

2020

GE GLOBAL INNOVATION BAROMETER

Global Executive Report

Combined January and September 2020 report

Introduction



Nine Years of the GE Innovation Barometer

Since its inception in 2011, the GE Global Innovation Barometer has evolved, with the most important developments and trends in innovation and business.

Objective: Understand how opinions and perspectives of the business executive community have evolved, considering the major events of 2020.

Sample: Business Executives with a role in their company's innovation policies and decision-making process. Fieldwork is monitored across a range of demographic and business metrics for consistency and comparability.

Sept 2020 Innovation Barometer Pulse
10 markets, 1,128 completes
Brazil, China, France, India, Poland, Saudi Arabia, South Africa, UAE, USA, Vietnam
Jan 2020 Innovation Barometer
22 markets, 2,307 completes
Brazil, China, France, Germany, India, Indonesia, Iraq, Israel, Japan, Kenya, Malaysia, Mexico, Nigeria, Poland, Saudi Arabia, South Africa, South Korea, Turkey, UAE, UK, USA, Vietnam



Key Findings



Despite 2020 upheavals, Business Executives remain committed to innovation

Innovation both vital and under threat

Innovation is seen to have a vital role in addressing the major challenges that the world now faces.

However, the pandemic environment poses threats to this new innovation imperative, and progress has slowed in some industries and markets since the onset of COVID-19.

1

A paradox exists...cross-border collaboration seen as critical as protectionist sentiments rise

Despite the recent pandemic and other upheavals, the appetite for collaboration across industries and geographies remains.

This still exists alongside a protectionist sentiment, as the need to shield domestic economies is more keenly felt.

2

Throughout 2020, the USA regains its confidence while China experiences a setback

Having risen to new heights of innovation status in January 2020, China has experienced setbacks in external trust and in its internal innovation confidence.

However, the USA has recovered much of its old confidence.

3



2020 Key Findings

Pride and Protectionism: A Quest for Innovation Agency: A world of innovation nations

1 Confidence to innovate

Going into 2020, Business Executives around the world had developed increasing confidence in their ability to innovate, with 56% agreeing that the pace of innovation increased in their country.

COVID IMPACT: COVID-19 has slowed the pace of innovation over the last 6 months, with less than half (45%) saying it has increased. It has also made innovation more challenging, with 42% feeling a negative impact on their ability to innovate

3 Sustainable long-term innovation

Business Executives expect the role of innovation to be about creating sustainable futures. Impact at a societal level is a key measure of success, with 71% of Business Executives saying that it is better to create innovations that prioritize sustainable and societal benefits.

COVID IMPACT: COVID-19 gives added impetus to the societal imperative, with 86% saying it is more important than ever for innovation to focus on the challenges facing society and public health.

2 Increasing pride in innovation

As countries focused on innovation, a belief in innovation sovereignty emerged in 2020, with most countries believing they were self-sufficient.

COVID IMPACT: Although the strength of this self-belief has weakened during the pandemic, most countries still feel they are self-sufficient (a view held by the majority of Business Executives in 6 out of 10 countries).

4 Innovation race between China and USA

The battle of the giants: the USA and China's race narrowed at the start of 2020, as China's pace of innovation accelerated. However, the USA remained the leading innovator globally (24%), followed by China (19%).

COVID IMPACT: The USA regained some lost ground by September 2020 with an increasing proportion of US Business Executives feeling positive about their innovation conducive environment (88% rating the US as innovation conducive vs. 79% pre-COVID), while Chinese internal confidence fell (from 89% to 80% over the same period).



2020 Key Findings

Pride and Protectionism: A Quest for Innovation Agency: Protectionism continues to grow

5 The benefits of protectionism

The pro-protectionist outlook seen in early 2020 was related to perceived benefits, such as creating more domestic investment opportunities (45%) and local jobs (42%).

COVID IMPACT: COVID-19 gives added impetus to protectionist sentiment, with over 9 in 10 (94%) saying a protectionist stance is important to help address the major economic problems in their country created by the pandemic.

7 Hopes and fears for the future of innovation

9 in 10 (88%) say innovation is more important now than ever, but 1 in 2 see mobility restrictions and the potential for reduced investment as major threats to innovation in future. 9 in 10 (85%) say that for innovation progress to be maintained, both global and domestic economies must recover from the setbacks of the last 6 months.

6 The paradox of protectionism and the risks of closing up

Despite this protectionist sentiment, Business Executives also perceive the risks of closing up. In January 2020, they were concerned about a reduction in transfer of knowledge and technology between countries (63%) and restrictions on innovation that would impact their workforce.

COVID IMPACT: As a result, Business Executives still recognize the need for international partnerships, with 86% saying that more partnerships across countries will help drive progress on innovation. Adding to their workforce related fears, 71% say that remote learning will prevent STEM students from having a holistic experience of their field.



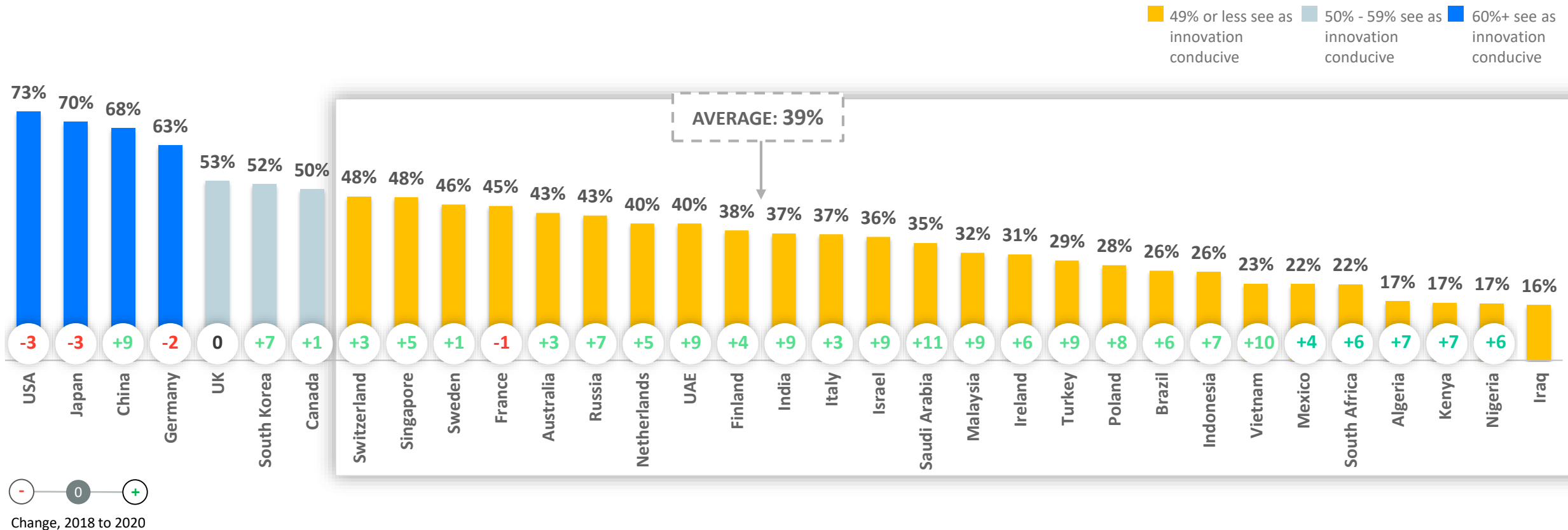
A World of Innovation Nations

Despite difficulties and setbacks, countries have continued to drive their innovation strategies to face the challenges posed by the pandemic



Innovation is not in the hands of a few anymore. More countries are perceived to be developing a ripe environment for innovation.

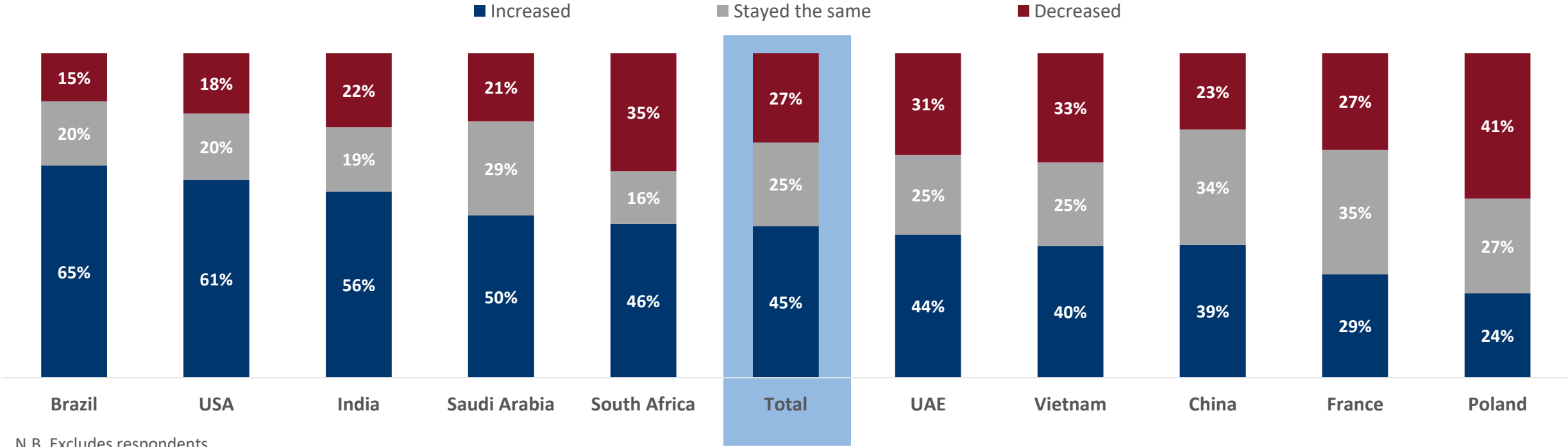
Jan 2020: % Who believe the following markets have developed as an innovation conducive environment (Top 3 Box)



Q3. For each of the following markets, how far would you say that they have developed an Innovation conducive environment? (Top 3 Box) [TRACKED BE] Base: Business executives 2018: 2,090; Business executives Jan 2020: 2,307

There is no clear consensus on the impact of COVID-19 on the pace of innovation, but many Executives believe it has slowed down in their countries

Sept 2020: % Who believe the pace of innovation has increased in their country in the last 6 months due to the COVID-19 pandemic



N.B. Excludes respondents who answered "Don't know"

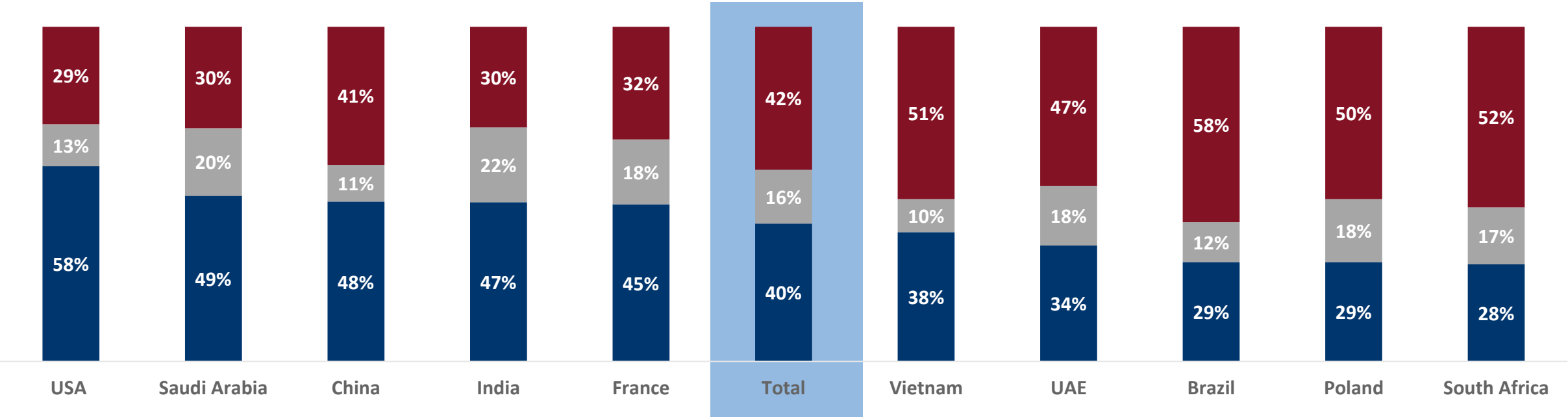


Q8. Do you believe the COVID-19 pandemic has caused the pace of innovation in your country to increase, stay the same or decrease in the last 6 months? [NEW JAN 2020 BE | ADAPTED SEPT 2020 BE] Base: Business executives Jan 2020: 2,307; Sept 2020: 1,128

COVID-19 has posed major challenges, with 2 in 5 have feeling a negative impact on their ability to innovate

Jan 2020: % Who believe the COVID-19 pandemic had a **positive vs. negative impact** on the ability of their business to innovate over the past 6 months (NET Positive vs. NET Negative)

■ Positive impact
■ Neither positive nor negative impact
■ Negative impact



N.B. Excludes respondents who answered “Don’t know”



Q60. For each of the following events, please indicate to what extent, if any, these have had a positive or negative impact on the ability of your business to innovate over the past 6 months? (NET Positive impact; NET Negative impact) [NEW SEPT 2020 BE] Base: Business executives Sept 2020: 1,128

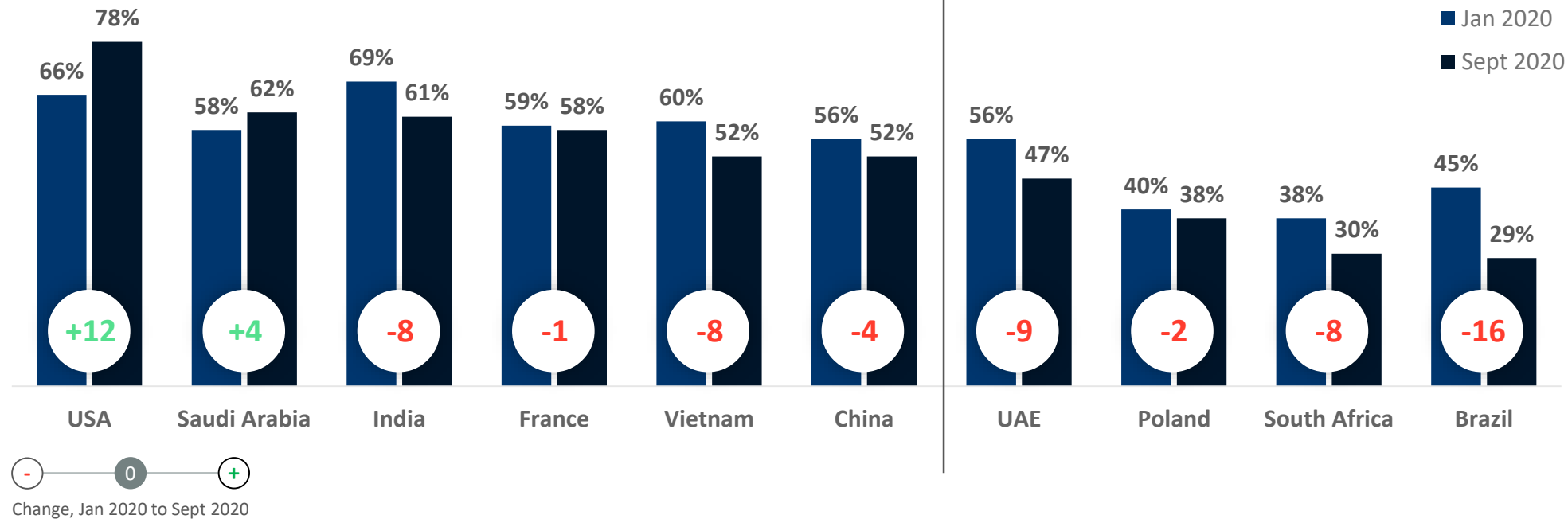


Although Business Executives are less confident than pre-COVID, most still feel self-sufficient

Jan 2020 vs. Sept 2020: % Who believe their country is self-sufficient, and does not need to rely on other countries to innovate (NET Agree)
(Ranked by Sept 2020 Data)

A majority (over 50%)

A minority (under 50%)



Q16. To what extent do you agree or disagree with the following statements related to innovation? (NET Agree) [NEW JAN 2020 BE] Base: Business executives Jan 2020: 2,307; Business executives Sept 2020: 1,128

Innovation has a vital role to play in the challenges facing society and public health

In Sept 2020:

86%

Say it is **more important than ever** for innovation to focus on the **challenges facing society and public health**

87%

Say innovation has a **vital role in protecting people's health** and wellbeing



Q58. Thinking about the needs and priorities of innovation going forwards, to what extent would you agree or disagree with the following? (NET Agree) [NEW SEPT 2020 BE]
Base: Business executives Sept 2020: 1,128

**Countries globally
feel that
innovation has to
have a long-term
societal benefit.**

Innovations that prioritize a long-term societal or environmental benefit are the best way to innovate

Innovations that prioritize short-term profitability and related business objectives are the best way to innovate

In Sept 2020:



Over 8 in 10 Business Executives say the types of industries leading innovation is changing, with healthcare blazing the trail

In Sept 2020:

84%

Say **the types** of industries that are leading on innovation **is changing**

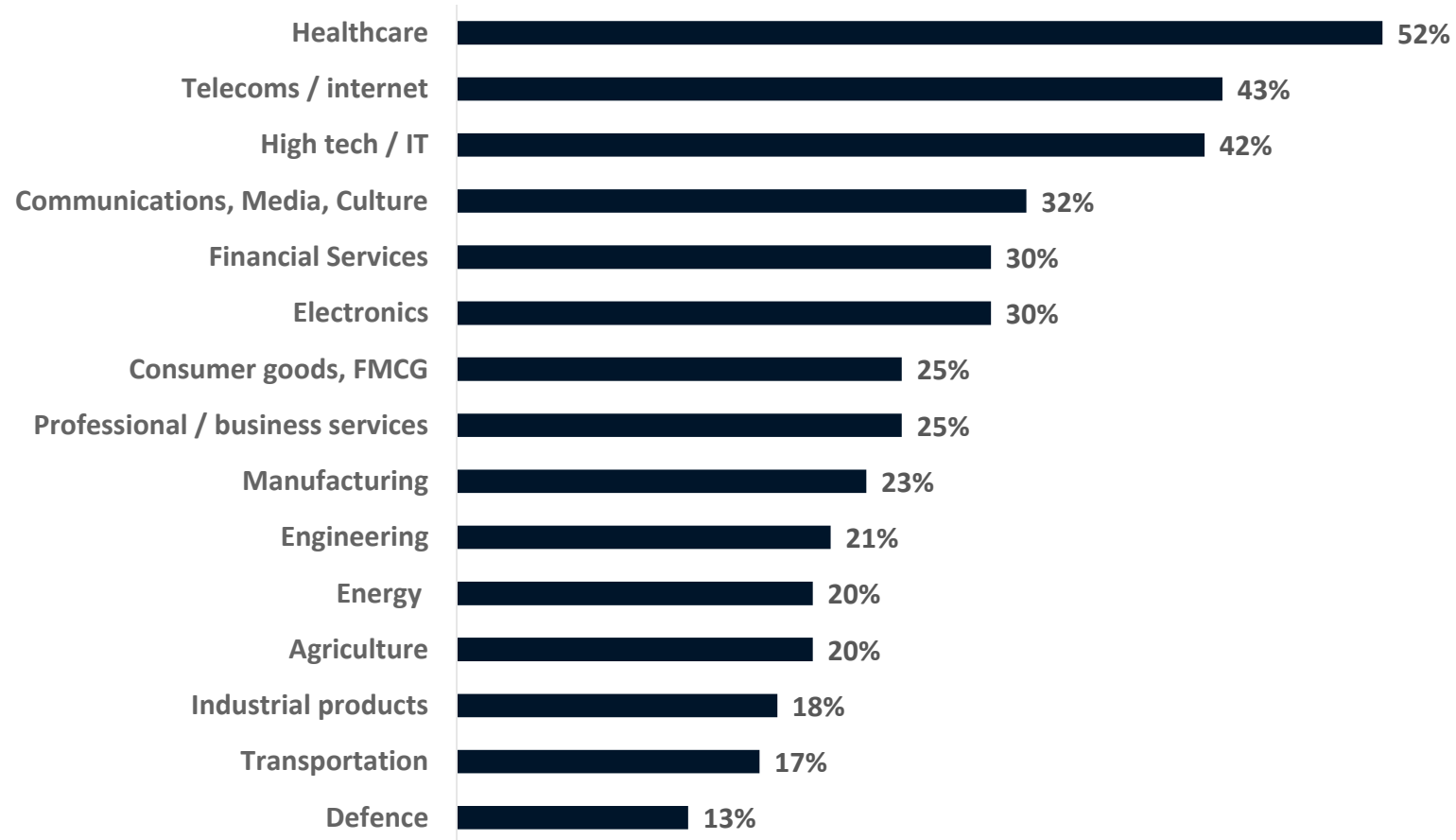
82%

Say **healthcare** has set a great **example for others to follow** on speeding up innovation



Business Executives believe healthcare has outperformed all other sectors for innovation progress during the pandemic

Sept 2020: % Who believe that each of the following industries have made significant progress in relation to innovation over the last 6 months



Q44. Which of the following industries, if any, do you think have made significant progress in relation to innovation in the last 6 months during the COVID-19 pandemic? [NEW SEPT 2020 BE] Base: Business executives Sept 2020: 1,128

A Redefinition of the Global Innovation Influence Map

Beyond the battle for innovation leadership between the USA
and China

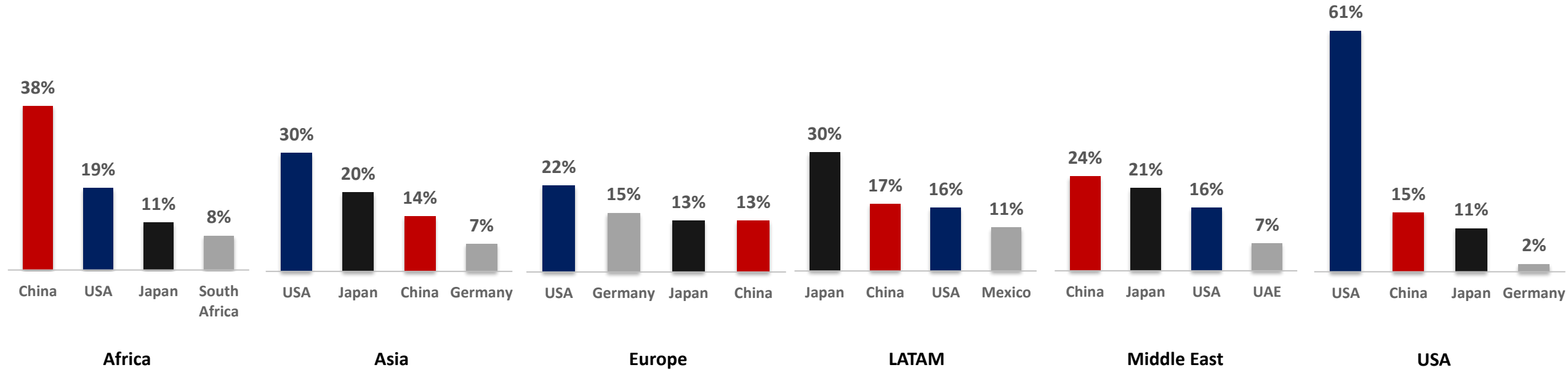


As global supply chains come under increasing scrutiny,
Business Executives are more aware of country relations
when choosing global partners



Allegiances to innovation superpowers differ by regions and are driven by trade and investment ties

Jan 2020: % Who believe the following countries are THE innovation champion (Regional breakdown)

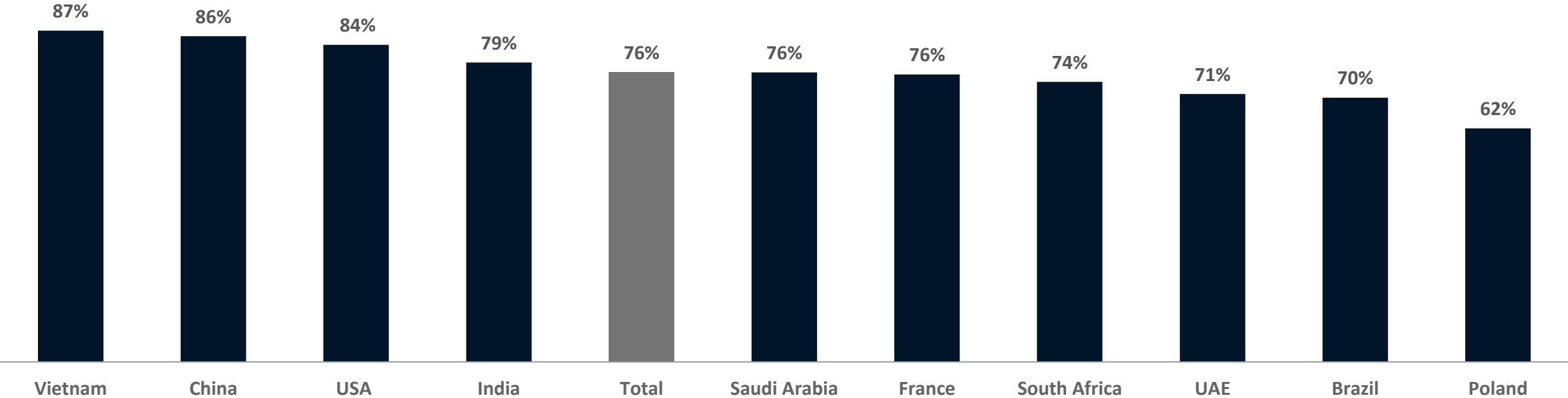


Q1. What is THE country that you consider to be the leading innovation champion? [TRACKED BE] Base: Business executives Jan 2020: 2,307 [Africa: 302, Asia: 751, Europe: 500, Latin America: 200, Middle East: 404, USA: 150]



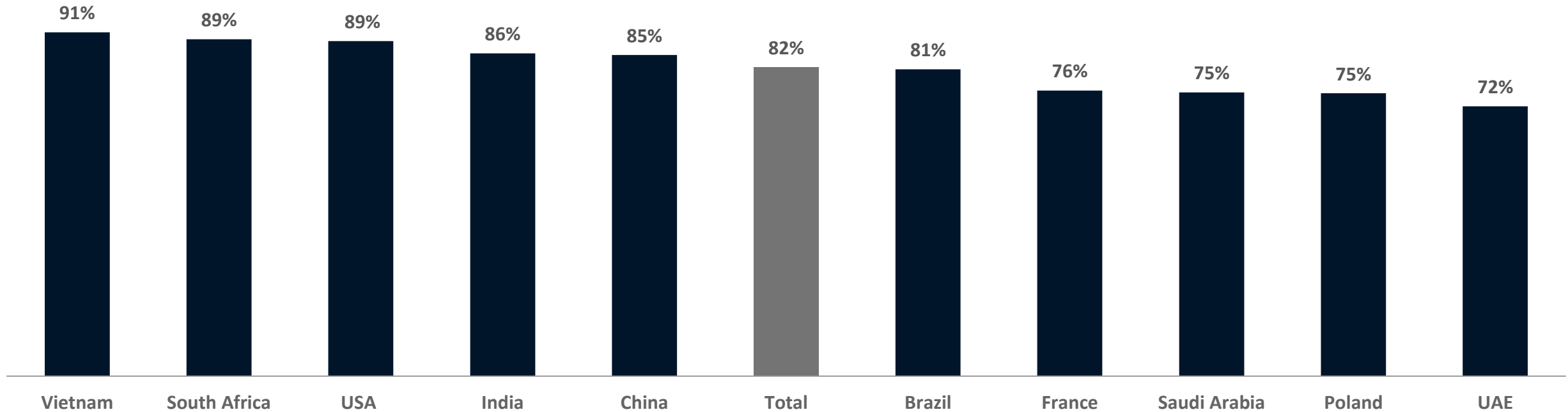
Over 3 in 4 believe global supply chains are under increased scrutiny

Sept 2020: % Who believe that International supply chains are increasingly under scrutiny (NET Agree)



Business Executives are taking a closer look at country relations before building business partnerships

Sept 2020: % Who believe businesses need to be more aware nowadays of country relations before choosing to partner with another business (NET Agree)

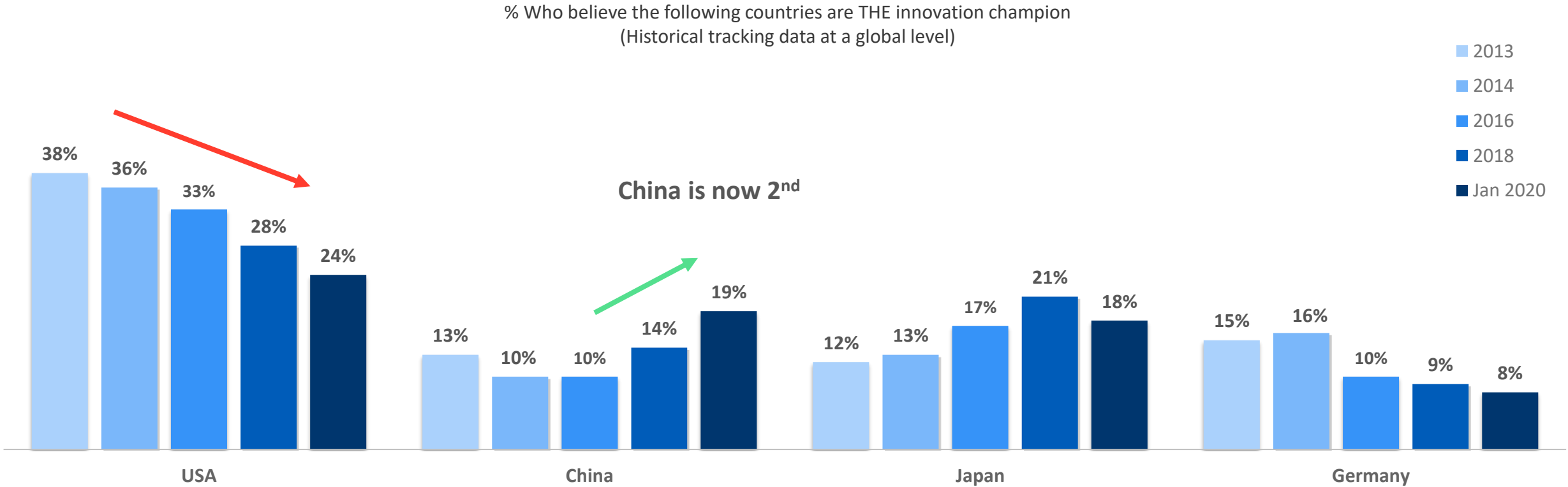


Q16. To what extent do you agree or disagree with the following statements related to innovation? (NET Agree) [TRACKED BE – NEW STATEMENT] Base: Business executives
Sept 2020: 1,128

Although the USA and China's innovation race narrowed pre-COVID-19, the USA has grown in confidence during the pandemic, while China has fallen back



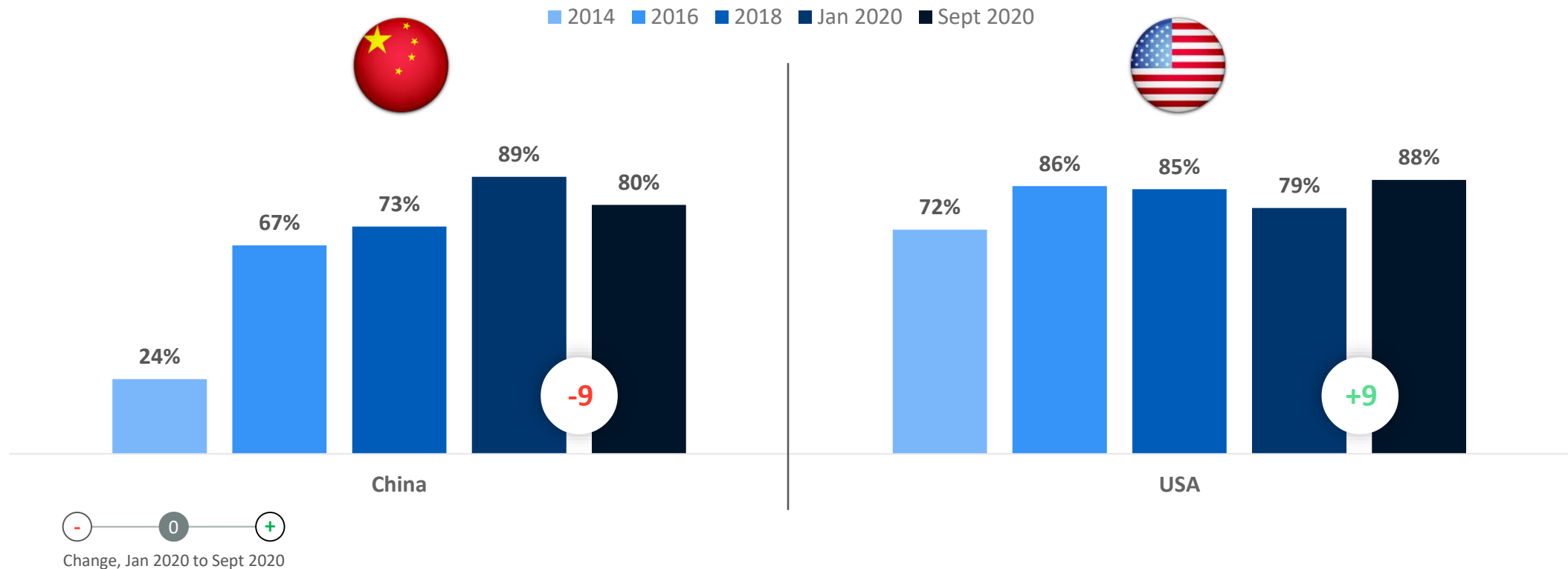
In January 2020, China continued to close the gap on the USA as an innovator and moved ahead of Japan



Q1. What is THE country that you consider to be the leading innovation champion? [TRACKED BE] Base: Business executives 2013: 3,100; Business executives 2014: 3,309; Business executives 2016: 2,748; Business executives 2018: 2,090; Business executives 2020: 2,307

Internal optimism in China has fallen since the onset of COVID-19, while the USA has become more positive

% Who believe their own market has developed as an innovation conducive environment (Top 3 Box)



Q3. For each of the following markets, how far would you say that they have developed an Innovation conducive environment? (Top 3 Box) [TRACKED BE] Base: Business executives 2014 [China: 200, USA: 300]; Business executives 2016 [China: 207, USA: 207]; Business executives 2018 [China: 150; USA: 150]; Business executives Jan 2020 [China: 150; USA: 150]; Business executives Sept 2020 [China: 155; USA: 152]

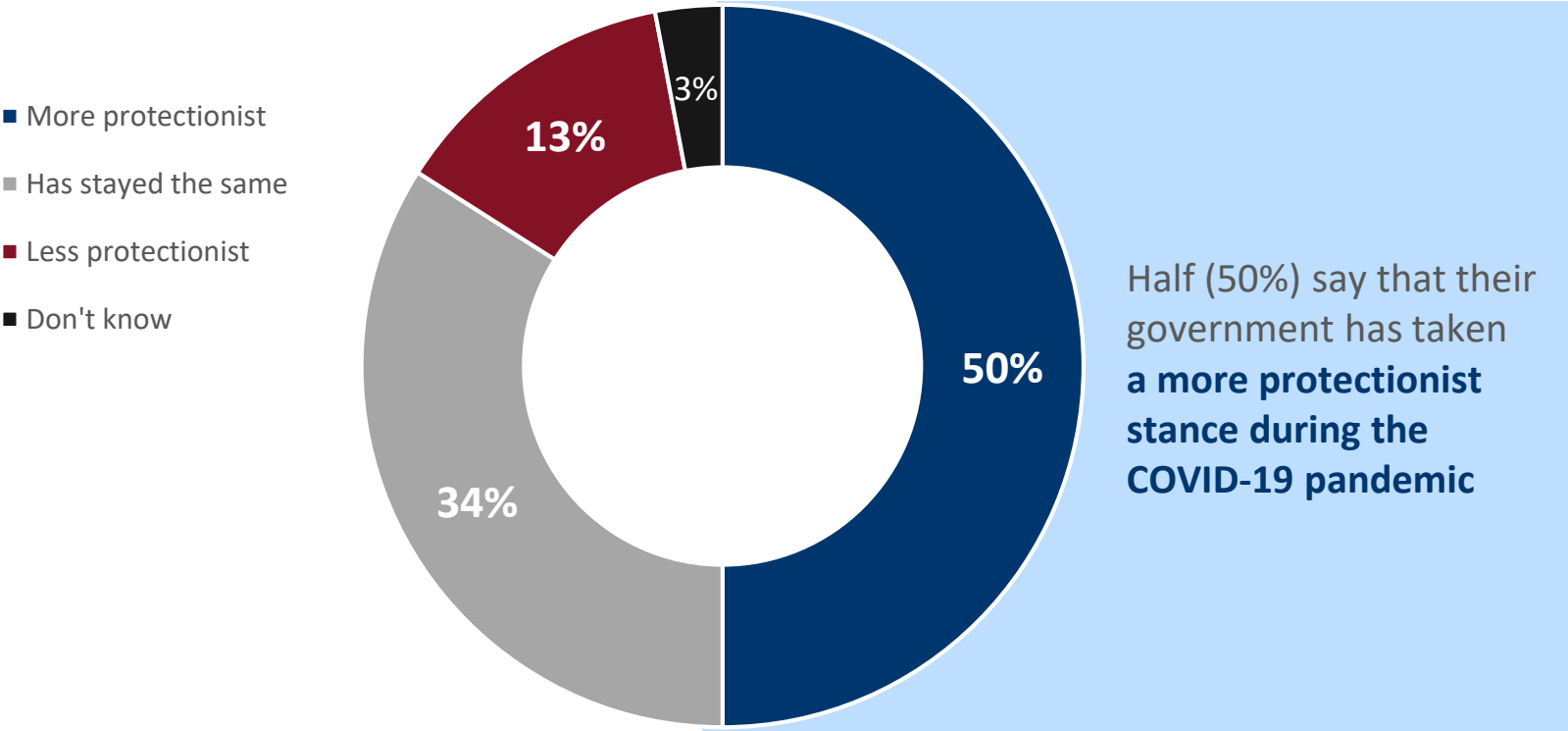
Protectionism Continues to Grow

Despite desire to collaborate more with global partners, protectionism is increasingly seen to have a net positive impact on innovation – for now.



COVID-19 is bringing out protectionist instincts, with 1 in 2 saying their government has become more protectionist

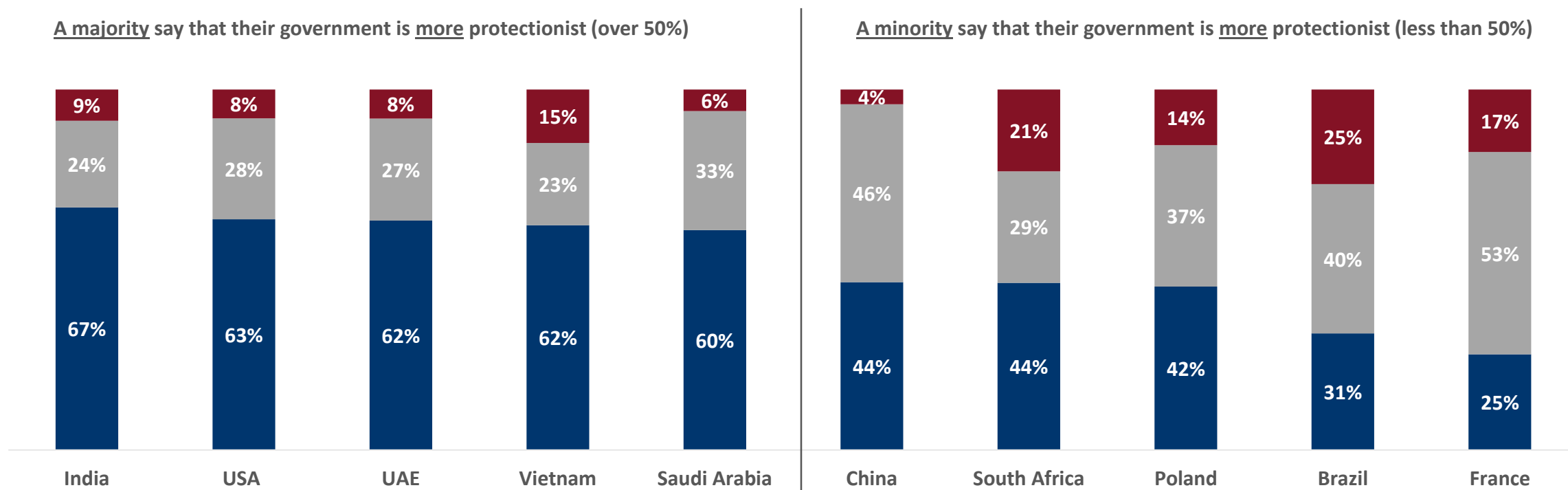
Sept 2020: % Who believe their government has taken a more vs. less protectionist stance on innovation in their country over the last 6 months (during the COVID-19 pandemic)



Q47. Which of the following best describes your view on the protectionist stance your government has taken on innovation in your country over the last 6 months (during the COVID-19 pandemic)? [NEW SEPT 2020 BE] Base: Business executives Sept 2020: 1,128

This rise of protectionism is particularly strong in India, the USA, Middle East and Vietnam

Sept 2020: % Who believe their government has taken a **more vs. less protectionist stance on innovation** in their country over the last 6 months (during the COVID-19 pandemic)



N.B. Excludes respondents who answered "Don't know"

■ More protectionist

■ Has stayed the same

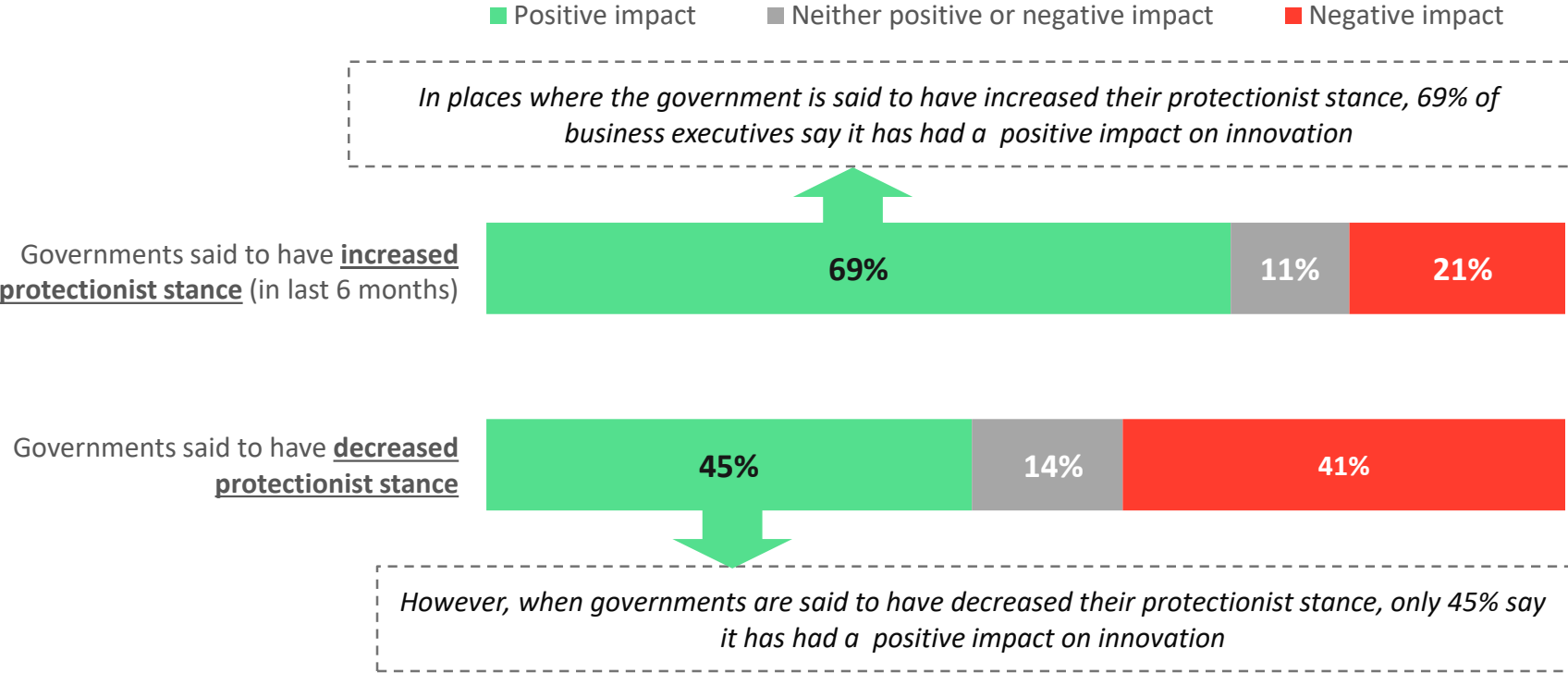
■ Less protectionist



Q47. Which of the following best describes your view on the protectionist stance your government has taken on innovation in your country over the last 6 months (during the COVID-19 pandemic)? [NEW SEPT 2020 BE] Base: Business executives Sept 2020: 1,128

Over two thirds feel the impact on innovation has been positive where governments have increased their protectionist stance

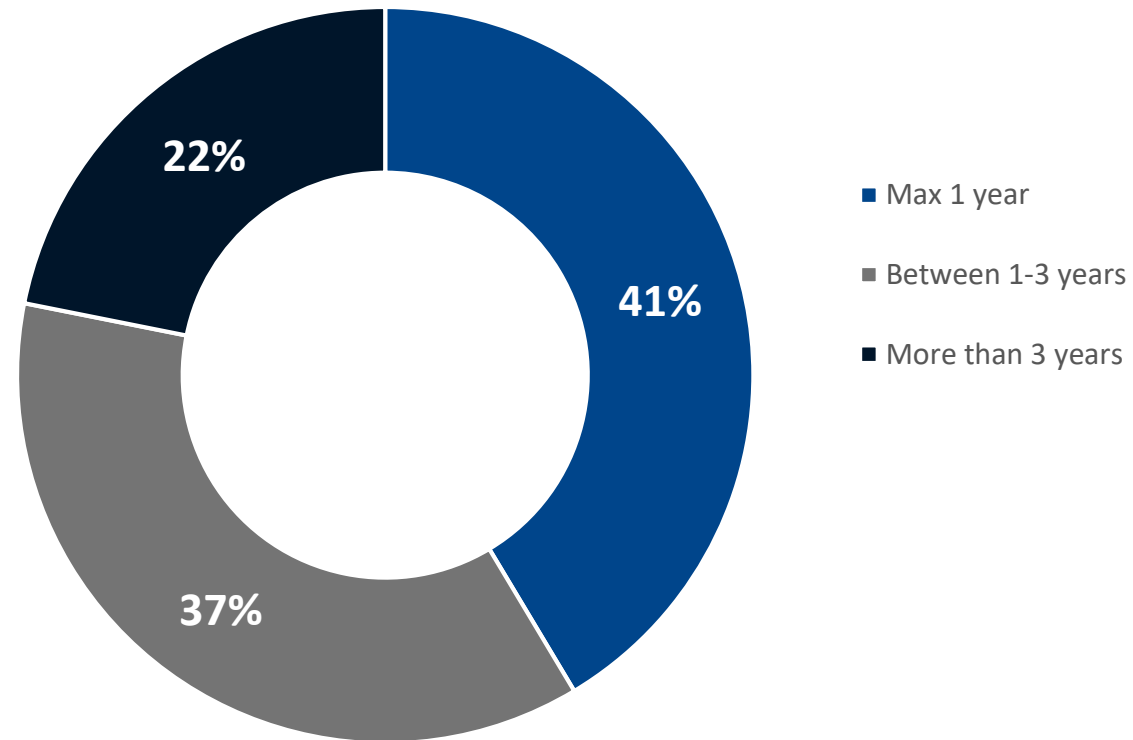
Sept 2020: % Who say their governments protectionist stance in the last 6 months has had a **positive vs. negative impact** on innovation



Yet, few believe that this surge in protectionism will last long-term

Sept 2020: Time the more protectionist stance taken by their government will continue
(amongst those who said that their government is more protectionist)

Less than a quarter
(22%) believe that this
rise in protectionism in
their market will last
more than 3 years



Q49. You said that your country's government has taken *a more* protectionist stance in the last 6 months How long do you think these changes will last? [NEW SEPT 2020 BE]
Base: Business executives Sept 2020 who believe their government has taken *a more* protectionist stance: 565

A protectionist stance is seen as a key ingredient to recovery

In Jan 2020:

45%

Say protectionism **creates more domestic investment opportunity**

42%

Say protectionism provides **more jobs nationally**

Q12. Out of the reasons below, why do you think protectionism would have a beneficial effect on businesses in your country? [TRACKED BE] Base: Business executives who support a politically protectionist stance on innovation Jan 2020: 1,375

In Sept 2020:

94%

Say a protectionist stance is important to **help address the major economic problems** in this country created by the pandemic

94%

Say a protectionist stance is important to help the **domestic economy** recover

Q50. Thinking about the reasons for adopting a protectionist stance, how important would you say the following are in the current economic climate? [NEW SEPT 2020 BE] Business executives Sept 2020: 1,128

Business Executives feel protectionism is a fundamental job protector

In Jan 2020:

42%

Say protectionism **reduces unemployment**

40%

Say protectionism creates opportunities to **upskill the domestic workforce**

Q12. Out of the reasons below, why do you think protectionism would have a beneficial effect on businesses in your country? [TRACKED BE] Base: Business executives who support a politically protectionist stance on innovation Jan 2020: 1,375

In Sept 2020:

94%

Say a protectionist stance is important to **protecting jobs in this country**

Q50. Thinking about the reasons for adopting a protectionist stance, how important would you say the following are in the current economic climate? [NEW SEPT 2020 BE] Business executives Sept 2020: 1,128

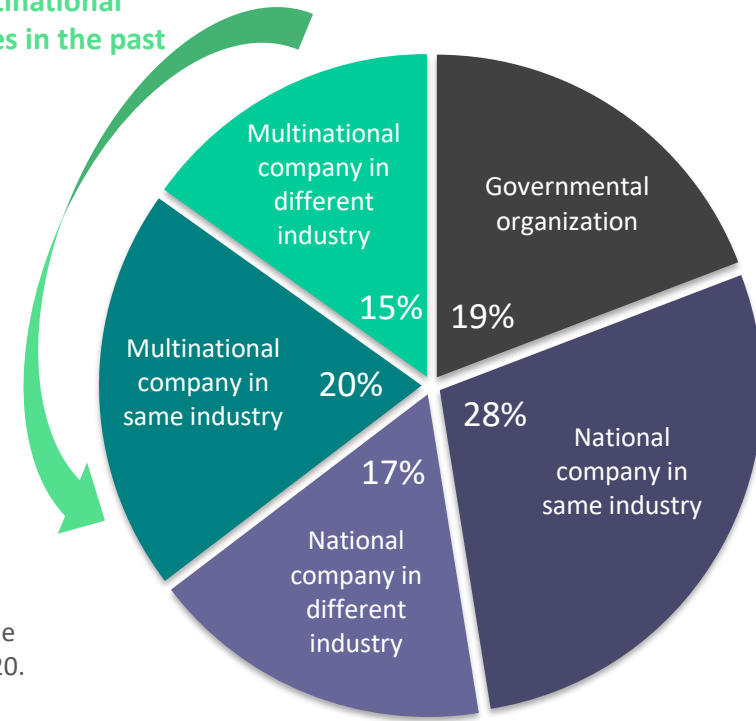
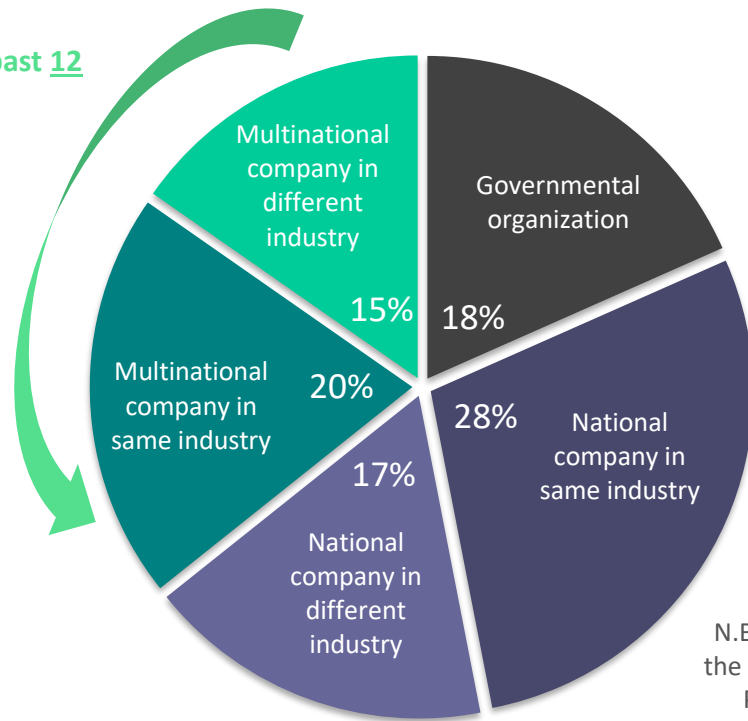
International partnerships continue unabated despite both COVID-19 and protectionist sentiment

Jan 2020: % Who made partnerships **the last 12 months** with following types of organization*

Sept 2020: % Who made partnerships **the last 6 months** with following types of organization

A third (34%) of partnerships have been with multinational companies in the past 12 months

A third (35%) of partnerships have been with multinational companies in the past 6 months



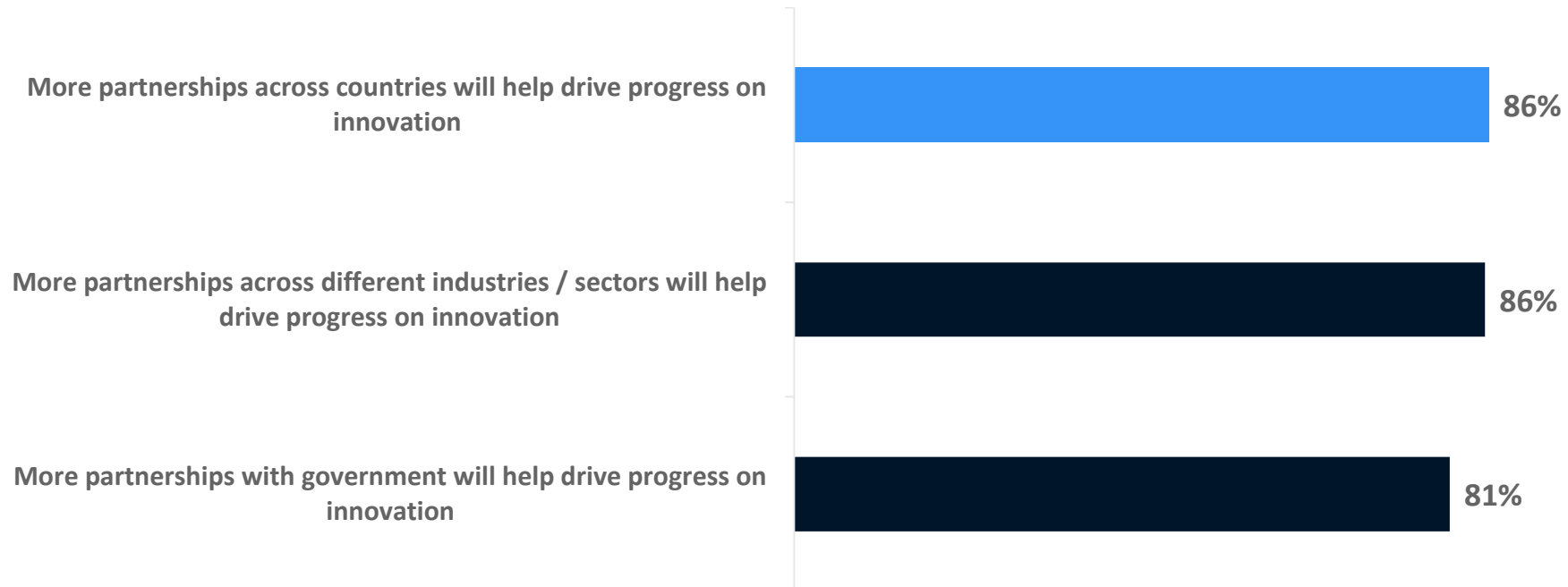
N.B. Jan 2020 data rebased to only include the 10 markets also surveyed in Sept 2020.
Pie charts exclude respondents who answered "Other"



Q18. Thinking specifically about your company, can you specify over the past 6 months* what percentage (%) of partnerships fell under the following types? (Mean Summary)
[NEW JAN 2020 BE | ADAPTED SEOT 2020 BE] Base: Business executives who had a partnership Jan 2020: 1,860; Business executives who had a partnership Sept 2020: 932

More partnerships across countries are also viewed as a priority going forwards

Sept 2020: % Who agree with the following about the needs and priorities of innovation going forwards (NET Agree)



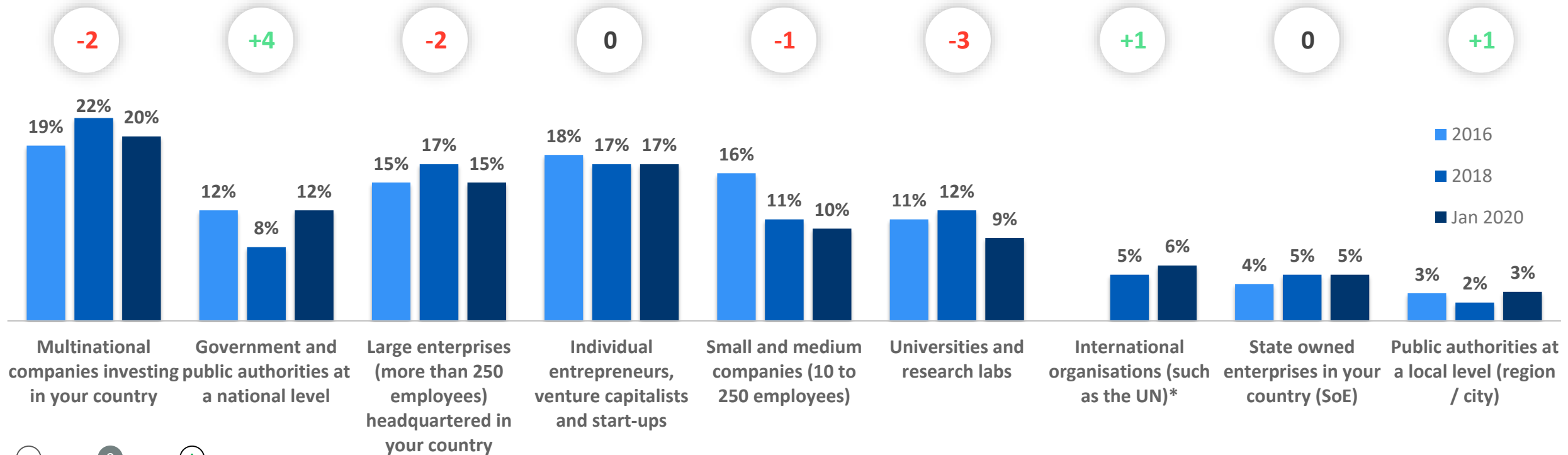
Q58. Thinking about the needs and priorities of innovation going forwards, to what extent would you agree or disagree with the following? (NET Agree) [NEW SEPT 2020 BE]
Base: Business executives Sept 2020: 1,128

Business Executives rely on multinational corporations (MNCs) and the role they play as a driver of innovation



Multinationals are still in the driving seat

% Who believe the following are driving innovation the most today in their country
(Historical tracking data at a global level)



Change, 2018 to Jan 2020

*No data in 2016



Q5. Who do you think is driving innovation the most today in your country? [TRACKED BE] Base: Business executives 2016: 2,748; Business executives 2018: 2,090; Business executives Jan 2020: 2,307

Innovation Hopes and Fears

An open innovation playground allowing access to global talent, capital and technology is both critical and under threat

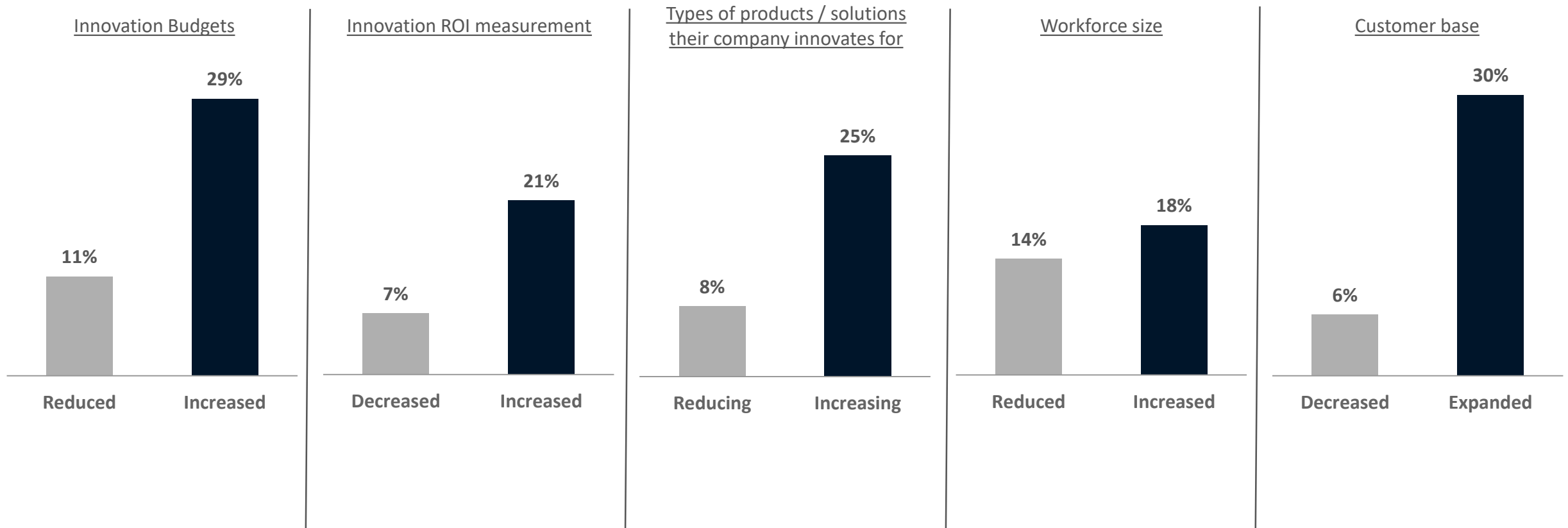


The pandemic has heightened the importance and priority placed on innovation across the globe



Companies have increased their focus on innovation during the pandemic

Sept 2020: % Who believe the following changes have been made to their company's innovation strategy over the last 6 months (positive vs. negative changes)



This new innovation focus includes adaptation and innovation for new customers and markets at home and abroad

Sept 2020: % Who believe the following changes have been made to their company's innovation strategy over the last 6 months (Top 10 changes made)



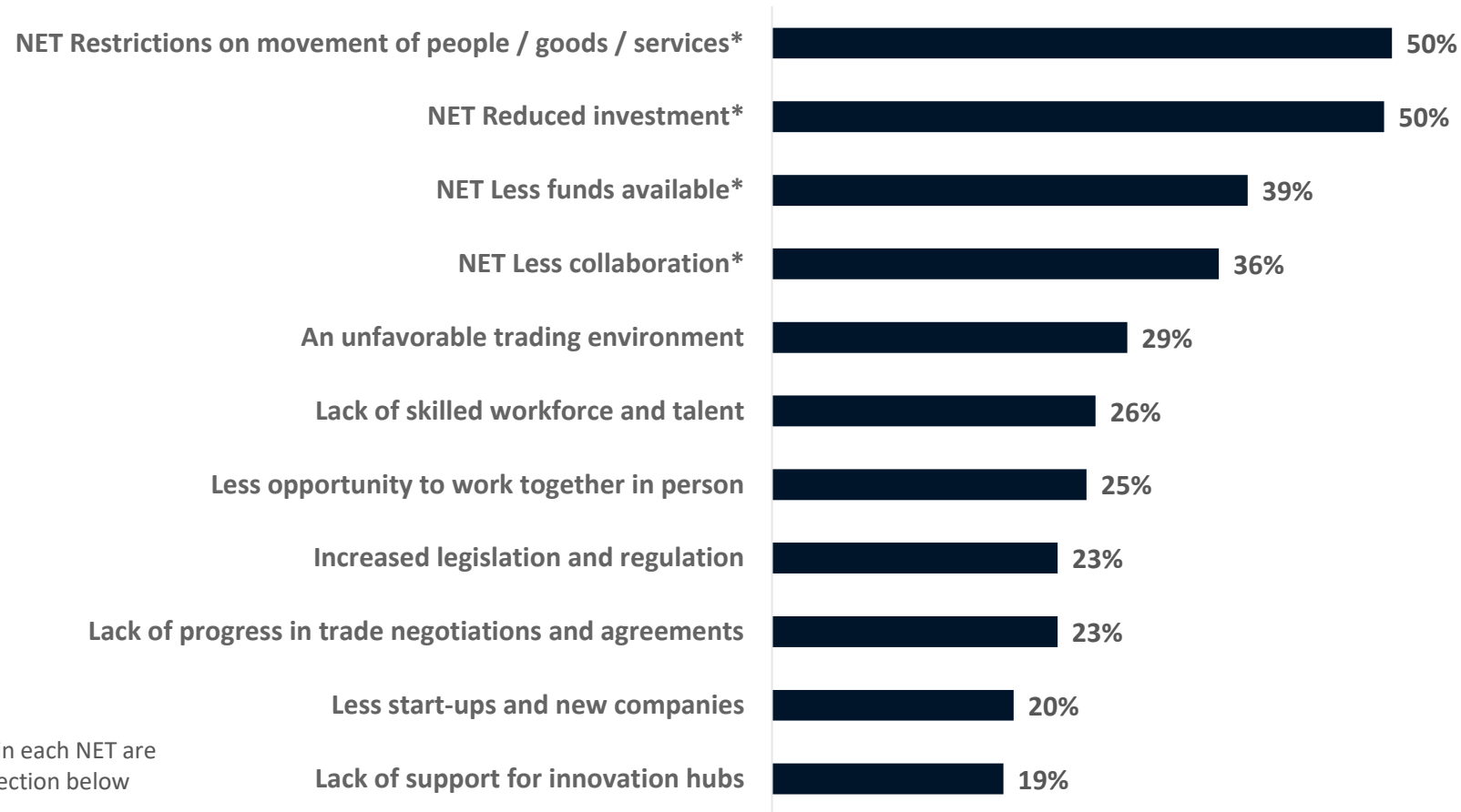
Q54. Which of the following changes have been made to your company's innovation strategy over the last 6 months? [NEW SEPT 2020 BE]
Base: Business executives Sept 2020: 1,128

Business Executives fear for the future of innovation,
placing hope in innovation and economic recovery to
counter the risk of closing up



The biggest concerns about future innovation relate to mobility, investment and collaboration restrictions

Sept 2020: % Who believe that each of the following is a major cause for concern regarding innovation progress



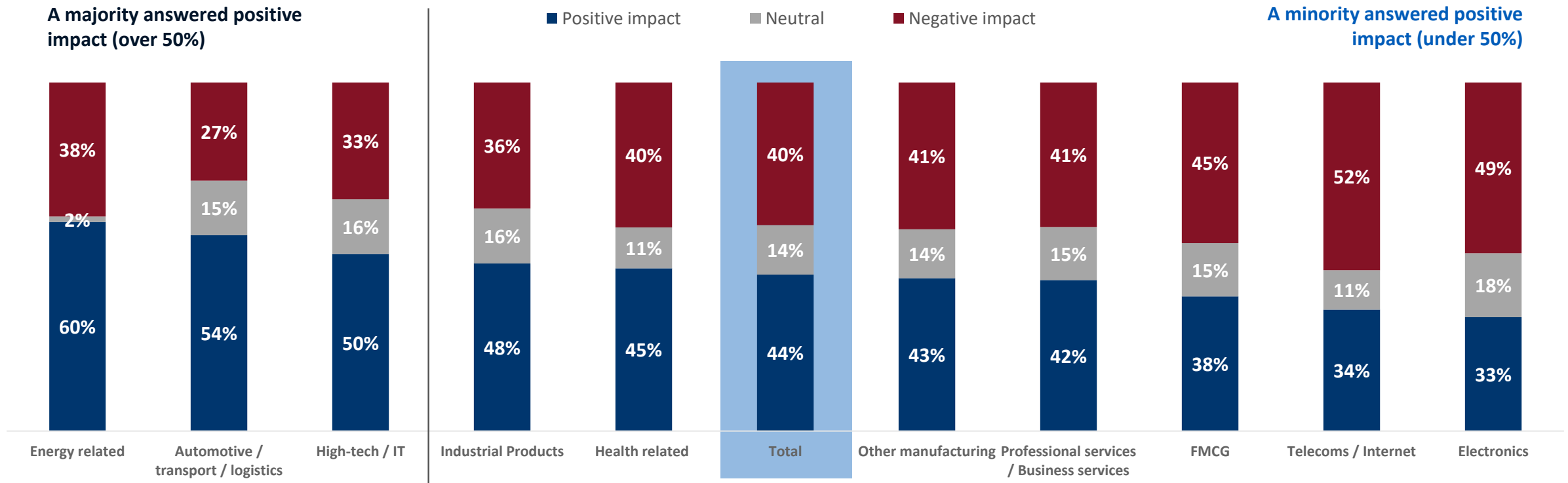
*Statements included in each NET are specified in the notes section below



Q62. Thinking about the potential challenges to innovation progress that may lie ahead, which of the following, would you say are a major cause for concern? [NEW SEPT 2020 BE] Base: Business executives Sept 2020: 1,128

2 in 5 fear a negative impact on innovation budgets in the future, with concern particularly high in telecoms and electronics

Sept 2020: % Who say the global economic contraction caused by COVID-19 will have a positive vs. negative impact on innovation budgets in their industry over the next 2-3 years



N.B. Excludes respondents who answered "Don't know"



Q59. What impact do you think the global economic contraction caused by COVID-19 will have on innovation budgets in your industry over the next 2-3 years? (NET Positive impact) [NEW SEPT 2020 BE] Base: Business executives Sept 2020: 1,128

Business Executives are concerned about the next generation of talent

In Jan 2020:

65%

Say that the approaching retirement
of over 55s will have a negative
impact on innovation

75%

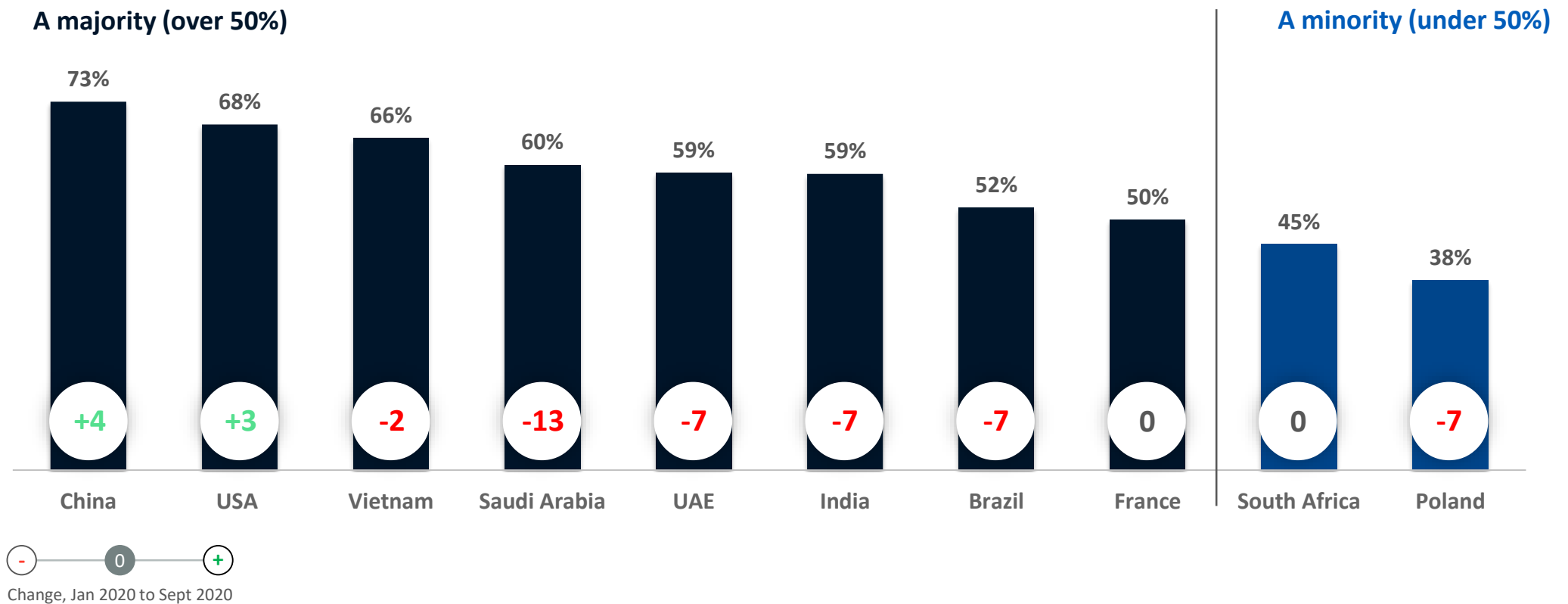
Say they are concerned where new
and skilled talent will come from



Q17. How much do you agree or disagree with the following statements? (NET Agree) [TRACKED BE] Base: Business executives Jan 2020: 2,307

Concerns remain over STEM students having the necessary skills to drive innovation, with only 57% globally believing they are being taught the right skills

Sept 2020: % Who believe STEM students in their country are being taught the right skills (Top 3 Box)



Q39. Thinking about recent STEM graduates that you see coming into your industry or your company how do you feel about the skills they have to drive innovation? (Top 3 Box) [NEW JAN 2020 BE] Base: Business executives Jan 2020: 2,307; Business executives Sept 2020: 1,128

Many are concerned that the shift to remote learning due to COVID-19 affects students and is not as effective as face-to-face

In Sept 2020:

71%

Say **remote learning** will prevent STEM students from having a **holistic experience** of their field

80%

Say **face-to-face discussions** are **key** to facilitate innovation and creativity



Q56. Thinking about the impact COVID-19 will have on the educational sector, to what extent do you agree or disagree with the following statements? (NET Agree)
[NEW QUESTION SEPT 2020 BE] Base: Business executives Sept 2020: 1,128

Global economic recovery and an end to the COVID-19 pandemic are key to the future of innovation

Sept 2020: % Who agree with the following statements? (NET Agree)

75%

Believe the ability to innovate will be severely weakened if the COVID-19 crisis does not diminish soon

85%

Say that for innovation progress to be maintained, the GLOBAL economy must recover

85%

Say that for innovation progress to be maintained, the DOMESTIC economy must recover



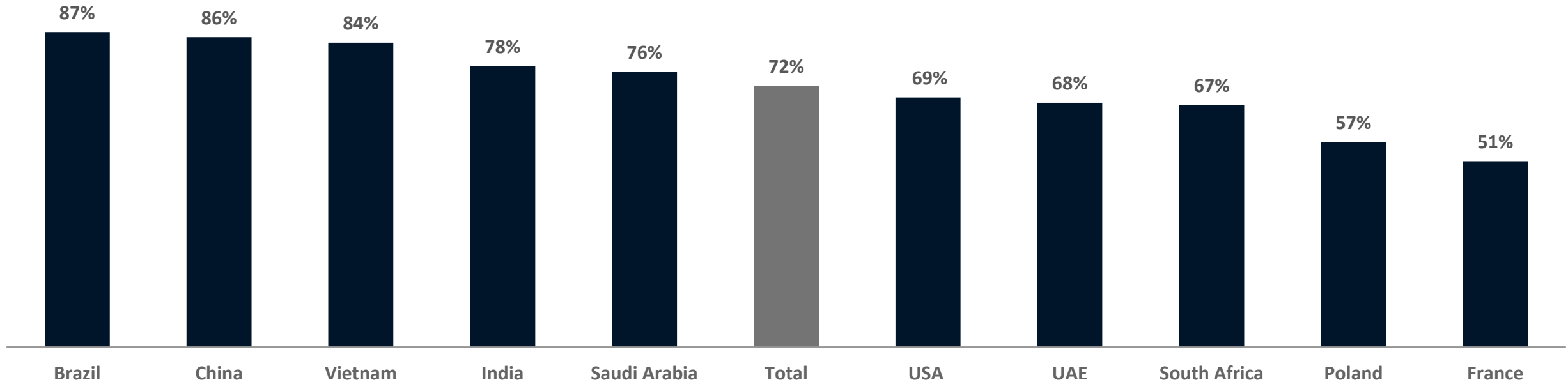
Q57. How far would you agree or disagree with the following statements? (NET Agree) [NEW SEPT 2020 BE] Base: Business executives Sept 2020: 1,128

Business Executives know that artificial intelligence (AI) is a catalyst to innovation and an indispensable tool in the fight against COVID-19 and future pandemics



Innovations using AI expected to be very important in a post-COVID-19 world

Sept 2020: % Who believe innovations using AI, Automation and Machine Learning will be important to their company in a “post-COVID-19 world” (Top 3 Box)



Q52. Thinking about Artificial Intelligence, Automation and Machine Learning, how important do you think innovations using AI, Automation and Machine Learning will be in a “post-COVID-19 world”? (Top 3 Box) [NEW SEPT 2020 BE] Base: Business executives: 1,128

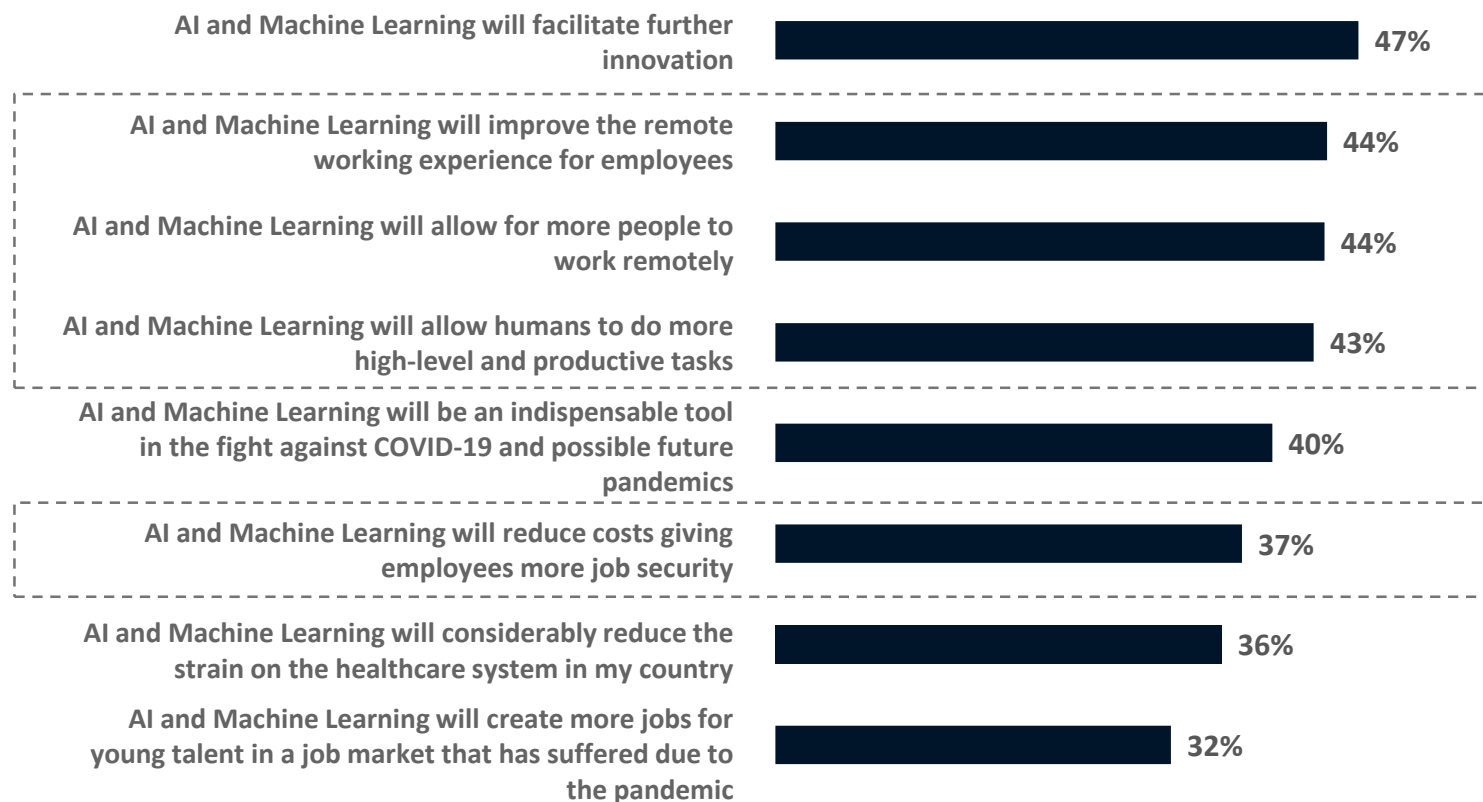
AI seen as important to facilitate new innovations, improve the working experience and face the pandemic challenge

In Sept 2020:

81%

Say AI and machine learning will be important because of their **benefits to the working experience (NET)**

Sept 2020: % Who believe AI and Machine Learning will be important in a “post-COVID-19 world” for the following reasons



Q53. You said that Artificial Intelligence, Automation and Machine Learning will be important in a “post-COVID-19 world”. From the following reasons why do you think that?
[NEW SEPT 2020 BE] Base: Business executives who said AI and Machine Learning will be important in a “post-COVID-19 world”: 1,066

50

