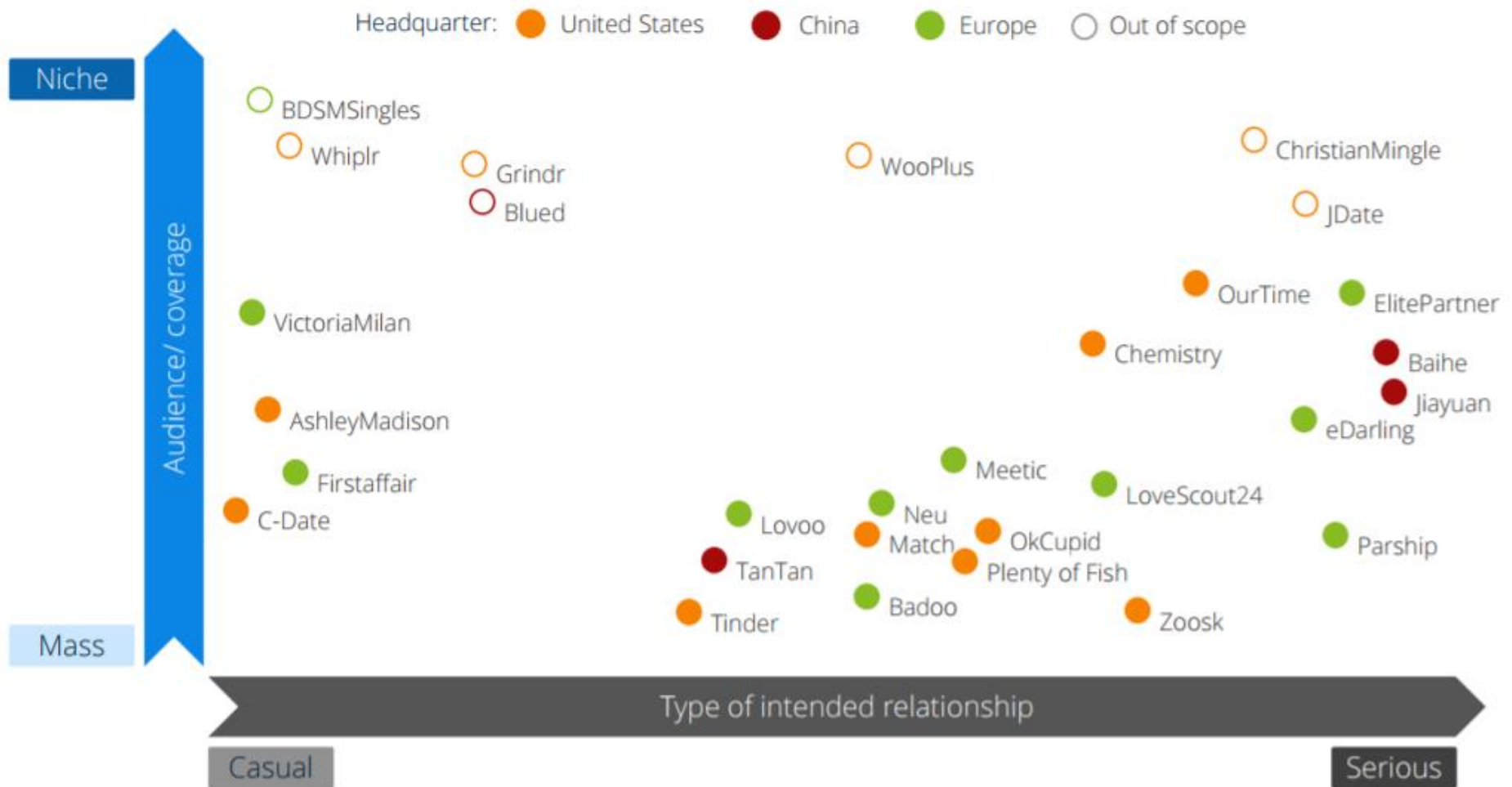
China



Europe



SEGMENTACIÓN DE MERCADO

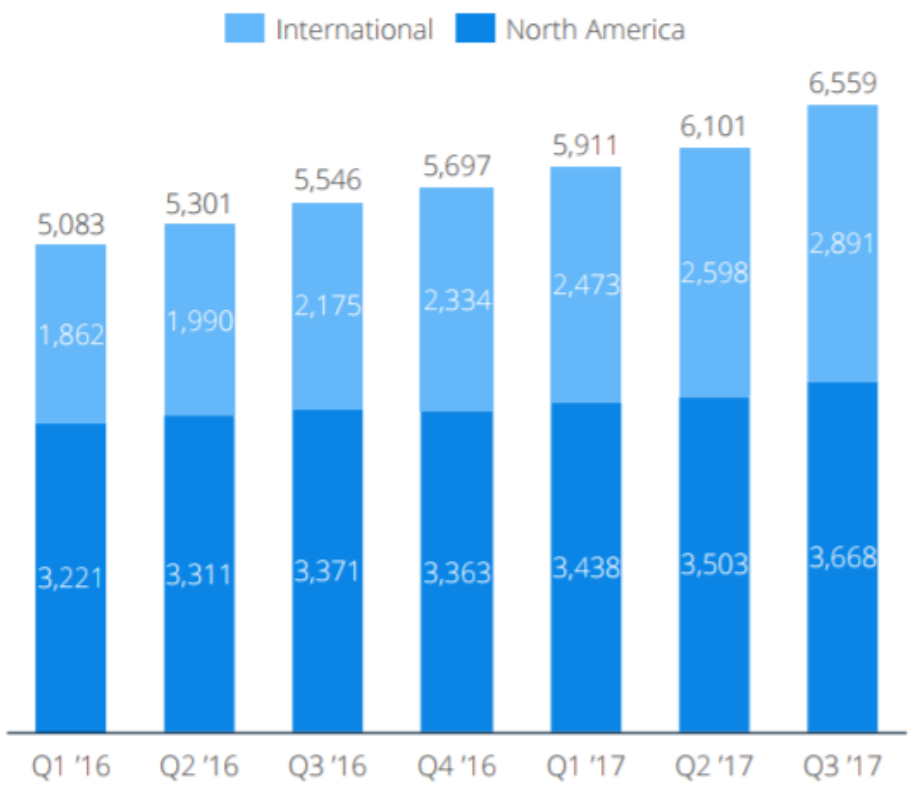


Source: Statista, eServices Report 2017.

Key performance indicators

	Unit	2014	2015	2016	2017 Q1-Q3
No. of paying subscribers registered	million	3.5	4.1	5.4	6.2
Revenue	million US\$	836.5	909.7	1,118.1	951.1
Net income	million US\$	147.8	120.4	171,5	N/A
Operating Income (Loss)	million US\$	253.7	213	315.5	232.9
Adjusted EBITDA	million US\$	289.3	284.6	403.4	315.7

Number of paying subscribers registered to the Match Group (in thousands)



The Match Group is a sub-organization of IAC and the world's leading provider of dating products, with a portfolio of over 45 brands, including:

- Tinder
- LoveScout24
- Match.com
- OkCupid
- PlentyofFish
- Meetic

8.4 million relationships and 2.5 million marriages were established between 2011 and 2015 through the Match Group's dating products. The Match Group offers their dating apps in 42 different languages.

65 Source: IAC, Match Group

Source: Statista, eServices Report 2017.

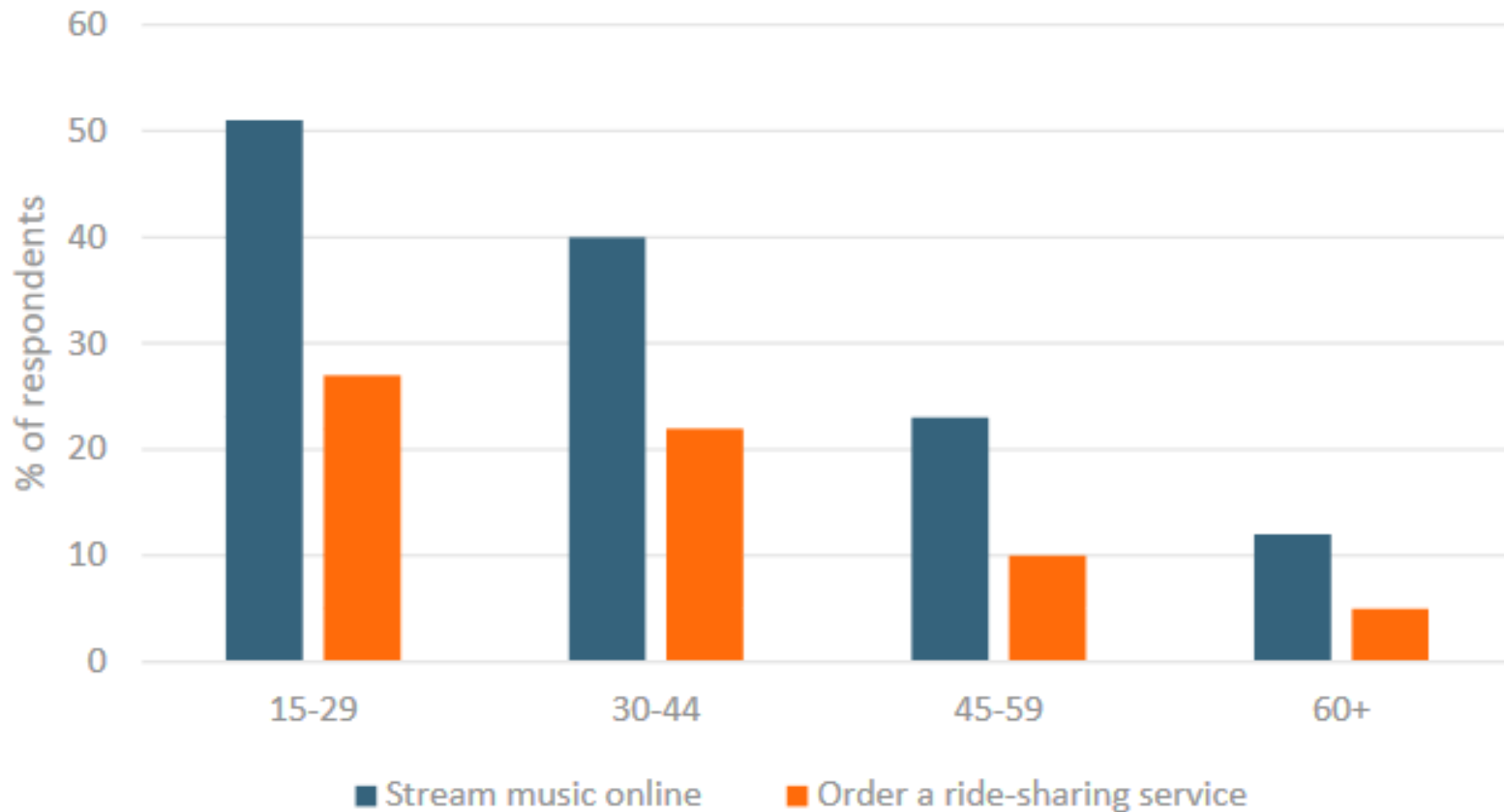
MAYORES POBLACIONES DE EDAD 15-35

	2015	2030	2015=100
India	458.53	487.25	106.3
China	413.96	323.71	78.2
Indonesia	86.67	92.05	106.2
Nigeria	59.68	91.34	153.1
USA	87.94	89.33	101.6
Pakistan	68.40	82.90	121.2
Brazil	69.79	63.00	90.3
Bangladesh	59.30	60.88	102.7
Ethiopia	35.68	51.79	145.2
Mexico	43.35	45.53	105.0
Philippines	35.46	41.68	117.5
DR Congo	24.35	41.27	169.5
Egypt	32.16	37.92	117.9
Russia	39.77	30.98	77.9
Viet Nam	32.42	27.97	86.3
Turkey	25.60	25.86	101.0
Iran	30.89	23.79	77.0
Japan	26.48	22.89	86.4
South Africa	20.12	21.10	104.9
Thailand	18.92	17.05	90.1

Source: United Nations Population Division, *World Population Prospects: The 2017 Revision*.

LA EDAD Y LA ECONOMÍA COMPARTIDA

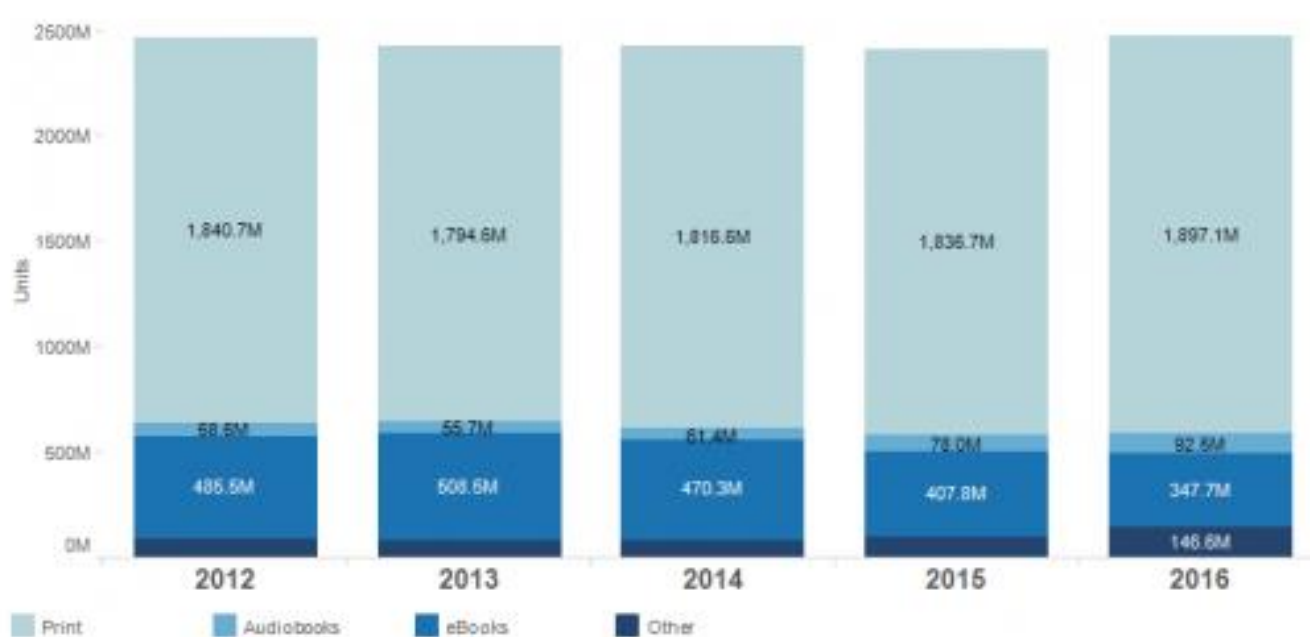
% of Respondents Using On-Demand Services via Mobile at Least Once a Week



Source: Euromonitor International's Global Consumer Trends Survey 2017

PUZZLE

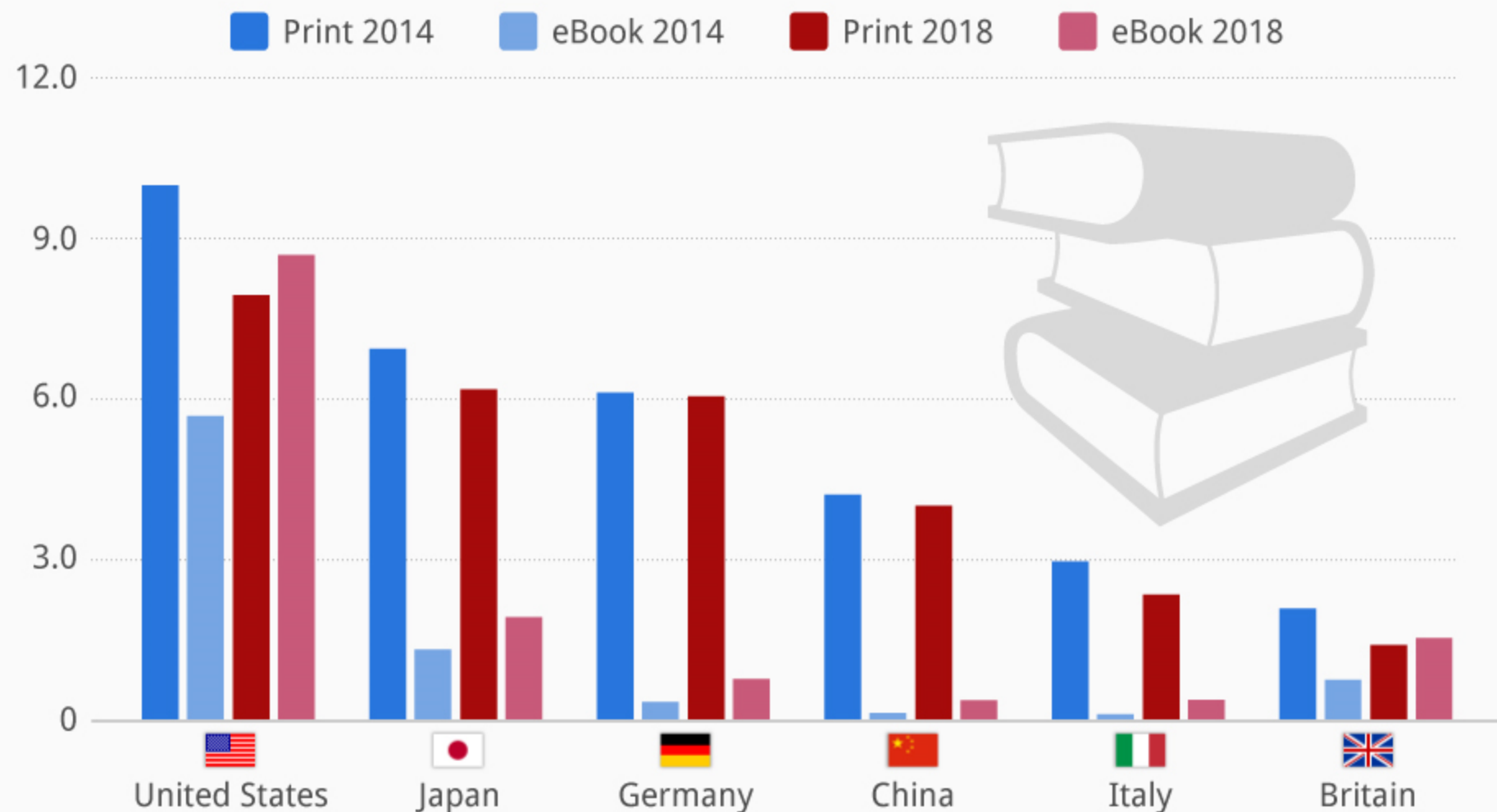
¿Por qué los libros digitales no desplazan a los impresos?



<http://newsroom.publishers.org/book-publishing-annual-statshot-survey-reveals-religious-crossover-and-inspirational-books-supported-trade-book-growth-in-2016/>

E-Books Set to Surpass Print in the U.S.

Book market development forecast (in billion U.S. dollars)



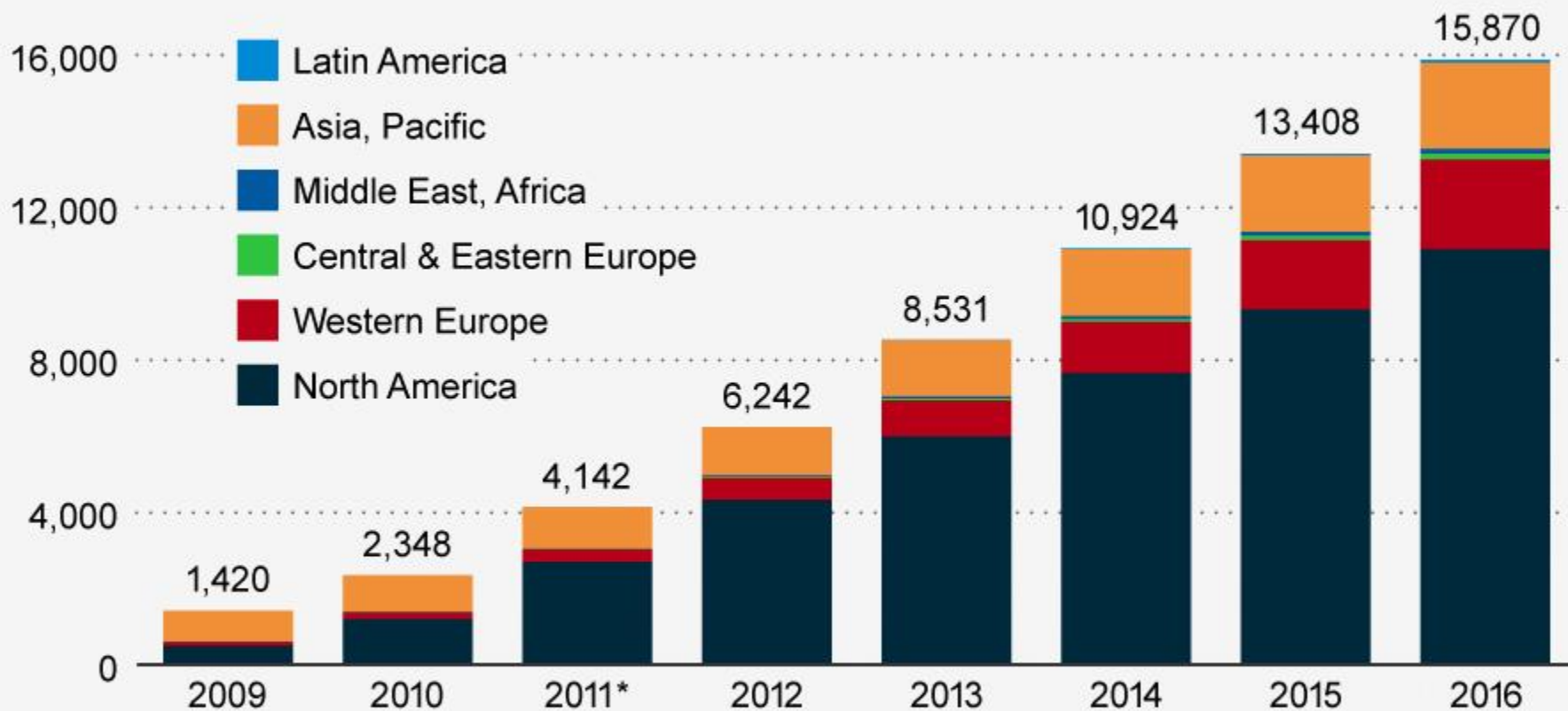
@StatistaCharts

Source: PriceWaterhouseCoopers

statista

North America Leads the Way in E-Book Adoption

Consumer e-book spending (in million U.S. dollars)



* preliminary

College graduates are especially likely to read books in both print and digital formats

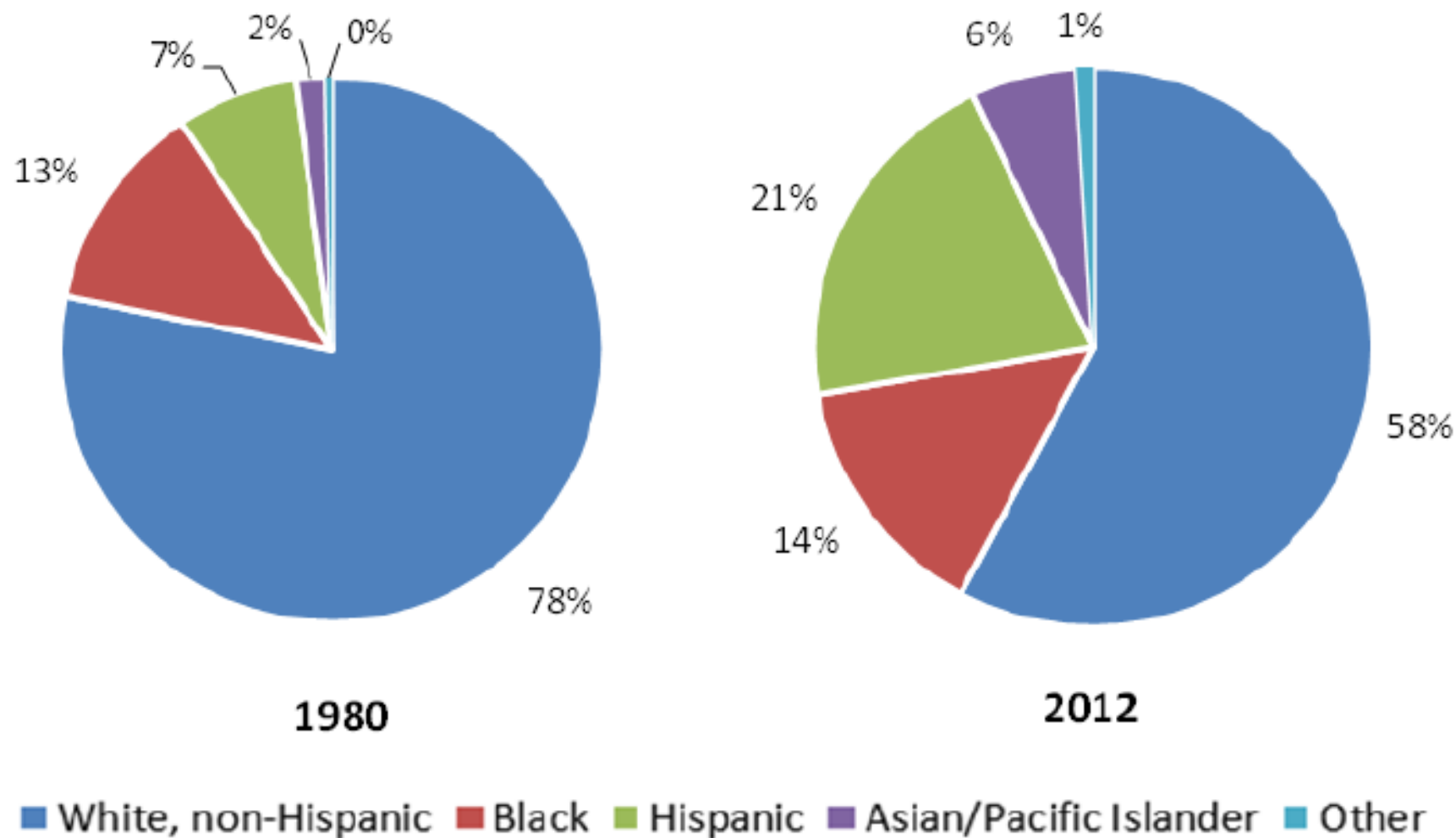
% of U.S. adults who say they have ____ in the previous 12 months

	Read a book in any format	Read a print book	Read an e-book	Listened to an audio book
Total	73%	65%	28%	14%
Men	68	61	27	14
Women	77	70	29	14
White, non-Hispanic	76	70	31	15
Black, non-Hispanic	69	63	23	11
Hispanic	58	48	18	12
18-29	80	72	35	16
30-49	73	65	32	15
50-64	70	64	24	15
65+	67	61	19	9
Less than high school	45	38	11	12
High school grad	62	55	19	9
Some college	81	74	32	14
College+	86	79	41	20
Below \$30,000	65	59	19	9
\$30,000-\$49,999	74	68	26	16
\$50,000-\$74,999	75	69	33	19
\$75,000+	81	73	40	16
Urban	75	69	29	17
Suburban	73	64	30	14
Rural	66	61	22	10

Source: Survey conducted March 7-April 4, 2016.
"Book Reading 2016"

PEW RESEARCH CENTER

Figure 3: Race and Ethnic Group, 15 to 34 Year-Olds



Source: Census Bureau.

Figure 29: Share of 18 to 34 Year-Olds Living With Parents

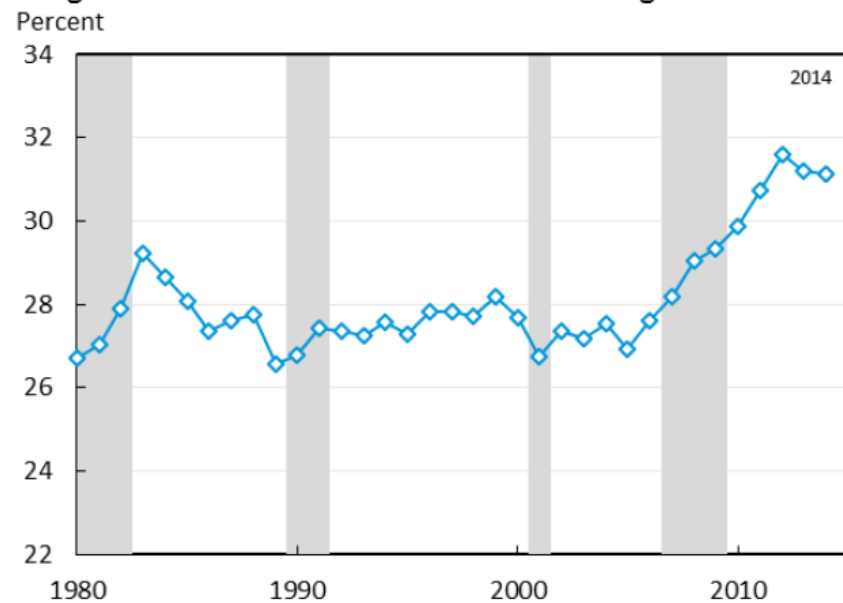


Figure 4: Percent Reporting Life Goals as Being "Quite or Extremely Important"

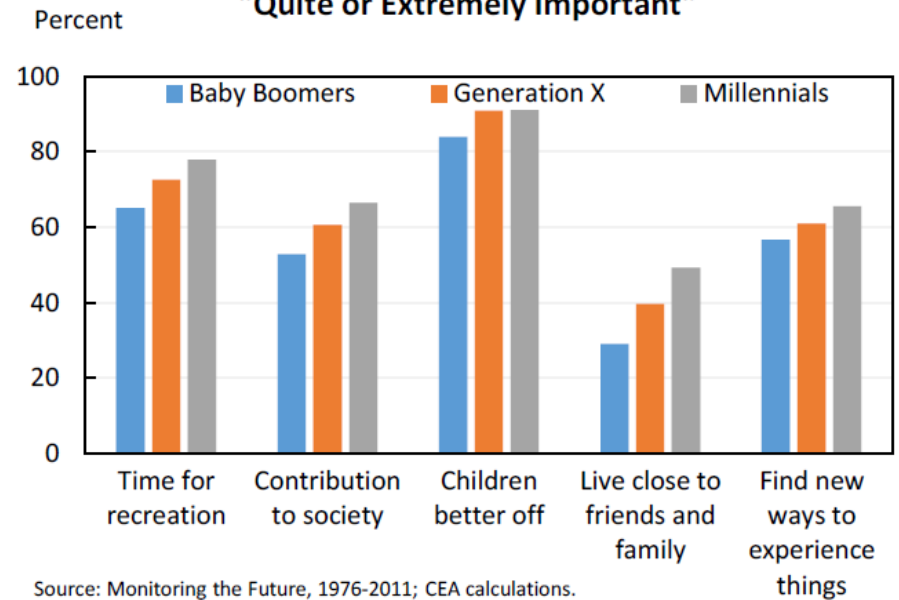


Figure 31: Probability of Owning a Home for 18 to 34 Year-Olds

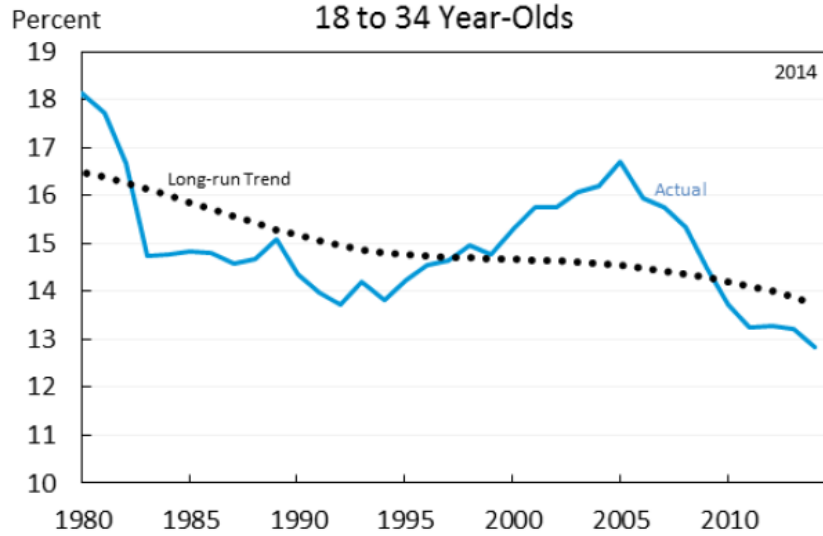
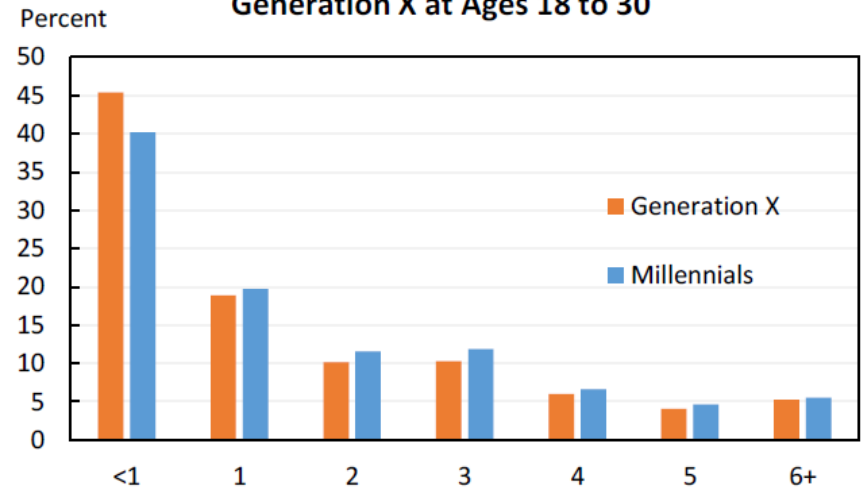
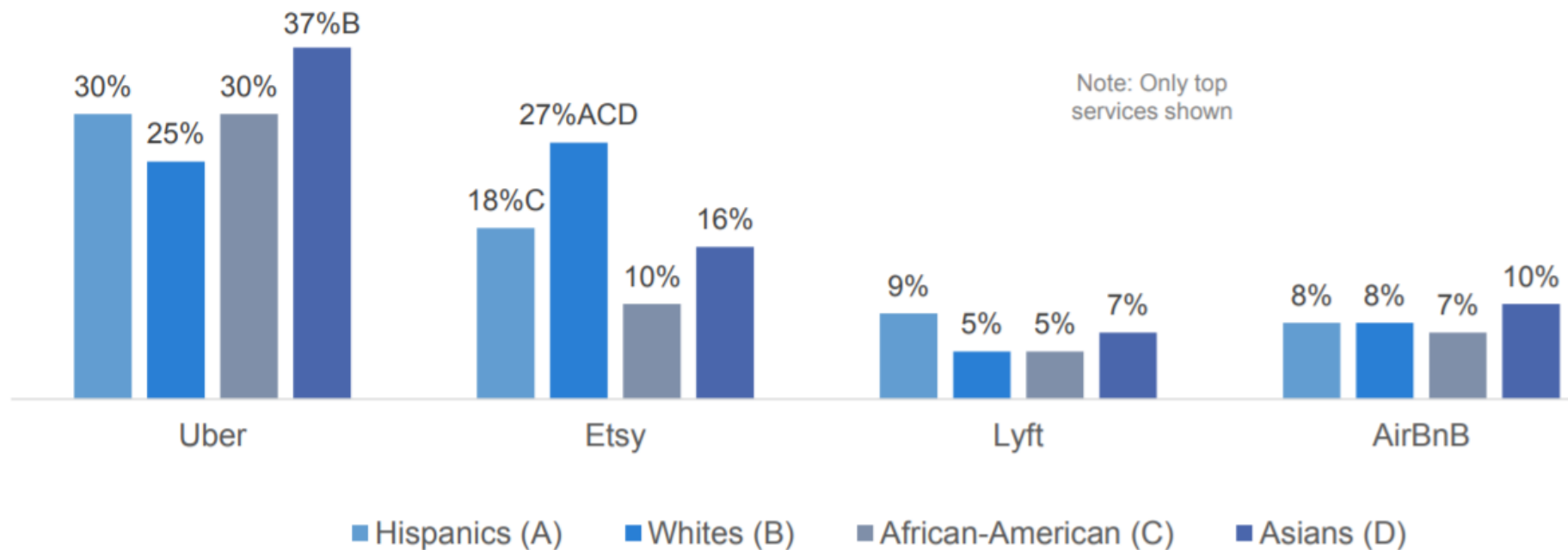


Figure 20: Job Tenure in Years for Millennials and Generation X at Ages 18 to 30



20-24 year-olds with a driver's license: 92% in 1983 down to 77% in 2015.

COMPARTIENDO SEGÚN GRUPO ÉTNICO

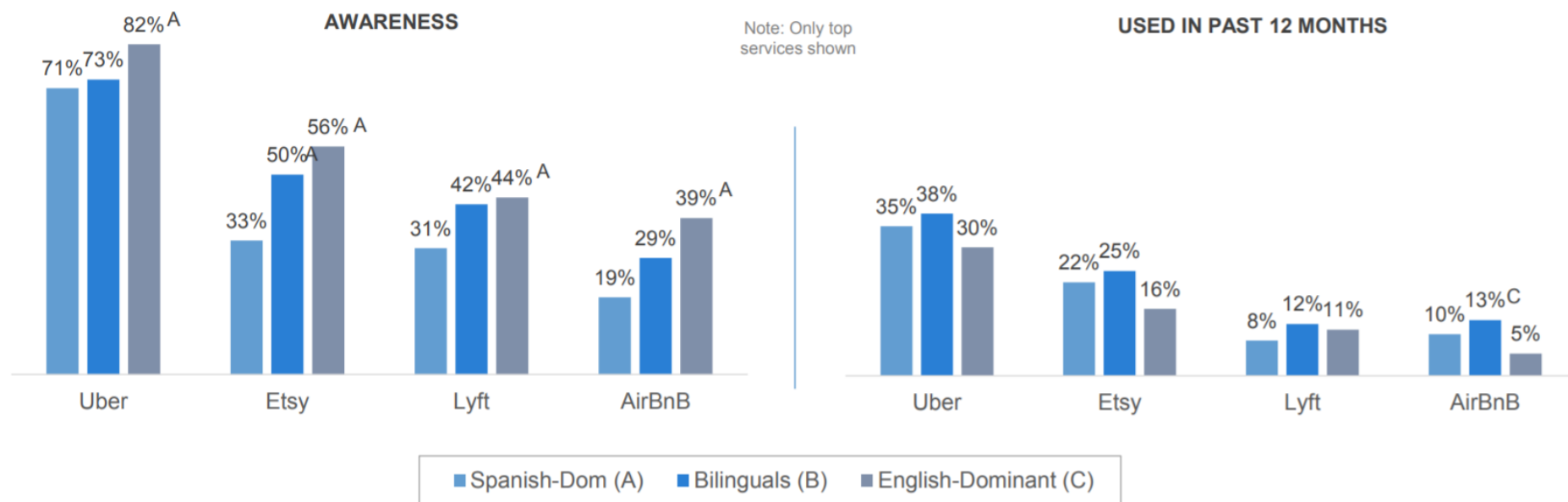


3-in-10 Hispanics have used Uber in the past 12 months. Uber is most commonly used among Asian-Americans.

Base: Hispanics (n=511), Whites (n=258), African Americans (n=258), Asians (n=258)

Awareness/Usage by Hispanic Language Groups

Which of the following companies/services have you heard of / used in the past 12 months?



POBLACIÓN MAYOR DE 60

	2015	2030	2015=100
China	214.7	361.6	168.4
India	116.8	189.1	162.0
USA	65.8	91.7	139.5
Japan	42.0	45.2	107.7
Brazil	24.4	42.5	173.8
Indonesia	21.0	38.2	182.5
Russia	29.0	34.4	118.7
Germany	22.3	28.5	127.6
Bangladesh	11.4	21.7	190.6
Mexico	12.1	21.5	178.1
Italy	17.0	21.2	124.9
Pakistan	12.5	20.7	165.5
France	16.1	20.4	126.1
UK	15.4	20.0	129.8
Thailand	10.7	18.7	174.1
Viet Nam	9.6	18.6	193.5
South Korea	9.3	16.7	179.7
Spain	11.3	15.4	136.0
Turkey	9.0	15.0	167.4
Ukraine	10.0	10.8	107.9

Source: United Nations Population Division, *World Population Prospects: The 2017 Revision*.

ROBOTS DOMÉSTICOS



Human Support Robot, Japan, 2012

This robot is an early example of a new generation of robot 'nurses' designed to support people at home.

The Human Support Robot is designed for multiple applications, including running simple errands and connecting its users with their carers. In 2015 a newer model was released to Japanese research groups for trials with patients.

Source: Toyota Motor Corporation
Object no: 2016-350



Human Support Robot demonstration, Japan.

Image: Toyota Motor Corporation

The Human Support Robot can:

- Be operated directly by home users, or by others such as a family member or doctor via remote control
- Obey simple voice commands, for example to fetch medication or draw the curtains
- Reach high-up objects with its extendible body and flexible arm
- Pick up different objects, including pieces of paper, with its adaptive soft finger pads and pressurised suction pad

Would you let a robot look after your grandmother?

Japan's ageing population will need a million new nurses by 2025, but there are not enough people in the country to train. Why not use robots instead?

Care-giving robots could reduce the need to recruit foreign workers, a move the country has traditionally been reluctant to adopt. Many in Japan also find it more dignified to rely on technology rather than another person for their intimate care.

While Japan may welcome a million new robots with open minds and arms, how might other cultures respond?

ROBOTS PARA CUIDAR A NIÑOS

Nao Evolution V5, Japan, 2015

Nao is the most widely used humanoid robot in the world.

Nao is designed to be affordable and easily customised. It is widely used in research and interactive activities for children.

Some of its more inventive uses include greeting bank and airline customers, manning a hotel concierge desk, and competing in the robot soccer world cup.

Purchased
Object no: 2016-341



Basel, Switzerland.

Nao has been programmed to:

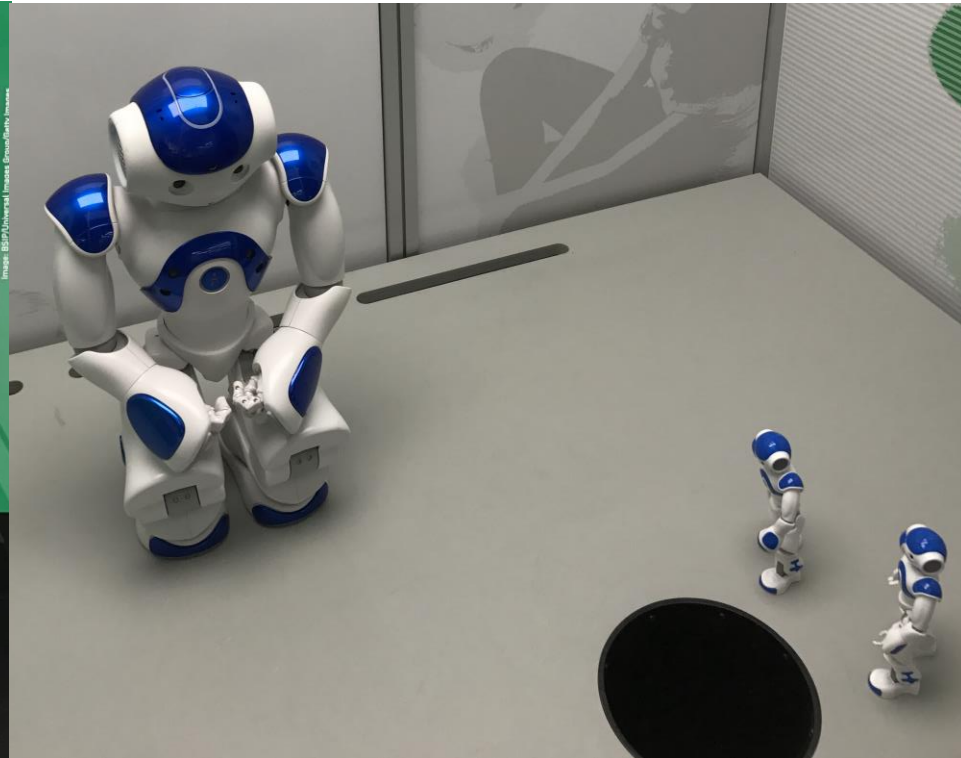
- Enable children in long-term hospital care to virtually attend classes by acting as their avatar
- Coach children with diabetes to manage their blood sugar levels
- Conduct physiotherapy sessions for children
- Help deliver therapy sessions for children with autism
- Tutor children in mathematics and different languages

Do robots need a conscience?

This Nao robot's story describes its struggle to decide which of two robots to save from danger during an experiment.

Lacking free will and the ability to do what it 'feels' is right, it had to rely on its programmed instructions to decide.

We humans draw on far more than fixed instructions and our own 'programming' when we weigh up the right thing to do. Should robots have a similar capacity – especially those that we allow to befriend us?



OTRAS TECNOLOGÍAS PARA LOS MAYORS DE 60

- Andadores inteligentes.
- Vestimenta motorizada.
- Ayudantes domésticos y casas inteligentes.
- Detección y prevención del fraude.
- Wearables.
- Big data y sensores para detectar necesidades de asistencia.

REALIDAD VIRTUAL



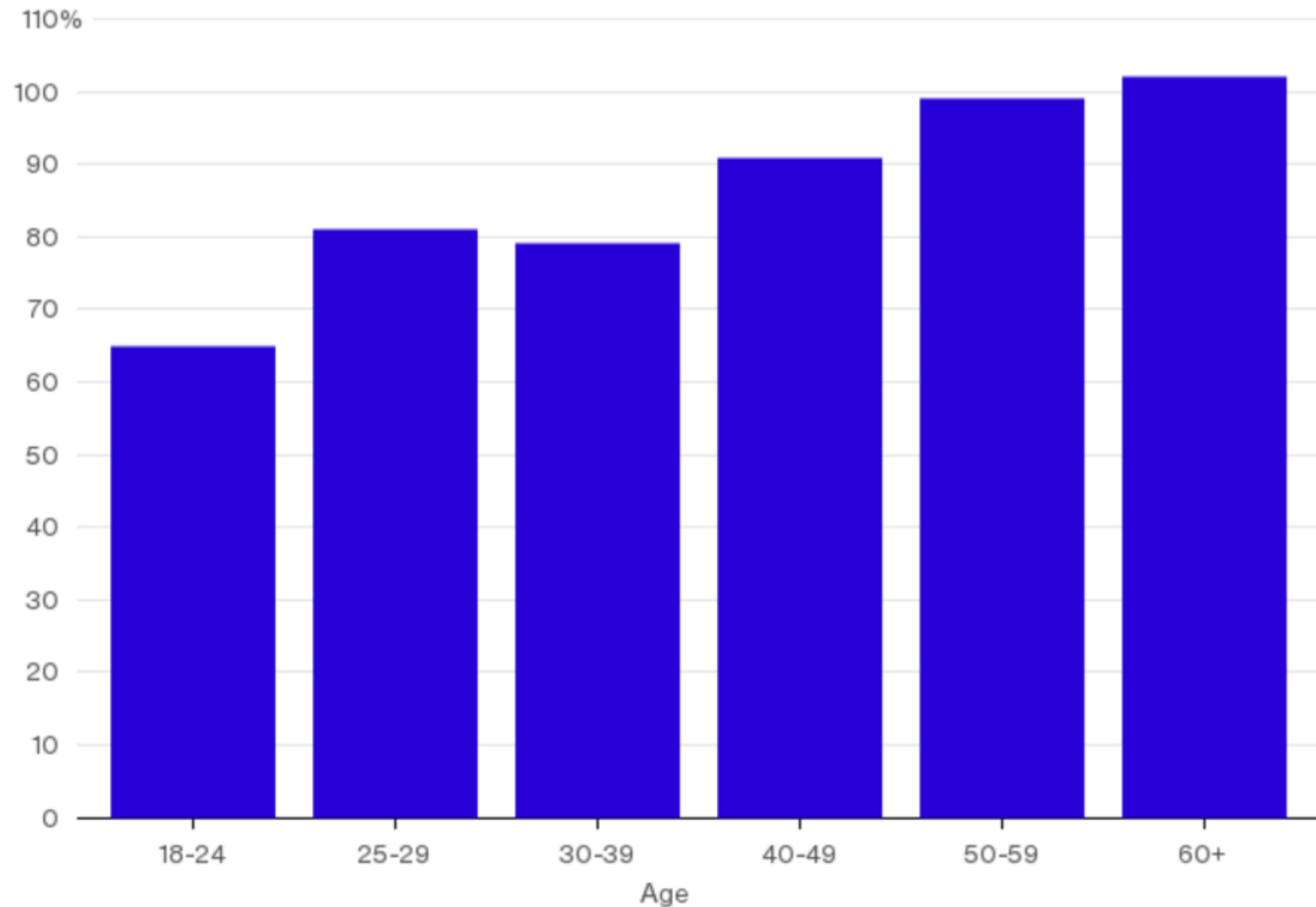
- Ocio.
- Salud y bienestar:
 - Estimulación cognitiva y sensorial.
 - Ampliación de la memoria.
 - Cirugía.
 - Salud móvil.
 - Terapias.
 - Estimulación de las funciones motoras.
 - Reducción de la ansiedad en el dentista o en las resonancias magnéticas.
 - Tratamientos para el autismo.
- Formación de personal.

INTERNET DE LAS COSAS + REALIDAD VIRTUAL

- Internet de las cosas: Físico → Digital.
- Realidad virtual: Digital → Físico.
- Algunas aplicaciones en:
 - Telepresencia: empresas & 60+.
 - Transporte & y distribución.
 - Vehículos autónomos.
 - Sanidad.
- La idea consiste en:
 - Hacer que la RV sea adaptiva.
 - Aumentar la empatía.

Airbnb's Fastest-Growing Age Group: People 60 and Older

Year-over-year percentage growth in the number of hosts by age range on Airbnb.

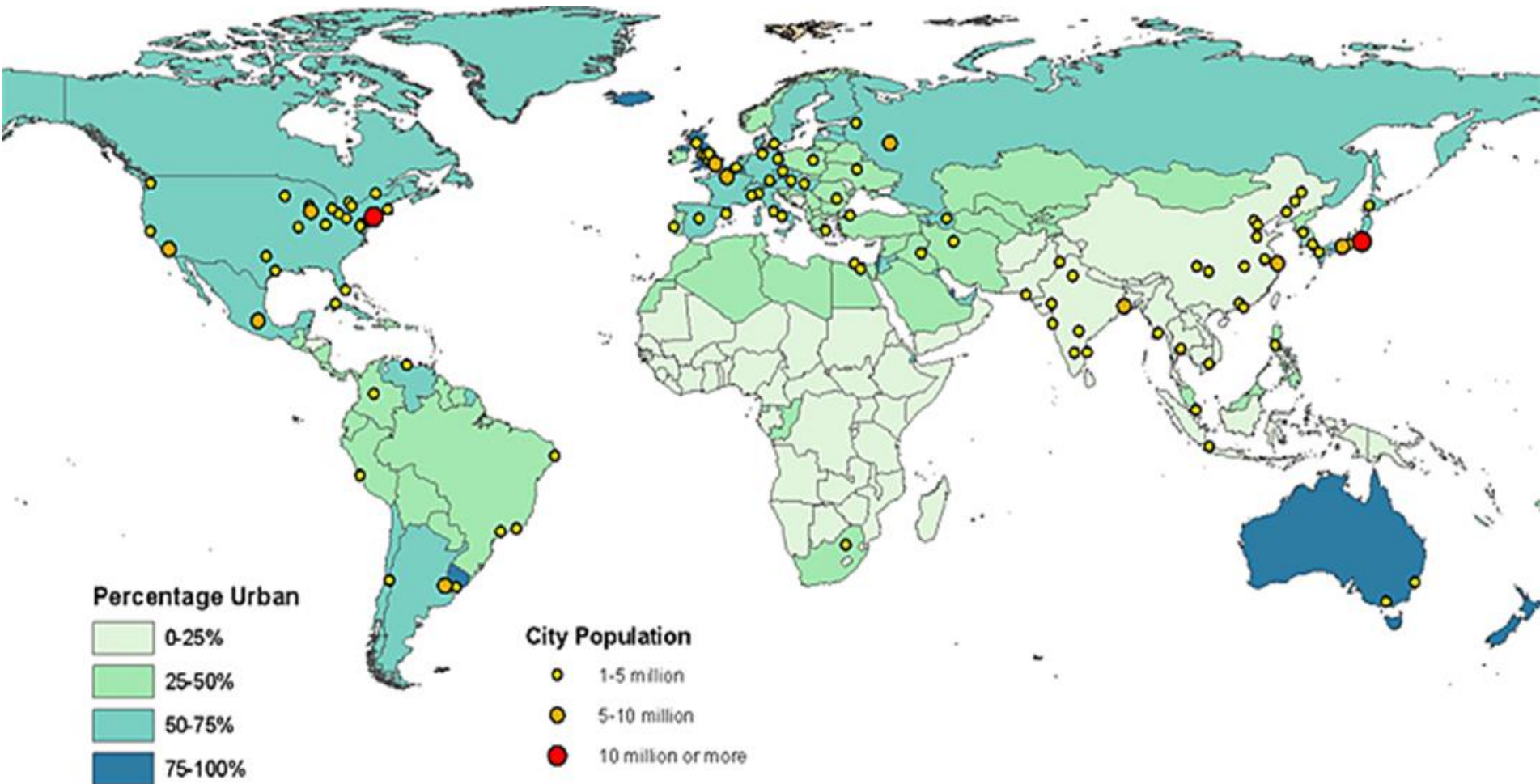


Source: Airbnb

Bloomberg 

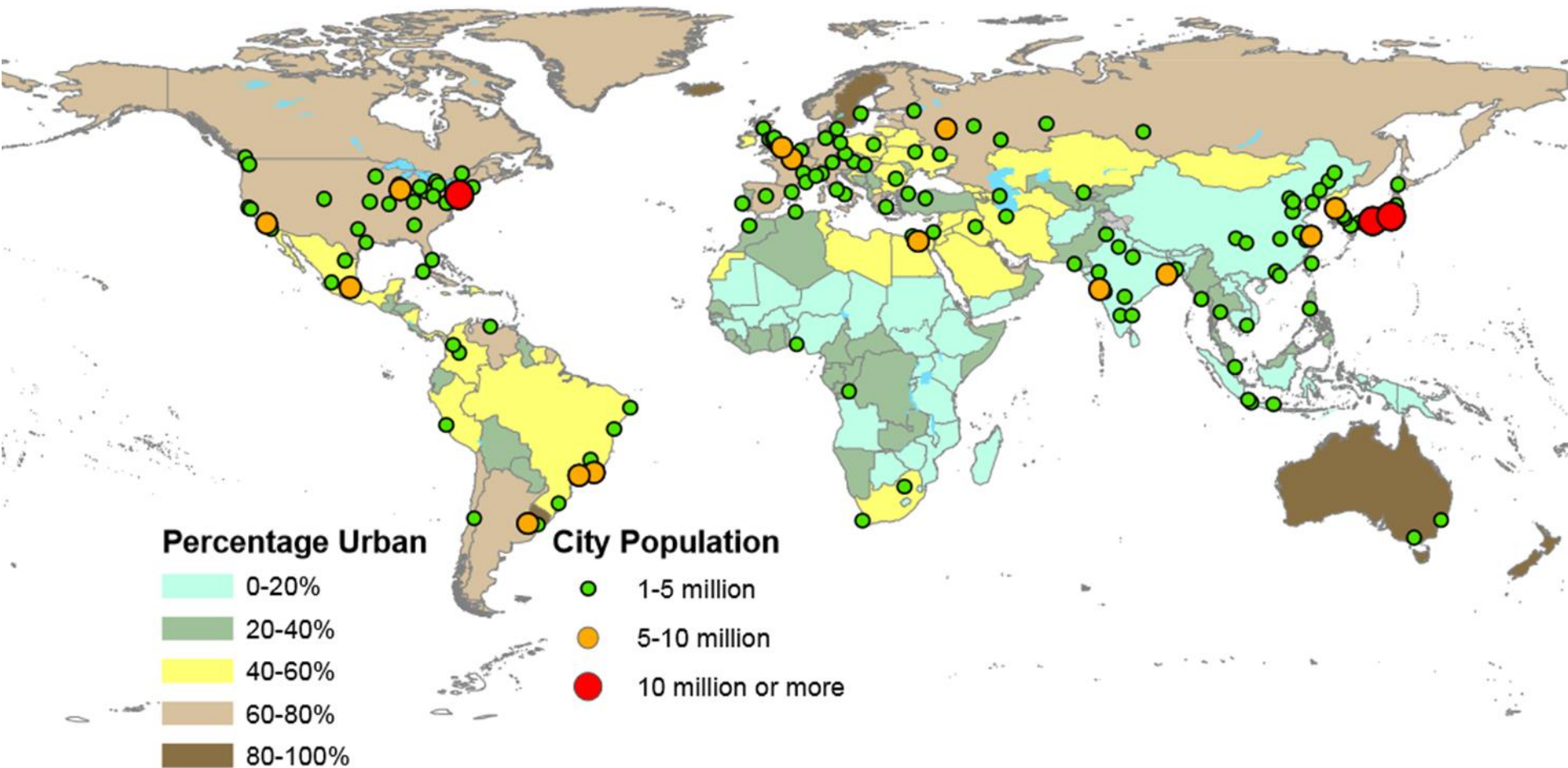
Source: <https://www.bloomberg.com/technology>

WORLD'S LARGEST CITIES 1960



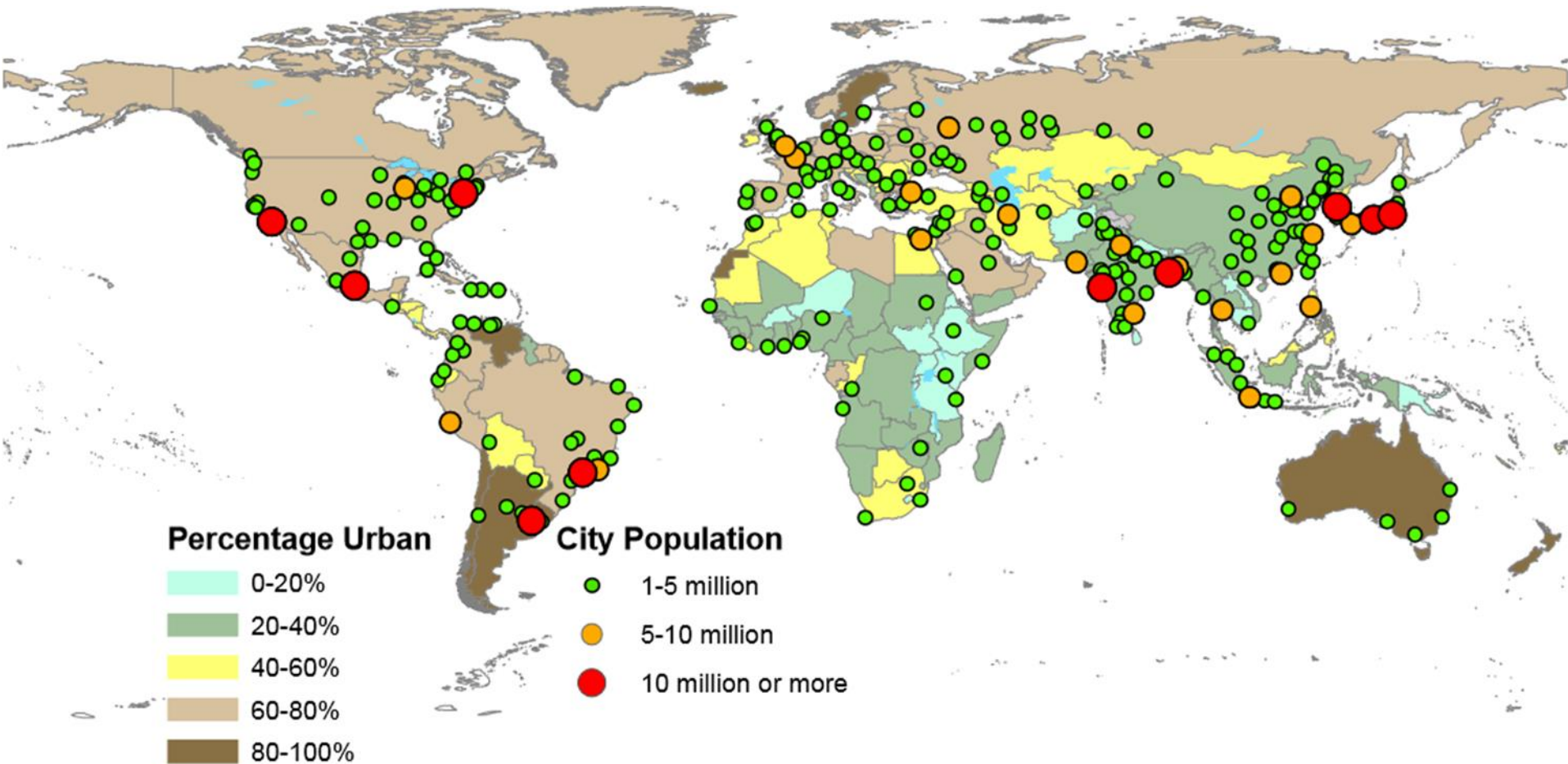
Source: United Nations Population Division, *World Urbanization Prospects, the 2011 Revision*.

WORLD'S LARGEST CITIES 1970



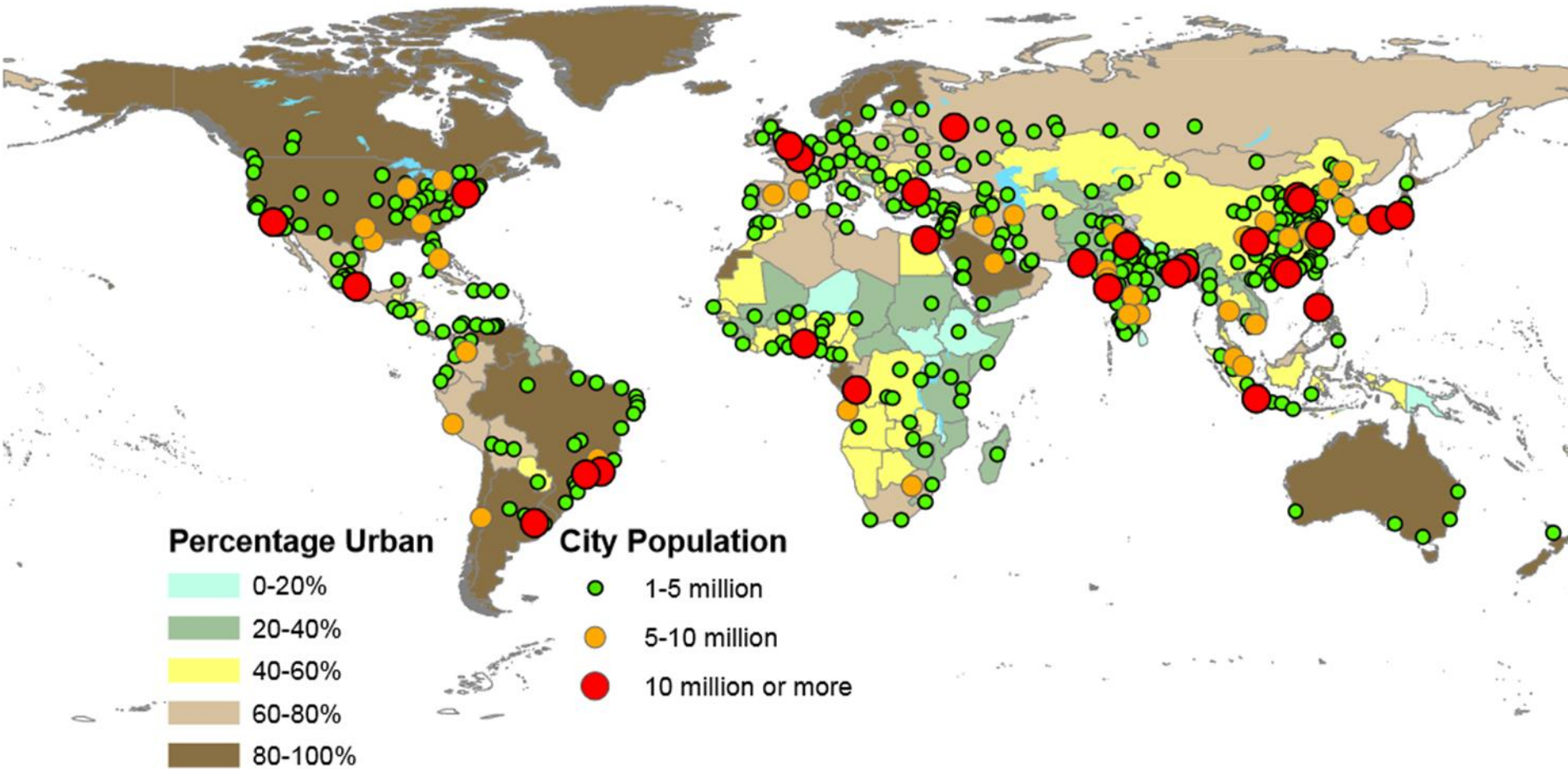
Source: United Nations Population Division, *World Urbanization Prospects, the 2014 Revision*.

WORLD'S LARGEST CITIES 1990



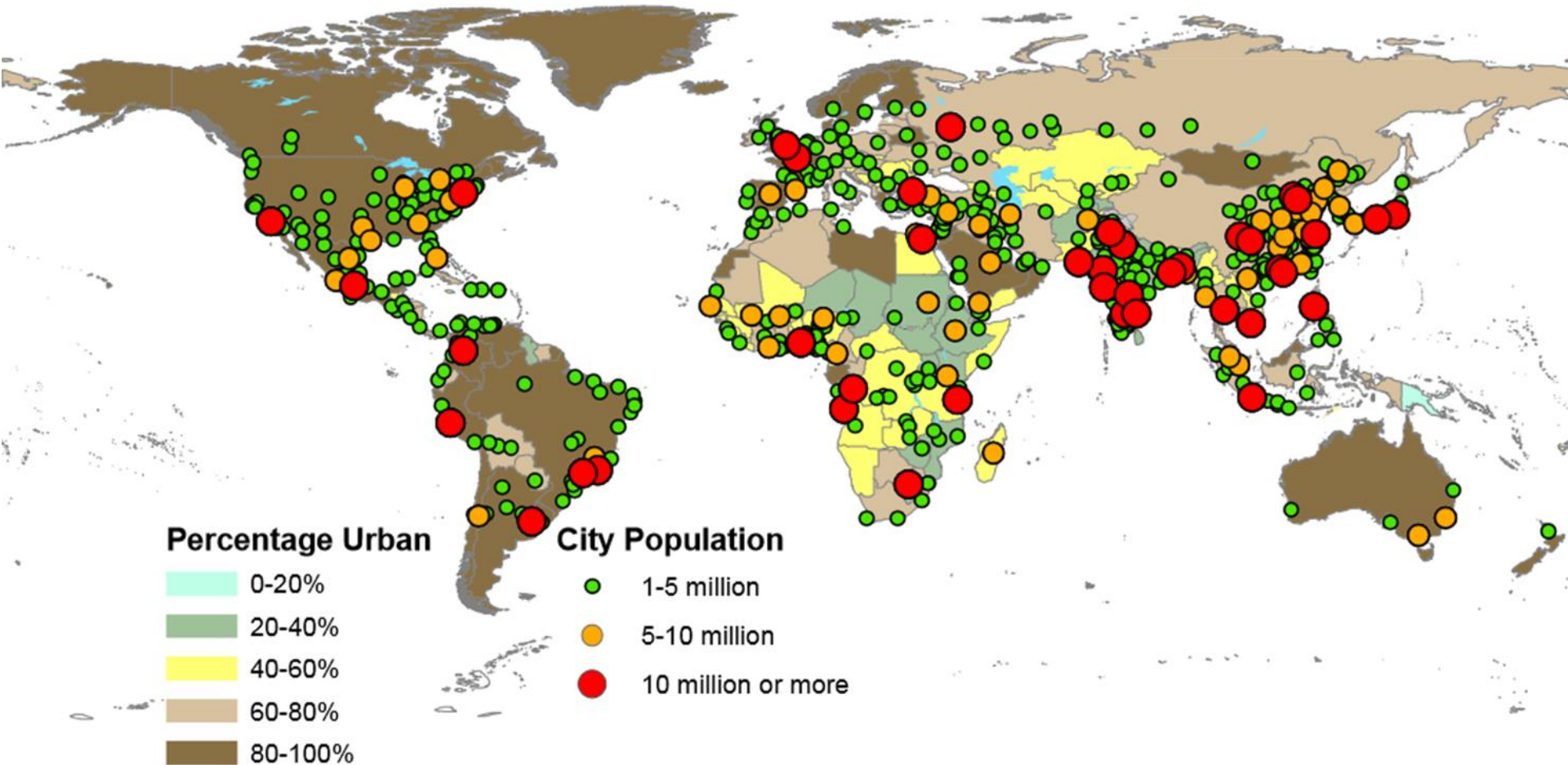
Source: United Nations Population Division, *World Urbanization Prospects, the 2014 Revision*.

WORLD'S LARGEST CITIES 2014



Source: United Nations Population Division, *World Urbanization Prospects, the 2014 Revision*.

WORLD'S LARGEST CITIES 2030



The Internet of Things offers a potential economic impact of \$4 trillion to \$11 trillion a year in 2025.



Source: <https://digitalcontentnext.org/blog/2015/10/13/exploring-the-internet-of-things-in-5-charts/>

ARQUITECTURA IMPRESA EN 3D



i Ten houses built in 24 hours with 3D printing technology in 2014.



OTRAS TECNOLOGÍAS PARA LAS MEGA URBES

- Soluciones de movilidad.
- Seguridad.
- Gestión del agua.
- Gestión de residuos.
- Gestión del suelo y las inundaciones.
- Manufacturas urbanas.
- Agricultura urbana (vertical).

REPARTO DE COMIDA PREPARADA

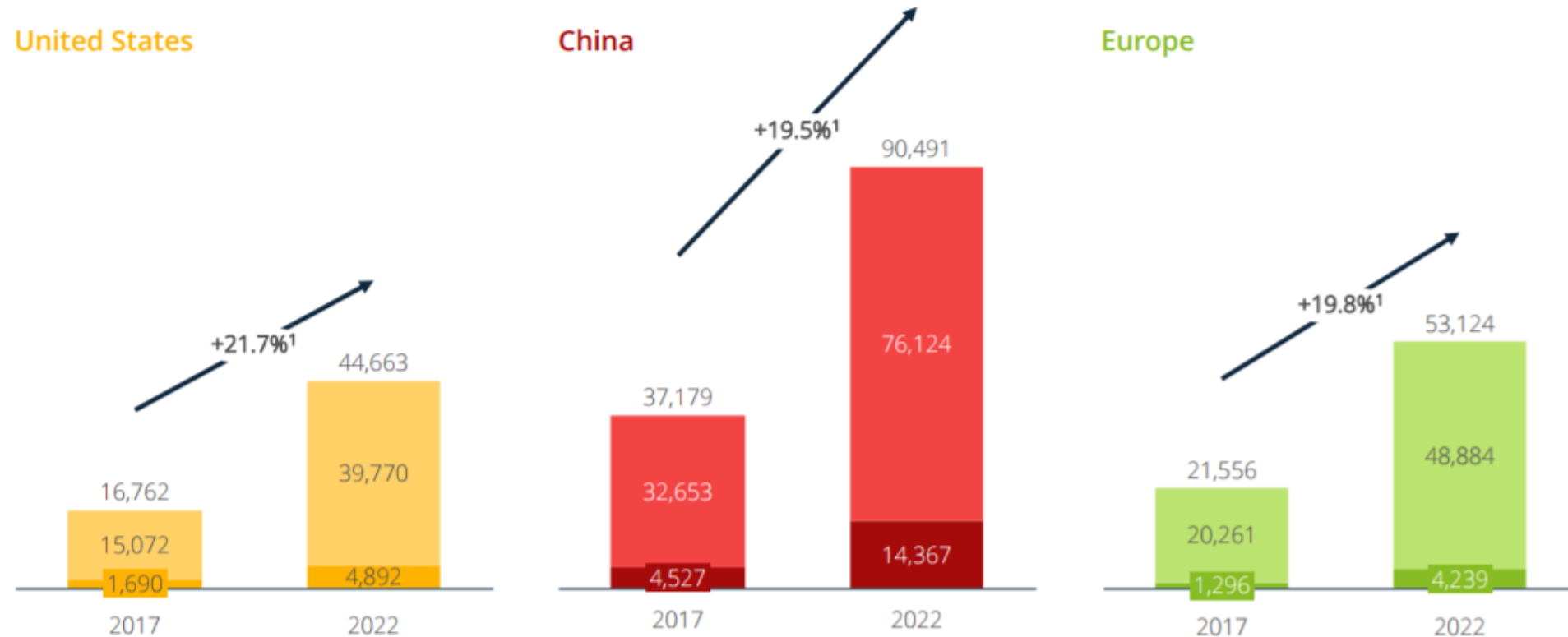
Revenue forecast in million US\$

Online Takeaway Restaurant Delivery

United States

China

Europe



1: CAGR: Compound Annual Growth Rate / average growth rate per year
Source: Statista Digital Market Outlook 2017

Source: Statista, eServices Report 2017.

UberEats is the most well-funded Delivery start-up

List of selected Food Delivery players

Company	Segment	Headquarter	Covered regions	Funding in billion US\$	Funding rounds	Revenue in 2016
Deliveroo	Restaurant Delivery company	United Kingdom	Europe	0.955	9	US\$0.17bn
Delivery Hero	Online Takeaway	Germany	Europe	2.58	14	US\$0.3bn
Domino's Pizza	Online Takeaway	United States	United States, Europe, China	-		US\$2.57bn
Ele.me	Restaurant Delivery	China	China	3.34	8	-
Postmates	Restaurant Delivery	United States	United States	0.278	8	US\$0.25bn ¹
Zume Pizza	Online Takeaway	United States	United States	0.048	4	-
GrubHub	Online Takeaway	United States	United States, Europe	0.084	6	US\$0.493bn
Just Eat	Online Takeaway	United Kingdom	Europe	0.073	4	US\$0.5bn
UberEats	Restaurant Delivery company	United States	United States, Europe	11.56 ⁴	18	-
FoodChéri	Online Takeaway	France	Europe	0.007	2	-

1: Estimated, 2: USD/CNY (2015) = 6.2166

4: Total equity funding of Uber

Source: Digital Market Outlook 2016, company information, Crunchbase

(B) LAS CLASES MEDIAS Y LA POBLACIÓN RICA

RICH

INDIVIDUAL:

FAMILY OF 4:

\$100
per day

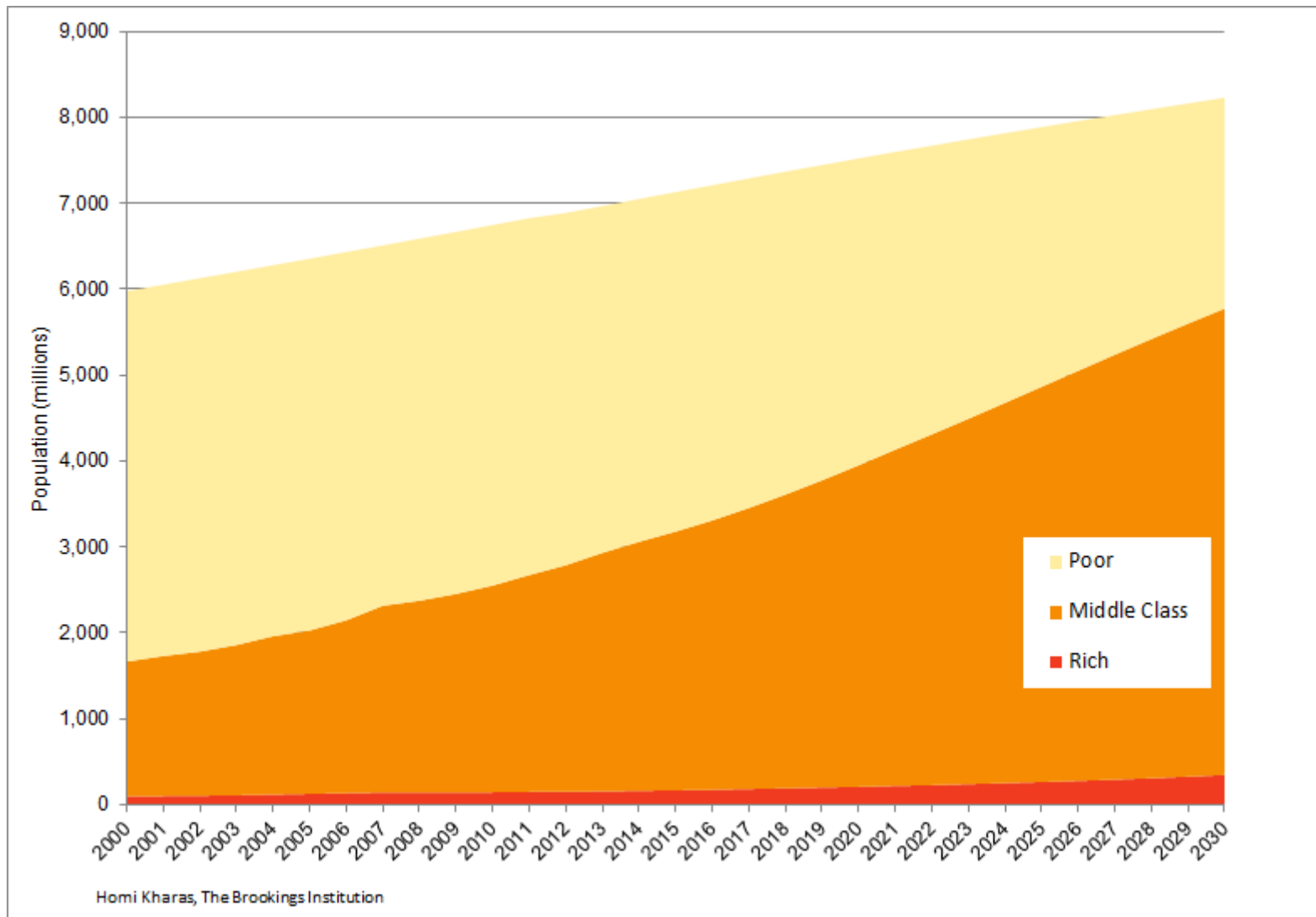
\$150,000
per year

MIDDLE CLASS

\$10
per day

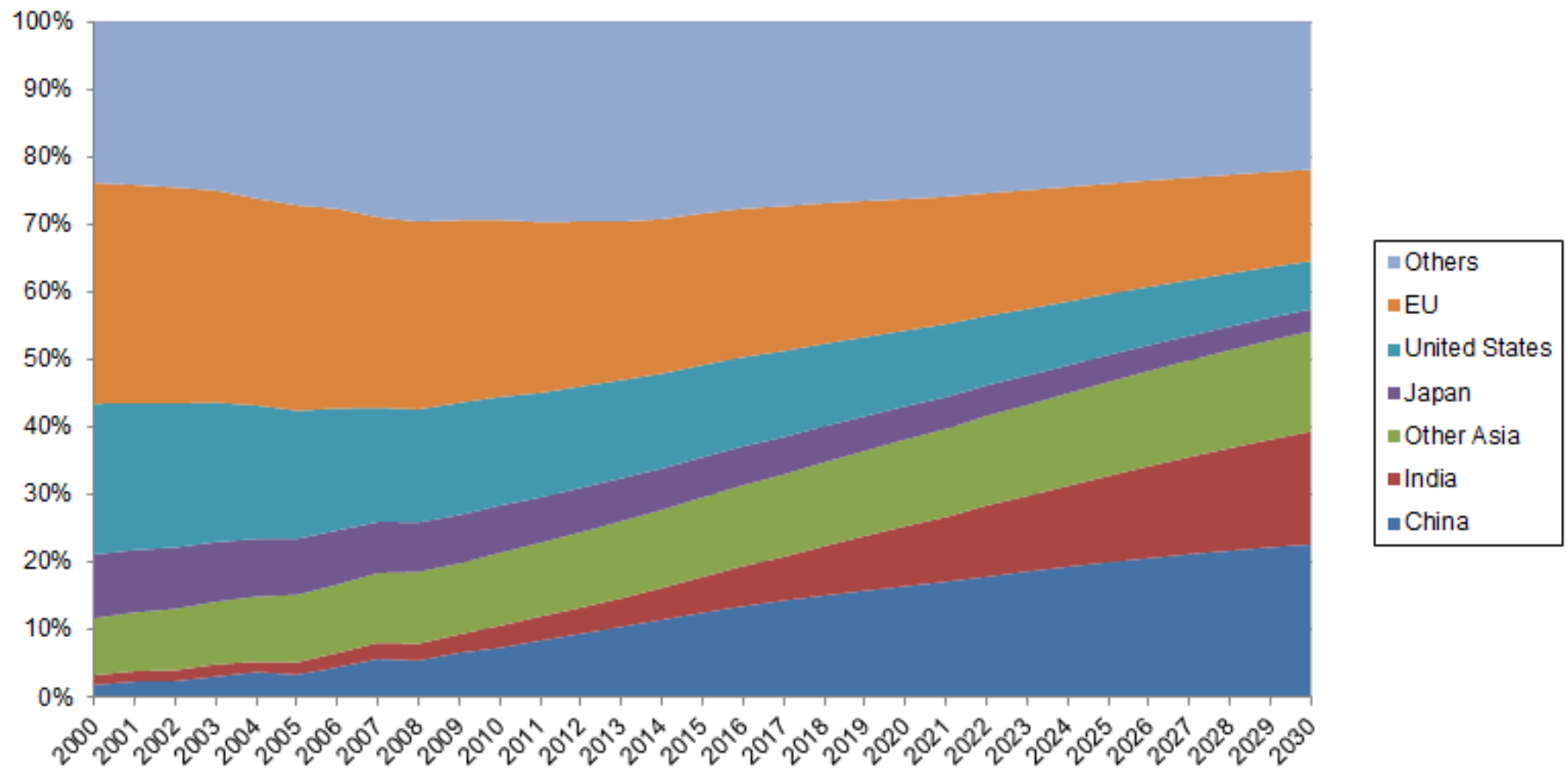
\$15,000
per year

POOR



Middle class defined as people with more than \$10 per day to spend but less than \$100 (using purchasing power parities).
Source: Homi Kharas.

PODER ADQUISITIVO DE LAS CLASES MEDIAS, 2000–2030



Homi Kharas, The Brookings Institution

Source: Homi Kharas.

MN9J2LL/A iPhone 7, Silver, 128GB
Designed by Apple in California Assembled in China
Other items as marked thereon Model A1778

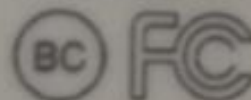
(1P) Part No. MN9J2LL/A



(S) Serial No. FFMSX088HG7L

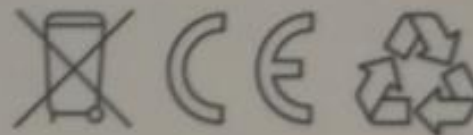


(I) ICCID 89014104279537692956

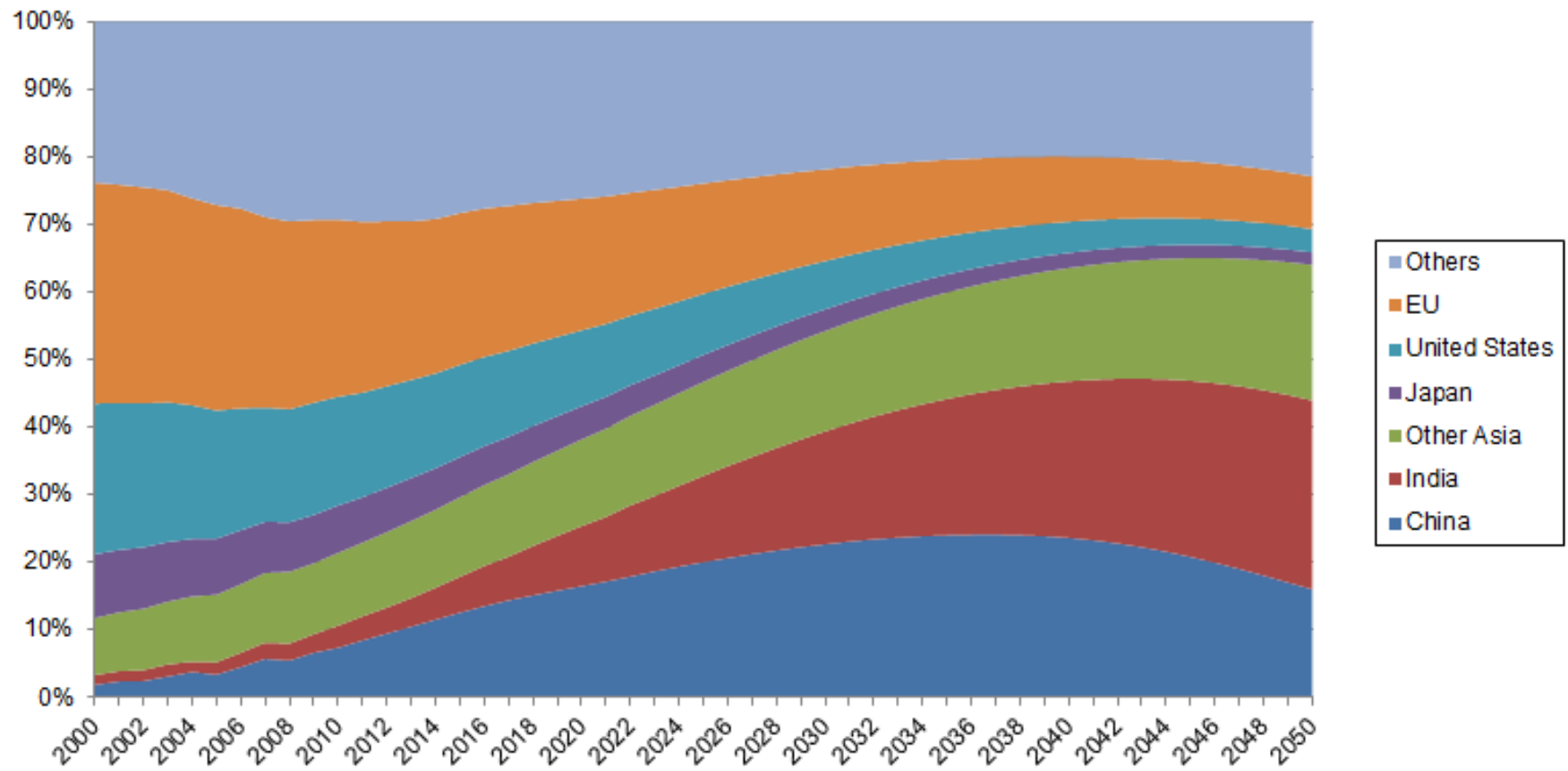


Apple

Apple Inc., 1 Infinite Loop, Cupertino, CA 95014 USA
TM and © 2016 Apple Inc. All rights reserved. 602-00897-A



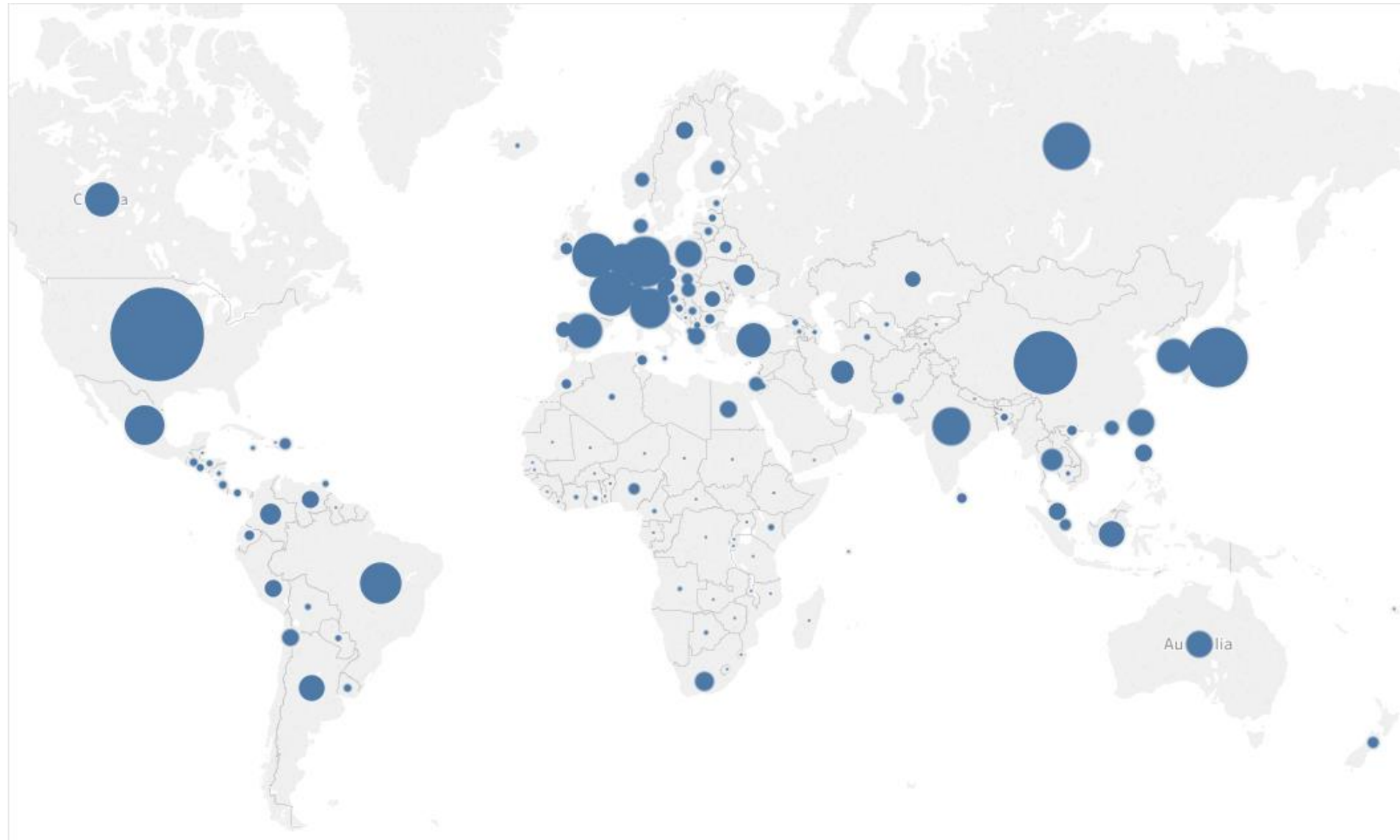
PODER ADQUISITIVO DE LAS CLASES MEDIAS, 2000–2050



Homi Kharas, The Brookings Institution

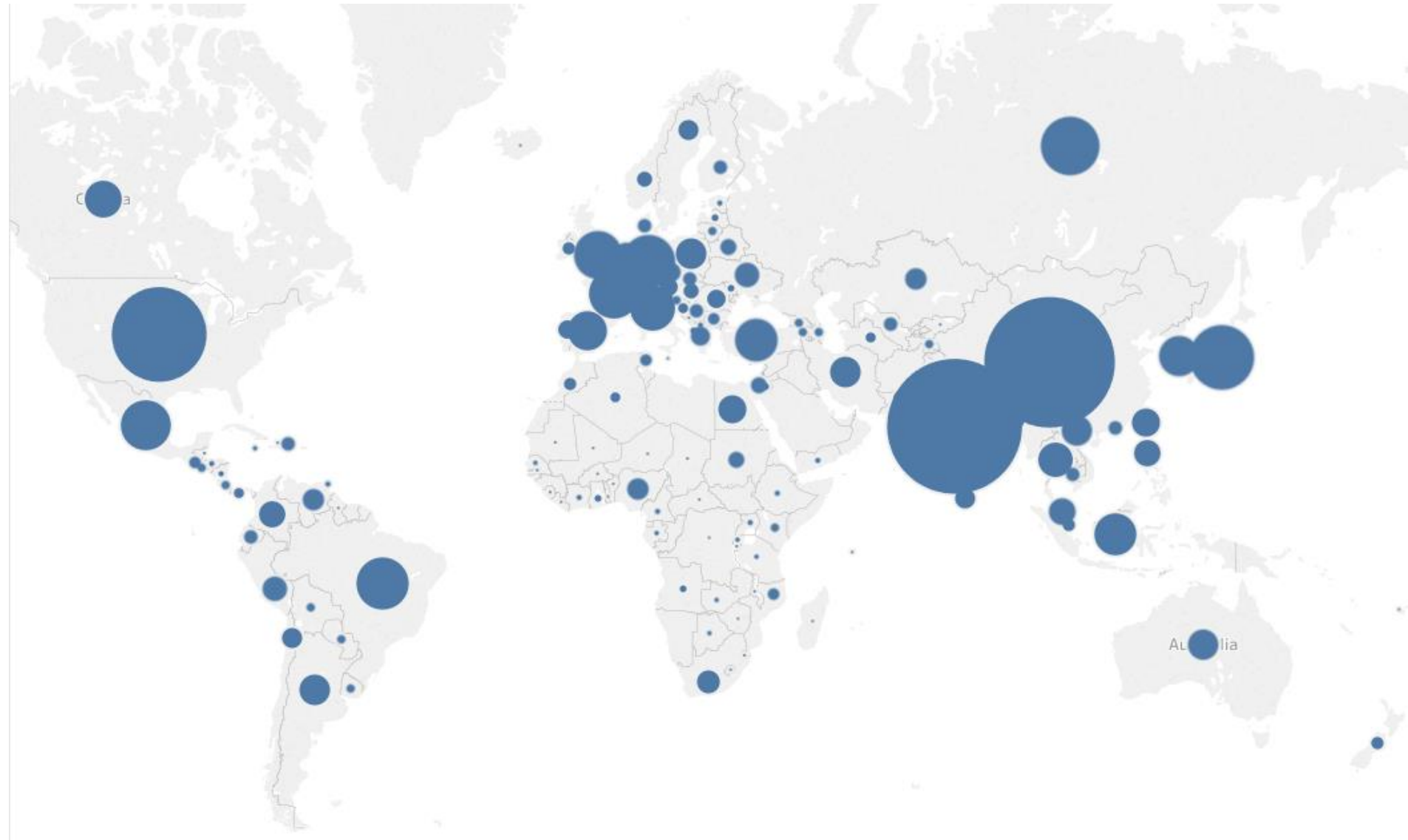
Source: Homi Kharas.

PODER ADQUISITIVO DE LAS CLASES MEDIAS EN 2015



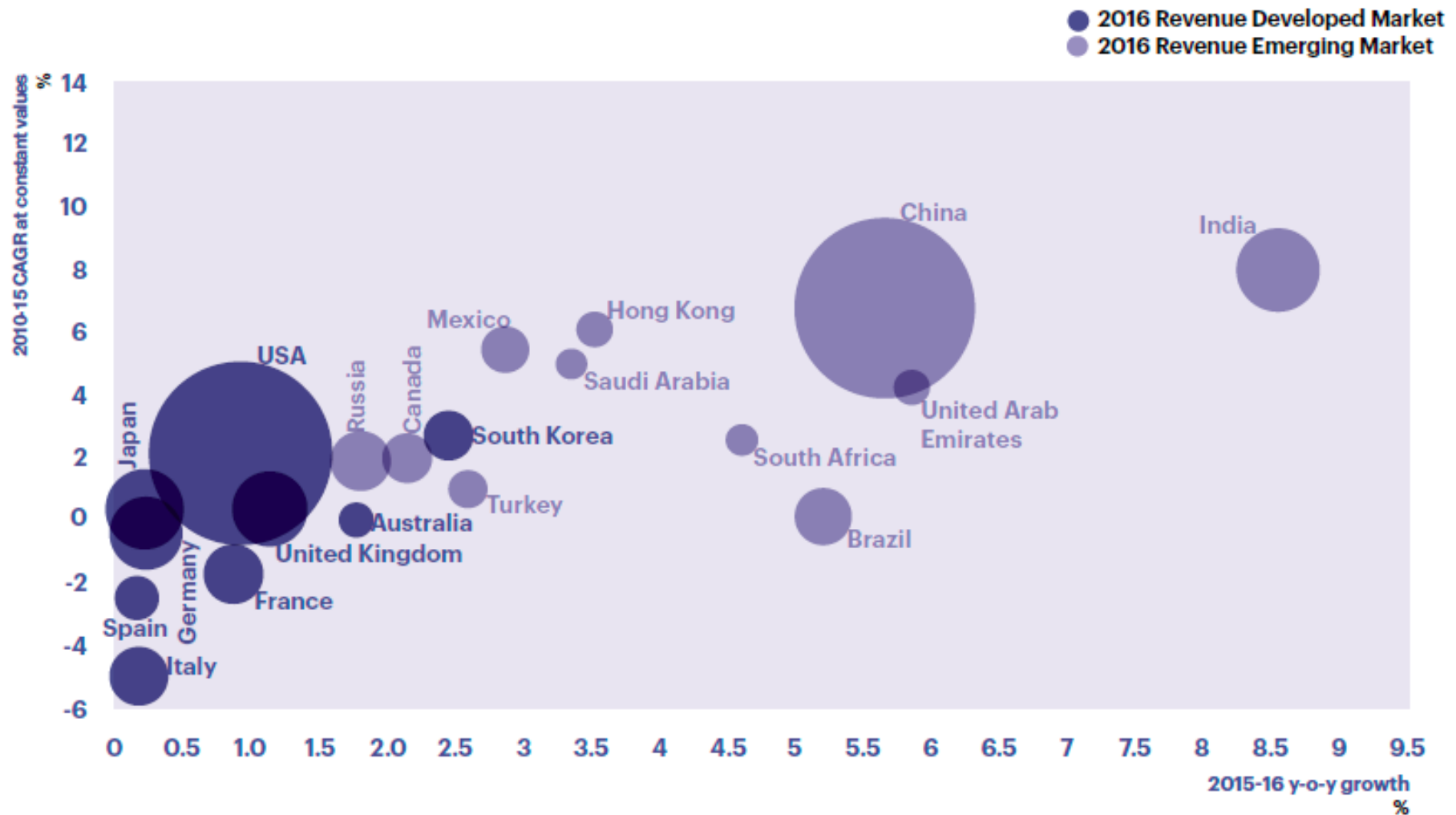
Source: Homi Kharas.

PODER ADQUISITIVO DE LAS CLASES MEDIAS EN 2015



Source: Homi Kharas.

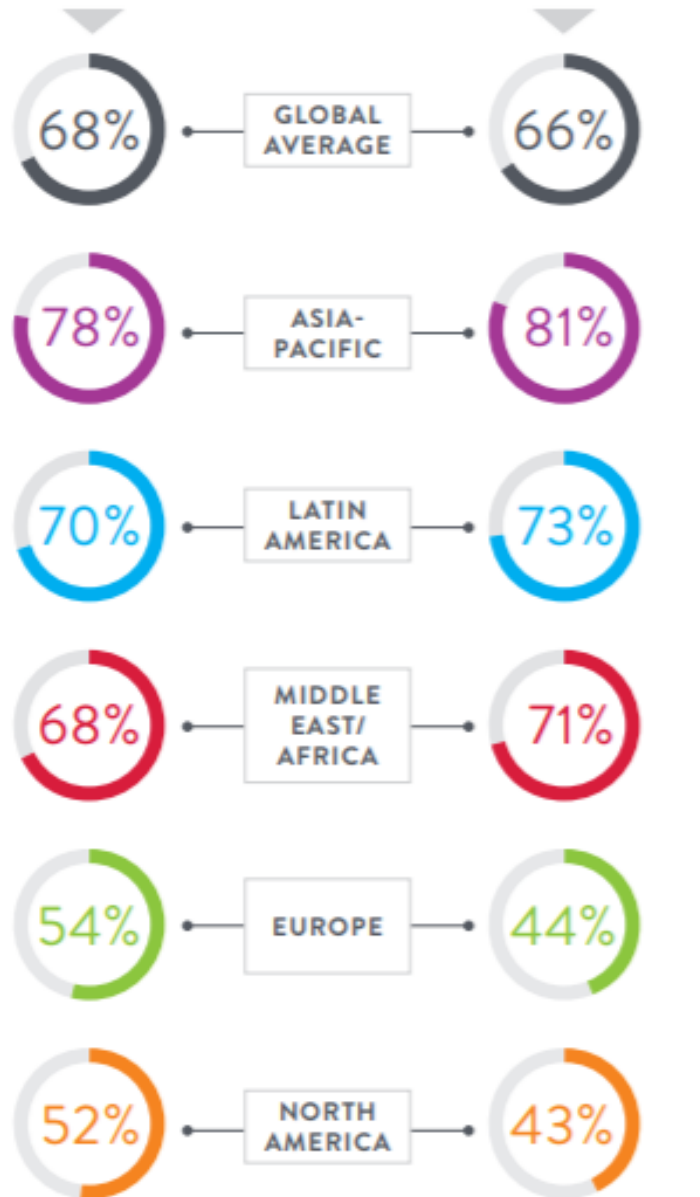
Exhibit 5 Growing at 9% in 2016, India leads emerging markets as the fastest growing country for fashion



1 Excludes Argentina and Venezuela due to poor data reliability resulting from FX fluctuations.

Source McKinsey FashionScope

WILLING TO SHARE
OWN ASSETS



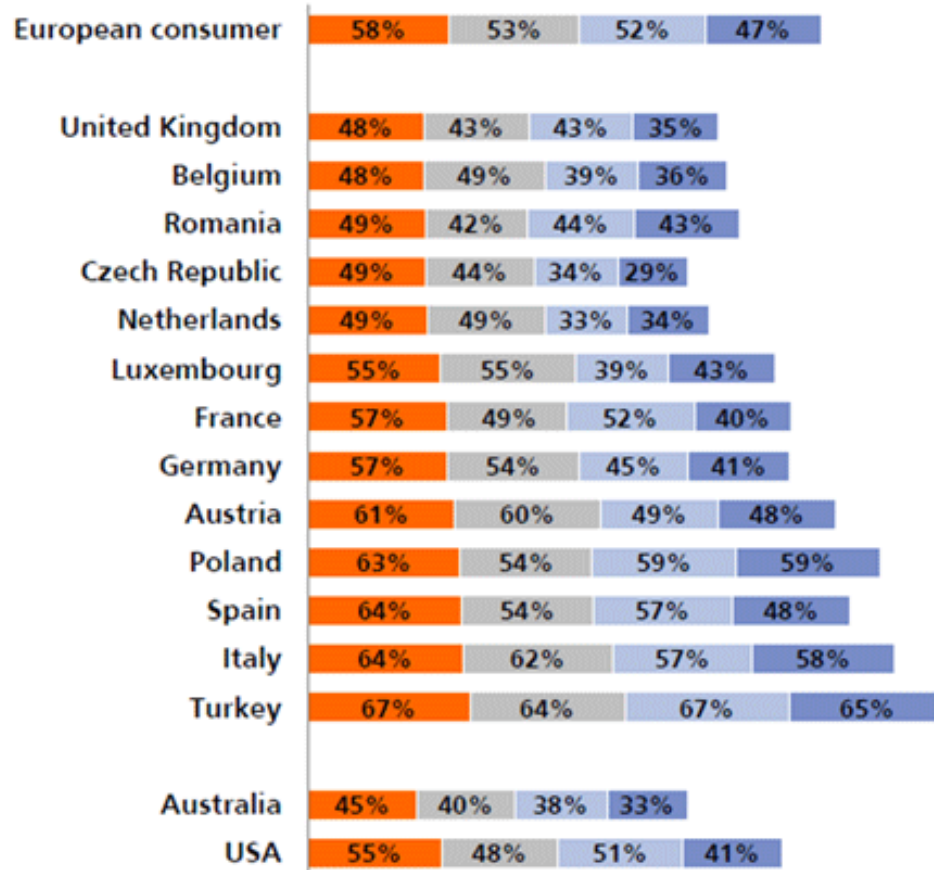
TOP COUNTRIES
LIKELY TO SHARE
FROM OTHERS

- 94% CHINA
- 87% INDONESIA
- 86% SLOVENIA
- 85% PHILIPPINES
- 84% THAILAND
- 79% MEXICO
- 79% BULGARIA
- 78% HONG KONG
- 78% INDIA
- 78% BRAZIL

To which degree do these factors influence your participation in the sharing economy?

Percent who answered "very influential" or "influential"

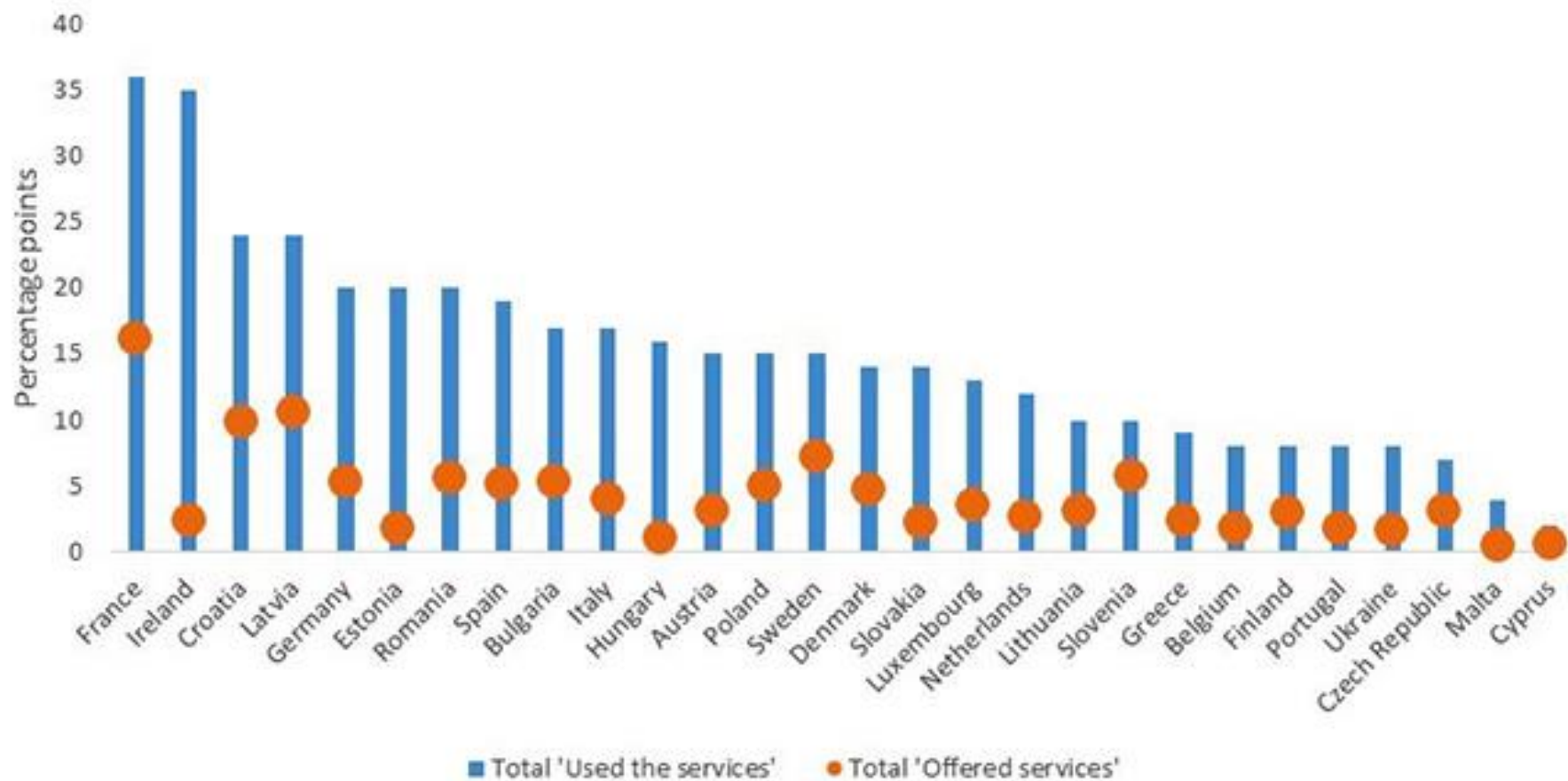
- It saves money
- It is good for the environment
- An easy way to make extra money
- It helps build communities



Sample size: 14,829

<https://www.ing.com/Newsroom/All-news/European-sharing-economy-to-grow-by-a-third-in-the-next-12-months.htm>

A large share of Europeans are already using Sharing Economy platforms



Source: <http://blogs.worldbank.org/ic4d/who-shares-european-sharing-economy>

UNICORNIOS DE LA ECONOMÍA COMPARTIDA

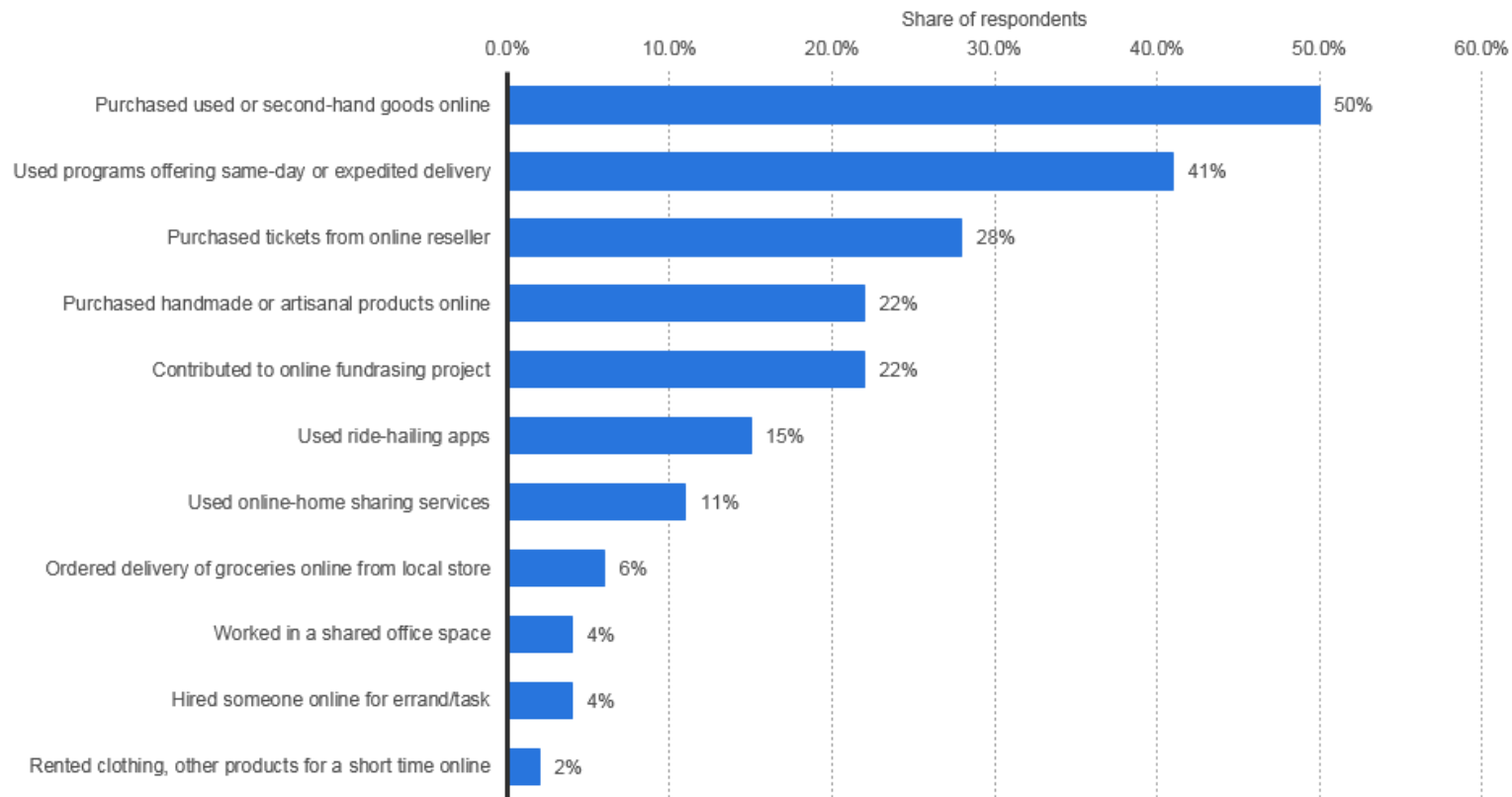
Exhibit 39: Sharing Economy "unicorns" around the world by region / country



Source: BofA Merrill Lynch Global Research, CBInsights Source: <https://www.zerohedge.com/news/2017-07-24/primer-global-sharing-economy-20-charts>

POTENCIAL DE CRECIMIENTO EN EEUU

Share of adults in the United States who have used some type of shared or on-demand online service as of December 2015



Note: United States; November 24 to December 21, 2015; 18 years and older; 4,787 Respondents

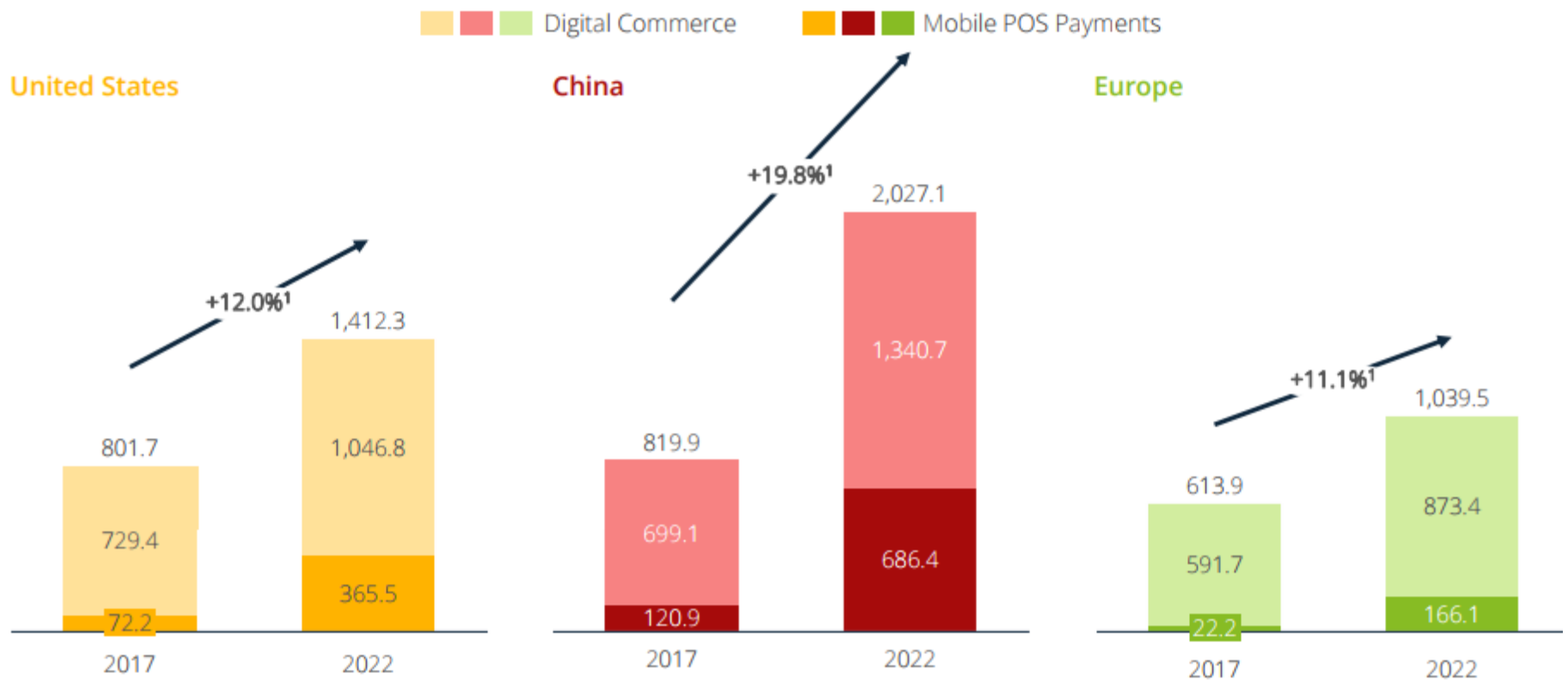
Further information regarding this statistic can be found on [page 8](#).

Source: Pew Research Center; MarketingCharts [ID 554999](#)

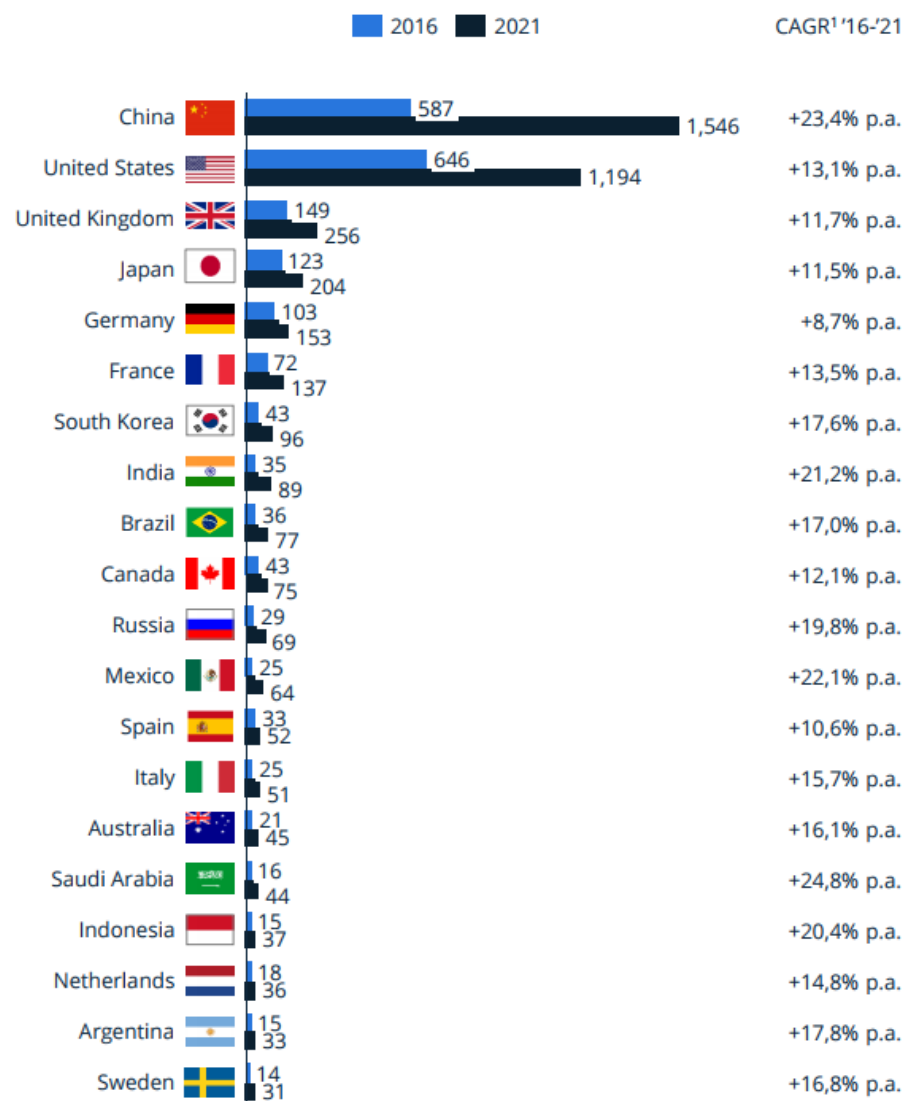
With a CAGR¹ of ~20% up to 2022, China will remain the leading economy in terms of Digital Payments

KPI comparison (1/5)

Digital Payment transaction value in billion US\$

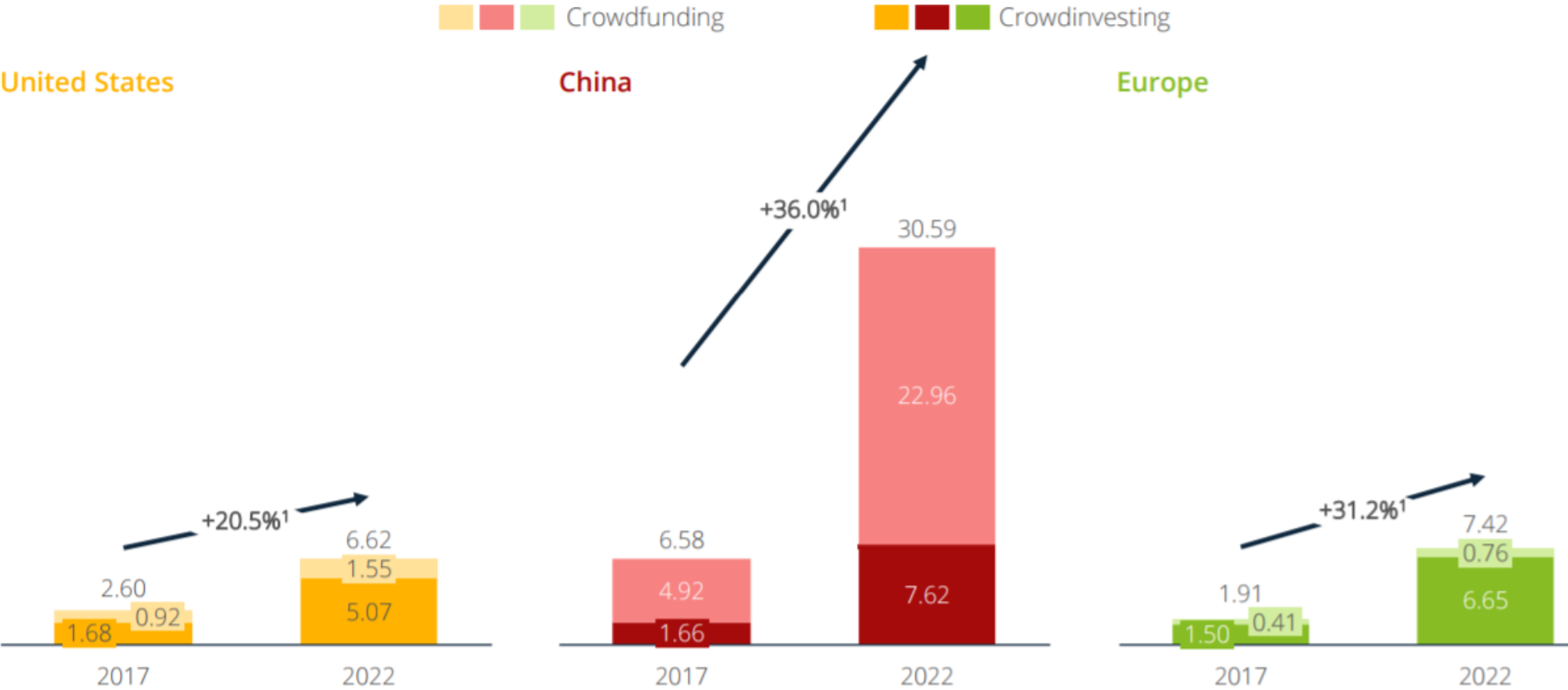


Top 20 countries: transaction value in billion US\$



1: CAGR: Compound Annual Growth Rate/ average growth rate per year
Source: Statista Digital Market Outlook 2016

Transaction value forecast in billion US\$



37 1: CAGR: Compound Annual Growth Rate / average growth rate per year
Source: Statista Digital Market Outlook 2017

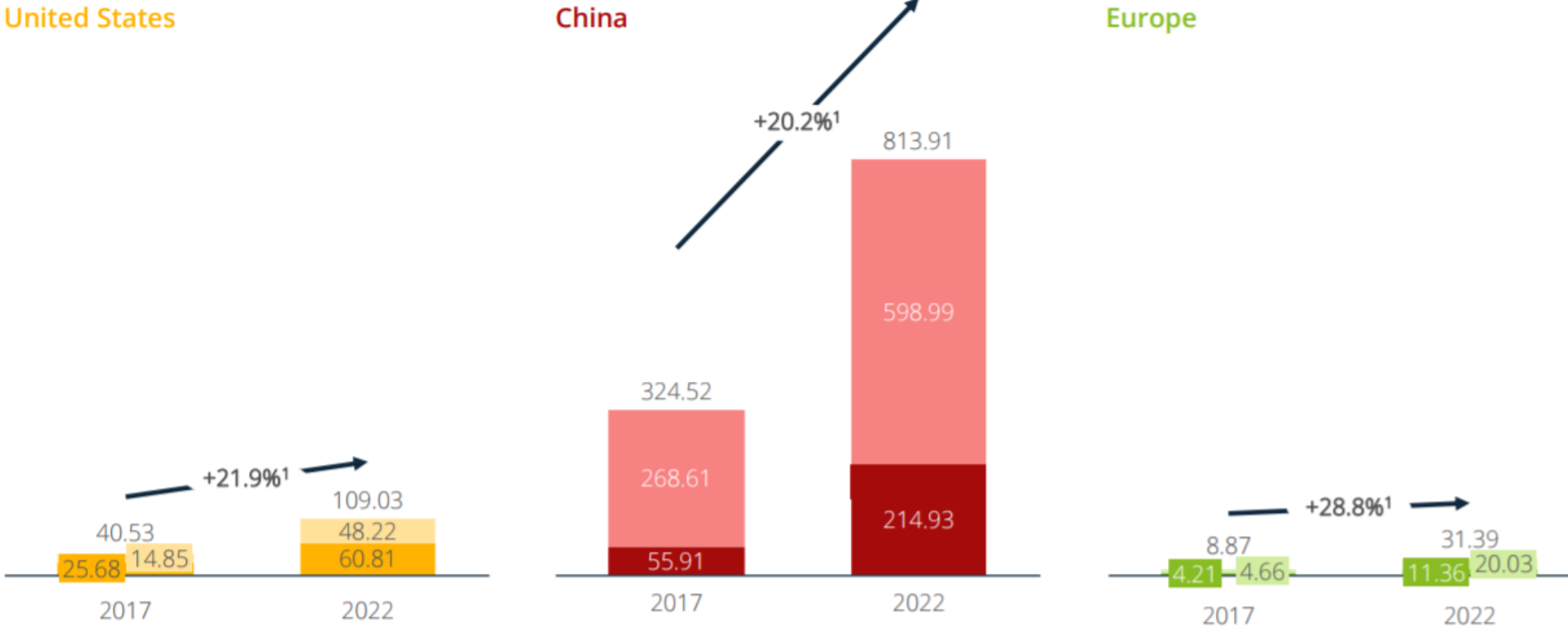
Transaction value forecast in billion US\$



United States



Europe

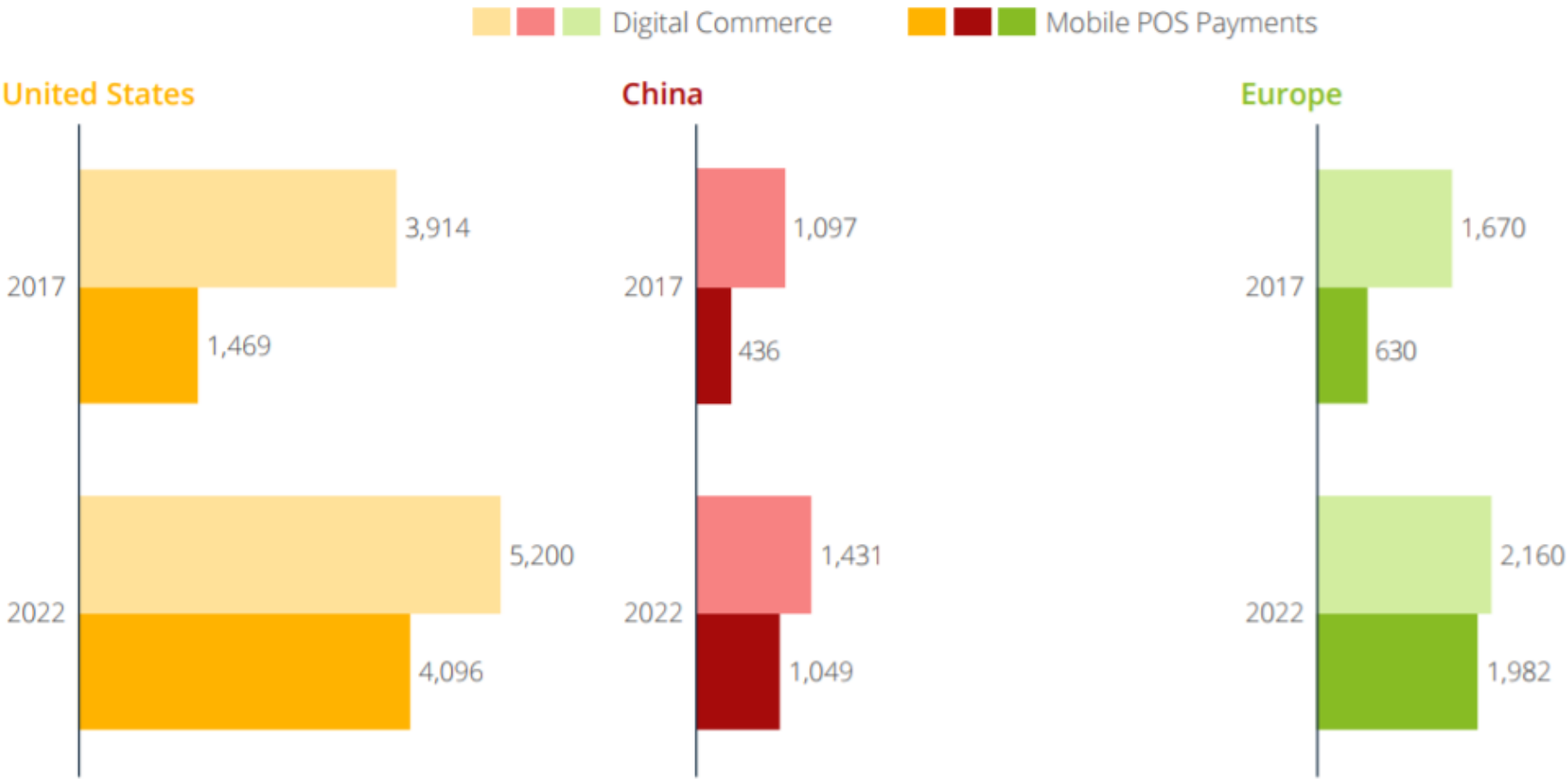


1: CAGR: Compound Annual Growth Rate / average growth rate per year

2: TAV: Transaction value

Source: Statista Digital Market Outlook 2017

Average transaction value per user in US\$



10 1: CAGR: Compound Annual Growth Rate / average growth rate per year
Source: Statista Digital Market Outlook 2017

LAS CLASES MEDIAS, 2009 Y 2030

Country or region:	Headcount (millions)		Consumption (2005 billion USD)		Per Capita Consumption (2005 USD)	
	2009	2030	2009	2030	2009	2030
United States	231.8	208.0	4,401	4,362	18,986	20,971
European Union	464.0	457.9	6,621	8,168	14,269	17,838
India	53.3	1,167.7	341	8,832	6,398	7,564
China	136.9	1,041.1	837	8,281	6,114	7,954
Japan	123.0	108.2	1,710	2,032	13,902	18,780
Rest of Asia Pacific	180.6	541.9	1,859	5,306	10,293	9,791
Latin America	265.1	452.8	2,197	4,629	8,287	10,223
Middle East and North Africa	81.6	173.7	635	1,524	7,782	8,774
Sub Saharan Africa	29.5	130.9	241	923	8,169	7,051
World total	1,818.7	4,664.7	21,209	48,582	11,662	10,415

Notes: Using purchasing power parities. USD of 2005.

Source: Brookings Development, Aid, and Government Indicators
<http://www.brookings.edu/research/interactives/development-aid-governance-indicators>
 (accessed March 15, 2015)

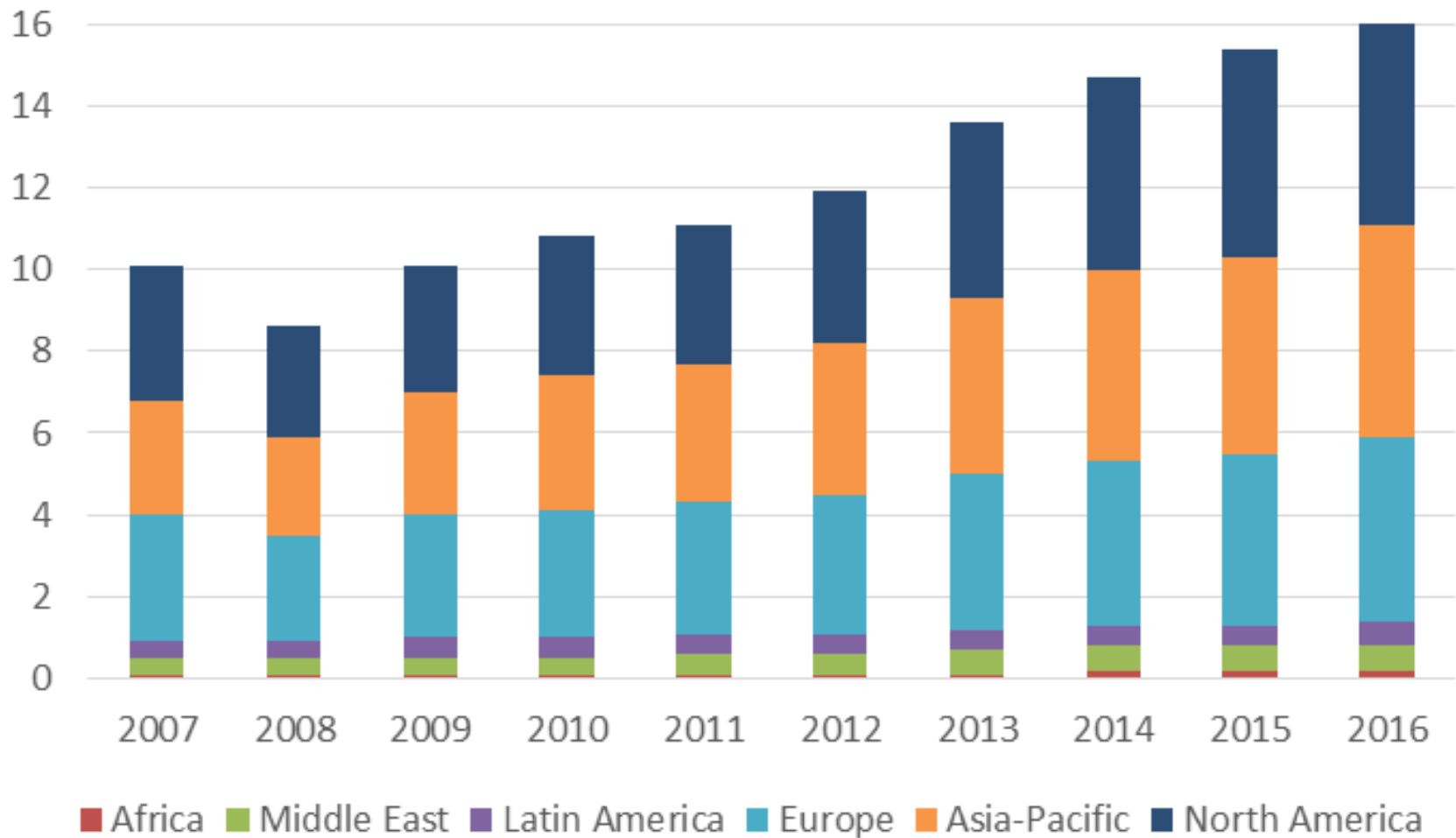
NANOTECNOLOGÍAS

ES DECIR, LA MANIPULACIÓN DE LA MATERIA A NIVEL
ATÓMICO, MOLECULAR O SUPRAMOLECULAR

- Materiales para productos de consume.
- Calidad del agua. (¿Cuántos litros de agua se necesitan para producir una hamburguesa?)
- Producción y empaquetado de alimentos.
- Componentes electrónicos.
- Separación de iones de hidrógeno para células de energía.
- Células solares.
- Baterías.

<http://www.understandingnano.com/nanotech-applications.html>

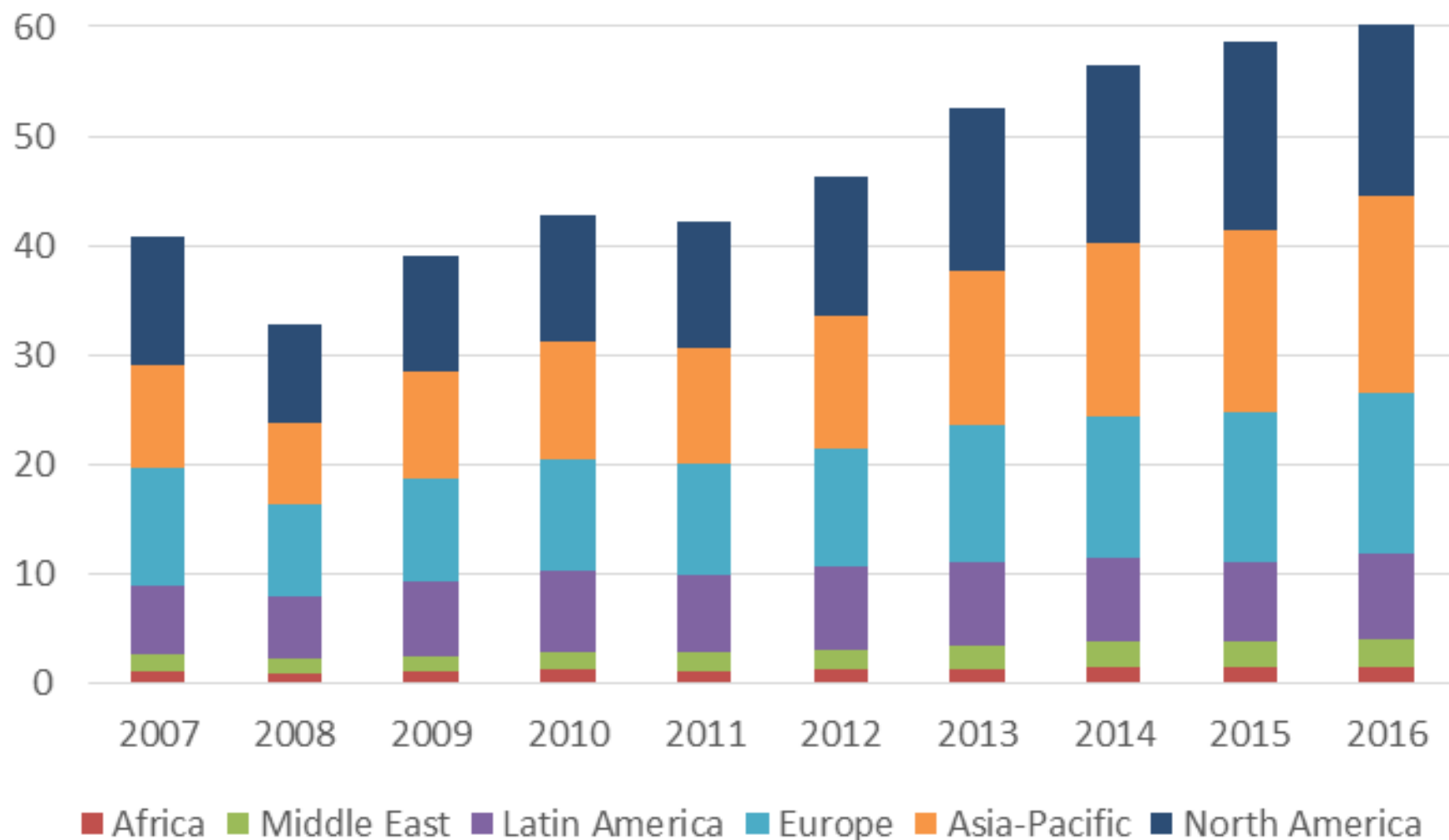
Number of HNWIs (millions)



Source of data: Capgemini and RBC Wealth Management, *World Wealth Report 2015* and *2017*.

Those with \$1 million of investable assets excluding primary residence, collectibles, consumables, and consumer durables.

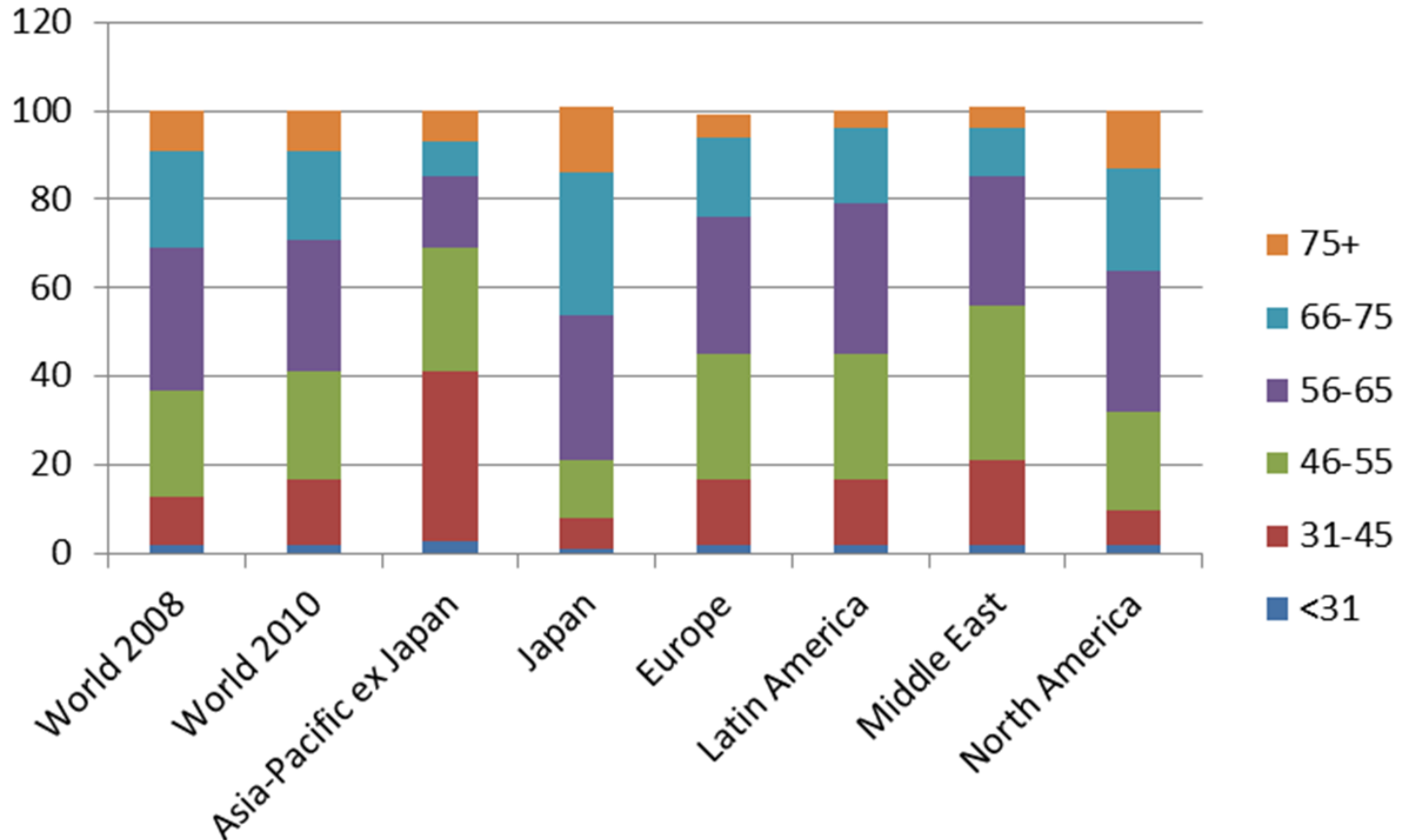
HNWI Wealth (in trillion USD)



Source of data: Capgemini and RBC Wealth Management, *World Wealth Report 2015* and *2017*.

País	Número de Millonarios (miles)					
	2011	2012	2013	2014	2015	2016
USA	3,068	3,436	4,006	4,351	4,458	4,795
Japan	1,822	1,902	2,327	2,452	2,720	2,891
Germany	951	1,015	1,130	1,141	1,199	1,280
China	562	643	758	890	1,034	1,129
France	404	430	472	494	523	579
UK	441	465	528	550	553	568
Switzerland	252	282	330	343	358	364
Canada	280	298	320	332	321	357
Australia	180	207	219	226	234	255
Italy	168	176	203	219	229	252
Netherlands					204	232
India	126	153	156	198	200	219
South Korea				189	193	208
Spain				178	192	202

MILLONARIOS POR EDAD



Source of data: Capgemini/Merrill Lynch Global Wealth Management Advisor Surveys 2009, 2011.

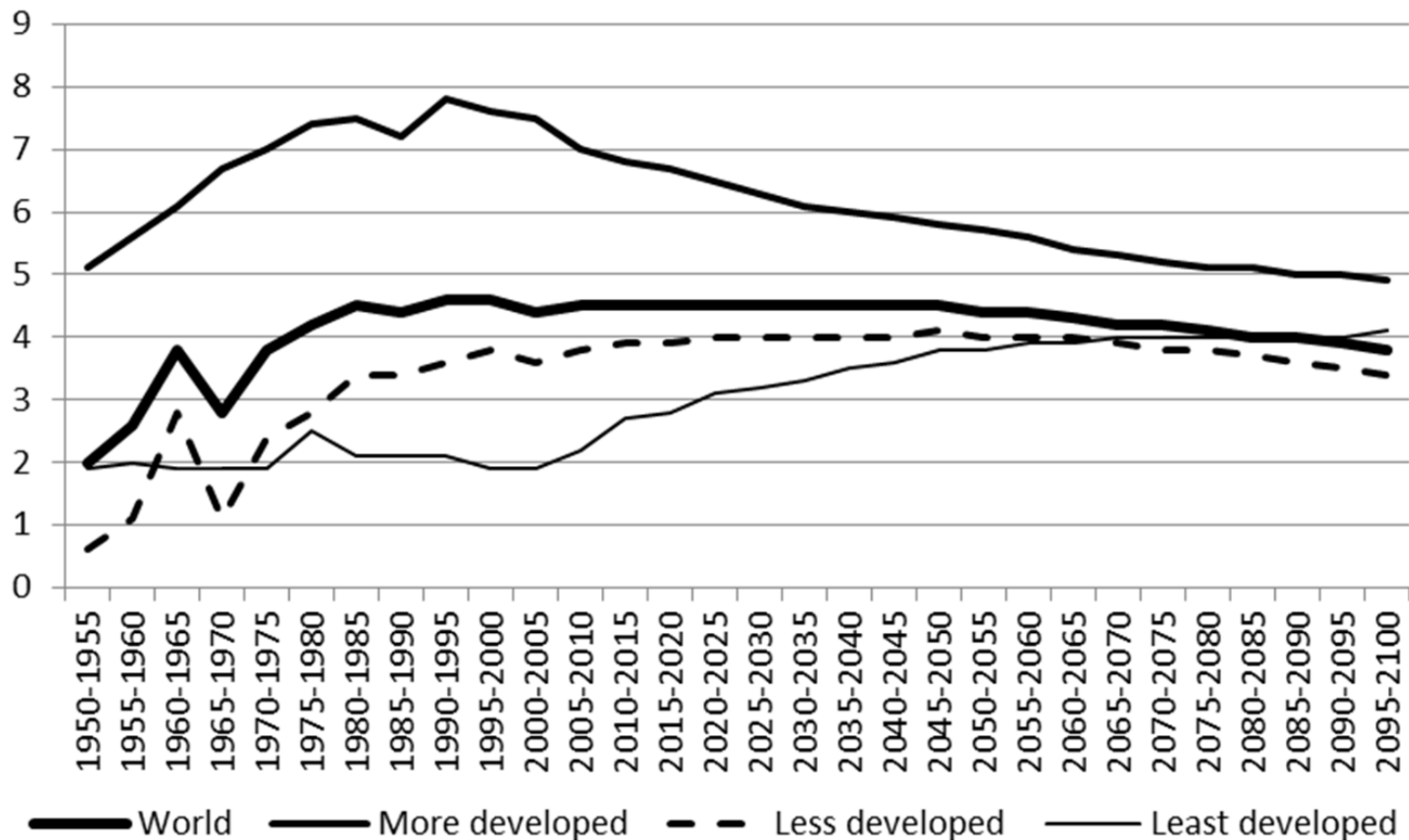
País		Millonarios % Mujer
World 2008		24
World 2010:		27
North America		37
Japan		31
Asia-Pacific ex Japan		24
Europe		18
Latin America		18
Middle East		14
World 2013		40*

Source of data: Capgemini/Merrill Lynch Global Wealth Management Advisor Surveys 2009, 2011.

*Capgemini and RBC Wealth Management, *World Wealth Report* (2013).



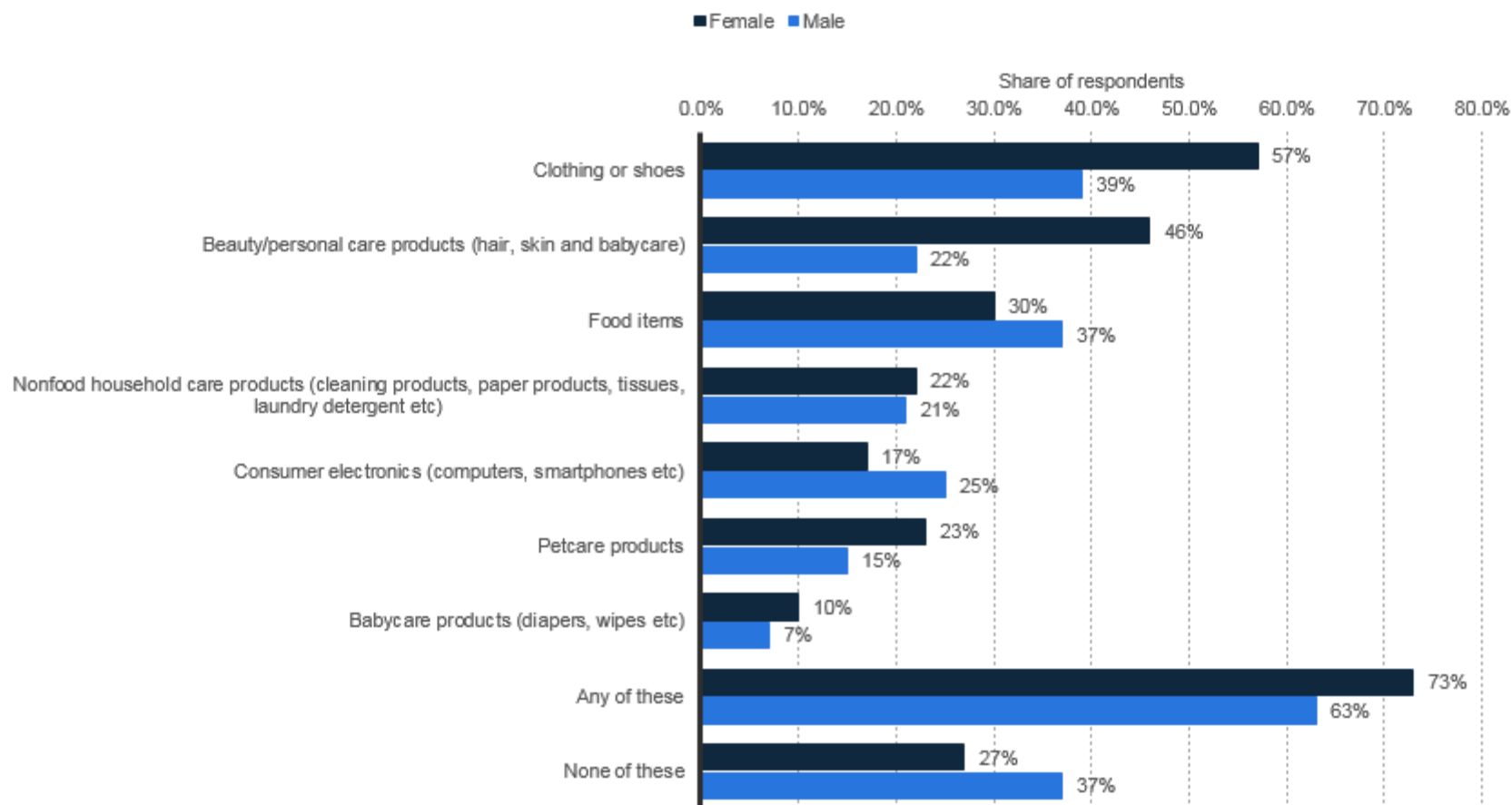
VENTAJA DE LAS MUJERES EN ESPERANZA DE VIDA (AÑOS)



Source of data: United Nations Population Division, *World Population Prospects: The 2012 Revision*.

U.S. online shopping product categories 2016, by gender

Leading product categories bought online among internet users in the United States as of June 2016, by gender



Note: United States; June 17 to 21, 2016; 18 years and older; 1,995; in the past 6 months

Further information regarding this statistic can be found on [page 61](#).

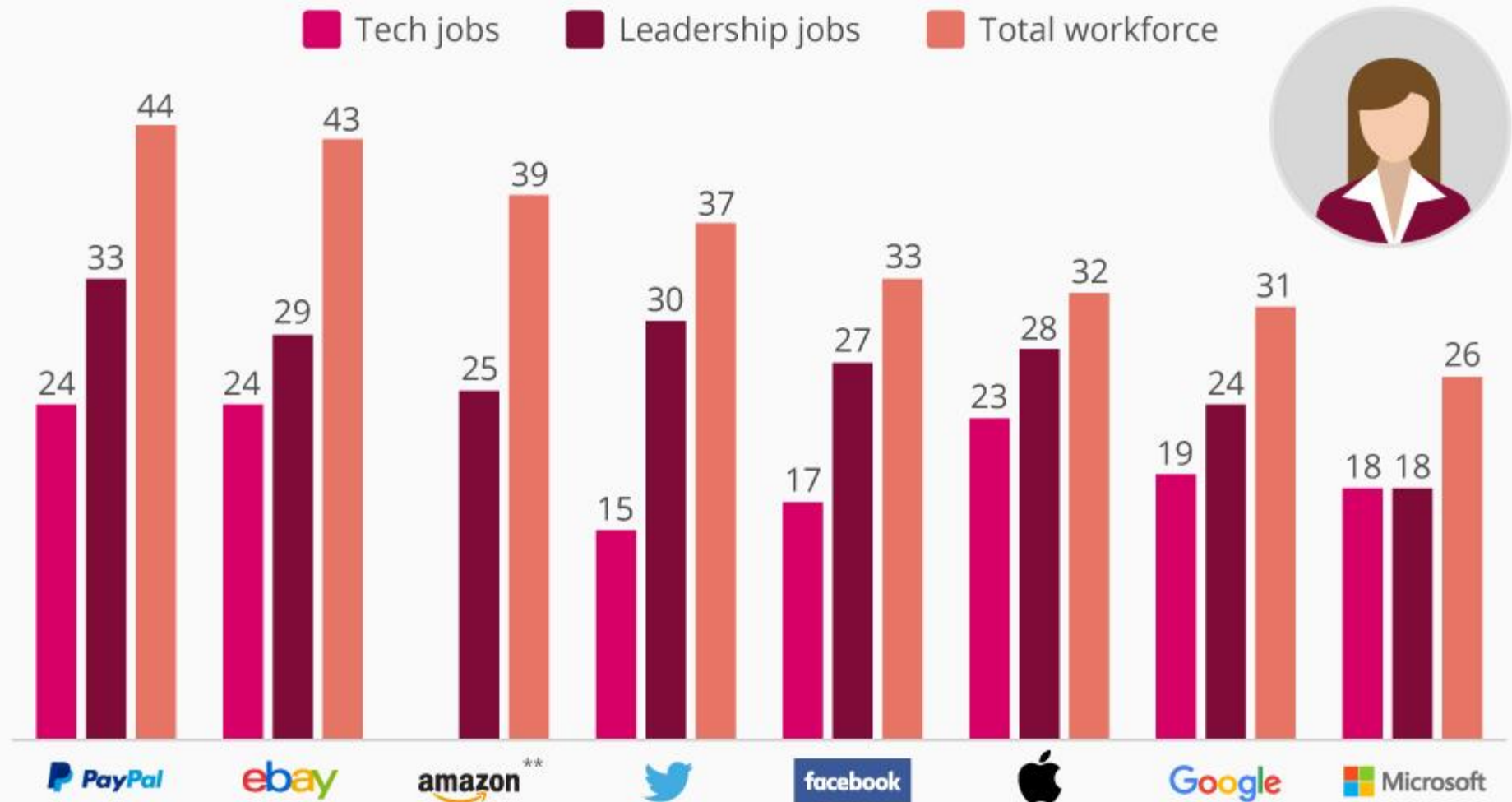
Source: Harris Poll [ID 311406](#)

MERCADO DEL AUTOMÓVIL EN EEUU

- Las mujeres compran más que los varones...
 - A. Automóviles de lujo en general.
 - B. SUVs de lujo.
 - C. Crossovers de lujo.
 - D. Berlinas de lujo.
 - E. Ferrari y Lamborghini.

The Tech World Is Still a Man's World

Percentage of female employees in the workforce of major tech companies*



@StatistaCharts

* latest information available as of February 2017

** Amazon does not break out tech jobs

Source: Company reports

statista