Greendex™

A research project by National Geographic and GlobeScan

NATIONAL GEOGRAPHIC

GLOBESCAN

Greendex 2014:

Consumer Choice and the Environment—
A Worldwide Tracking Survey

A FOCUS ON FOOD AND BEHAVIOR CHANGE

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Project: 2616, GlobeScan®

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Introduction

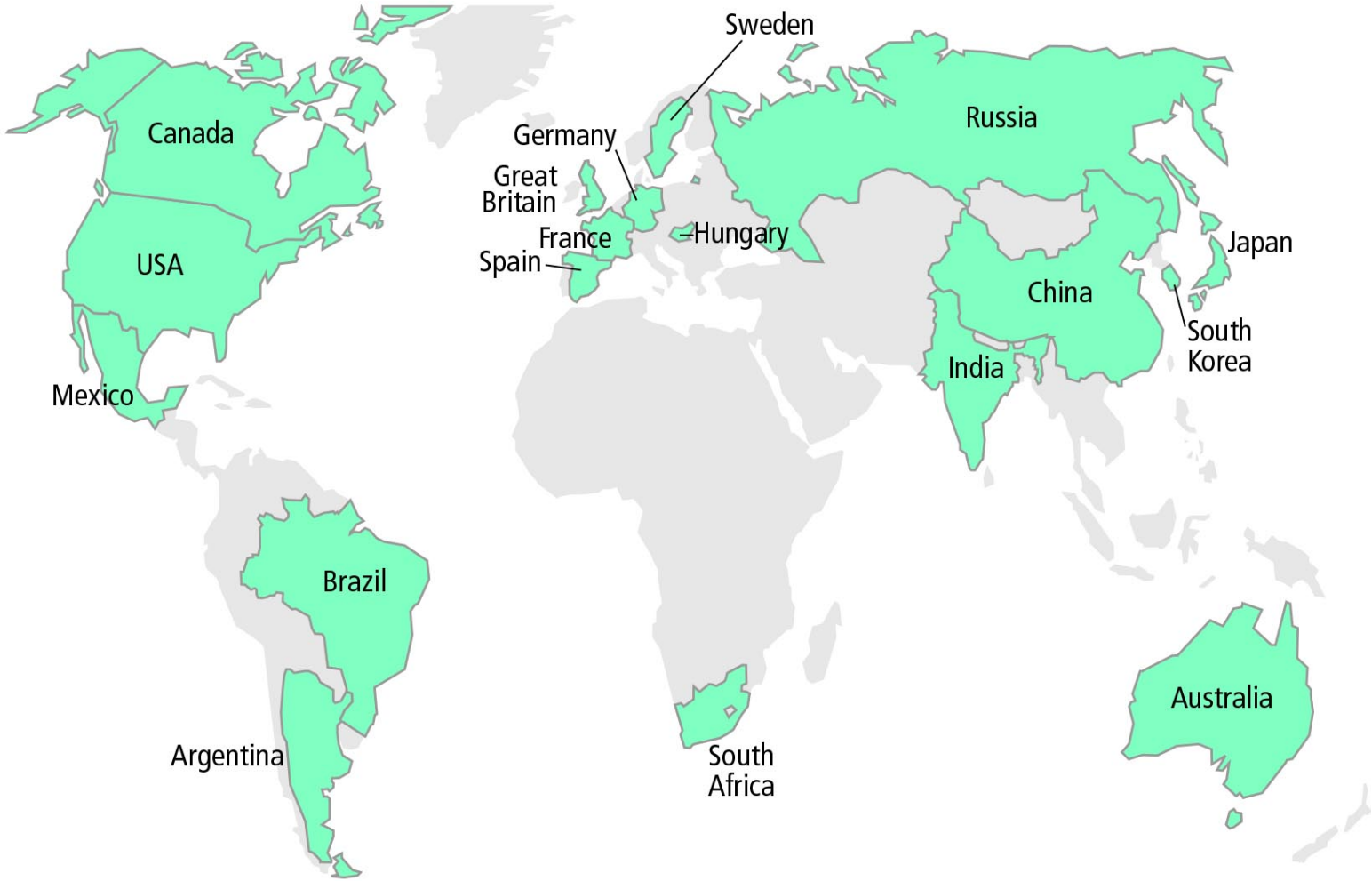
- This is the fifth year National Geographic has partnered with GlobeScan (www.GlobeScan.com) to develop an international research approach to measure and monitor consumer progress toward environmentally sustainable consumption. The key objectives of this unprecedented consumer tracking survey are to provide regular quantitative measures of consumer behavior and to promote sustainable consumption. The central component of this research initiative is the creation of a composite index of environmentally sustainable consumption called the Greendex.
- This report delivers additional insight specifically related to food consumption and behavior change, as well as the food-related components of the Greendex. The report seeks to better enable behavior change, given that society has not seen the pace and scale of change that is in our view required. Instead, overall Greendex scores have remained static.
- The report explores consumers' attitudes around food consumption and production, consumers' trust in science, choices consumers make and intend to make around food, and drivers of behavior change in this area. The report also presents a consumer segmentation based on behaviors and intentions specifically related to food.

Introduction

- The National Geographic Society wishes to inspire action both among the millions that the National Geographic brand touches worldwide, and among others who will hear about this study. Therefore, the research is specifically focused on consumer behavior. Although we recognize the importance of regulatory frameworks, country-specific climatic conditions, culture, economic development, and other factors affecting consumption, this study is limited to measuring consumer behavior in absolute terms.
- The following is GlobeScan's report of findings pertaining to food consumption and behavior change from this research project conducted with consumers in 18 countries.

Participating Countries

2014



Methodology: Internet Surveys

- GlobeScan used a quantitative Internet methodology for this study. It is recognized that Internet panels do have some limitations in providing a thoroughly "representative" sample of the general population, but it is felt that the objective of measuring consumer behavior can be well met by the use of Internet research in the countries included in this study. Even though access to the Internet is more restricted in developing countries, it is believed that the preferences of the consuming public can be determined through Internet research, as long as sufficiently large panels are used.
- In addition, since the norm for public opinion research has been quickly evolving toward the use of online panels, this methodology continues to be used so that modal changes that negatively affect the ability to track changes will be avoided.
- This report is based on the results of online interviews with approximately 1,000 consumers in each of the 18 countries, representing both developed and developing economies.

Methodology: Country Selection

- At the outset of this research project in 2008, the National Geographic Society (NGS) commissioned GlobeScan to conduct an analysis of its existing survey research to identify potential target populations for NGS's planned research project.
- GlobeScan annually tracks global public opinion on a range of issues; annual surveys include over 20,000 interviews across 20+ countries on six continents, using face-to-face or telephone interviews with samples of 1,000 citizens per country. GlobeScan had relevant survey data available for 18 of National Geographic's initial list of 22 potential target countries. GlobeScan applied a quantitative approach to this body of research to classify countries according to like behaviors and attitudes, in order to help National Geographic select countries for inclusion in the Greendex.

Methodology: Sampling

- To ensure that no demographic groups were over-represented in the quantitative survey sample, quota caps were set for education, age, gender, and region.
- The maximum number of survey completions by consumers who had completed a university degree or more was set at 30 percent for Argentina, Brazil, China, India, Mexico and South Africa, and at 35 percent for Australia, Canada, France, Germany, Great Britain, Hungary, Japan, Russia, South Korea, Spain, Sweden, and the USA.
- Quota caps for age were set at 30 percent of respondents under 35 in Australia, Canada, France, Germany, Great Britain, Hungary, Japan, Russia, Spain, Sweden, and the USA; 40 percent of respondents in Argentina and South Korea; 50 percent of respondents under 35 in Brazil, China, India, Mexico and South Africa; 40 percent of respondents between 35 and 55 in most countries (30 percent in Argentina and Sweden and 34% in South Africa); 40 percent of respondents over 55 in Sweden; 30 percent of respondents over 55 in Argentina, Australia, Canada, France, Germany, Great Britain, Hungary, Japan, Russia, Spain, and the USA (20% in South Korea and 16% in South Africa); and 10 percent of respondents over 55 in Brazil, China, India, and Mexico.
- Quotas for gender were set at 50 percent male and 50 percent female in all countries (except South Africa which was set at 49% male and 51% female).
- The data for each country were weighted based on age, gender, and education according to the latest census data to reflect the demographic profile of each country.
- The respondents were surveyed using online panels made up of people who have previously agreed to take part in surveys and, as a result, are not taken randomly from the general population. For this reason, theoretical margin of error cannot be calculated; however, it has been shown that an online sample of this size, which has been properly weighted to meet the demographics of the general population, yields comparable results to a nationally representative random sample having a margin of error of +/- 3.1.

Methodology: Quality Assurance

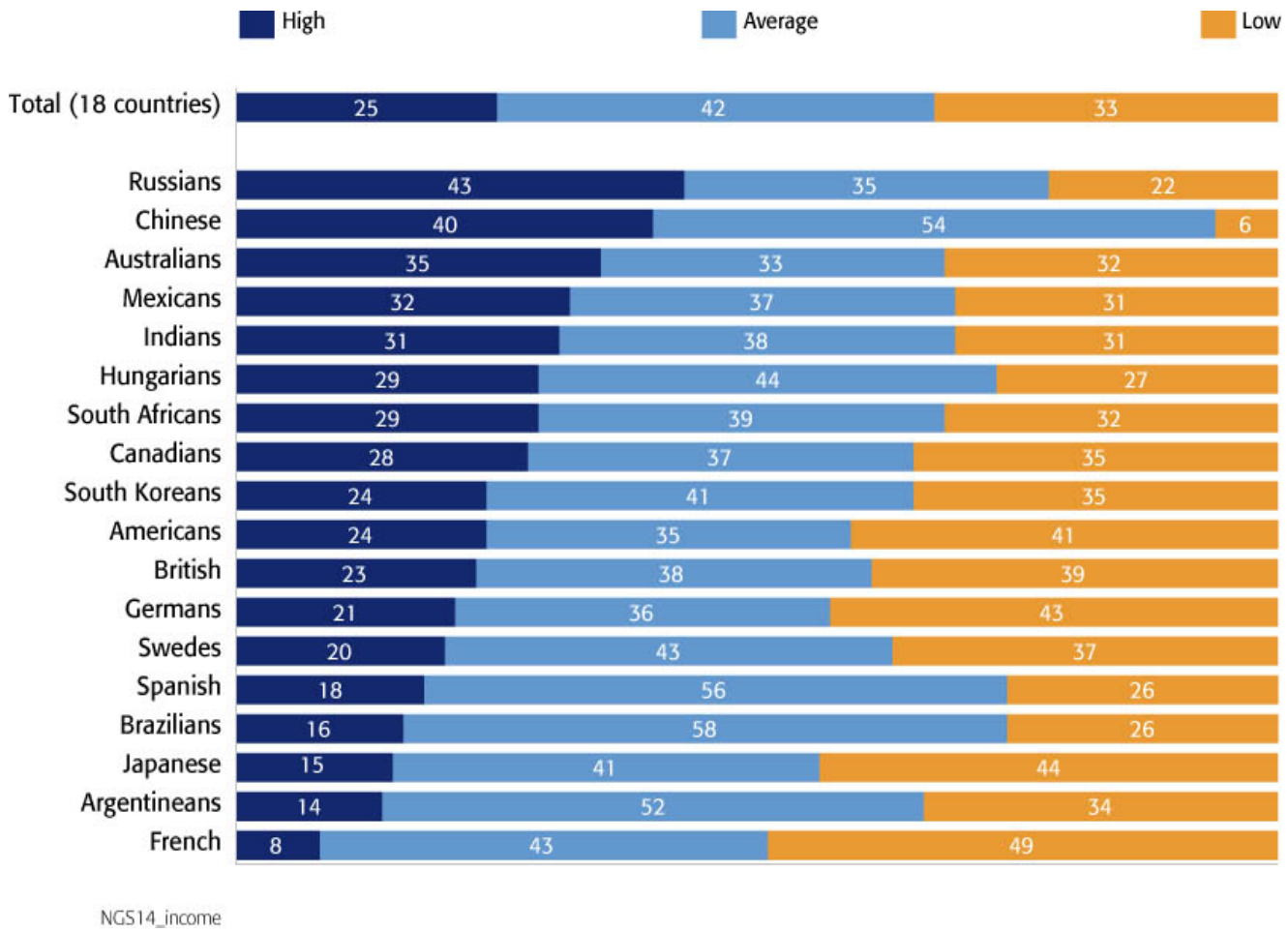
- GlobeScan systematically follows strict research quality management procedures in compliance with its ESOMAR membership requirements.
- Among other elements, compliance for this study required rigorous translation, fieldwork, and data-quality controls.
- Questionnaire translations were conducted by native speakers and then back-translated by additional independent translators.
- Quotas were applied to each country's survey sample and results were weighted according to the latest census data.
- Respondents who completed the questionnaire in unrealistically short times or who illustrated invariant response patterns were removed from the database.
- All statements and figures in this report have been fact-checked and proofed by individuals other than the report authors.

Methodology: Respondents

- As a function of the quotas applied to the survey sample and the weighting factors applied to the results, the populations surveyed can be briefly described as indicative cross sections of consumers in each country who have access to the Internet in order to complete surveys in either their homes or offsite in libraries, cafes, schools, workplaces, etc.
- Survey respondents are frequently referred to in this report as “consumers” since the focus of the research is the consumption behavior of citizens surveyed. GlobeScan does not equate the words “citizens” or “individuals” with the word “consumers.”

Methodology: Income

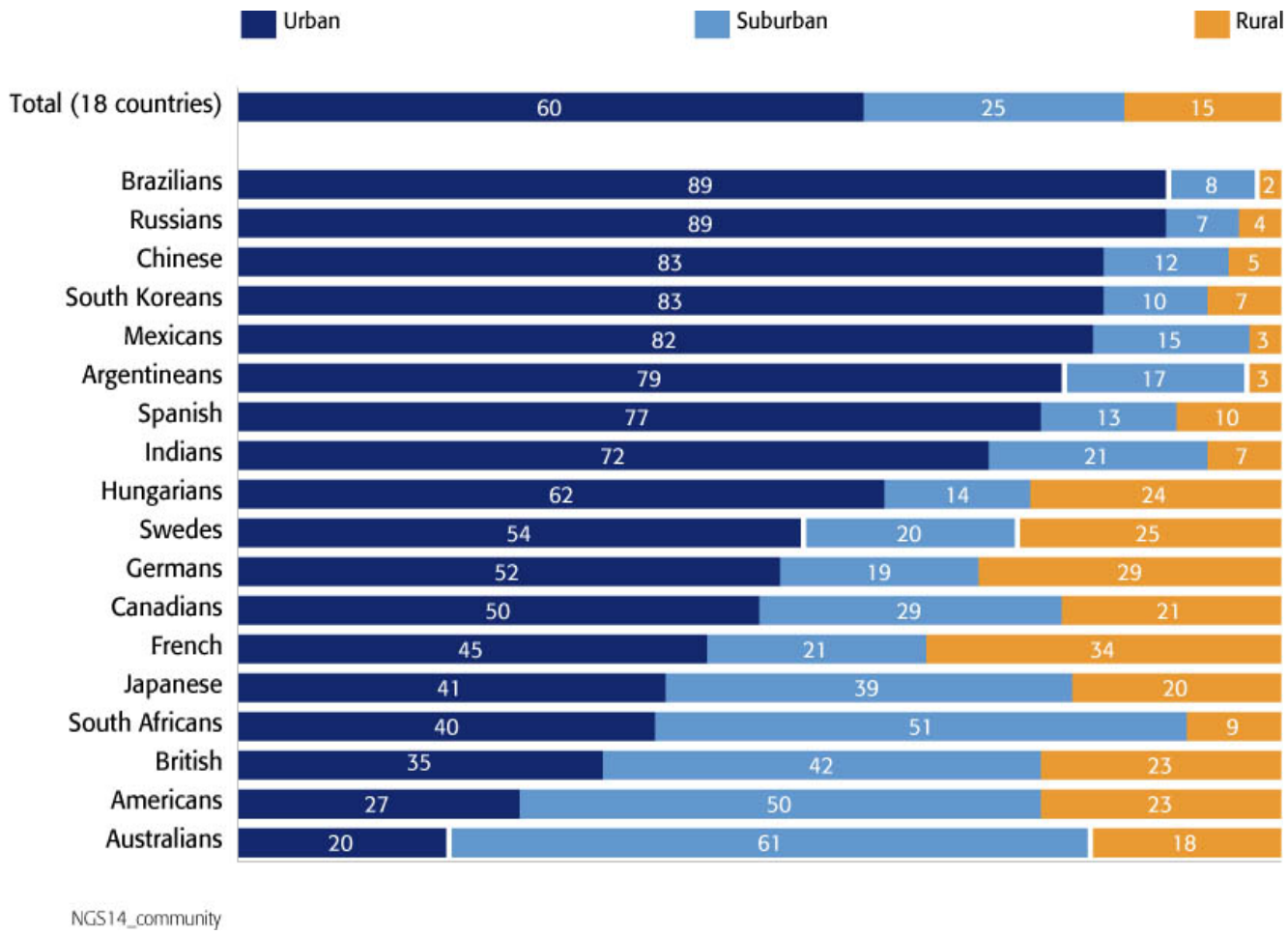
Percentage of Consumers in Each Country, 2014



The white space in this chart represents “DK/NA.”

Methodology: Community Type

Percentage of Consumers in Each Country, 2014



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Methodology: Field Dates

Argentina	April 19 – May 1, 2014
Australia	March 26 – April 6, 2014
Brazil	April 17–30, 2014
Canada	April 22–29, 2014
China	April 21–29, 2014
France	April 21 – May 1, 2014
Germany	April 17–26, 2014
Great Britain	March 26 – April 1, 2014
Hungary	April 17–29, 2014
India	March 26 – April 10, 2014
Japan	April 21–30, 2014
Mexico	April 22–29, 2014
Russia	April 17–28, 2014
South Africa	March 26–31, 2014
South Korea	April 17 – May 5, 2014
Spain	April 22–30, 2014
Sweden	April 16–29, 2014
USA	March 26 – April 3, 2014

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Notes to Readers

Figures and Charts

- All figures and charts except those reporting Greendex findings are expressed in percentages, unless otherwise noted. Totals may not add to 100 because of rounding.
- In the case of certain bar charts, white space represents the portion of respondents who either answered “Do not know” or did not answer at all (i.e., “DK/NA”).

Consumer Perspectives on Food

Consumer Perspectives on Food

- Results show that most consumers care deeply about the food they eat and about how their food is produced. Majorities of consumers in all countries surveyed, except Sweden, feel that food is an essential part of their culture, especially Indians. Almost half of consumers say they prefer to eat the food and recipes they grew up with, rather than the latest trends in food. The French are more likely than others to agree that this is the case.
- The vast majority of consumers agree that buying locally produced foods helps the local economy, and consumers in several countries—including China, Germany, India, South Korea, Spain, and Sweden—have become more prone to agree. Six out of ten Mexican consumers strongly agree with this statement.
- However, more than four in ten consumers find it difficult to distinguish between local and foreign-produced foods. South Koreans are most likely to find it difficult, and Indian and Spanish consumers have become more likely to find it so.
- A majority of consumers believe they know what “organic” means when it comes to food. Sweden has the lowest proportion of consumers who report being confused, while South Korea and China have the greatest; around four in ten consumers in China and South Korea report feeling confused. Consumers in South Korea and India have become more likely to say they are confused about what “organic” means since 2012.
- Half of global consumers agree that it is worth paying more for locally or organically produced foods, and consumers are increasingly likely to recognize the value of this type of food. In eight of the 18 countries surveyed consumers have become more likely to say local or organic food is worth the extra cost.

Consumer Perspectives on Food

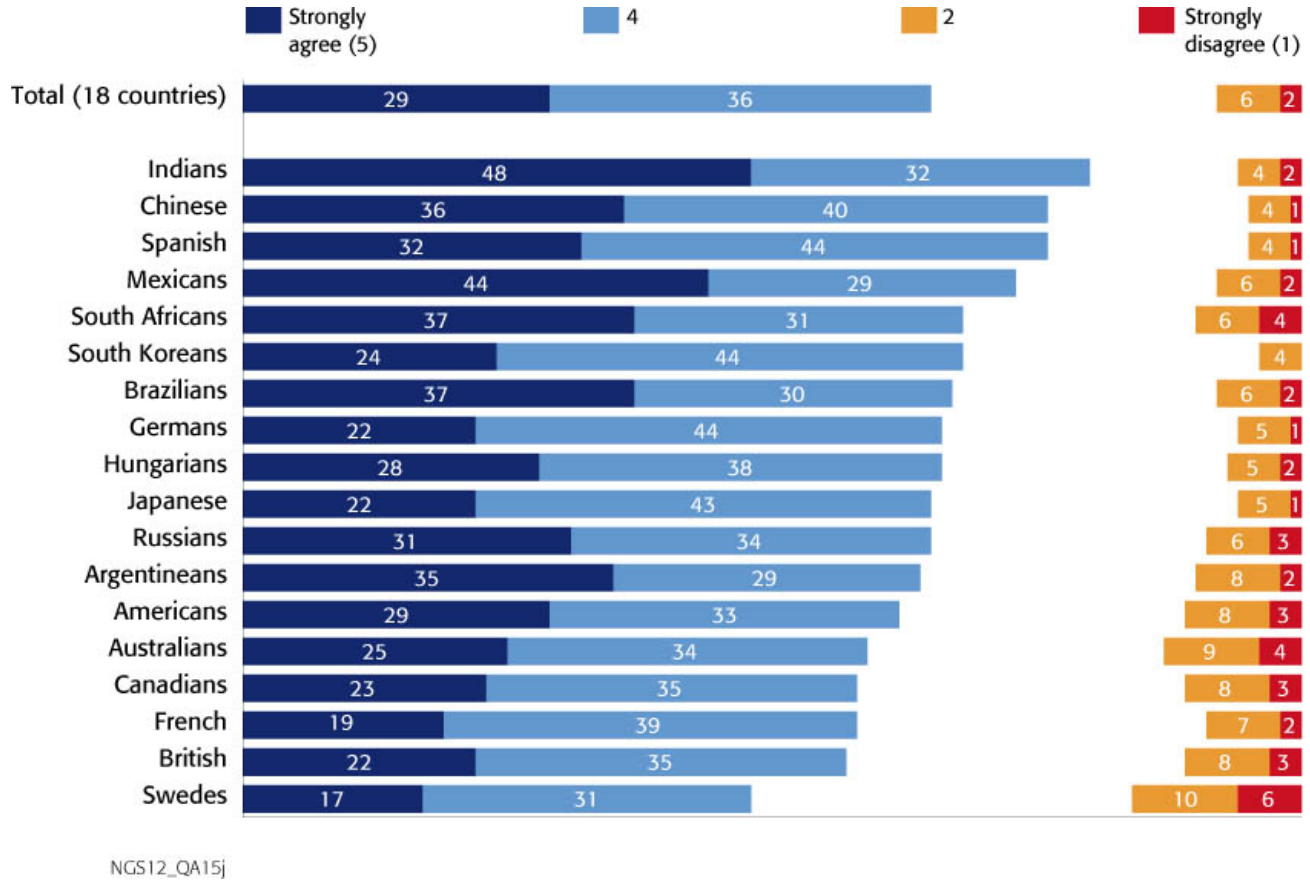
- Globally, consumers do not feel particularly empowered to influence their food choices, as fewer than half of consumers in the 18 countries surveyed, around four in ten, believe they have the power to influence the type of food available to them where they shop. Indians are most likely to agree they can influence the types of food available where they shop, and Indians, Chinese, and Swedes have become more likely to agree. Russians and Hungarians are least likely to agree they have this influence.
- Consumers also tend to believe they are also powerless to change the way that their food is produced, with Eastern Europeans the most likely to agree. Hungarians and Russians are the most likely to think that consumers cannot influence the way that food is produced.
- However, most consumers care about how their food is produced. Consumers in the Anglo-Saxon countries and Sweden are less likely than those in other countries to care about how their food is produced; in all other countries surveyed, majorities think this is very important to them.
- Almost half of consumers globally also claim to be concerned about where their food is produced. British and American consumers are less likely than others to worry about where their food is produced, whereas Brazilians and Russians are the most likely to say this matters to them.
- Globally, consumers feel strongly about GMOs in their food and tend to disagree with its use even if they are told that GMOs help farmers produce more food. Russians and Europeans feel particularly strongly against GMOs in their food, whereas Indians, followed by the British, are the most likely not to mind.

Consumer Perspectives on Food

- Most consumers do not feel well-informed about the quality, safety, and origin of their food. Indians are much more likely than consumers in the other countries surveyed to feel well-informed, while Japanese are the least likely to feel well-informed. Indians and Chinese consumers are more likely to say they are well-informed than they were two years ago. This might be related to relatively high concerns about food safety in these two countries.
- On average, almost half of consumers in the 18 countries surveyed claim they always read ingredient lists to know what is in the food they eat, with Indians and Russians most likely to do so.
- Most consumers do not think that eating meat is bad for the environment, although consumers in several European and Asian countries, including French, Hungarian, Indian, South Korean, and Swedish consumers, have become more likely to agree that eating meat is bad for the environment in recent years. Majorities of Americans, Argentineans, Australians, Canadians, Russians, South Africans, and Spanish disagree that eating meat is bad for the environment. Consumers in these countries also eat beef and chicken relatively frequently.
- One-quarter, on average, of consumers surveyed agree that fresh and frozen or canned foods are equally healthy, and American, British, Chinese, and Swedish consumers have become more likely to agree that they are.

Food Is An Essential Part of My Culture

Percentage of Consumers in Each Country, 2014



The white space in this chart represents “3” (on a scale of 1 to 5 where 1 means “Strongly disagree” and 5 means “Strongly agree” with the statement) and “DK/NA.”

I Prefer to Eat Foods and Recipes I Grew up with, Rather than Latest Trends in Food

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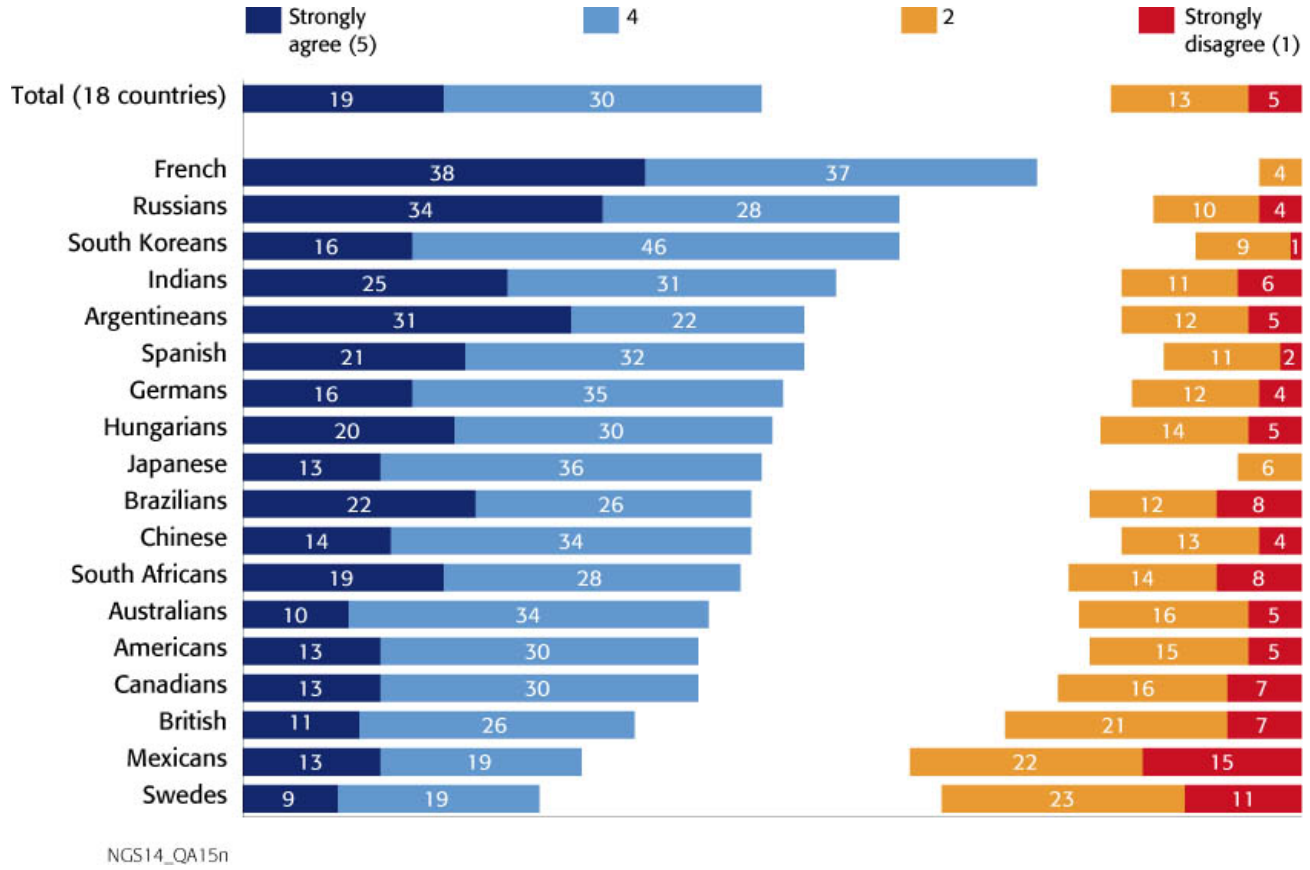
Percentage of Consumers in Each Country, 2014



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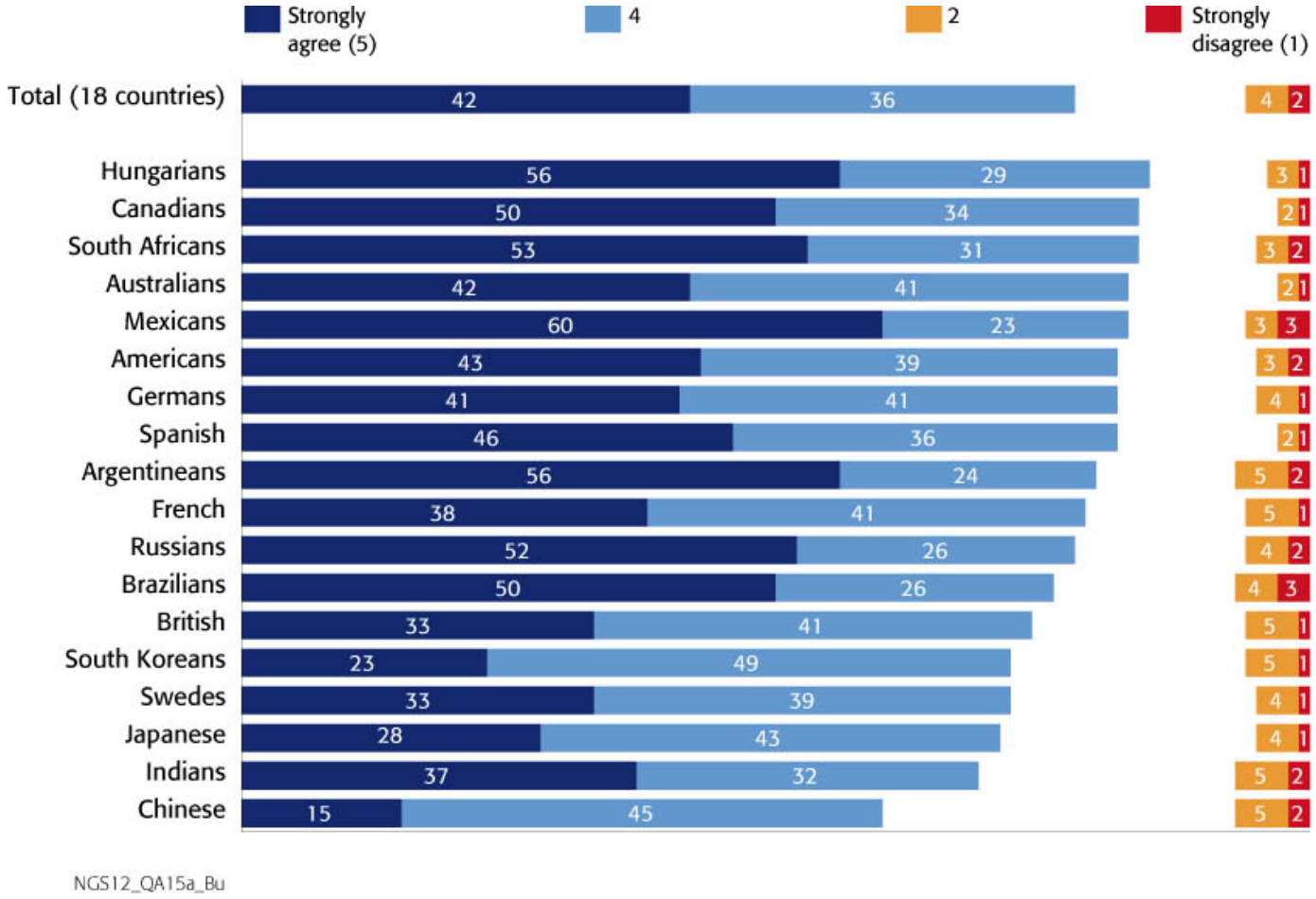
Buying Locally Produced Foods Helps Local Economy

Percentage of Consumers in Each Country, 2014



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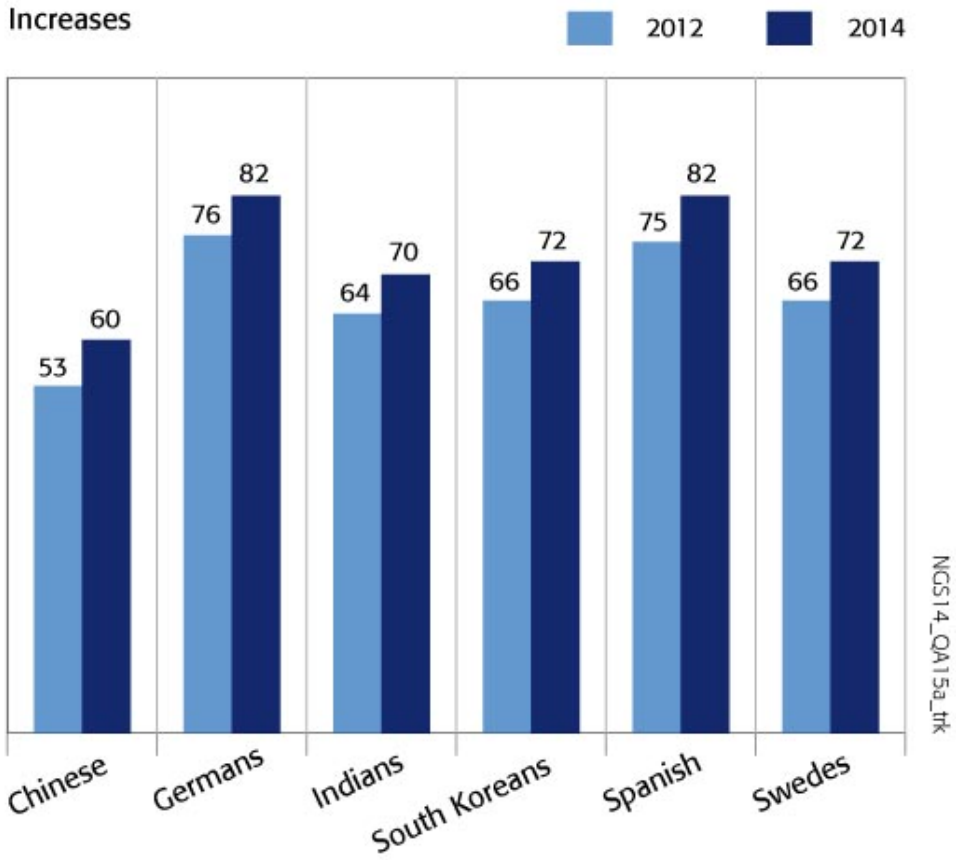
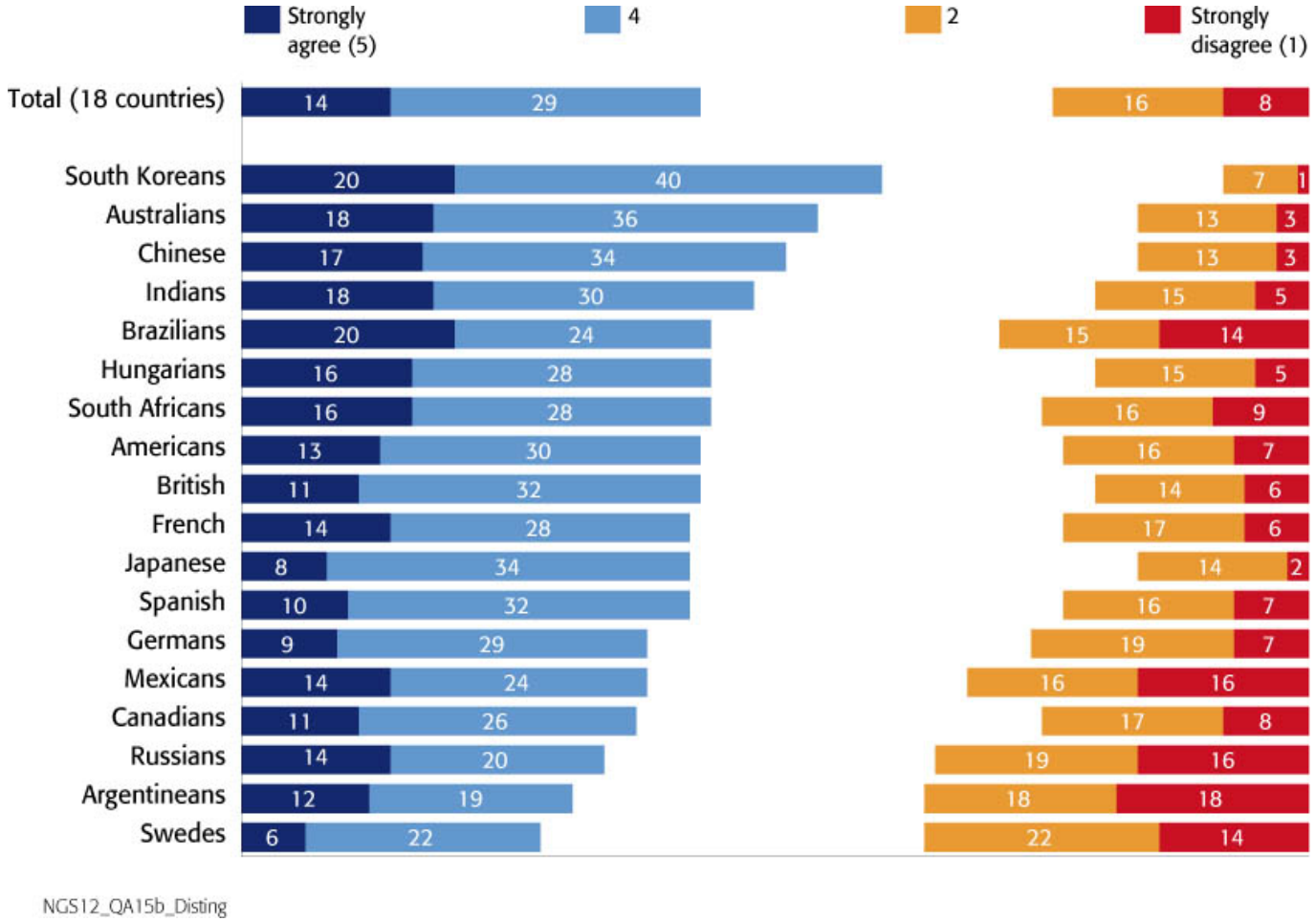
Buying Locally Produced Foods Helps Local Economy

"Agree" (4+5), Percentage of Consumers in Each Country, Trends: 2012–2014



Difficult to Distinguish between Local and Foods Produced Far Away

Percentage of Consumers in Each Country, 2014



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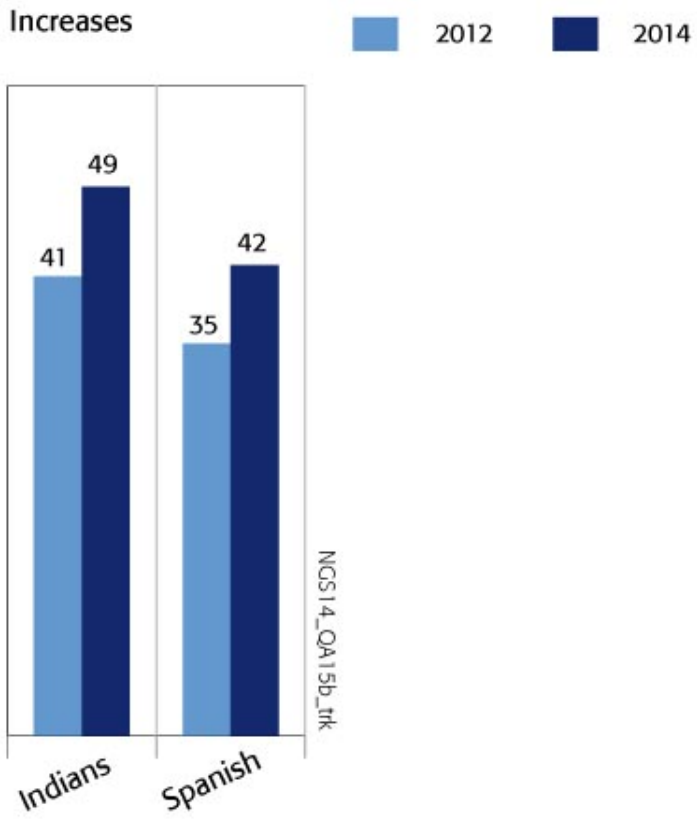
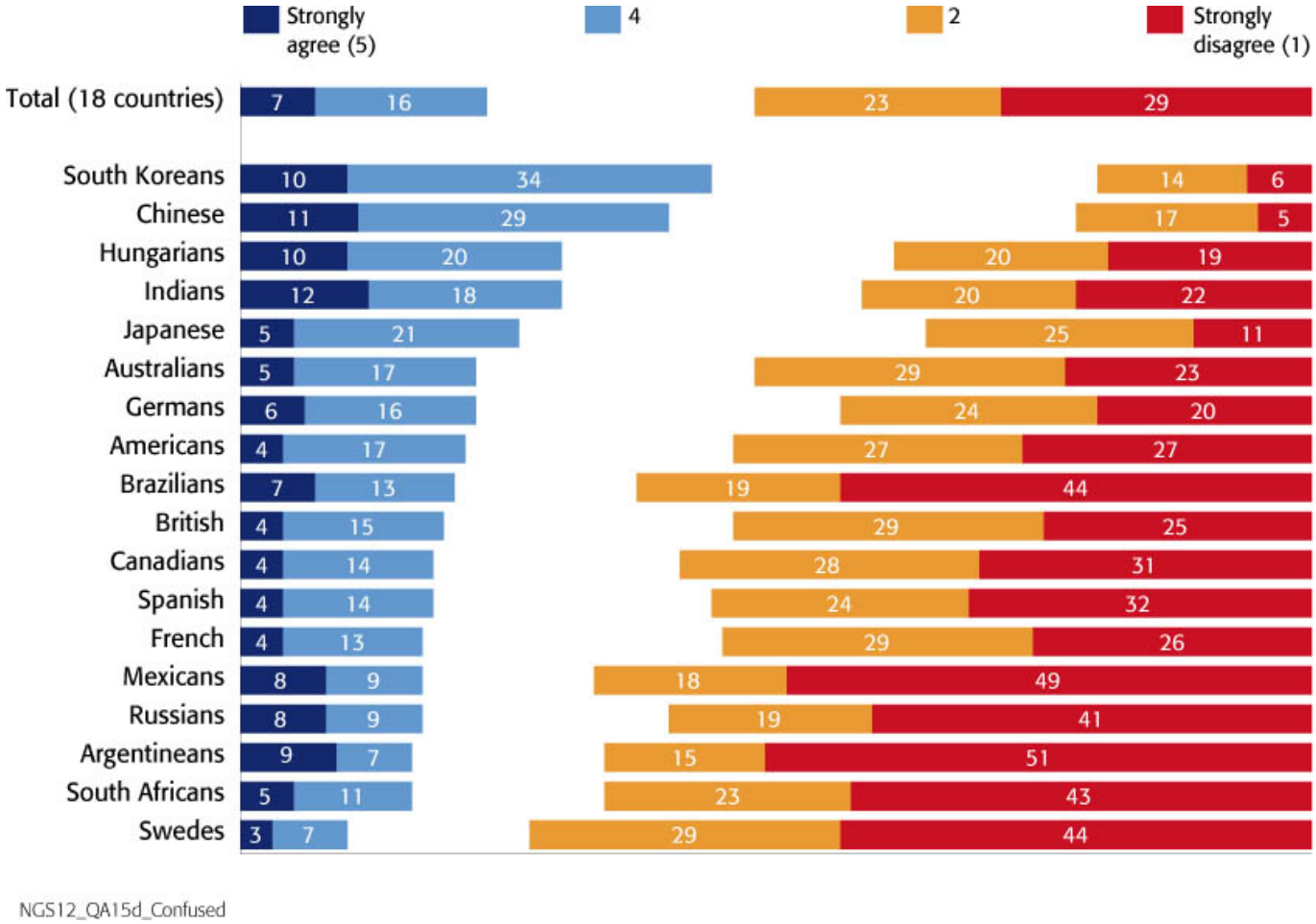


Confused About What "Organic" Means When it Comes to Food

Percentage of Consumers in Each Country, 2014



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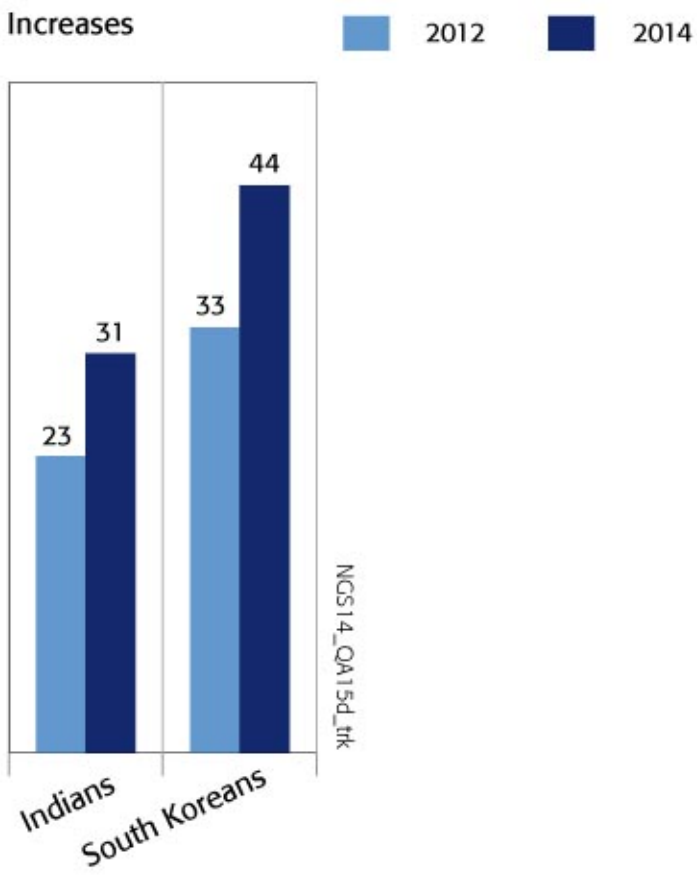
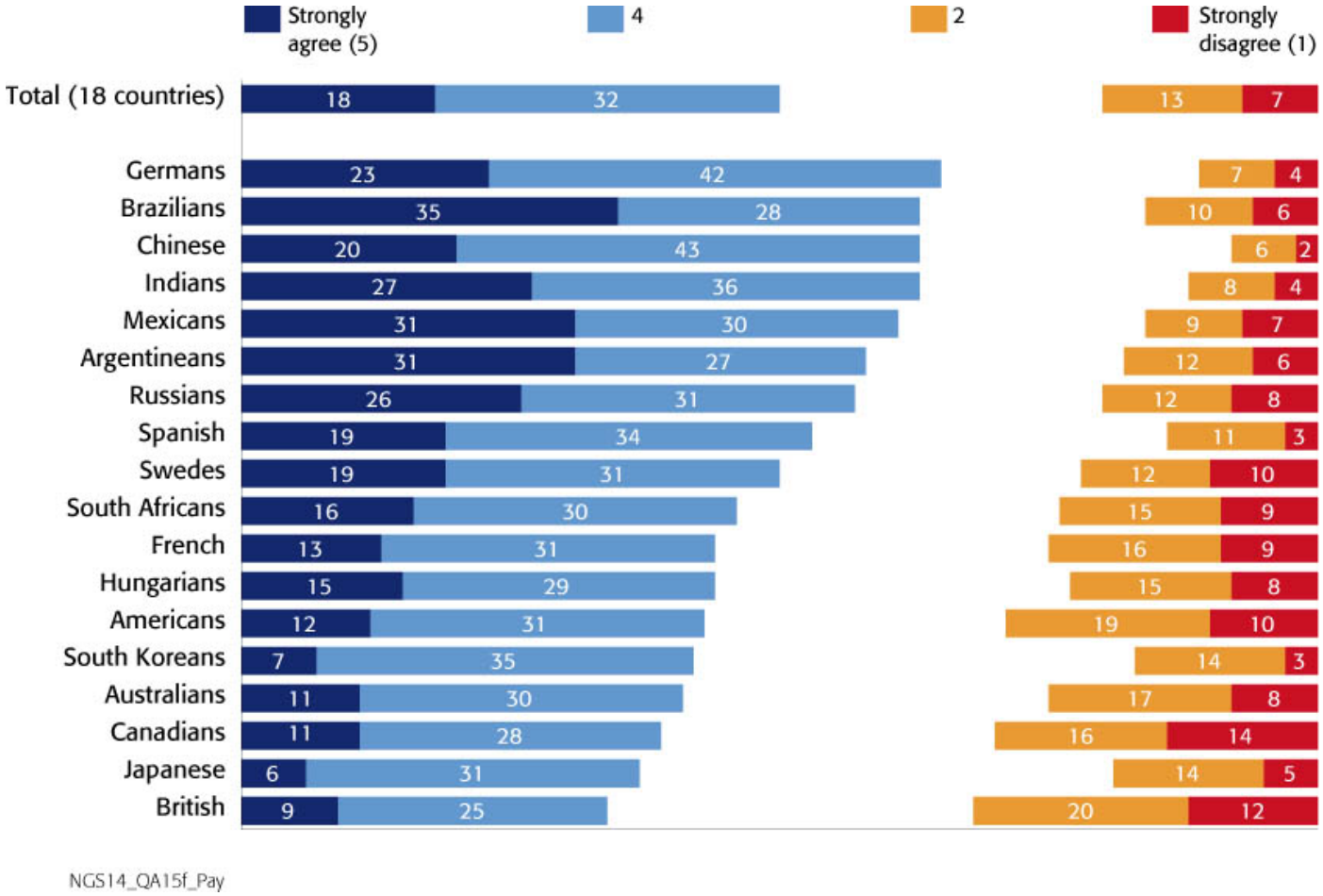


It is Worth Paying More for Locally or Organically Produced Foods

Percentage of Consumers in Each Country, 2014



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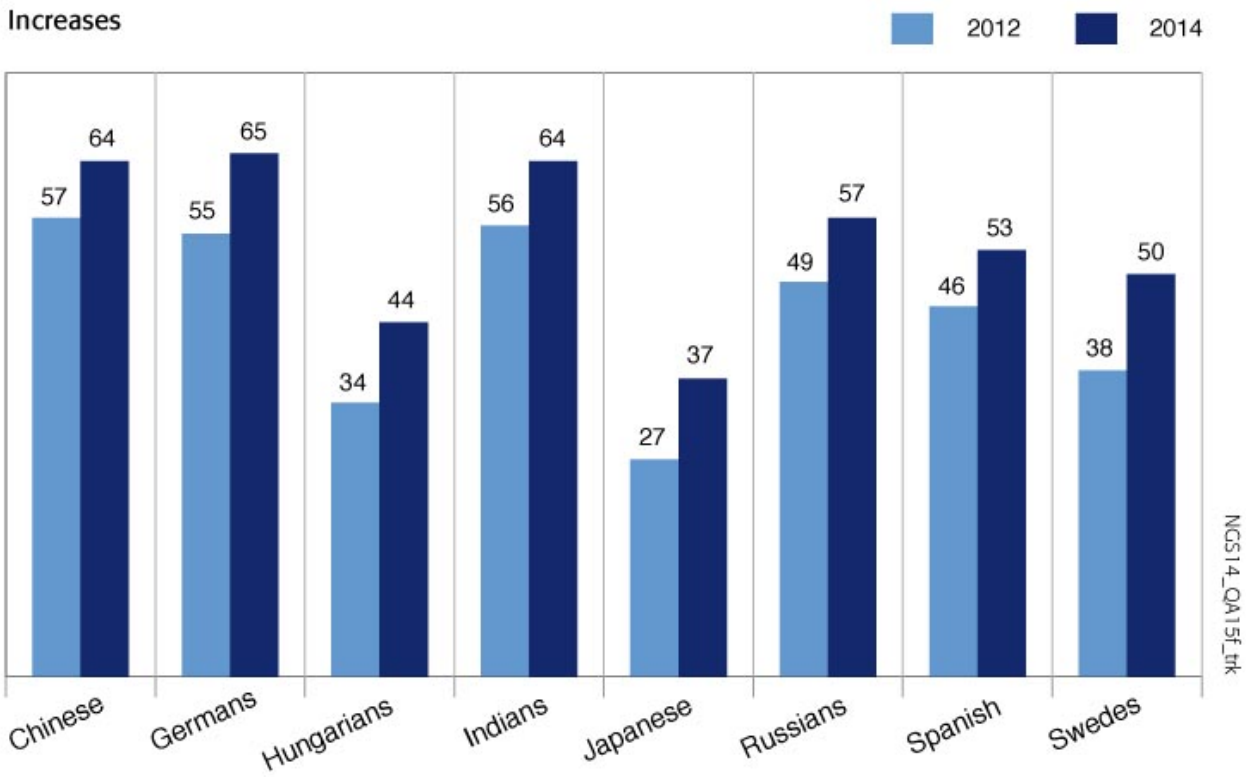
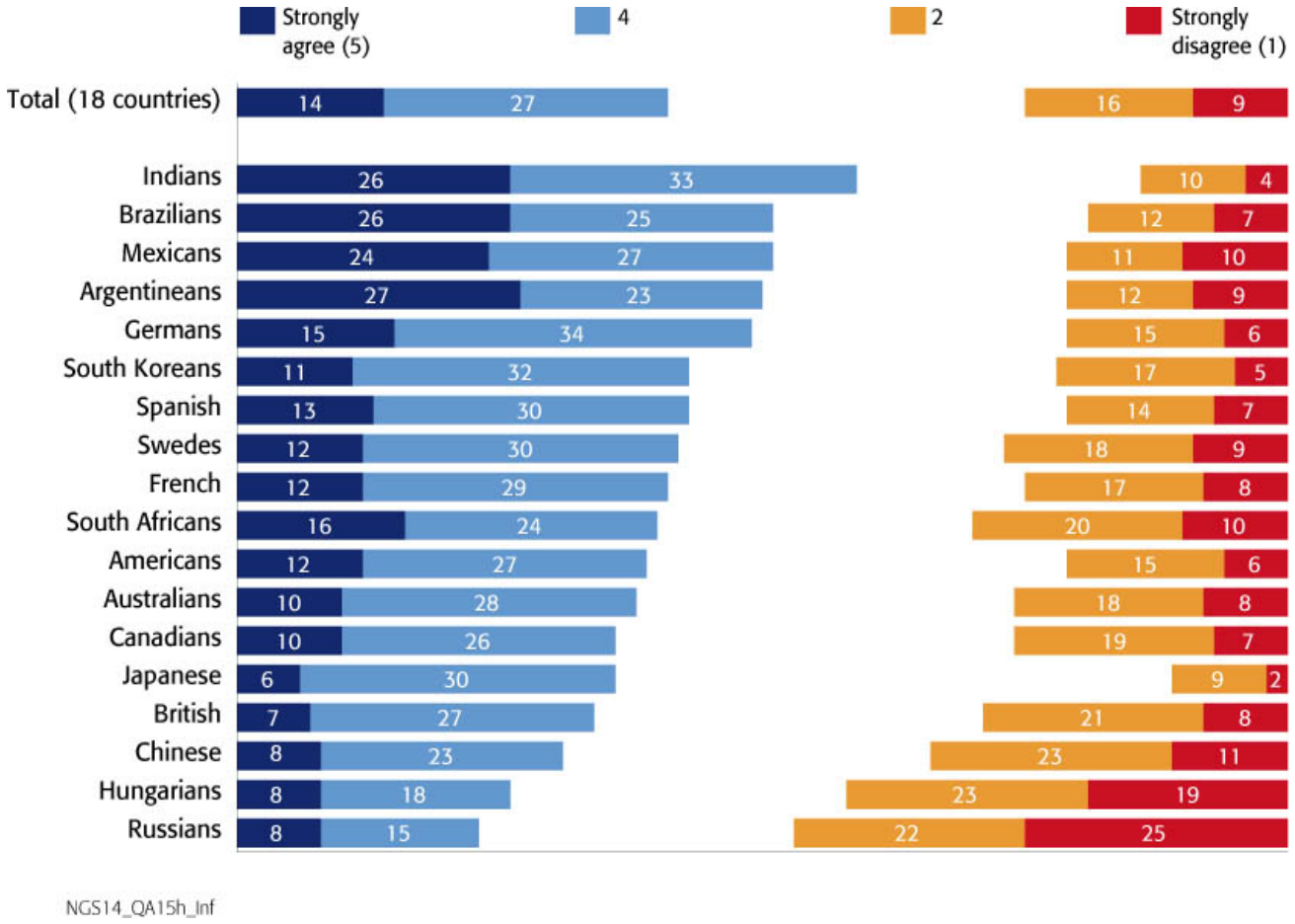


As a Consumer, I Can Influence the Types of Food Available Where I Shop

NATIONAL GEOGRAPHIC

Percentage of Consumers in Each Country, 2014



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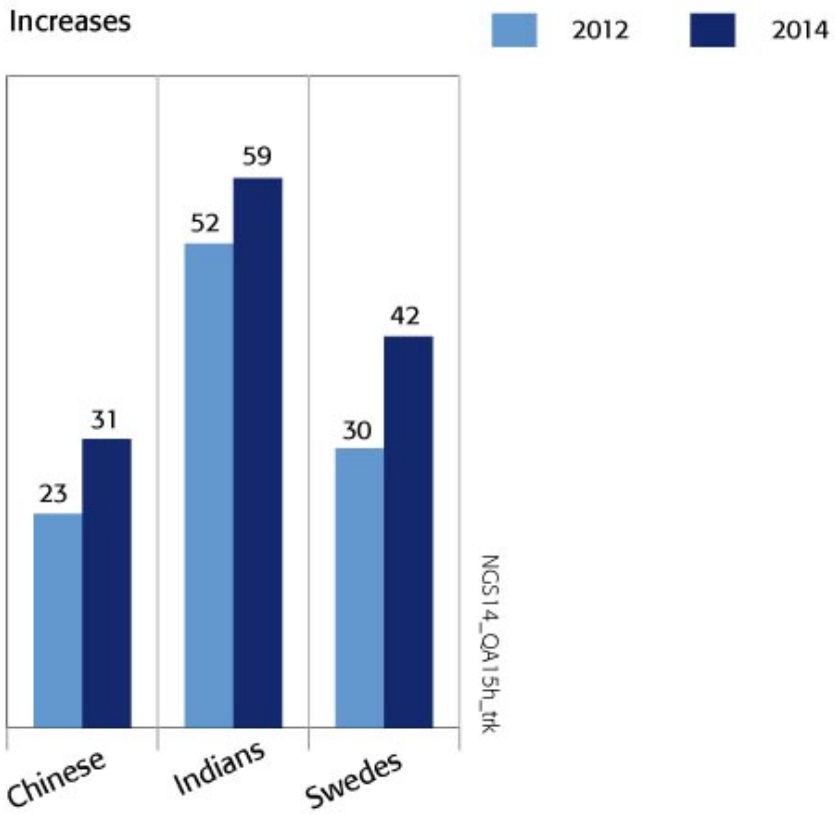
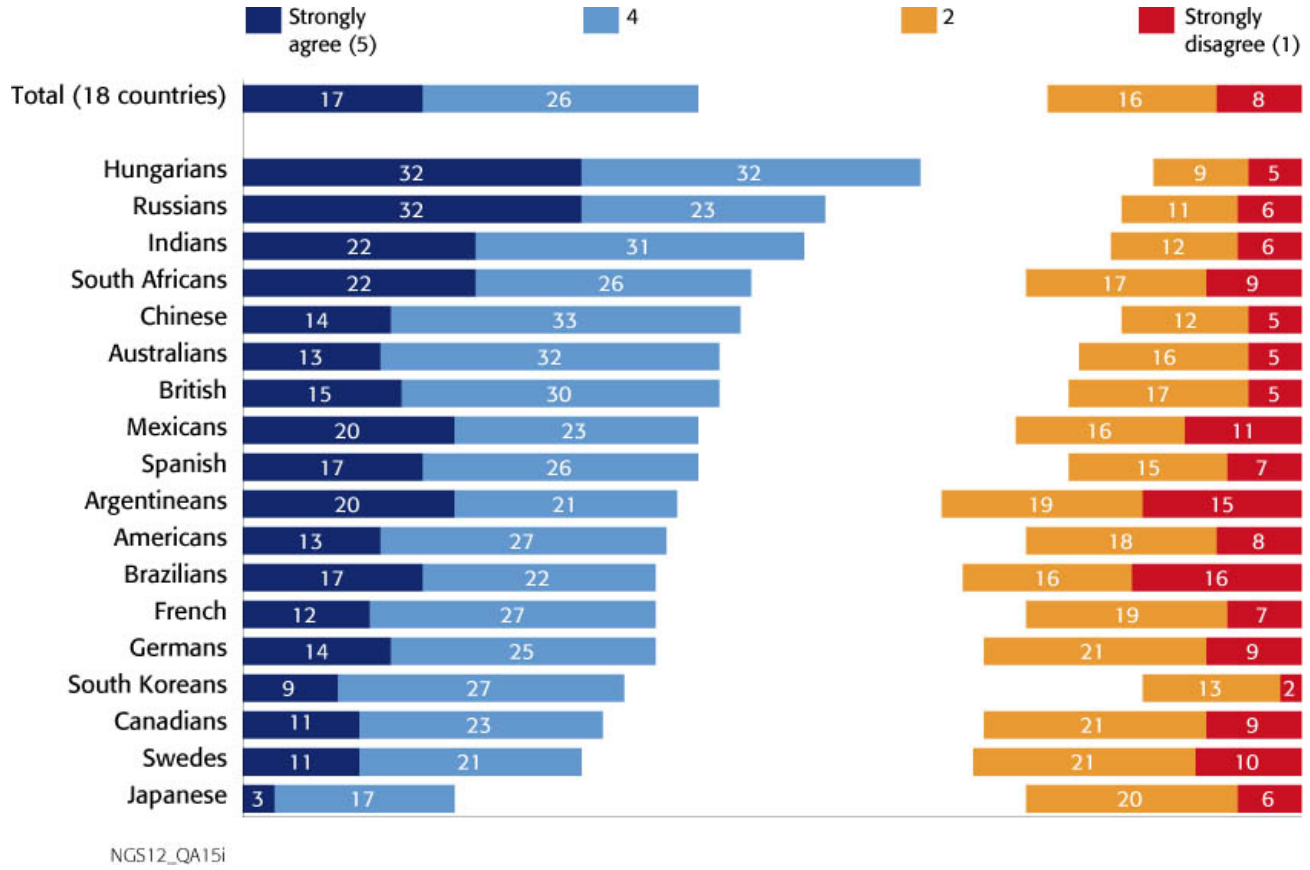


Consumers Have Little Influence over How Food Is Produced

Percentage of Consumers in Each Country, 2014



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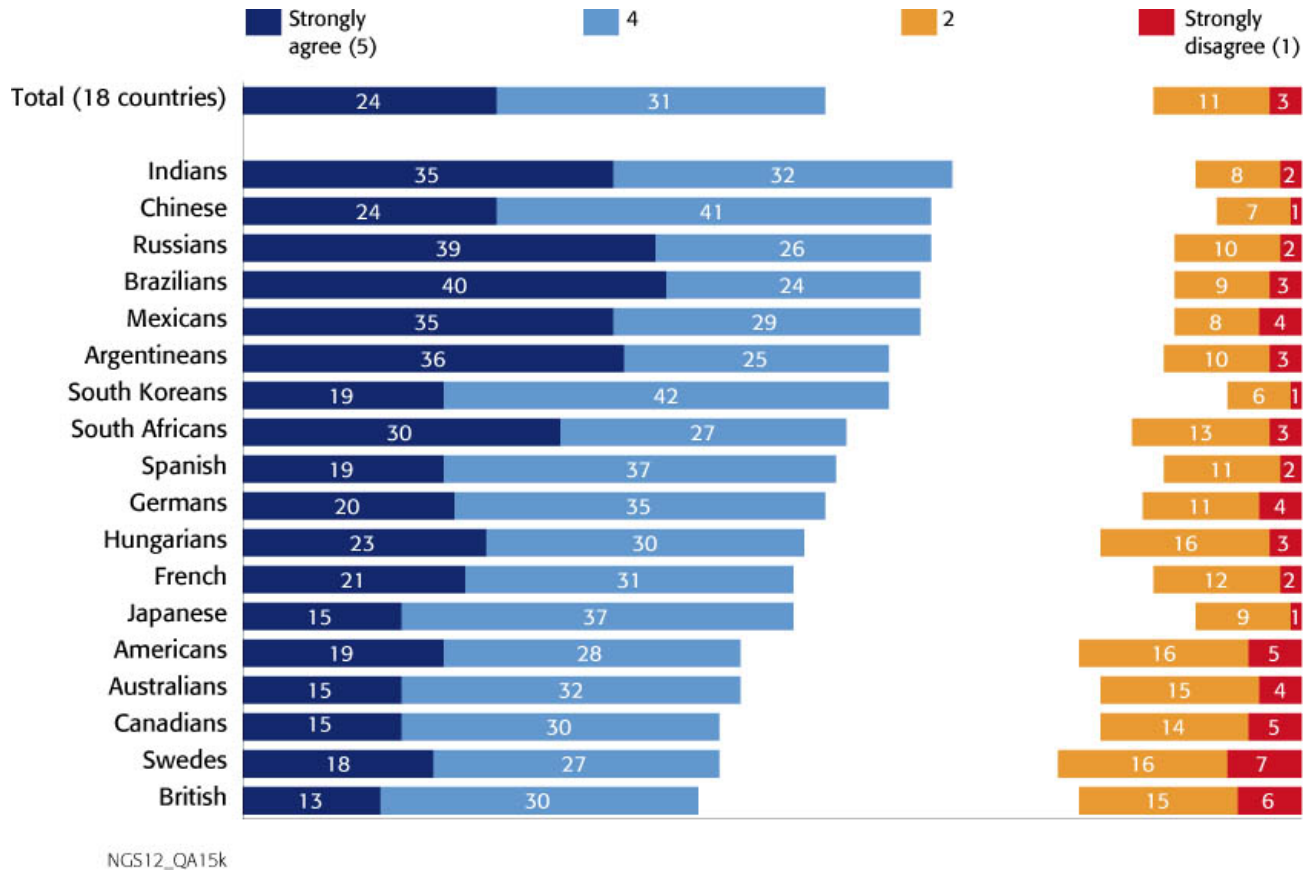
It Is Very Important to Know How My Food Is Produced

Percentage of Consumers in Each Country, 2014



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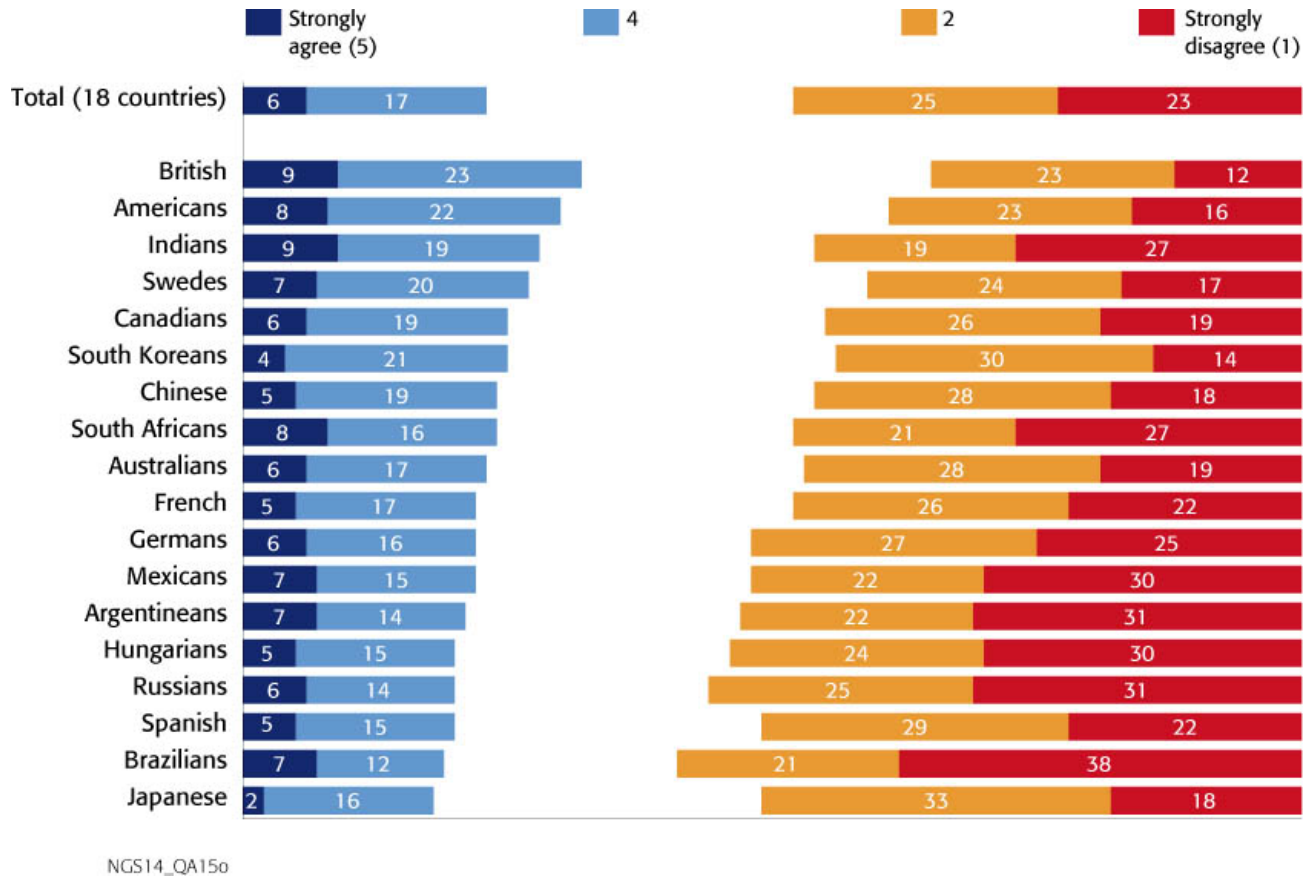
I Typically Don't Worry about Where My Food Is Grown or Raised

Percentage of Consumers in Each Country, 2014



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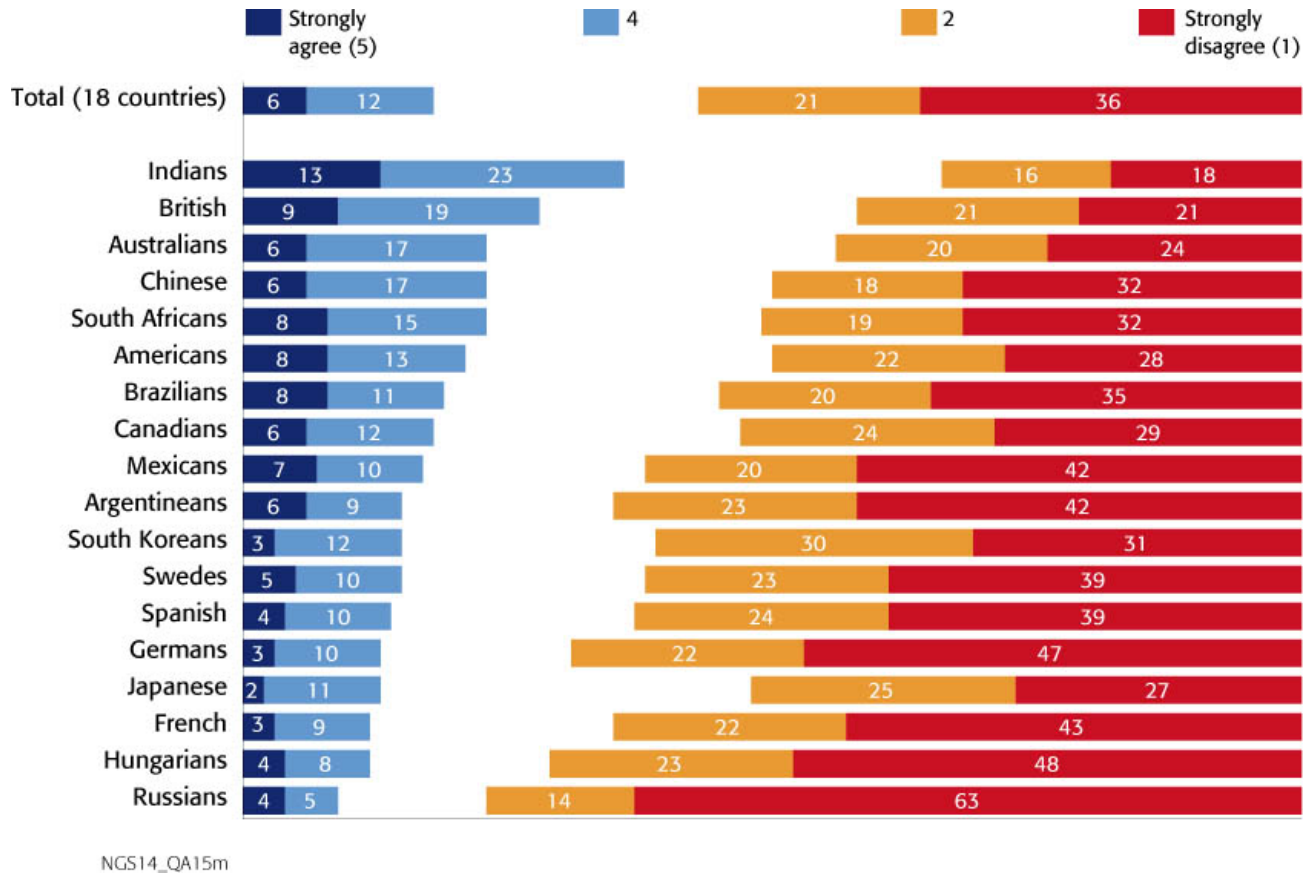
I Don't Mind GMOs in Food If It Helps Farmers Produce More and/or Keeps Prices Down

Percentage of Consumers in Each Country, 2014



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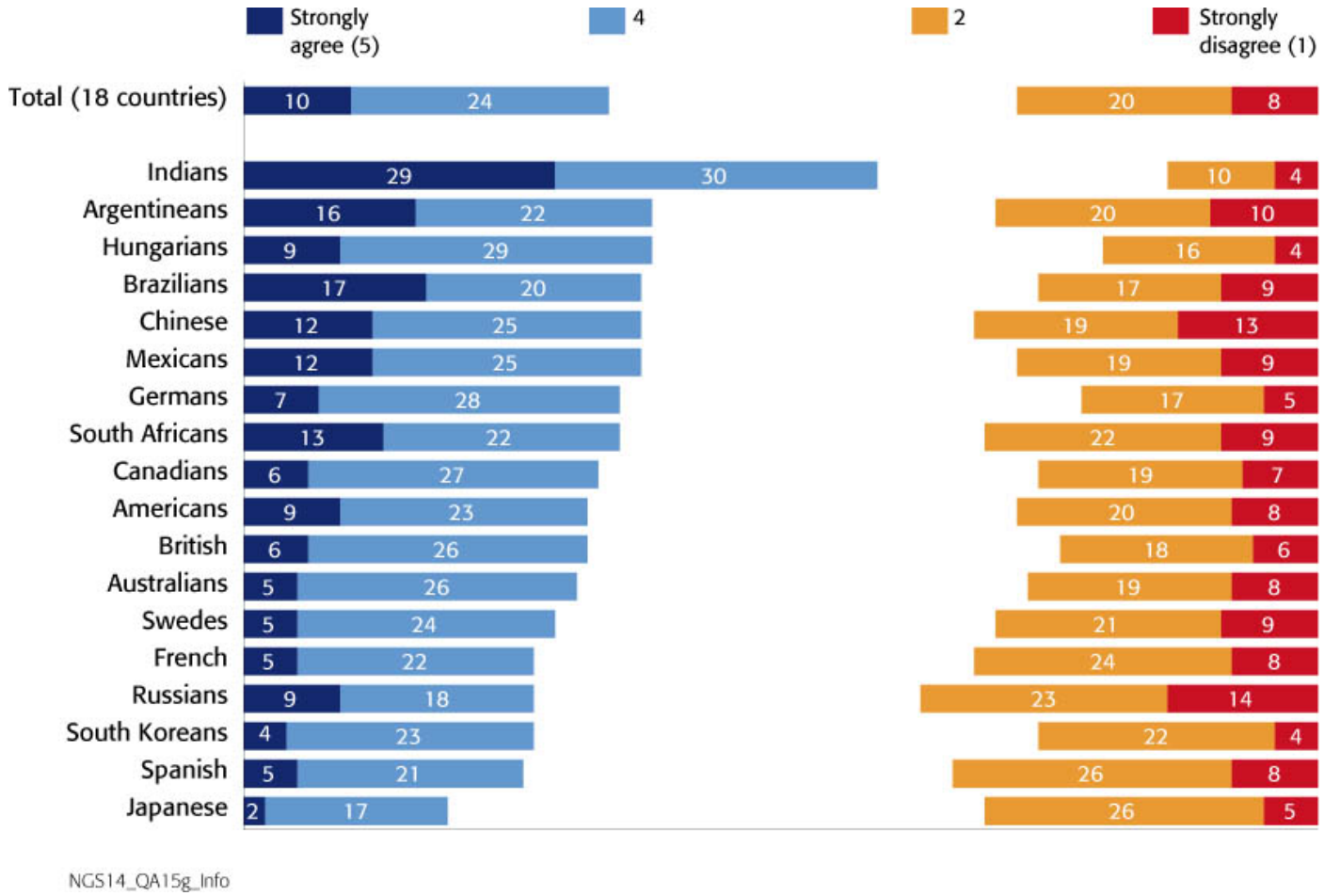
I Feel Well-Informed about the Quality, Safety, and Origin of Food I Eat

Percentage of Consumers in Each Country, 2014



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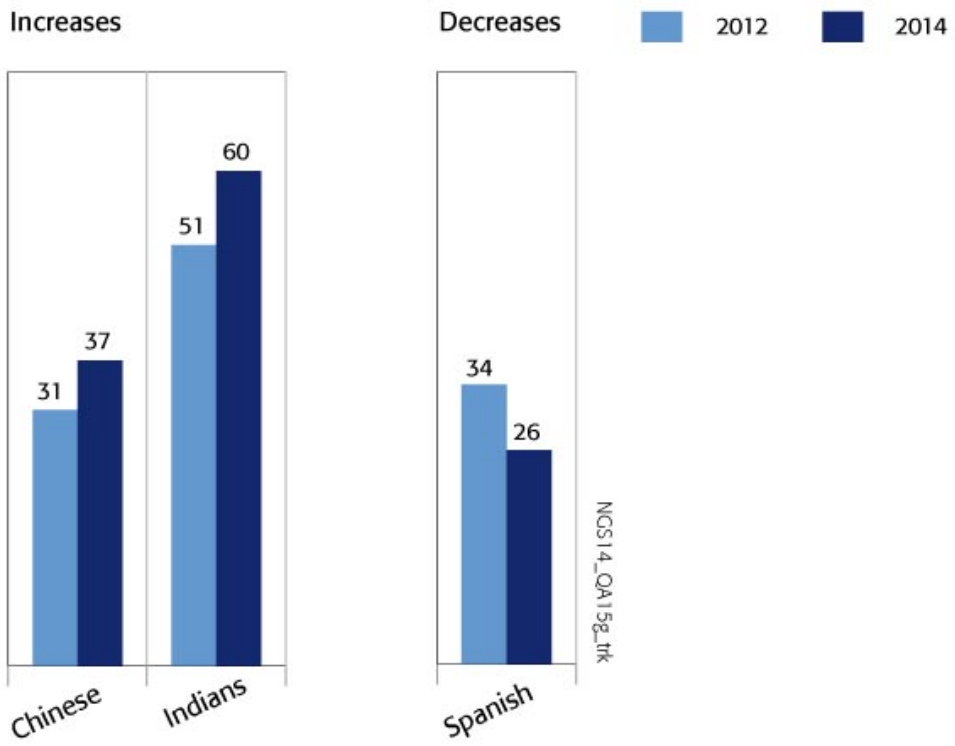
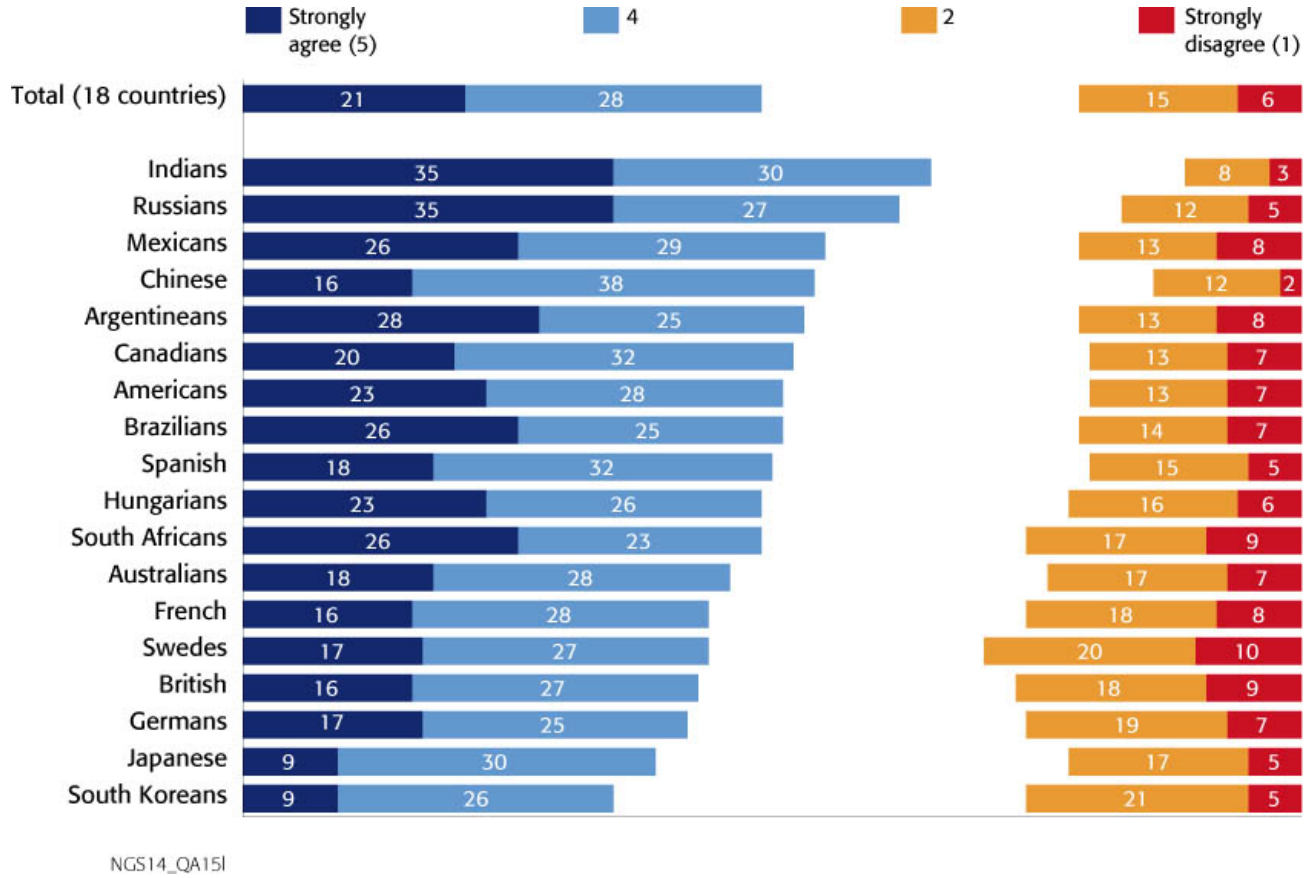


Always Read Ingredient Lists to Find out What Is in the Food I Eat

Percentage of Consumers in Each Country, 2014



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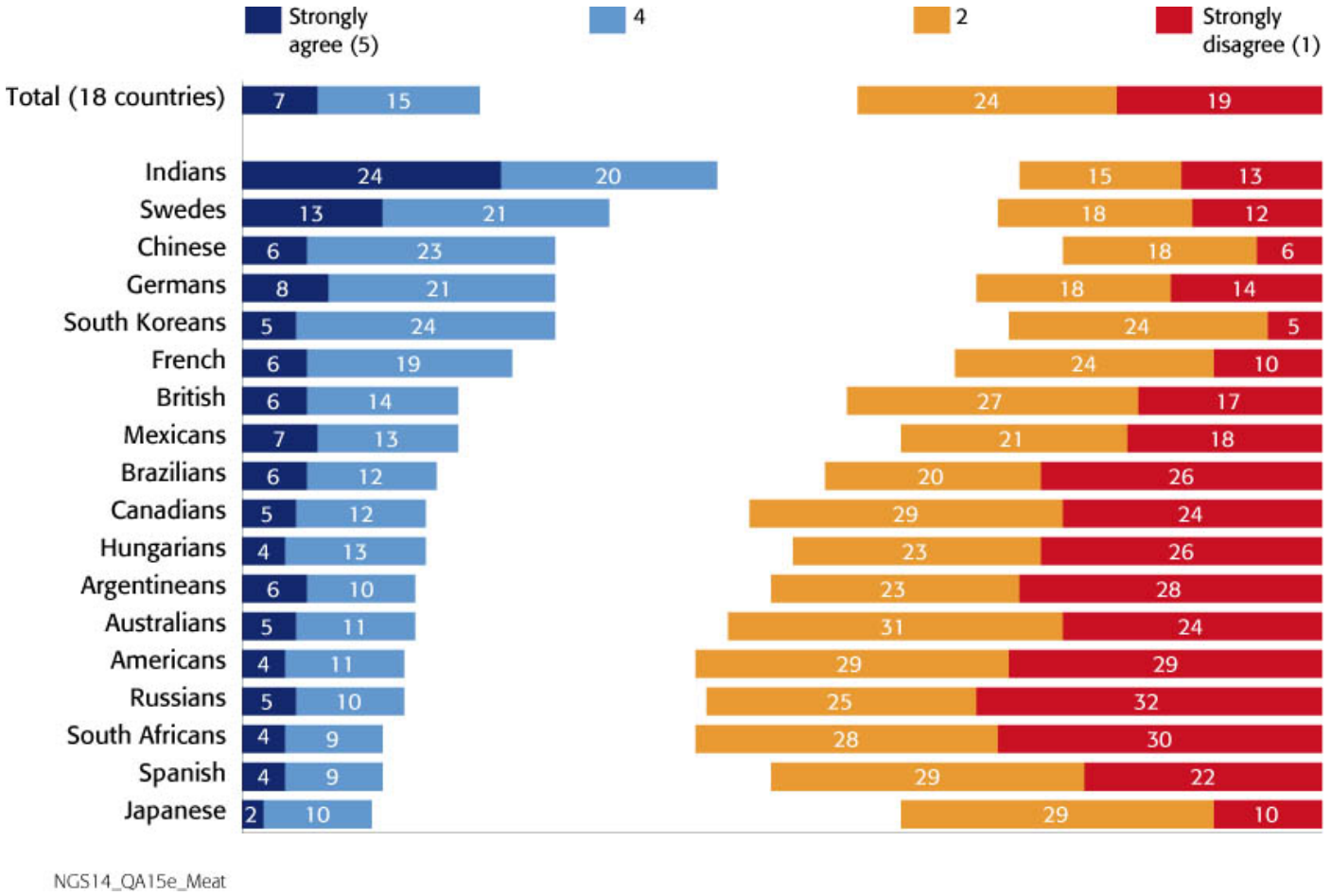
Eating Meat is Bad for the Environment

Percentage of Consumers in Each Country, 2014



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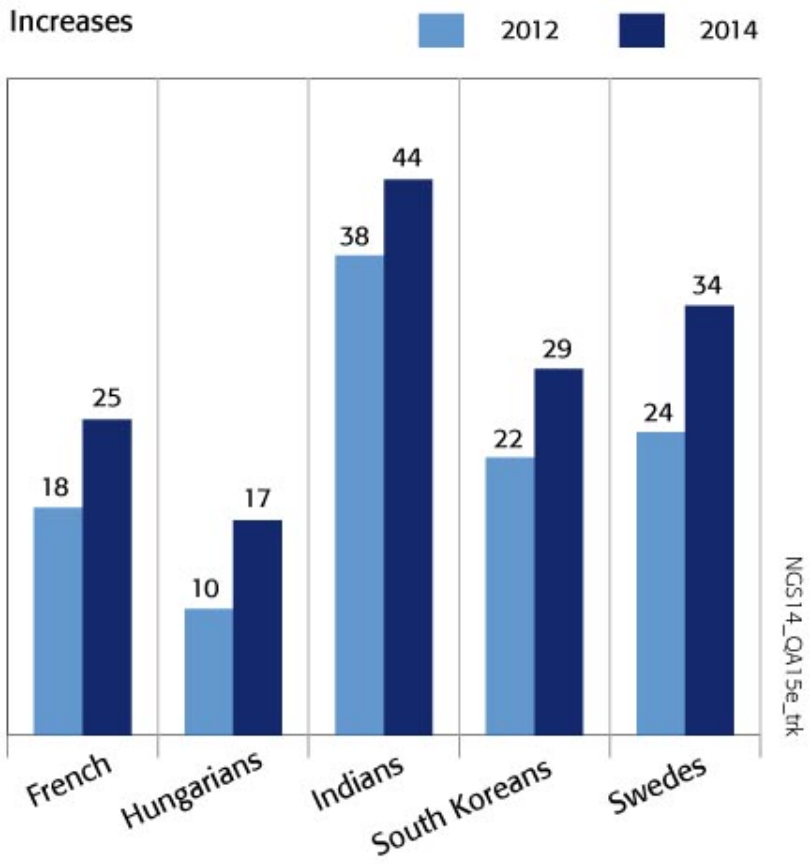
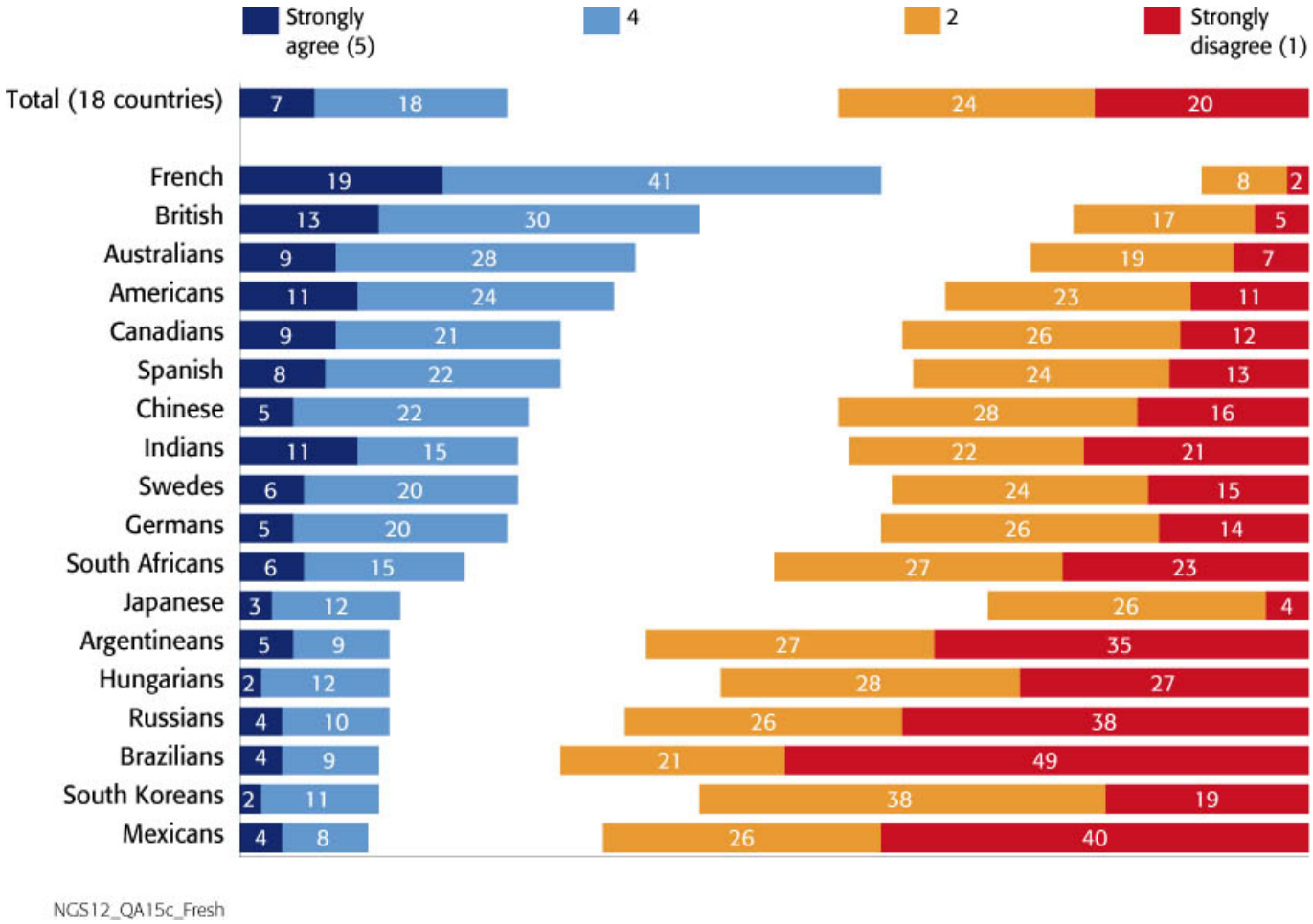


Fresh and Frozen/Canned Foods are Equally Healthy

Percentage of Consumers in Each Country, 2014



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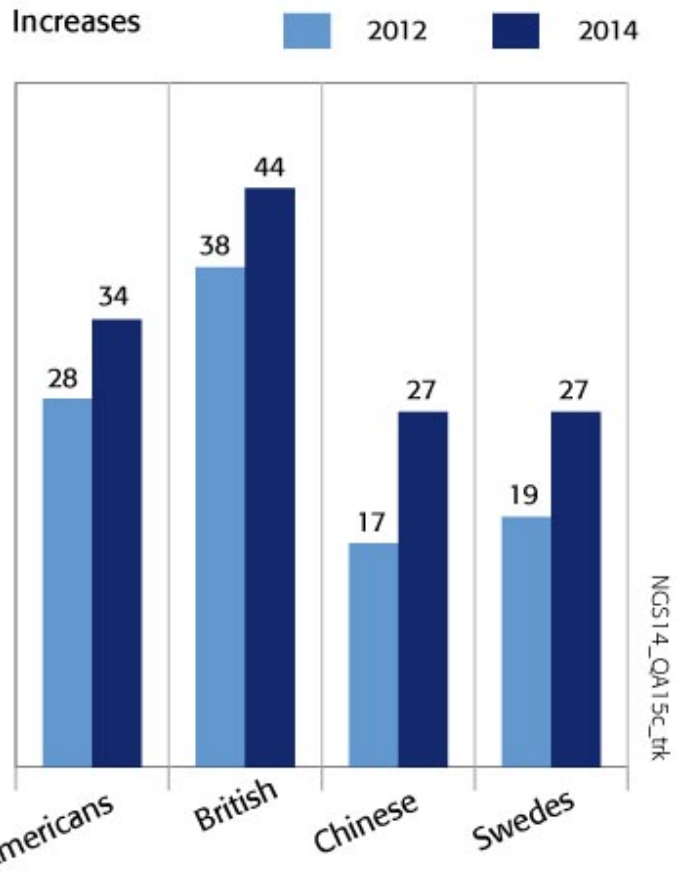


Trust in Science

Trust in Science

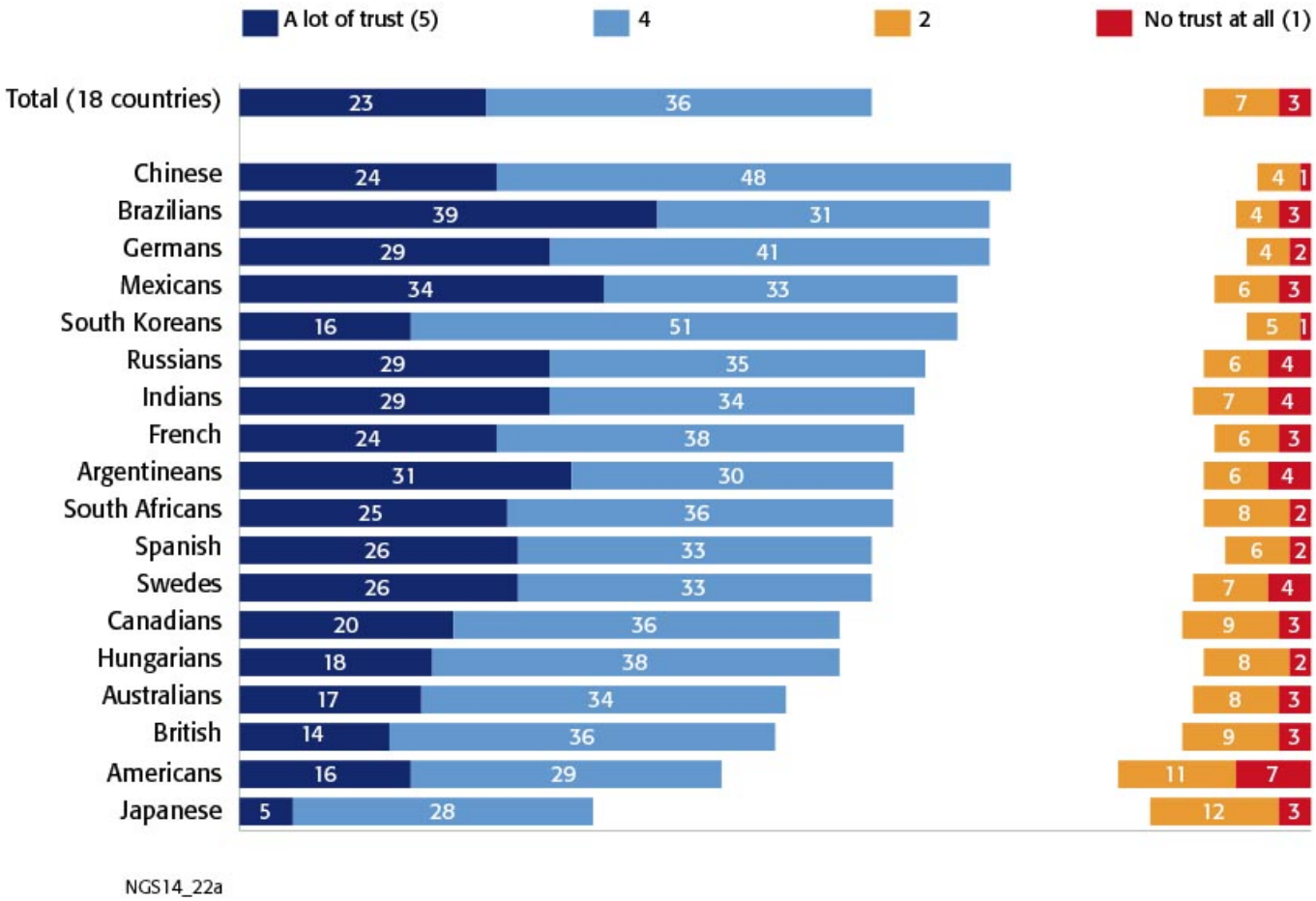
- Globally, consumers generally tend to be trusting of scientist's claims about food and climate change.
- Consumers in all the 18 countries surveyed tend to trust the science stating that the way we produce and consume food today often negatively affects the environment. American and Japanese consumers hold less trust in this than do those in the other countries surveyed.
- Consumers also mostly trust scientists' claim that the way we produce and consume food today often negatively affects our health—although Japanese consumers are much less likely than consumers in other countries to think so. British, Australian, Swedish, and American consumers are also less trusting of scientists' findings on the link between food production and consumption and health relative to consumers in the other countries surveyed.
- Far more trusting of this claim, Brazilians and Russians are the most prone to say they trust science saying that the way we produce and consume food today often negatively affects our health. Brazilians, Russians, Mexicans, South Africans, and Argentineans are the most likely to say they have "a lot of trust" in this statement.
- There is a large gap between the levels of trust among those who are most and least trusting of scientists' claim that the way we produce and consume food today often negatively affects our health, so a global consensus is lacking.

Trust in Science

- Consumers are more likely to trust scientists' findings that human activities are changing the world's climate, with on average more than two-thirds of consumers across the 18 countries trusting this science. Consumers in Asia and Latin America, including Chinese, Indians, South Koreans, Brazilians, Mexicans, and Argentineans, are more trusting of this statement than are consumers in other countries.
- A majority of Brazilians, higher than for the other countries, say they have "a lot of trust" in scientists' findings that human activities are changing the world's climate.
- Americans are the most likely to say they do not trust this finding, with one in five Americans lacking trust in this statement. Trust in scientists' findings on climate change is also relatively low among Japanese, British, and Australians, as fewer than six in ten consumers in each of these countries say they trust them.

Trust in Science: Today's Food Production/Consumption Often Negatively Affects Environment

Percentage of Consumers in Each Country, 2014



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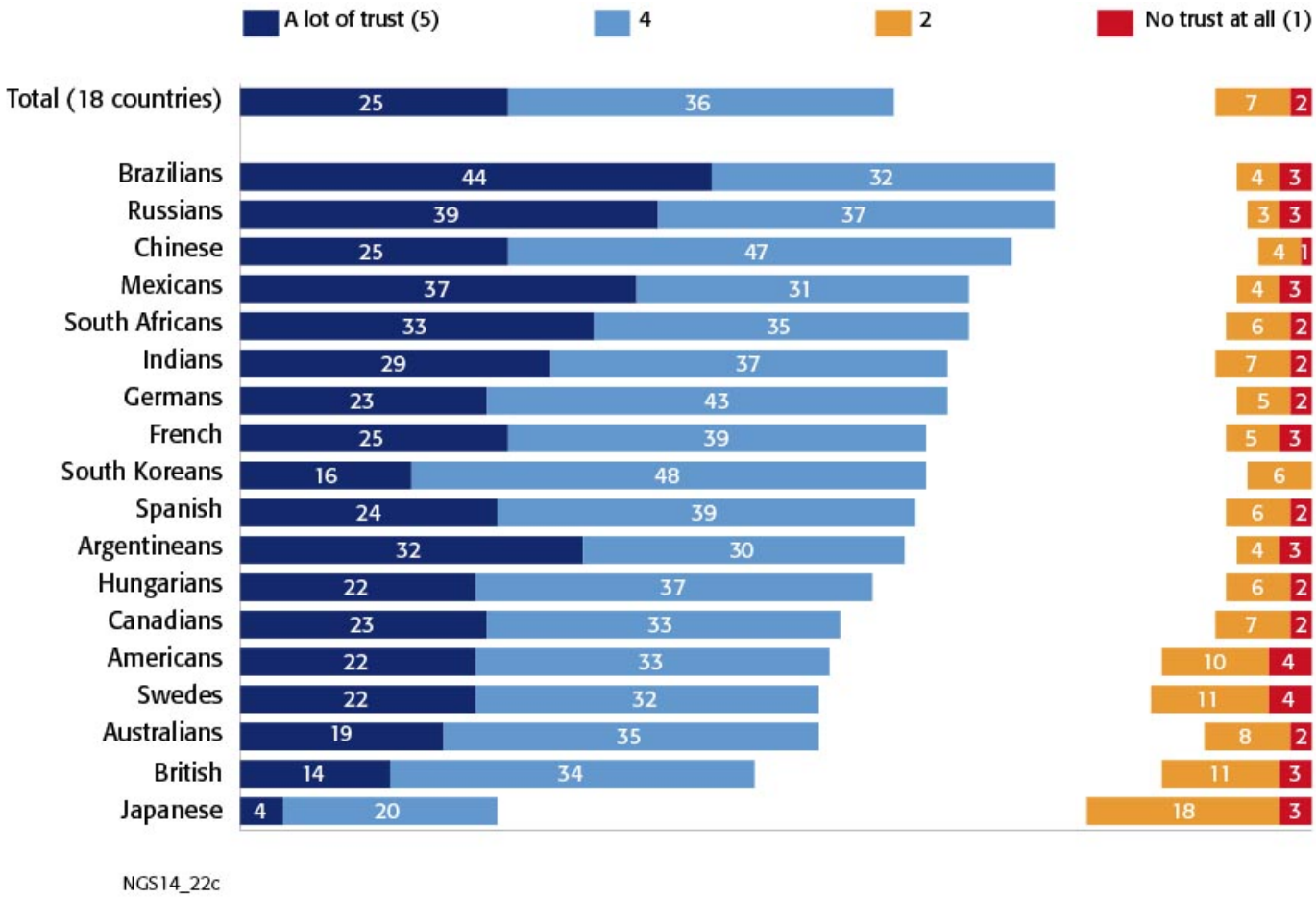
Trust in Science: Today's Food Production/Consumption Often Negatively Affects Our Health

NATIONAL GEOGRAPHIC

Percentage of Consumers in Each Country, 2014



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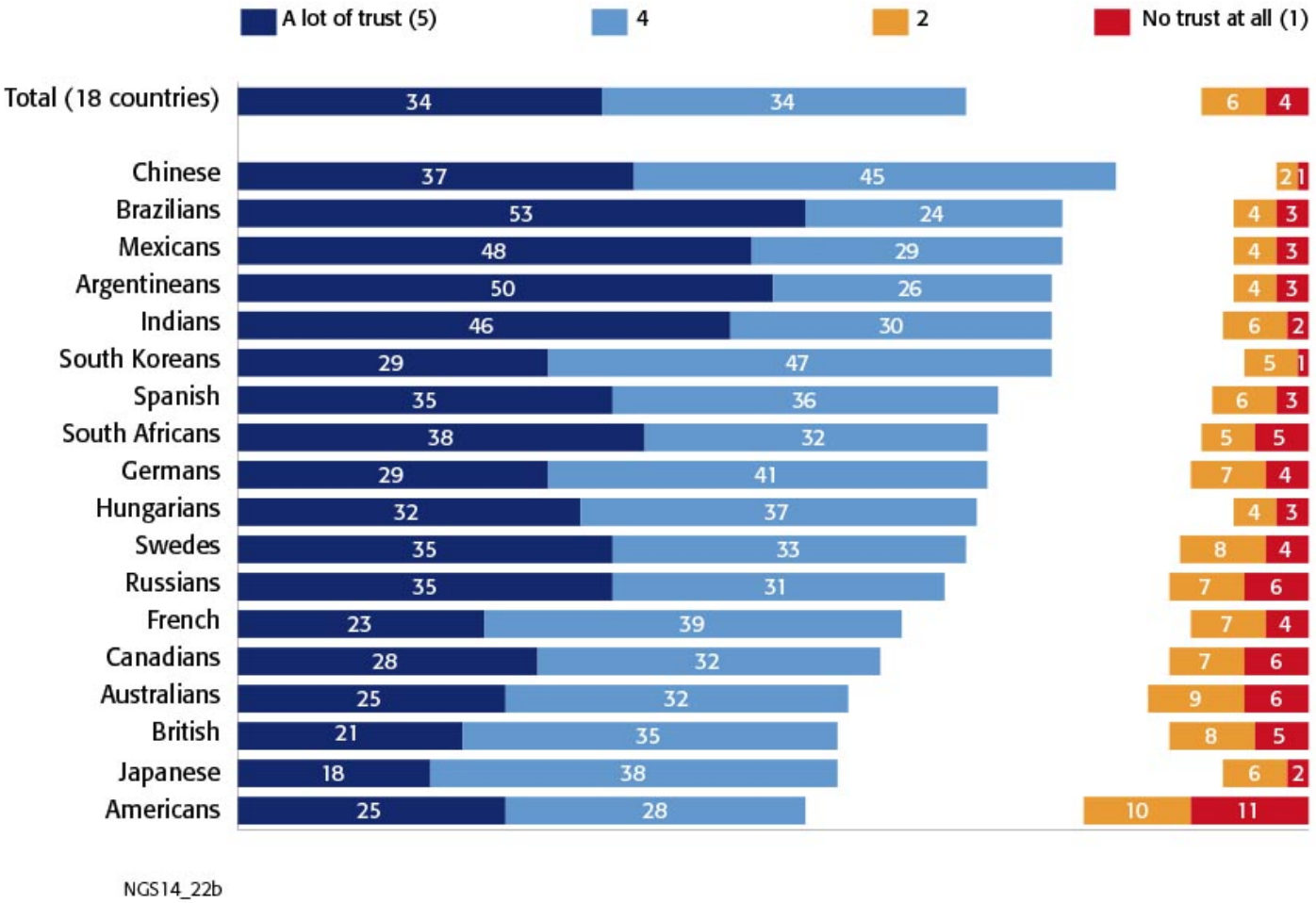
The white space in this chart represents 3 and "DK/NA."

Trust in Science: World's Climate Is Changing Because of Human Activities

NATIONAL GEOGRAPHIC

Percentage of Consumers in Each Country, 2014



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The white space in this chart represents 3 and "DK/NA."

Perceived Need to Change Production/Consumption of Food

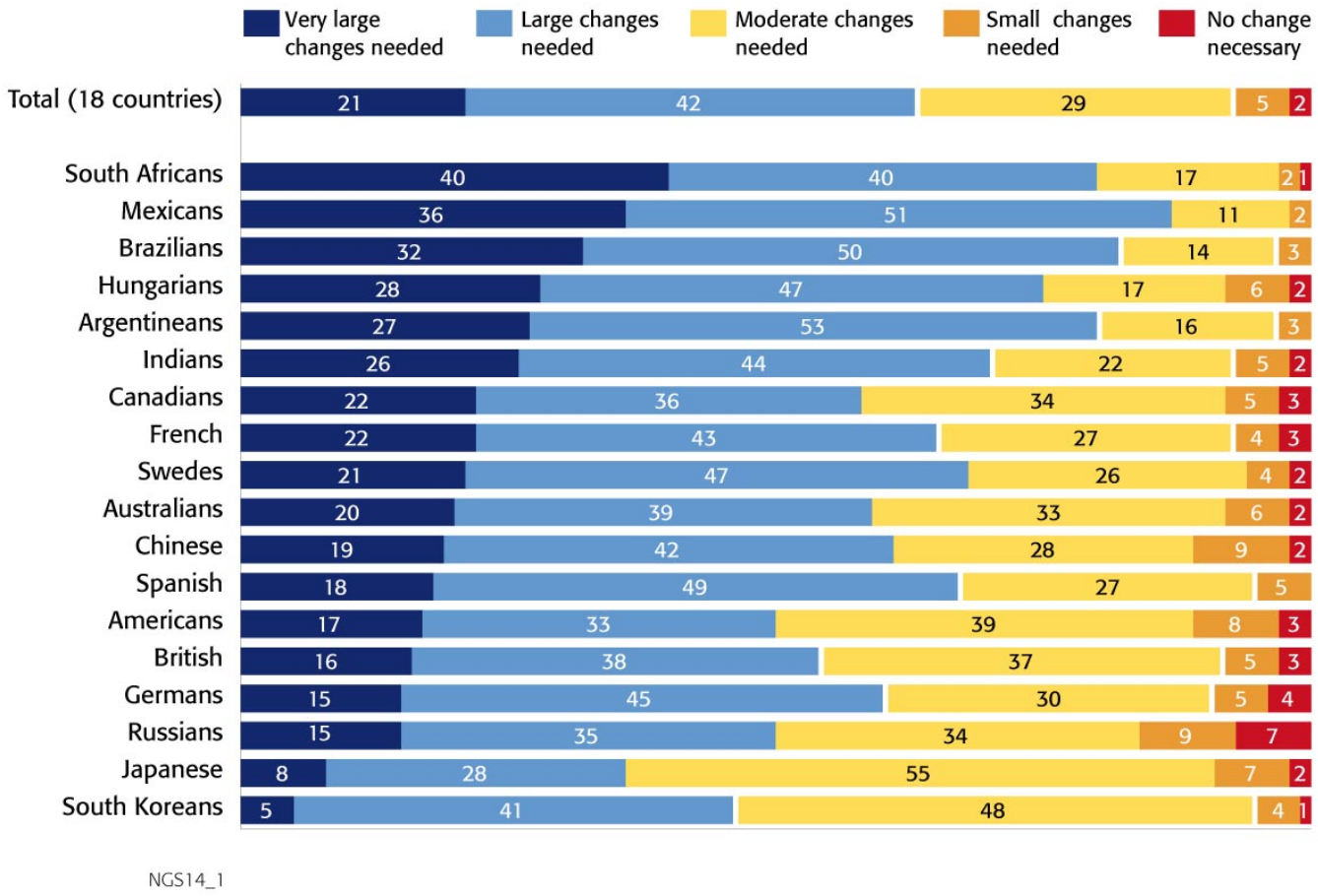
Perceived Need to Change Production/ Consumption of Food

- Consumers agree that we need to change the way we produce and consume food. On average, a majority of more than six in ten consumers across the 18 countries surveyed believe that large or very large changes are needed in how we produce and consume our food in order to be able to feed a growing global population over the long term.
- South Africans and Mexicans are most likely to think that very large changes are needed, while South Korean and Japanese consumers are the least likely to say very large changes are necessary—fewer than one in ten consumers, each, in these two countries think that very large changes are necessary.
- In four of the 18 countries, Japan, South Korea, Russia, and USA, half or less of consumers say that large or very large changes are necessary. However, a closer look at their perceived need to change food production or consumption versus their food sub-index scores reveals that consumers in these markets tend to display relatively unsustainable food behaviors relative to those in other markets, with the exception of South Koreans (see matrix).
- Latin Americans instead tend to be especially convinced that large changes are needed in how we produce and consume our food, yet the impact of their food consumption habits differs little from that of consumers in Japan, Russia and the USA, and is below average for all countries surveyed. Indians stand out as displaying the most sustainable food consumption habits due to their avoidance of meat, and their above average sense that the food system needs to change.

Need to Change Production/Consumption of Food to Feed Growing Global Population in Long Term

NATIONAL GEOGRAPHIC

Percentage of Consumers in Each Country, 2014



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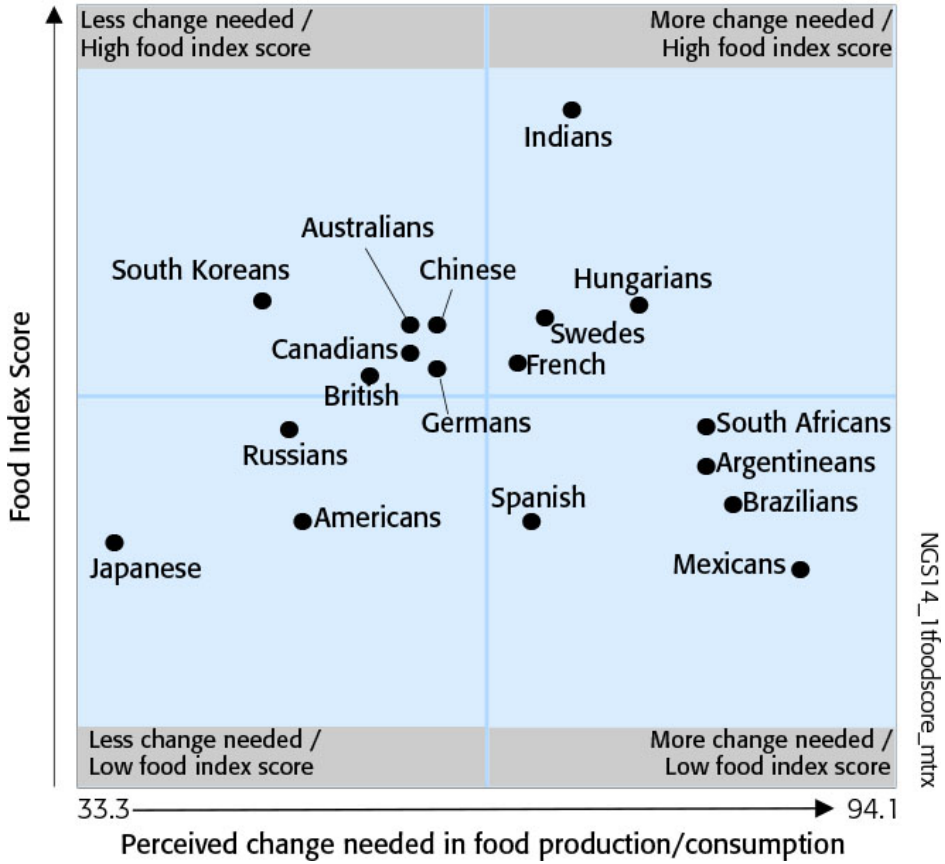
The white space in this chart represents "DK/NA."

Perceived Change Needed in Food Production/ Consumption vs Food Index Score

Consumers in Each Country, 2014

The adjacent chart plots consumers' average scores on the Greendex Food Sub-Index, a measure of the environmental footprint of food consumption, versus percentages stating that change is required in food production and consumption systems in order to feed a growing population. The higher the Food Index Score, the more sustainable food consumption habits are.



Drivers of Food Consumption Behavior Change

Drivers of Food Consumption Behavior Change – Methodology and Overall Potential to Change

- To understand the dynamics behind behavior change around food, we developed a Behavior Change Index that scores consumers' willingness to change their eating habits for environmental reasons combined with the possibility to further improve their current consumption patterns, considering the extent to which they already display sustainable food habits. We then used factor analysis to summarize all the questions in the survey that could be potential drivers of food consumption behavior change into 14 factors, and ran correlations between these factors and the Behavior Change Index to identify the key drivers and obstacles for food consumption behavior change.
- By looking at their Behavior Change Index mean score, we can assess the overall potential to change food consumption patterns for consumers in each country based on how they answered several parts of the survey. Our analysis shows that Mexicans have the most potential to change their behavior around food, whereas Japanese are the most resistant to change. Consumers in the emerging economies are shown to have more potential for change than do consumers in North America, Europe, Australia, and Japan.
- When analyzing the overall potential for food consumption behavior change for consumers in each country in relation to the environmental footprint of their current food consumption patterns (their food sub-index score), results show that consumers in Latin America, South Africa, and Russia are all categorized as having relatively high overall potential to change their food consumption patterns that are currently relatively unsustainable. Changes made in these geographies may be easier to realize while at the same time having a relatively large impact.

Drivers of Food Consumption Behavior Change – Methodology and Overall Potential to Change

- American, Japanese, and Spanish consumers also score relatively low on the food sub-index, indicating their food consumption patterns are relatively unsustainable. However, their overall potential to change is relatively low, suggesting consumers in these countries may be more resistant to changing their food habits.
- When examining overall potential for food consumption behavior change demographically across the 18 countries surveyed, we find that women, younger consumers, people with higher education and income, those who live in urban areas, and those who have household responsibilities (i.e., primary shoppers and parents) have more potential to change.

Drivers of Food Consumption Behavior Change: Attributes, Part I

2014

Peer Influence ▲	Encouraged by friends/peers to make food choices with less of a detrimental environmental impact	Likelihood to comply with encouragement by friends/peers to make food choices with less of a detrimental environmental impact
	Encourages friends/peers to make food choices with less detrimental environmental impact	Encouraged to become more environmentally responsible through their words and actions
Human-Environment Interaction ▲	Trust in scientists' claim that world's climate is changing because of human activities	Trust in scientists' claim that the way we produce and consume food today often negatively affects the environment
	Trust in scientists' claim that the way we produce and consume food today often negatively affects our health	Most scientists are convinced that human activity causes climate change and global warming
	Global warming will worsen my way of life within my lifetime	We need to consume less to improve the environment for future generations
	I feel guilty about the impact that I have on the environment	Environmental problems are having a negative impact on my health today
Environmental Concerns ▲	Water pollution	Loss of species and habitat
	Air pollution	Food safety
	Shortages of fresh water	War and terrorism
	Climate change / global warming	Population growth
	Spread of infectious disease	Environmental problems (in general)

NGS14_driver_tbl _p1

Driver Correlation with Behavior Change Index

▲ Positive

▼ Negative

Drivers of Food Consumption Behavior Change: Attributes, Part II

2014

Environmentally Friendly Behavior ▲	Minimize use of fresh water	Buy environmentally friendly products
	Avoid excessive packaging	Keep heating/cooling at low setting to save energy
	Avoid environmentally unfriendly products	Use own bag in a store/market
	Recycling materials	Wash laundry in cold water to save energy
	Walking / ride a bike to destination	I am currently trying very hard to reduce my negative impact on the environment
Good Food Choices ▲	Worth it to pay a little more for locally or organically produced foods	Buying locally produced foods helps the local economy
	Very important to know how my food is produced	Food is an essential part of my culture
	Always read ingredient lists to find out what is in the food I eat	Feel well informed about the quality, safety, and origin of the foods I eat
Less Consumption ▲	Prefer to repair something when it is broken rather than replacing it	Try to buy things "used" or pre-owned, rather than brand new
	Choose to live close to usual destinations to minimize impact of transportation on the environment	
Meat Bad for Environment ▲▼	Eating meat is bad for the environment	
Economic Concerns ▲	The economy	Cost of energy/fuel
	Cost of food	

NGS14_driver_tbl _p2

Driver Correlation with Behavior Change Index

- ▲ Positive
- ▼ Negative

Drivers of Food Consumption Behavior Change: Attributes, Part III

2014

Consumer Influence ▲	I have little influence over the way food is produced	I can influence what types of foods are available where I shop
Faith in Government/ Companies/Technology ▲ ▼	My government is currently working very hard to make sure that we have a clean environment	Companies and industries are currently working very hard to make sure that we have a clean environment in my country
	New technology will ultimately solve our environmental problems, requiring very little change in human behavior	
Dislike Changes ▲ ▼	I prefer to eat the foods and recipes I grew up with, rather than the latest trends in food	The impact that our society has on the environment is so severe that there is very little that individuals can do about it
Lack of Knowledge ▲ ▼	It is difficult to distinguish foods that are produced locally from foods that are produced far away	I am confused about what "organic" means when it comes to food
	Owning a luxury car is a very important goal in my life	Owning a big house is a very important goal in my life
Hedonism ▼	I prefer disposable household products rather than things I need to wash and reuse	Environmentally friendly products do not work well
	The extra cost of environmentally friendly products is not worth it to me	
Bad Food Choices ▼	Fresh and frozen or canned foods are equally healthy	I don't mind GMOs in food if it helps farmers produce more and/or keeps prices down
	I typically don't worry about where my food is grown or raised	Food choices compared to those of your friends and people you know

NGS14_driver_tbl _p3

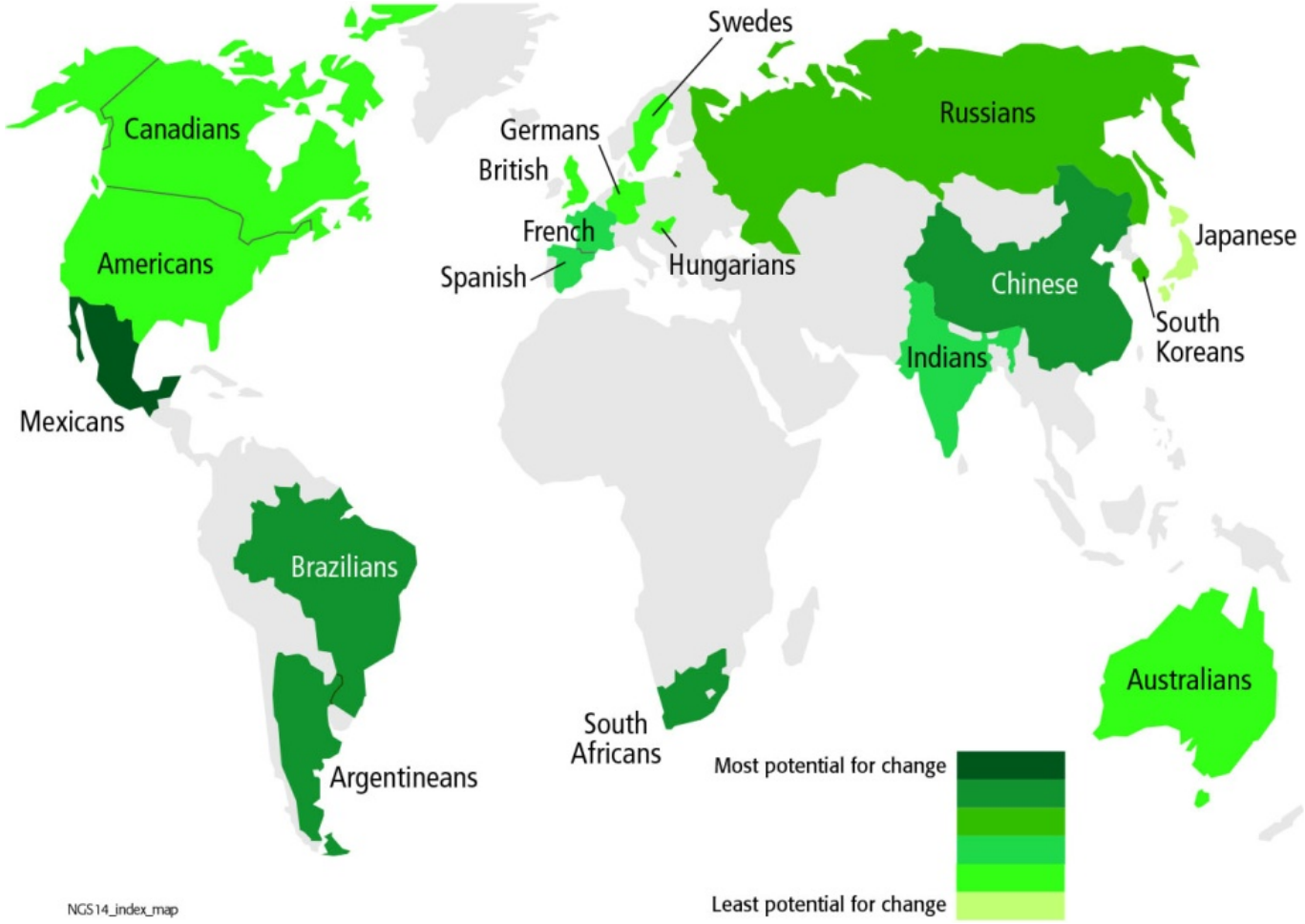
Driver Correlation with Behavior Change Index

▲ Positive

▼ Negative

Relative Potential for Food Consumption Behavior Change

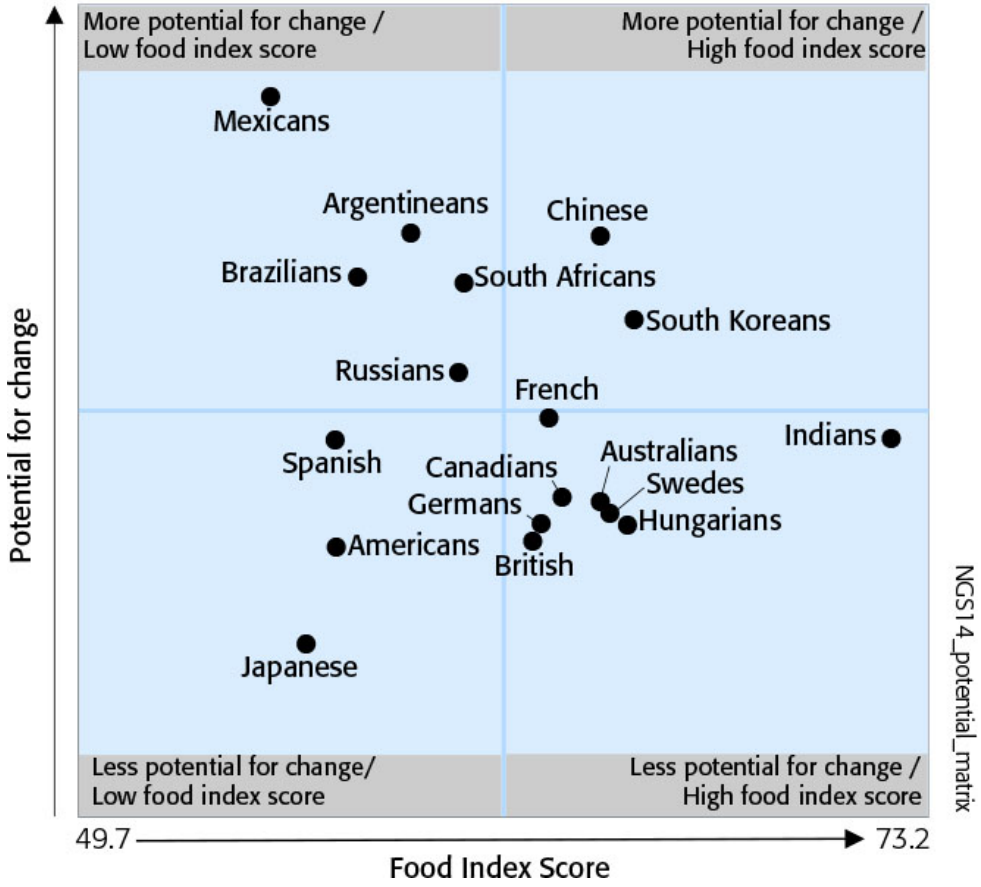
By Country, 2014



Relative Potential for Food Consumption Behavior Change vs Food Index Score

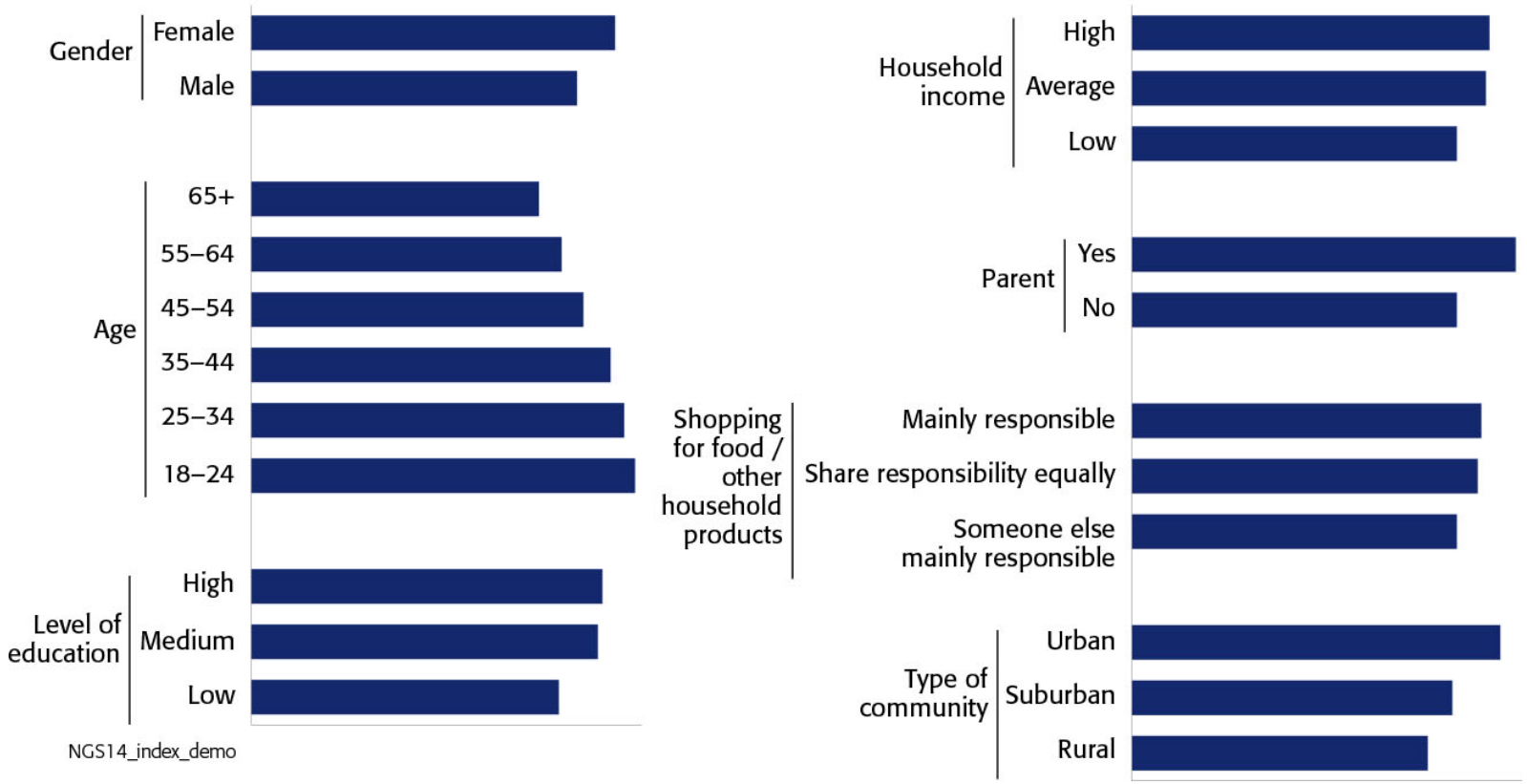
By Country, 2014

On the vertical axis, the adjacent chart plots the extent to which consumers are driven by a variety of factors to be willing to change their food consumption behavior. On the horizontal axis, consumers are plotted according to their Greendex Food Sub-Index score, a measure of the environmental footprint of food consumption. The higher the Food Index Score, the more sustainable food consumption habits are.



Relative Potential for Food Consumption Behavior Change

By Demographic, 2014



Drivers of Food Consumption Behavior Change

- The surveyed countries can be categorized into four groups based on similarities in what drives food consumption behavior change among consumers in these countries. Results show that differences are mainly in terms of the strength of the key drivers that affect food consumption behavior change rather than differences in which drivers are most likely to affect such change.
- Similarly, the differences between individual countries tend to be more about the relative strength of drivers of food consumption behavior change, as key drivers and obstacles are mostly the same – although the main driver of change and main obstacle to change do vary for some countries.
- At the global level and in most of the countries surveyed, Peer Influence, i.e., the encouragement by friends/peers to be more environmentally friendly and the respondent encouraging others to be more environmentally friendly, tends to be the most important driver of food consumption behavior change. The importance of peer influence highlights the potential key role of social media in driving behavior change, as this form of communication plays such a prominent role in social interaction among the demographics with the most potential to change their food consumption behavior.
- The Human-Environment Interaction driver, i.e., the belief that humans are affecting the environment and in turn our health, is also a key driver of behavior change, suggesting increased information in this area is likely beneficial in changing consumer behavior around food.

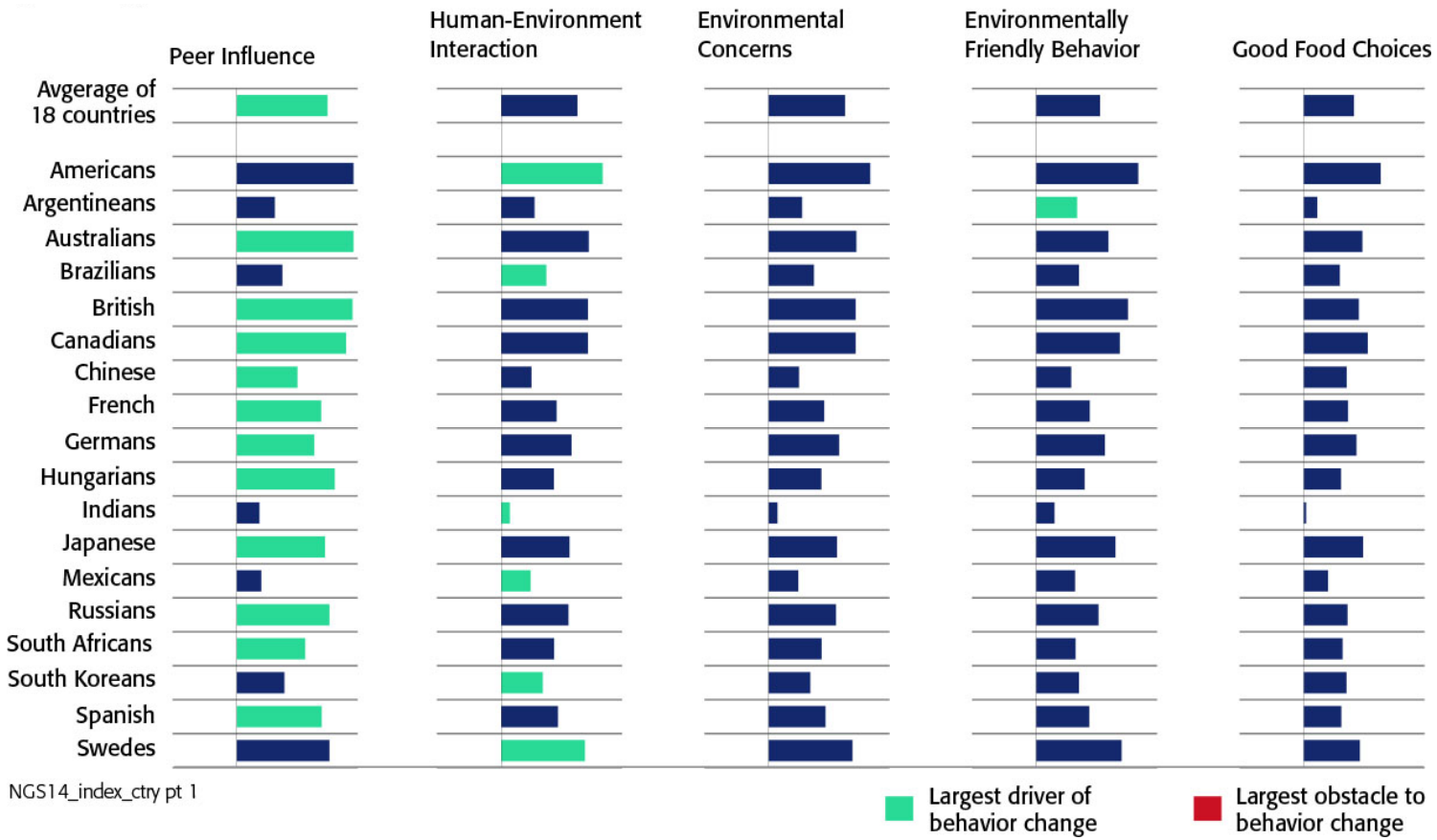
Drivers of Food Consumption Behavior Change

- Environmental Concern and Environmentally Friendly Behavior among consumers are also important drivers for further behavior change in the area of food, suggesting increased awareness and education about environmentally sustainable behavior in other areas which also affects potential to improve behavior in the specific area of food consumption.
- In terms of negative drivers of food consumption behavior change, i.e., obstacles to change, we find that the Bad Food Choices driver, i.e., self-reported less sustainable food habits and a lack of concern about food origin, is a key obstacle to change for consumers in most countries. In other words, those who most need to improve their food behavior are also most resistant to do so.
- For Japanese and Argentinean consumers, the main obstacle to change is the Dislike Changes driver, i.e., traditional food preferences combined with a lack of personal empowerment to affect environmental change.
- In China, consumers are most affected by the obstacle of Hedonism, i.e., the desire for material possessions and a lack of confidence in environmentally friendly alternatives.
- Indian consumers are instead most affected by the negative driver of Faith In Government/Companies/Technology. That is, among consumers in this country, strong faith in these actors to help solve environmental issues is correlated with lower potential to change food consumption behavior at the personal level. This is however not the case among consumers in any of the other countries surveyed.

Strength of Drivers of Food Consumption Behavior Change (Part 1)

NATIONAL GEOGRAPHIC

By Country, 2014



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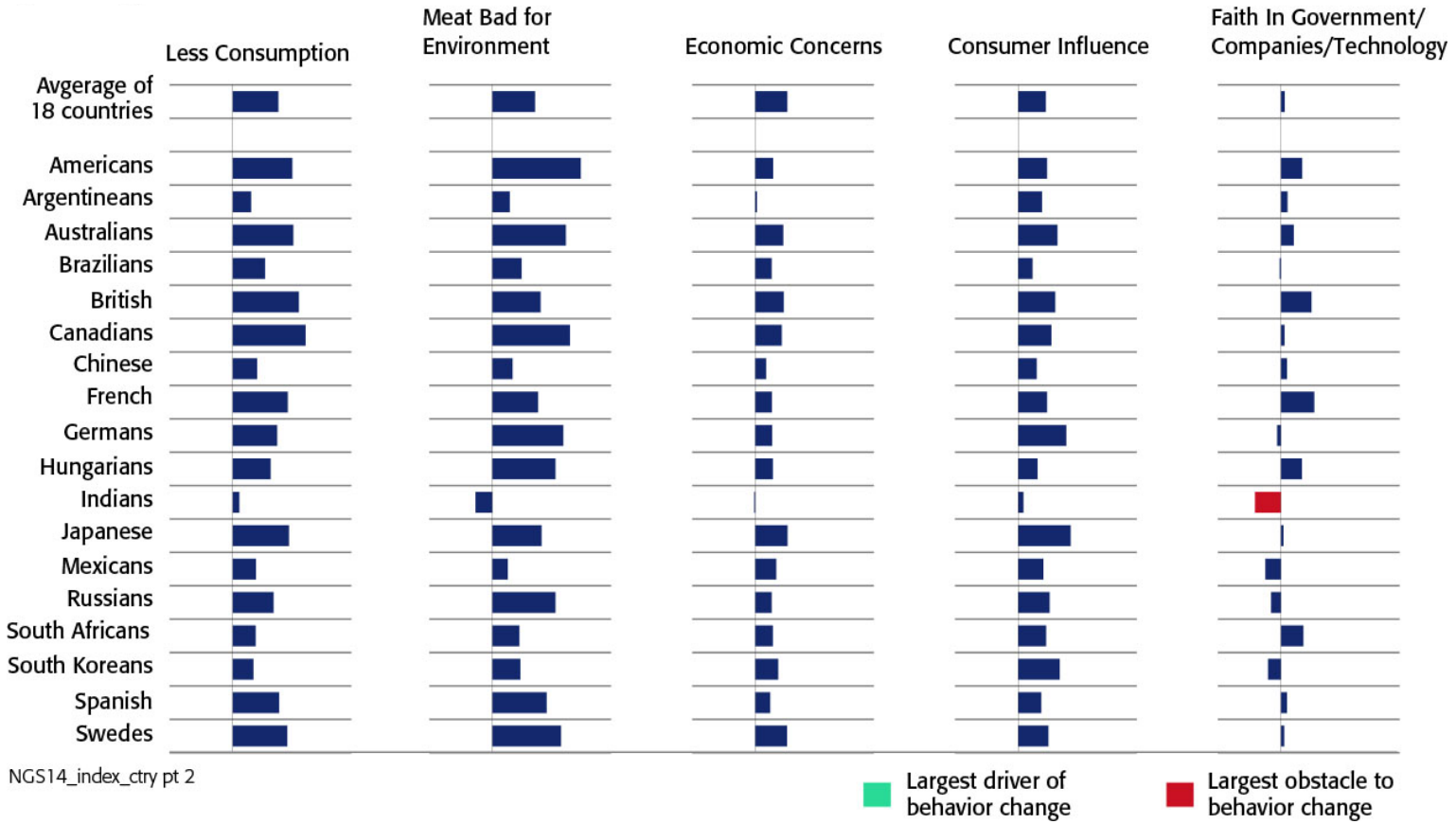
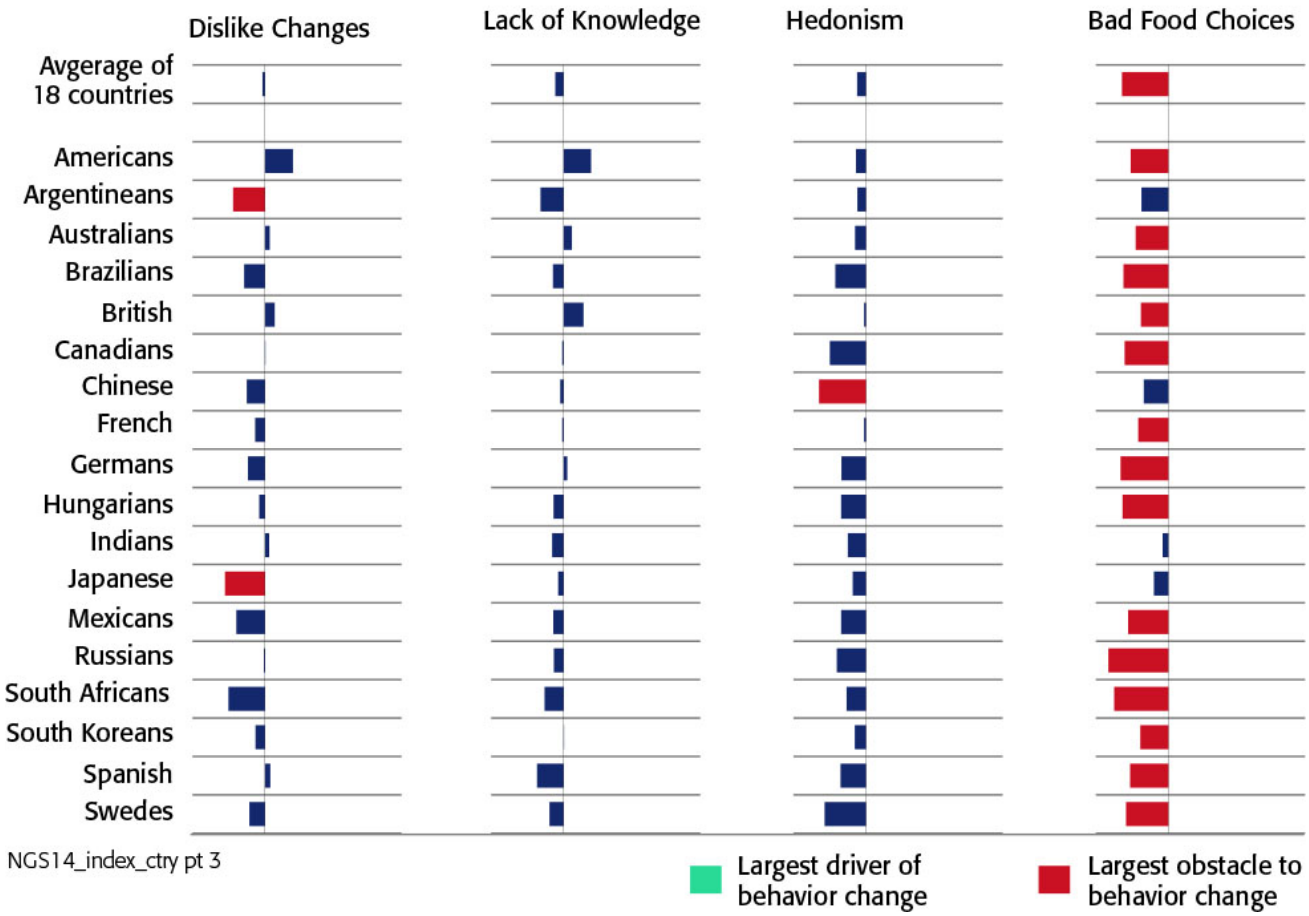
Strength of Drivers of Food Consumption Behavior Change (Part 2)

By Country, 2014



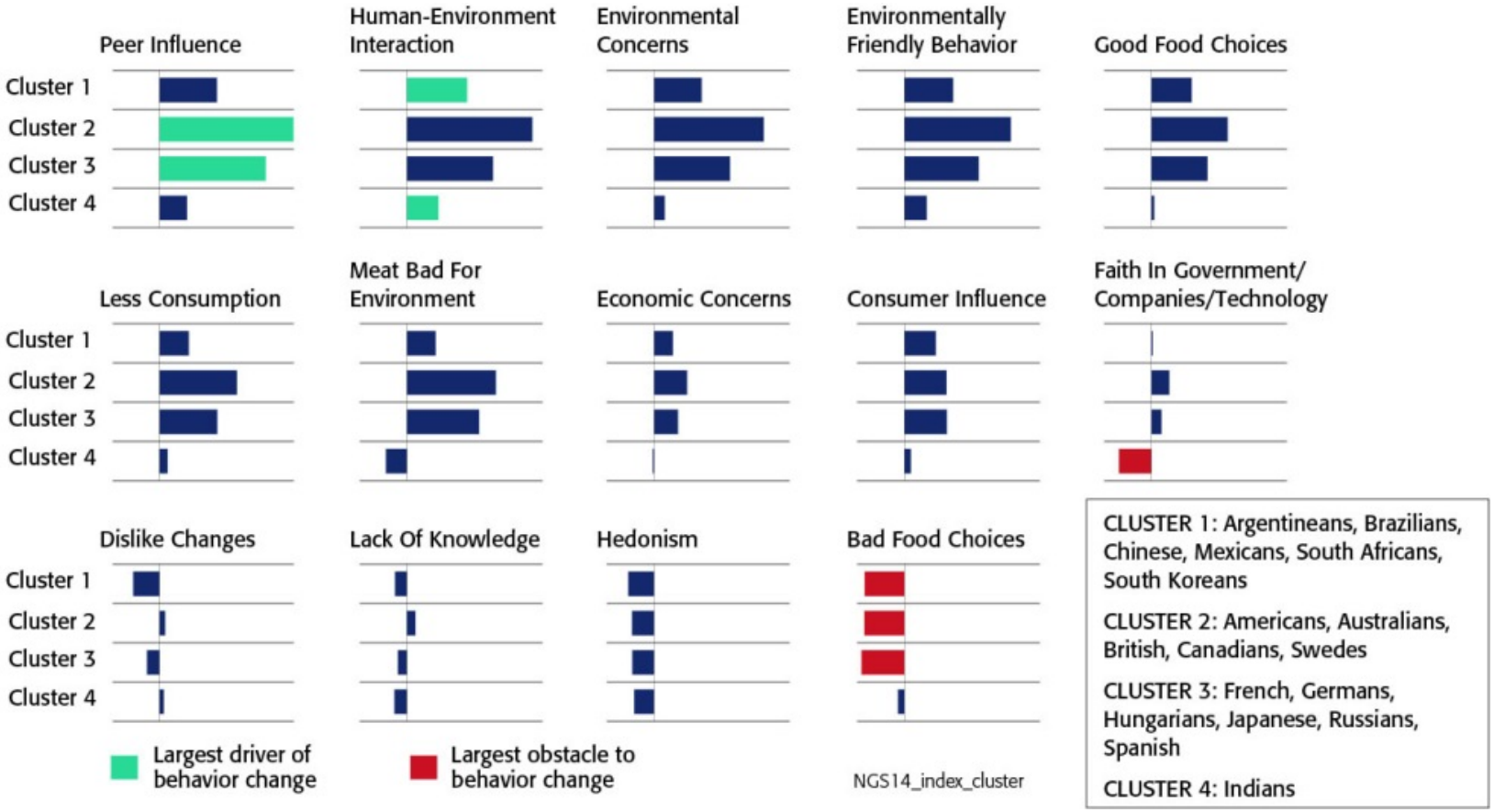
Strength of Drivers of Food Consumption Behavior Change (Part 3)

By Country, 2014



Strength of Drivers of Food Consumption Behavior Change

By Country Cluster, 2014

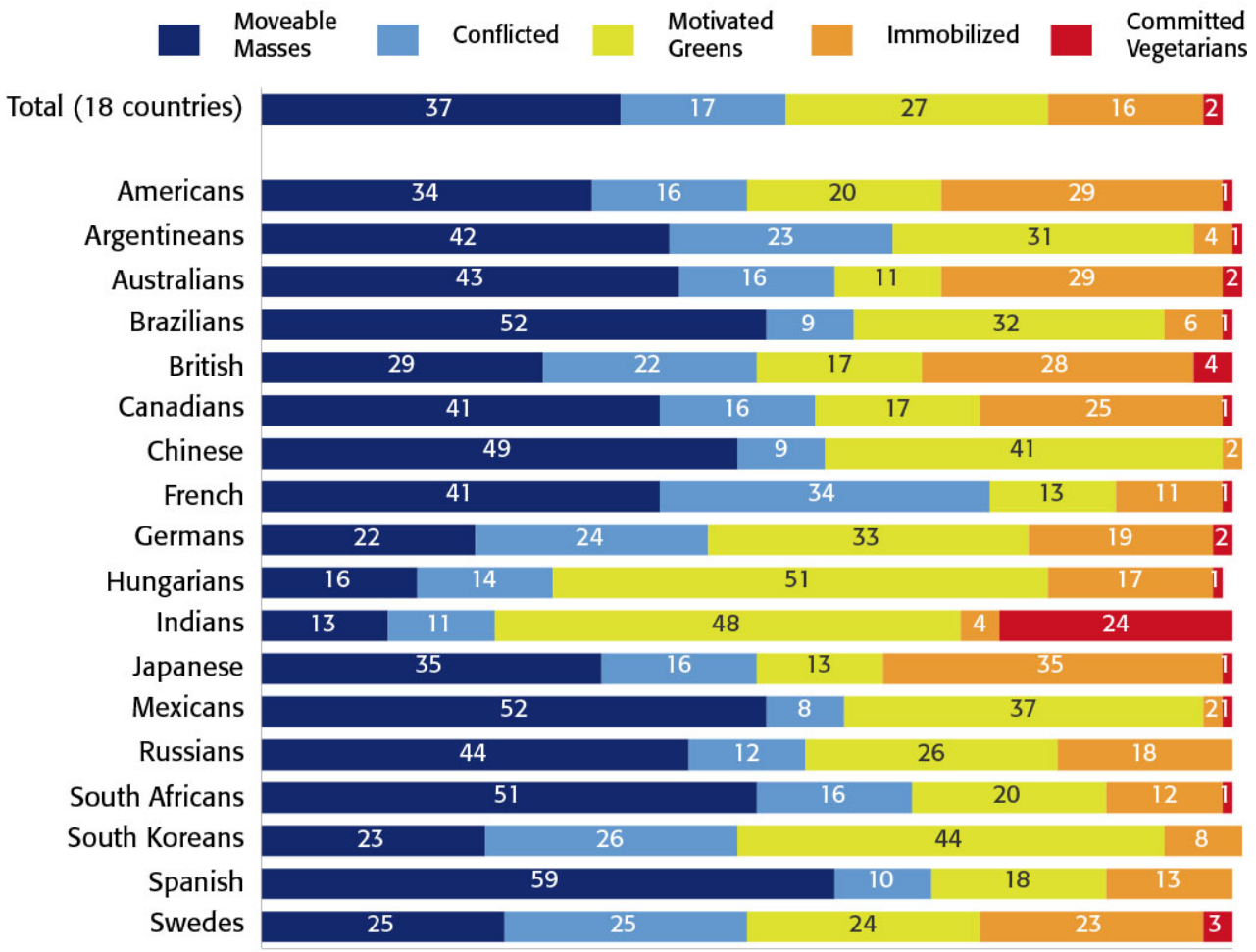


Changing Food Consumption: A Consumer Typology

Food Behavior Change Segmentation

- Based on advanced statistical modelling, we have identified five consumer types that differ from each other in terms of their intent and capacity to change their current food habits.
- Results reveal five segments that range from those who are unwilling to change their unsustainable food habits (Immobilized), to those with a heavy footprint but open to change (Moveable Masses), to those with a modest footprint but low levels of concern (Conflicted), to those most driven to improve their environmental footprint (Motivated Greens), to Committed Vegetarians who already have a very light environmental footprint and little room to improve.
- Across the 18 countries surveyed, the Moveable Masses segment accounts for the greatest number of consumers (37%), followed by the Motivated Greens segment (27%), the Conflicted segment (17%), the Immobilized segment (16%), and the very small Committed Vegetarians segment (2%).
- Of the countries surveyed, Spain features the most Moveable Masses consumers (59%), France has the most Conflicted consumers (34%), Hungary contains the most Motivated Greens (51%), Japan features the most Immobilized consumers (35%), while India has the most Committed Vegetarians (24%).

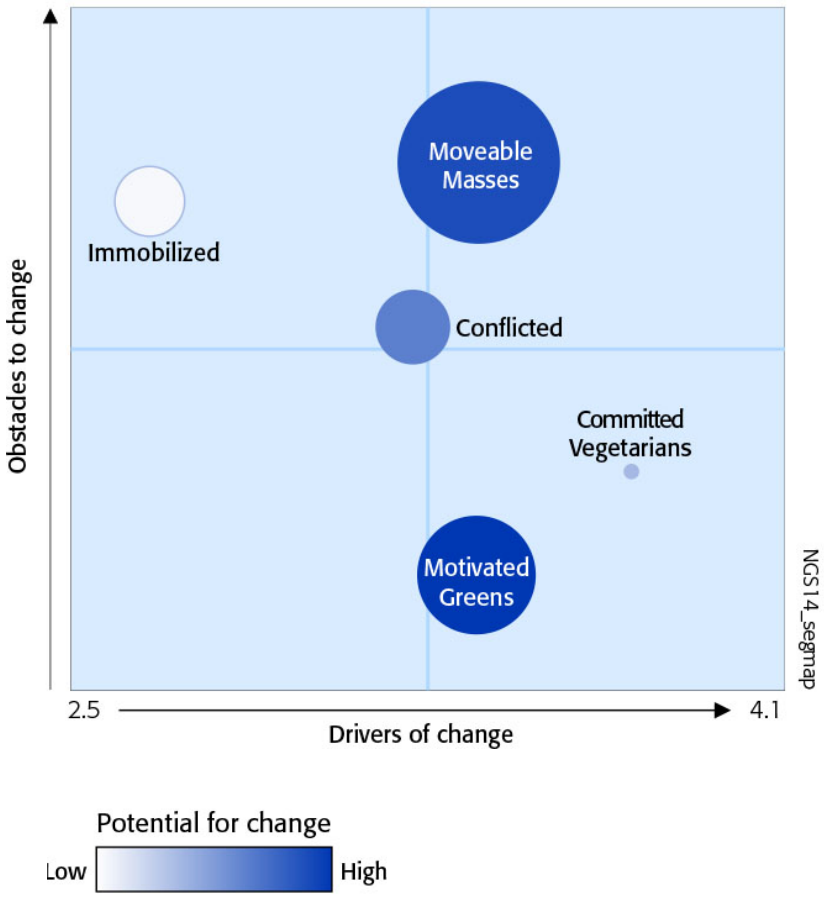
Food Behavior Change Segmentation: Segment Size by Country



ngs14_foodseg

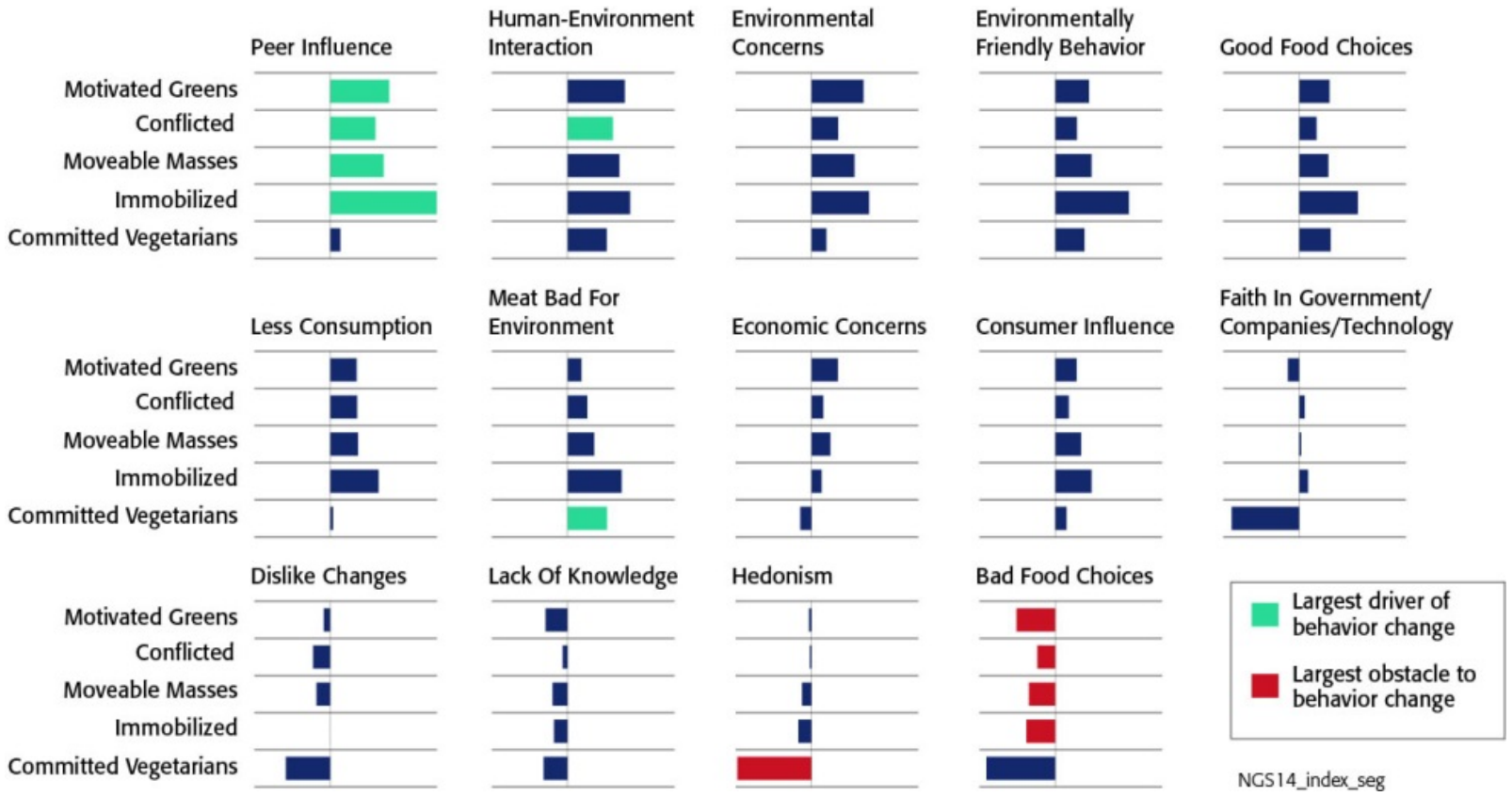
Food Behavior Change Segmentation Map

- In this graph, the segments are placed on a map showing how much the different groups are driven to change their food consumer behavior (x-axis) vs their resistance to change (y-axis). The map also shows the relative size of each segment for consumers across the 18 markets, and their overall potential to change their food consumption behavior (darker color indicates more potential to change).
- Immobilized and Moveable Masses consumers are most affected by obstacles to change, whereas Motivated Greens and Committed Vegetarians are less influenced by these barriers.
- Motivated Greens and Moveable Masses are influenced to a similar degree by positive drivers of change, while Committed Vegetarians are more influenced by such drivers. Immobilized consumers are much less influenced than the other segments by positive drivers of change.
- The Conflicted segment is positioned in the middle of the segment map, as they are slightly less driven to make changes than are Moveable Masses or Motivated Greens, but at the same time they do not display as much resistance to change as Moveable Masses or Immobilized consumers.



Strength of Drivers of Food Consumption Behavior Change by Segment

By Segment, 2014



Food Behavior Change Segmentation: Moveable Masses Segment

Moveable Masses Segment - heavy footprint but open to change

- The largest segment across the 18 markets surveyed, the Moveable Masses segment also has the most room to change and has great potential to do so. Consumers in this segment eat a lot of food with a heavy environmental footprint, but are open to changing their behavior and have good intentions to start eating in a more environmentally responsibly way.
- Consumers in the Moveable Masses segment are more likely to be male than female, and most tend to be middle-aged with an average income and a medium level of education. This segment is most prevalent among Spanish consumers and least prevalent among Indians.
- This segment is the most easily influenced segment, as it is most affected both positively and negatively. While consumers in this segment are relatively easily influenced to change their food consumption behavior to become more environmentally sustainable, they are also influenced by barriers to change – removing these barriers could help accelerate the adoption of more sustainable food habits among this large segment of consumers.
- However, the key obstacle to food consumption behavior change for the Moveable Masses segment is Bad Food Choices, i.e., self-described unsustainable food habits and a lack of concern about food origin. For this segment, unsustainable habits and a lack of concern are themselves the main obstacle to adapting more environmentally friendly habits and attitudes. Incremental changes toward more sustainable food consumption coupled with information that stimulates thoughtfulness about food may be the key to unlocking behavior change within this group.

Food Behavior Change Segmentation: Moveable Masses Segment

- The Immoveable Masses are relatively conscious of the environment compared to other segments, with a majority (68%) saying they are very concerned about environmental problems and most (64%) agreeing that we need to consume less to improve the environment for future generations. One-third (35%) feel guilty about their own environmental impact. However, this is the most materialistic segment with three in ten (30%) saying that owning a big house, and two in ten (18%) saying that owning a luxury car, are very important goals.
- Moveable Masses consumers have good intentions about being environmentally friendly in terms of their food habits, but lack information. Only around one-third (37%) feel well informed about the quality, safety and origin of their food, and many (44%) think it is difficult to identify locally produced food. Just over half (54%) understand what “organic” means when referring to food. However, a similar number (58%) think that it is worth the extra cost to pay more for organic or local food.
- Moveable Masses consumers are not very empowered, with only one-third (33%) believing individuals can affect society’s environmental impact. Their own influence potential is relatively moderate, with most (43%) saying they moderately encourage friends/peers to make more environmentally friendly food choices.
- Moveable Masses tend to trust scientists’ claims about the effects of food production on the environment and our health, and about climate change.

Food Behavior Change Segmentation: Conflicted Segment

Conflicted segment - modest footprint but low levels of concern and empowerment

- A relatively small segment across the 18 markets surveyed, the Conflicted segment already displays relatively sustainable eating habits, although likely for other reasons than sustainability. Consumers in this segment say they want to improve further, but lack concern and do not feel empowered to change.
- Consumers in the Conflicted segment are slightly more likely to be male than female, and most of them are in the 18-34 age category. Their income tends to be low or average, and most have a medium level of education. France has the largest prevalence of Conflicted segment consumers, while Mexico has the smallest.
- The Conflicted segment is positioned in the middle compared to the other segments in terms of being influenced by both positive and negative drivers of food behavior change, meaning that consumers in this group are less driven to make changes than are those in the larger segments of Moveable Masses or Motivated Greens. However, at the same time, they do not display as much resistance to change as consumers in the Moveable Masses segment.
- For the Conflicted segment, the Human-Environment Interaction driver, i.e., the belief that humans are affecting the environment and in turn our health, is one of the main drivers of behavior change along with Peer Influence, i.e., the encouragement by friends/peers to be more environmentally friendly and respondents encouraging others to be more environmentally friendly. Increased information of how humans are affecting the environment may be especially beneficial in helping to change food consumption behavior for this particular group.
- As for the other segments, Bad Food Choices, i.e., self-described unsustainable food habits and a lack of concern about food origin, is the largest obstacle to change for the Conflicted segment.

Food Behavior Change Segmentation: Conflicted Segment

- Conflicted consumers are less environmentally conscious than most other segments, with just under half (49%) claiming to be very worried about the environment, and just one-quarter (25%) feeling guilty about their own environmental impact. Their level of materialism is relatively moderate compared to other segments.
- Conflicted consumers lack information about environmentally sustainable food consumption, but also lack motivation to learn more. Only one-quarter (26%) feel well informed about the quality, safety, and origin of their food, and only four in ten (42%) understand what "organic" means when referring to food. Less than four in ten (37%) think that it is worth it to pay more for organic or locally produced food, but around the same number (39%) think it is hard to tell if food is locally produced.
- Consumers in this group tend to feel a low level of empowerment compared to other segments, with fewer than three in ten (28%) believing that individuals can do something about society's environmental impact. Their influence potential is also relatively low, with half (50%) claiming they do not encourage friends/peers to make more environmentally friendly food choices.
- Conflicted consumers display relatively low trust in science compared to other segments, with only half agreeing with scientists' view that food production and consumption negatively affects the environment and our health.

Food Behavior Change Segmentation: Motivated Greens Segment

Motivated Greens Segment - most driven to improve environmental footprint

- The second largest segment across the 18 markets surveyed, the Motivated Greens segment is the most environmentally driven segment. People in this segment already display environmentally responsible eating habits, but they are motivated to improve further.
- Motivated Greens are significantly more likely to be female than male. They are most likely to be middle-aged, with an average income and medium levels of education. Motivated Greens are most prevalent among Hungarian consumers, and least prevalent among Australians.
- Motivated Greens are less affected by obstacles to food consumption behavior change, compared to the other segments. They are also relatively easily influenced by positive drivers, to a similar degree as is the Moveable Masses segment. Motivated Greens have an overall high potential to change their eating habits, although they already display relatively sustainable habits and therefore have less room for improvement than most of the other segments, except Committed Vegetarians.
- Peer Influence (the encouragement by friends/peers to be more environmentally friendly and respondents encouraging others to be more environmentally friendly), Human-Environment Interaction (the belief that humans are affecting the environment and in turn our health), and Environmental Concern are all relatively strong drivers of food consumption behavior change for Motivated Greens. For this segment, further engagement on environmental issues through social networks (virtual or not), and further education about environmental issues will likely encourage even more responsible eating habits. This segment already constitutes a receptive audience for this type of engagement.

Food Behavior Change Segmentation: Motivated Greens Segment

- Motivated Greens tend to be environmentally conscious, with three-quarters (76%) claiming to be very concerned about the environment and seven in ten (71%) believing that we need to consume less to improve the environment for future generations. Their own level of materialism is relatively low compared to the other segments.
- Consumers in the Motivated Greens segment are environmentally conscious consumers who tend to think it is worth the extra cost to buy local or organic food (60%). They also mostly believe that buying locally produced food helps the local economy (85%), although four in ten (43%) say it is difficult to tell if a product is locally produced. A majority (53%) understand what “organic” means when referring to food.
- Motivated Greens display a relatively modest level of empowerment, with a similar proportion saying individuals can affect society’s environmental impact (36%) as saying there is little individuals can do to make a difference (37%). Their influence potential is also mostly moderate, with four in ten (40%) claiming to just moderately encourage their friends/peers to make more environmentally responsible food choices.
- Trust in science is relatively high among Motivated Greens, with seven in ten trusting scientists’ claims about food production affecting the environment and our health, and three-quarters trusting their findings on climate change.

Food Behavior Change Segmentation: Immobilized Segment

Immobilized Segment - moderate footprint and does not intend to change

- A relatively small segment across the 18 markets surveyed, those in the Immobilized segment consume a moderate amount of food with a heavy environmental footprint but they are not open to changing their behavior.
- Consumers in the Immobilized segment are significantly more likely to be male than female. They are most likely to be middle-aged, and more likely than consumers in the other segments to live in suburban areas. Most have average income and medium levels of education. They are more likely than others to have no children 18 or younger. Immobilized consumers are most prevalent in Japan, and least prevalent in China.
- The Immobilized segment is the most affected by obstacles to food behavior change, along with the Moveable Masses segment, but they are the segment least susceptible by positive drivers of change. Their overall potential to change their eating habits is very low compared to the other segments.
- However, consumers in the Immobilized segment are particularly affected by the Peer Influence driver, i.e., the encouragement by friends/peers to be more environmentally friendly and respondents encouraging others to be more environmentally friendly. This is noteworthy as we may consider social media and other peer-to-peer communication as a way to drive food consumption behavior change for this challenging group of consumers.
- As for the other segments, Bad Food Choices, i.e., self-reported less sustainable food habits and a lack of concern about food origin, is the largest obstacle to change for the Immobilized segment.

Food Behavior Change Segmentation: Immobilized Segment

- Immobilized consumers are disengaged from environmental issues, as fewer than three in ten (28%) are very concerned about environmental problems and fewer than one in ten (9%) feel guilty about their own environmental impact. At the same time, this is the least materialistic of the segments, with one in five (19%) saying owning a big house and one in ten (11%) saying owning a luxury car are important life goals.
- Immobilized consumers are not interested in being environmentally conscious. Although almost three-quarters (73%) agree that buying locally produced food helps the local economy and a majority (54%) understand what “organic” means when referring to food, only one-quarter (27%) think it is worth the extra cost to buy local or organic food.
- Consumers in the Immobilized segment are conflicted in terms of empowerment, with one-third (35%) believing individuals can do something about society’s environmental impact, but a larger proportion (45%) saying consumers have little influence over the way food is produced. Their influence potential is low, with most (67%) claiming they do not encourage friends/peers at all to make environmentally friendly food choices.
- Trust in science is low among the Immobilized segment, with fewer than four in ten believing scientists’ claims that our production and consumption of food often negatively affects the environment (35%) or our health (38%).

Food Behavior Change Segmentation: Committed Vegetarian Segment

Committed Vegetarian Segment - already have a very modest footprint

- A very small segment across the 18 markets surveyed, those in the Committed Vegetarian segment already display environmentally responsible eating habits and have little room to improve further.
- Committed Vegetarians are significantly more likely to be female than male, and they are most likely to fall into the younger demographic of 18-34. Most have an average or high income and a moderate level of education. Committed Vegetarians are far more prevalent in India than in the other countries surveyed, and are the least prevalent in Russia.
- Committed Vegetarians are not particularly affected by obstacles to change their food habits, and they are relatively easily influenced by positive drivers of food consumption behavior change. However, as they already display sustainable eating habits, their overall potential for change in this particular area is relatively low compared to most other segments.
- Committed Vegetarians are much less influenced by the Peer Influence driver, i.e., the encouragement by friends/peers to be more environmentally friendly and respondents encouraging others to be more environmentally friendly, than are consumers in the other segments. This segment is instead mostly driven by the Meat Bad for Environment driver. However, this group has already excluded meat from its diet, suggesting that they are not a key demographic for behavior change with regards to positive drivers.
- The largest obstacle to changing food consumption behavior for Committed Vegetarians is Hedonism, i.e., a desire for material possessions and a dislike of environmentally friendly products, but as this segment is not particularly influenced by obstacles to change, this negative driver is likely not affecting their behavior in a significant way.

Food Behavior Change Segmentation: Committed Vegetarian Segment

- Committed Vegetarians are an environmentally conscious segment, with more than three-quarters (77%) expressing concern about the environment and more than two-thirds (68%) believing we need to consume less as a society to improve the environment for future generations. Almost half (48%) feel guilty about their own impact on the environment. At the same time, this group is relatively materialistic compared to the other segments, with one-quarter (26%) saying owning a big house and almost two in ten (18%) saying owning a luxury car are very important goals.
- Committed Vegetarians are informed and environmentally conscious in terms of their characteristic food behavior, with most (58%) understanding what "organic" means when referring to food and as many as seven in ten (70%) saying it is worth the extra cost to buy organic or locally produced food. A majority (52%) feel well informed about the quality, safety, and origin of their food.
- Committed Vegetarians are conflicted in terms of empowerment, as most (60%) agree they can influence what types of foods are available where they shop, but almost half (48%) think that consumers have little influence over the way food is produced. Fewer than three in ten (28%) believe individuals can make a difference about society's environmental impact. However, their influence potential is relatively strong, with four in ten (41%) claiming to strongly encourage friends/peers to make more environmentally friendly food choices.
- Trust in science is high among Committed Vegetarians, as three-quarters agree with scientists' claims about food production and consumption affecting the environment (74%) and our health (75%).

Food Choices

Food Choices

- Consumers in developing countries tend to claim that they spend a higher proportion of their household's monthly income on food than do consumers in developed countries. Latin Americans, in particular Argentineans and Mexicans, and Russians are among the most likely to claim they spend a high percentage of their income on food.
- Brazilians and Indians say they have the highest amount of food bought but not eaten in the past week. Europeans instead tend to claim the lowest proportion of food wasted. Consumers claiming the lowest proportion of food spending also tend to claim relatively low proportions of food wasted.
- On average in the 18 countries surveyed, beef is perceived as having the most detrimental impact on the environment. Beans are seen as having the least detrimental impact.
- When we look at the perceived impact of various foods vs reported consumption, we can see that the types of foods that are perceived as having the most environmental impact (beef, pork and fish/ seafood) are also consumed less frequently compared to fruits and vegetables and poultry. Fruits and vegetables are perceived as having low environmental impact and are also consumed much more frequently than other types of food.
- Beef tends to be consumed less frequently in countries where consumers perceive it as having a more negative environmental impact, while it is consumed more frequently in countries where consumers estimate the environmental footprint of beef is lower. However, Mexicans and Brazilians are relatively frequent consumers of beef even though they recognize its heavy environmental footprint. A similar pattern is noted for chicken/poultry and fish/seafood.

Food Choices

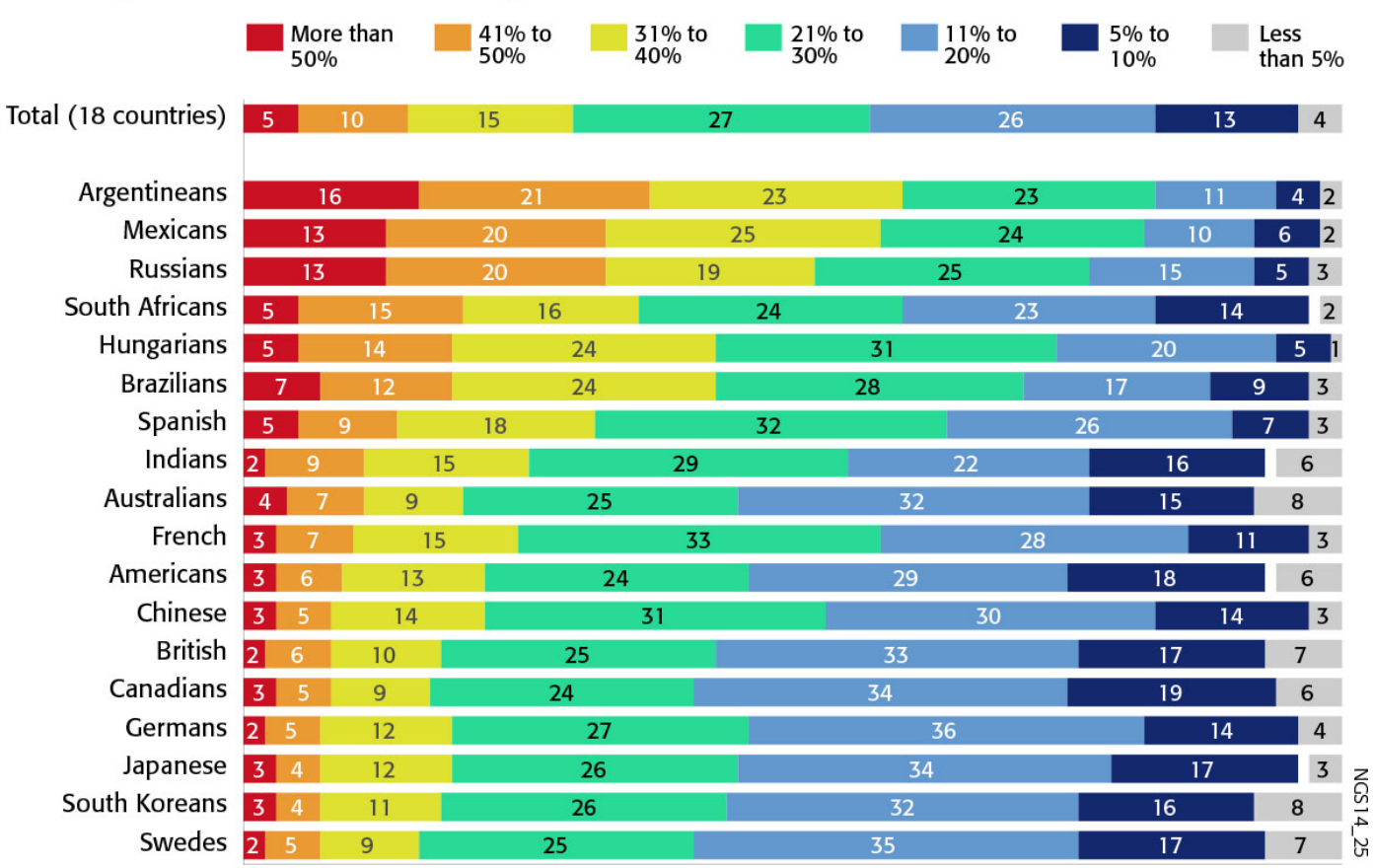
- More than half of global consumers who never eat meat choose not to do so for ethical reasons, while around one-third, each, claim health or environmental considerations behind their decision (respondents were asked to select their two main reasons for not eating meat). Preference, culture and/or religion, and price are less important drivers behind consumers' decision to abstain from meat.
- Almost nine out of ten Russians who do not eat meat cite environmental considerations as a reason, whereas no South Koreans or Chinese and only seven percent of Japanese say environmental considerations is a reason for not eating meat.
- Latin Americans are among the most likely to have changed their food consumption, or intend to do so in the future, specifically because of the environment. After learning about the environmental impact of different foods, they also tend to be willing to change their food choices to reduce environmental impact. Chinese and South Koreans are also among those most intending to change, whether or not they have done so in the past.
- South Koreans are most likely to say they have not yet, but intend to change. Developed country consumers are most likely to say they have not and will not change, including British, Japanese, Americans, Australians, Germans, Canadians, and Hungarians.

Food Choices

- After showing respondents the relative environmental impact of different types of food, they were asked about their future intentions to consume various foods. Globally, consumers tend to say they will change their food consumption habits to be more sustainable after learning about the environmental impact of specific foods, suggesting this type of information has a positive effect on people's intentions.
- Globally, consumers indicate they plan to eat more grains and beans, locally produced food and, in particular, organic and self-grown food after learning about the environmental effects of different foods. They also say they will consume significantly less beef and convenient/packaged food, and also consume less bottled water, chicken, and pork. Intended consumption of fruits and vegetables or lamb does not change after learning about their environmental impact.

Estimated Percentage of Household's Monthly Income Spent on Food

Percentage of Consumers in Each Country, 2014

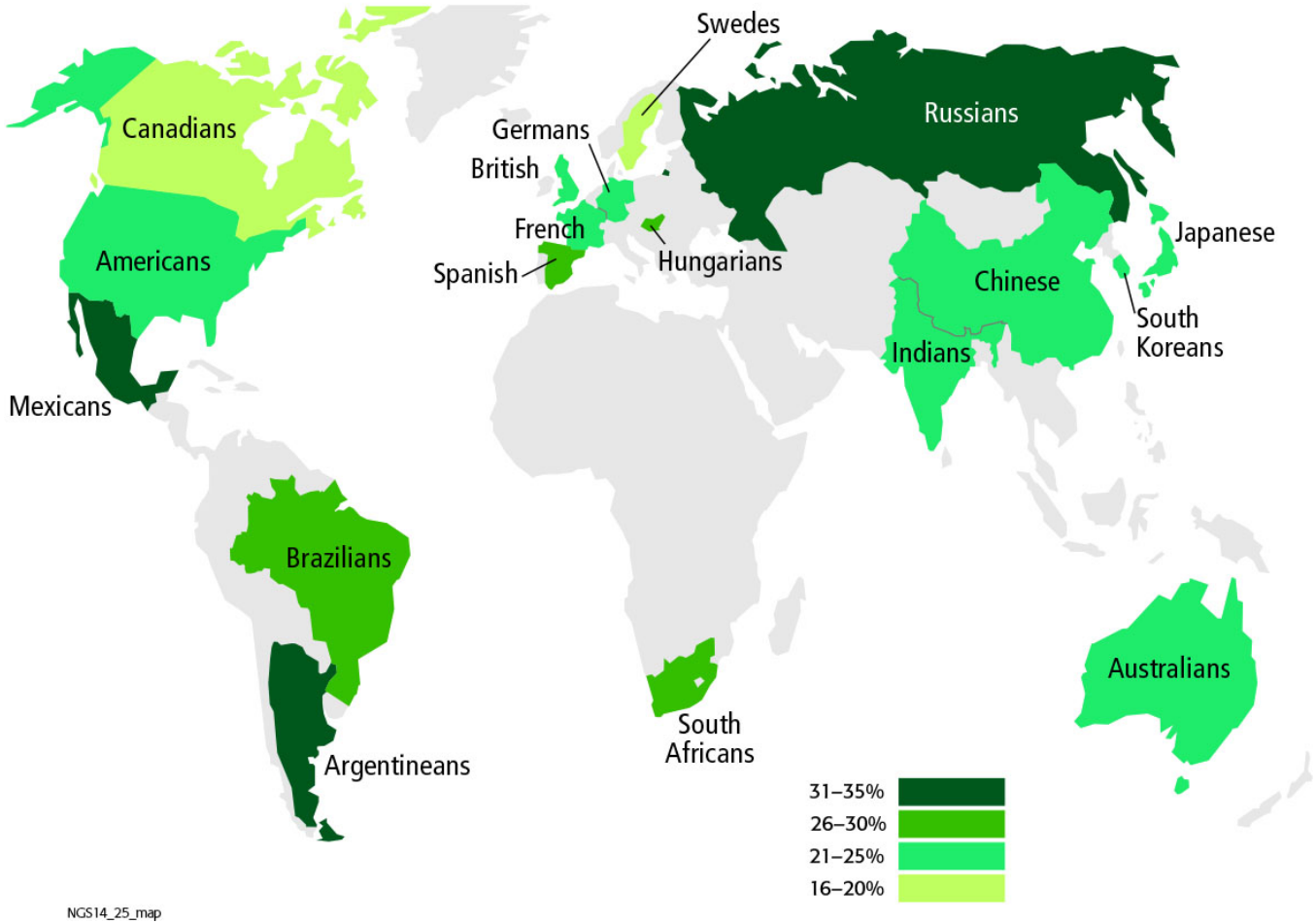


The white space in this chart represents "DK/NA."

Mean Percentage (est.) of Household's Monthly Income Spent on Food

NATIONAL GEOGRAPHIC

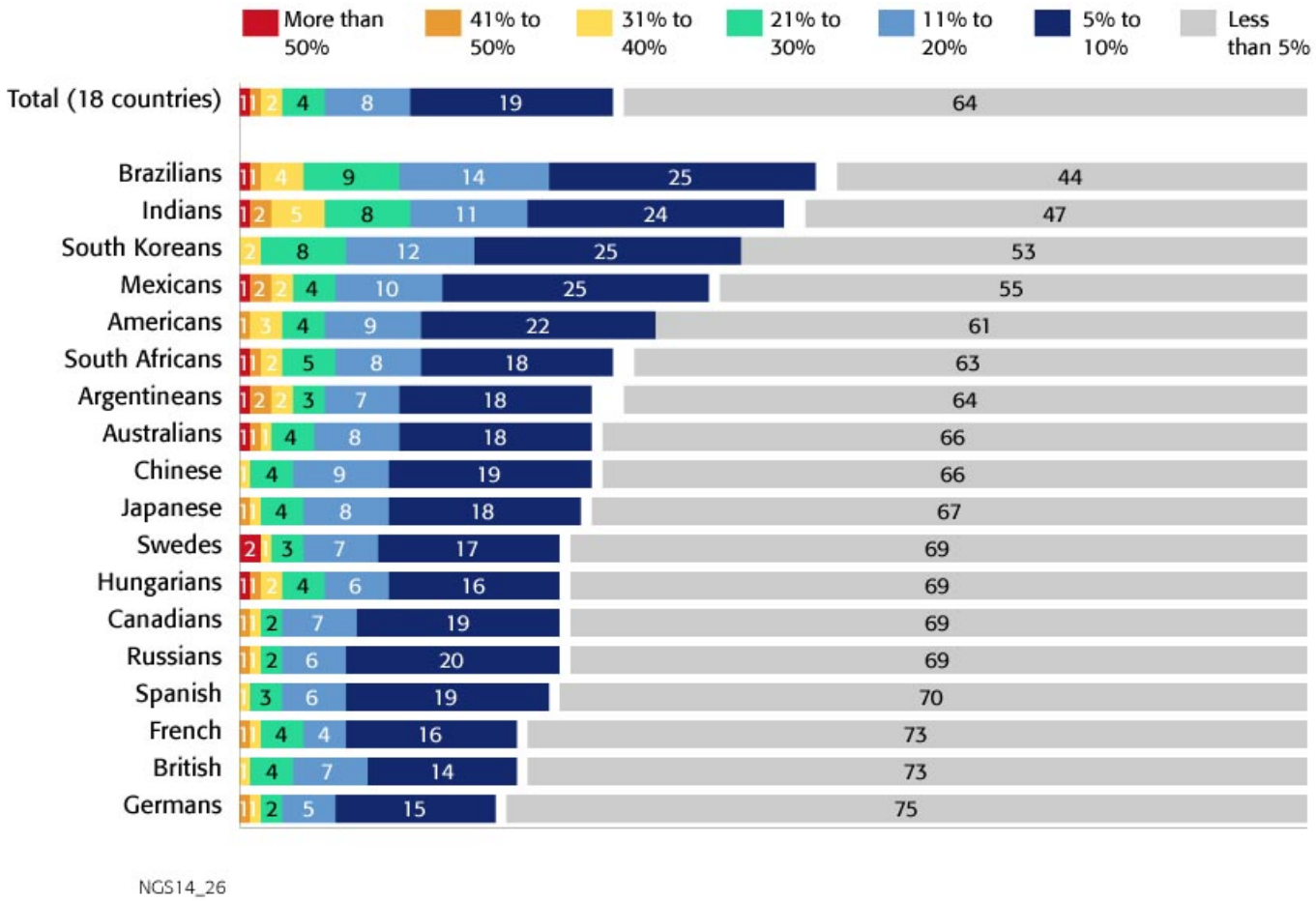
Mean Percentage, Consumers in Each Country, 2014



GLOBESCAN

Estimated Percentage of Household's Food Bought but Not Eaten in Average Week

Percentage of Consumers in Each Country, 2014

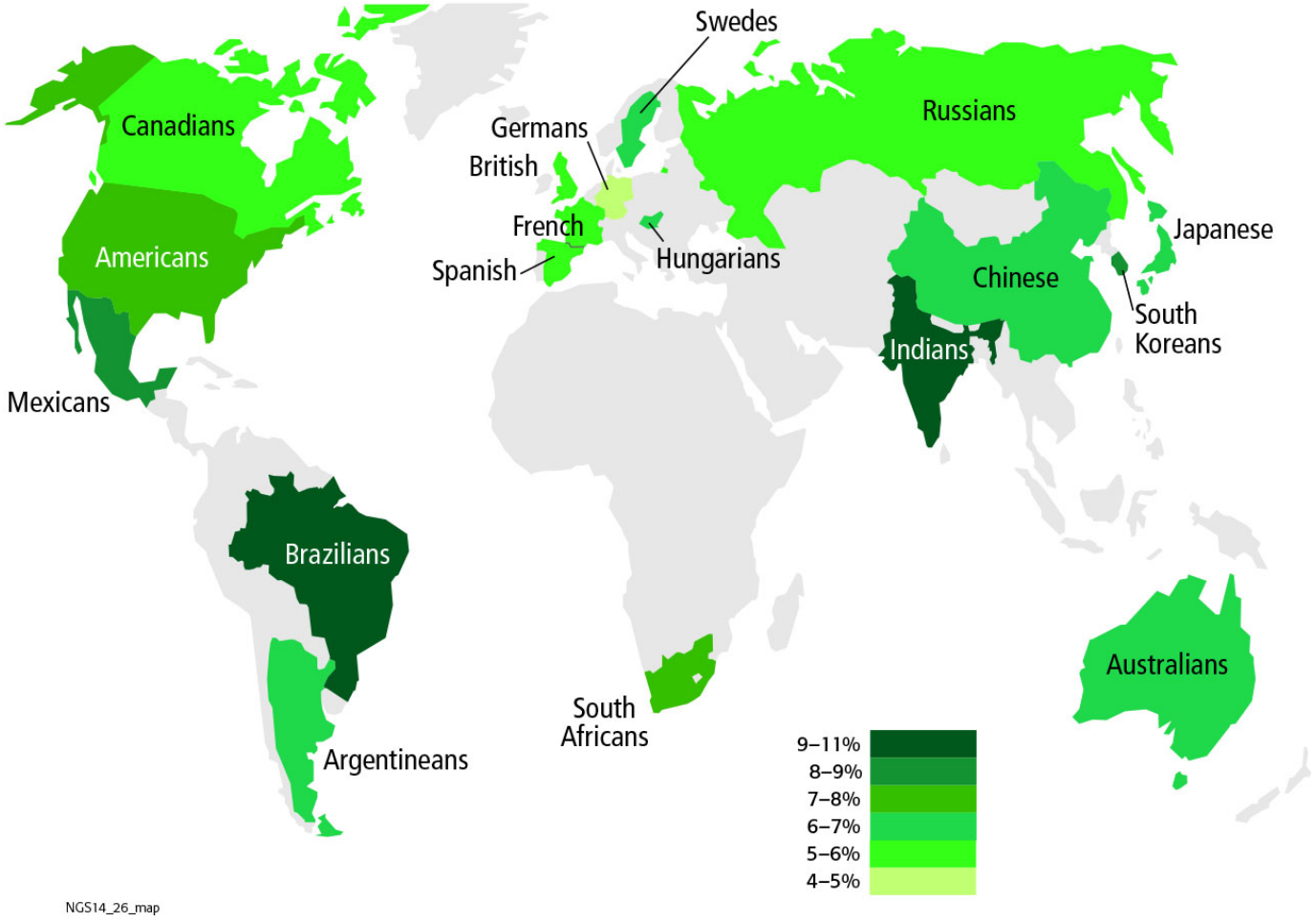


The white space in this chart represents "DK/NA."

Mean Percentage (est.) of Household Food Bought, but Not Eaten in Average Week

NATIONAL GEOGRAPHIC

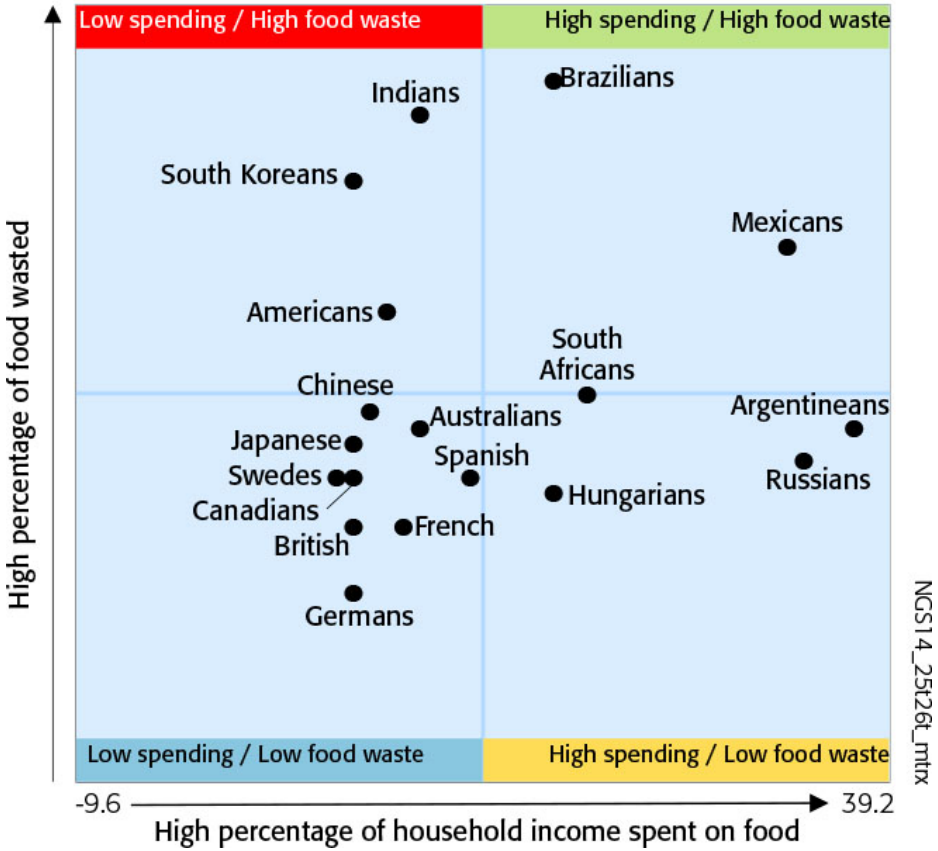
Mean Percentage, Consumers in Each Country, 2014



GLOBESCAN

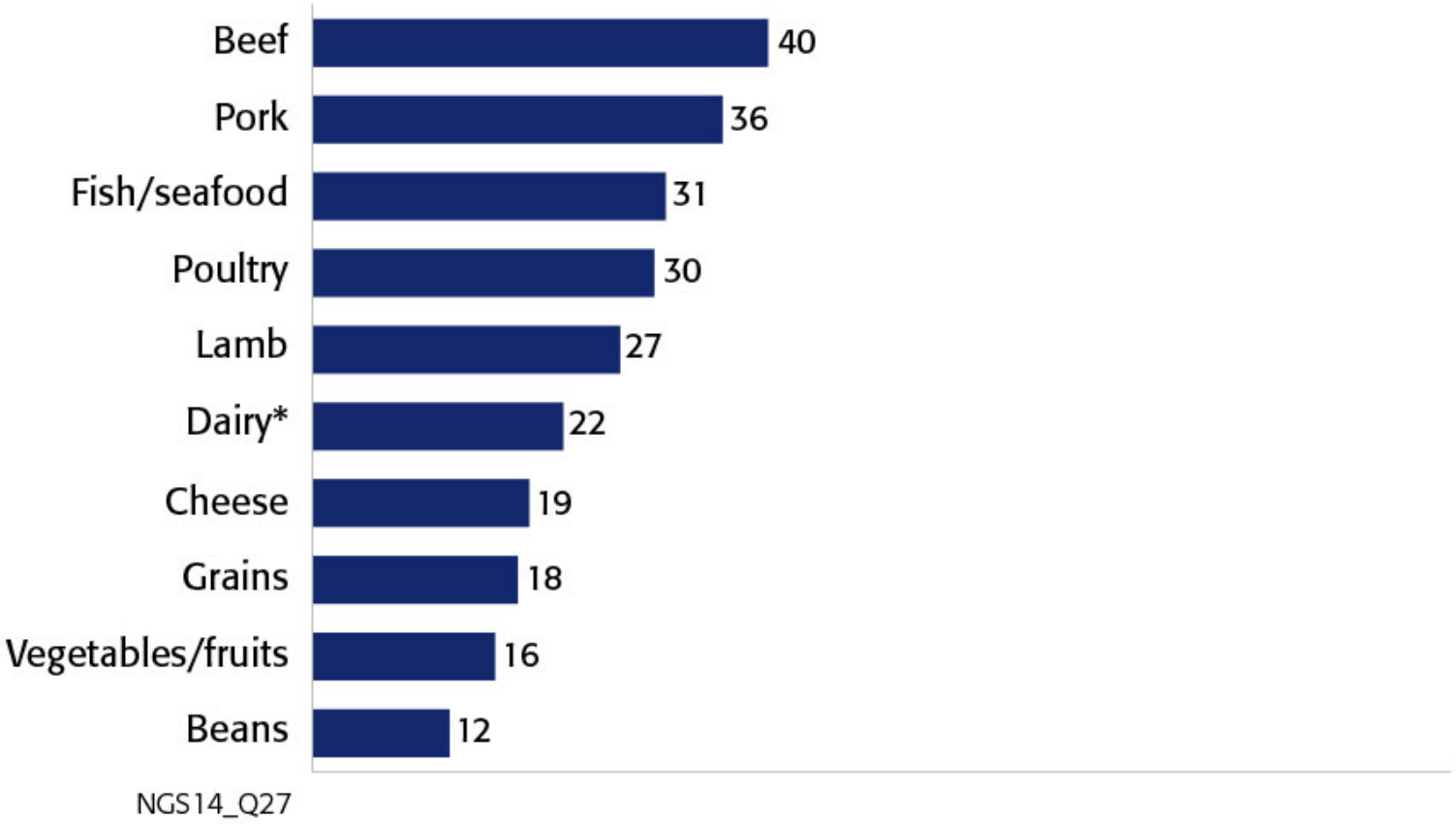
Income Spent on Food vs Food Wasted

Consumers in Each Country, 2014



Perceived Environmental Impact of Producing Different Types of Food

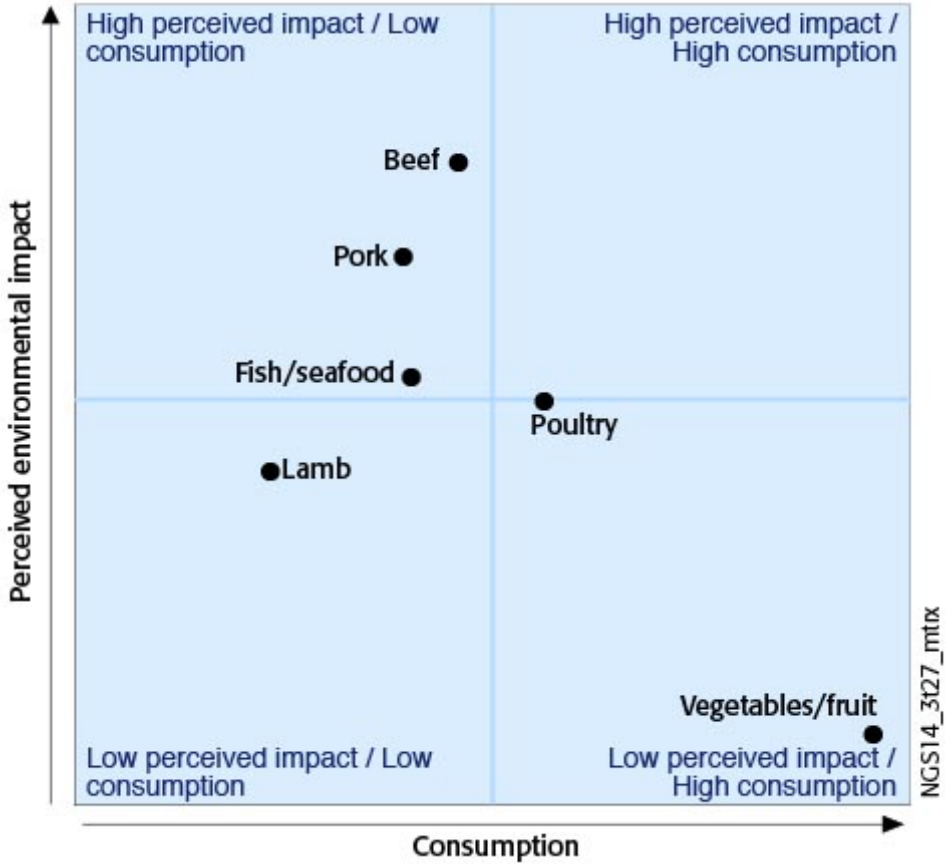
"Detrimental Impact" (4+5), Total (18 Countries), 2014



*Dairy products other than cheese

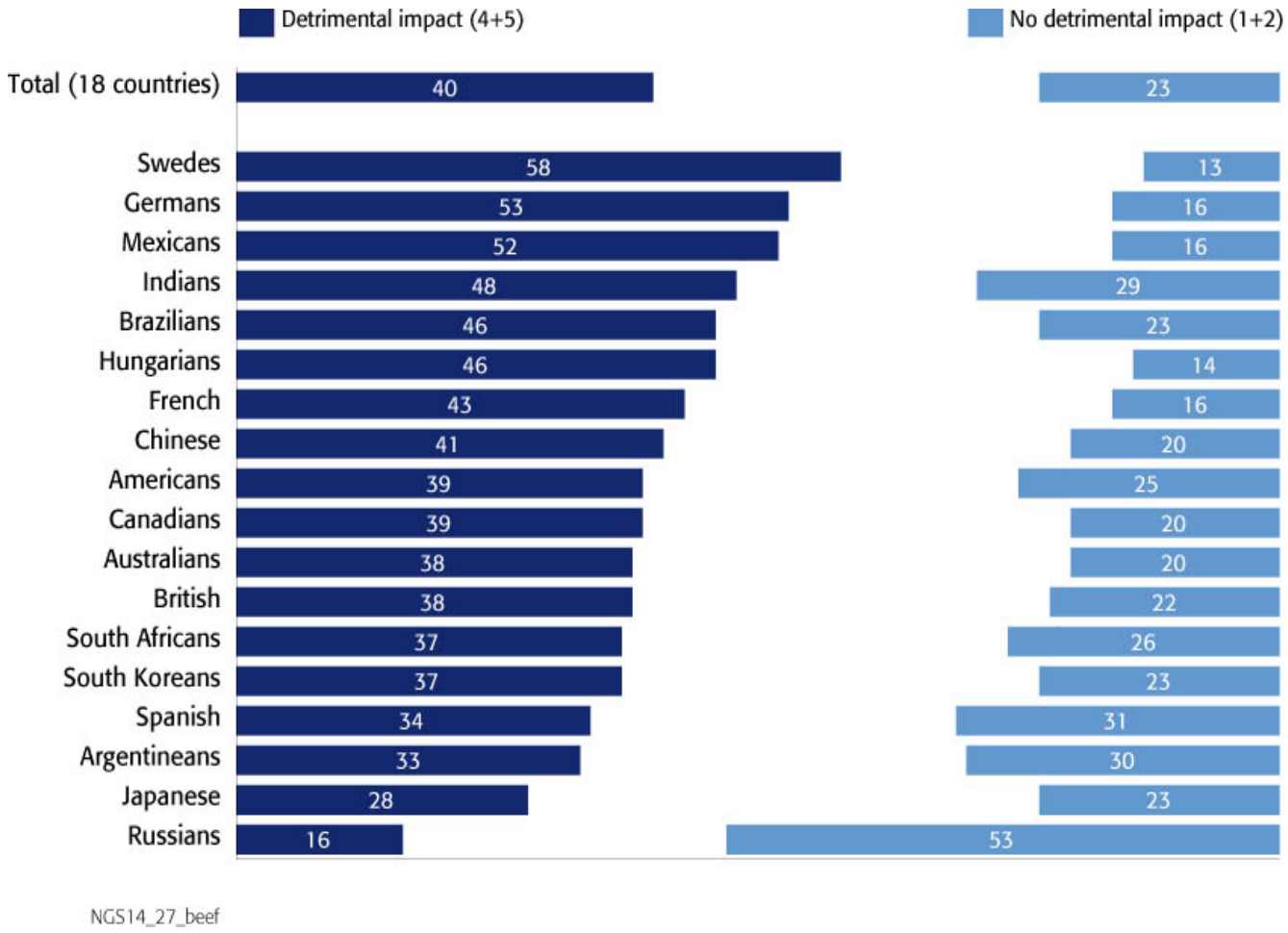
Consumption vs Perceived Environmental Impact

Average of 18 Countries, 2014



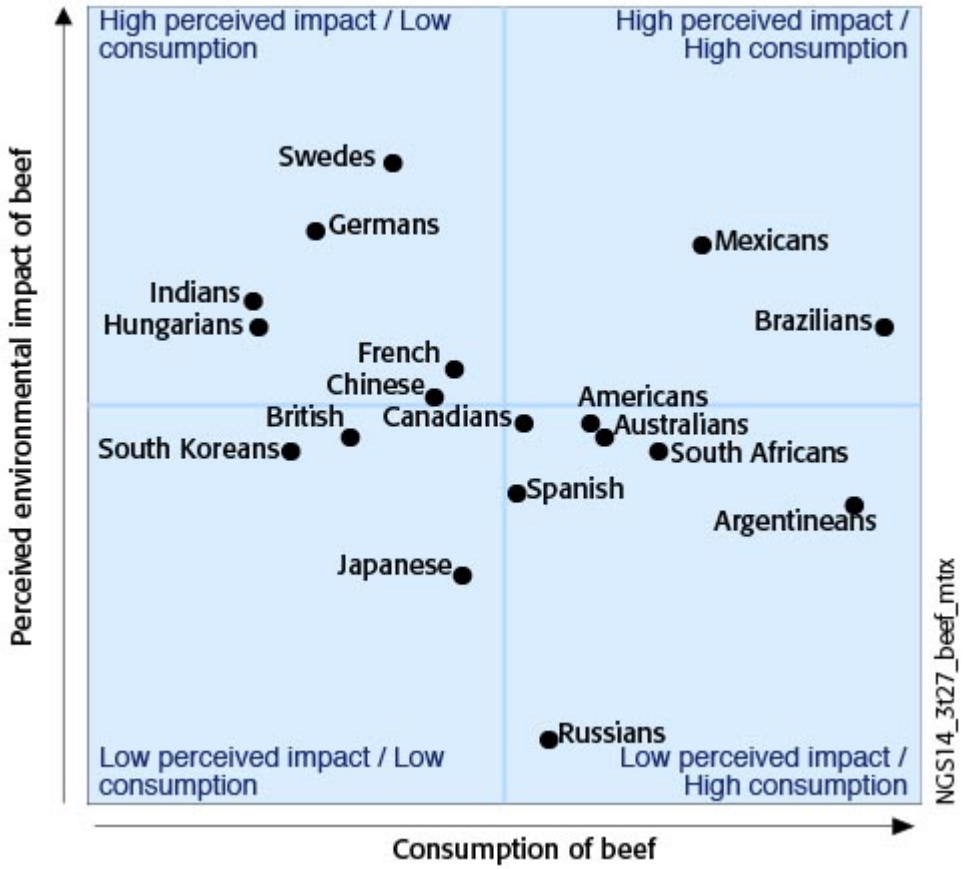
Perceived Environmental Impact of Producing Beef

Percentage of Consumers in Each Country, 2014



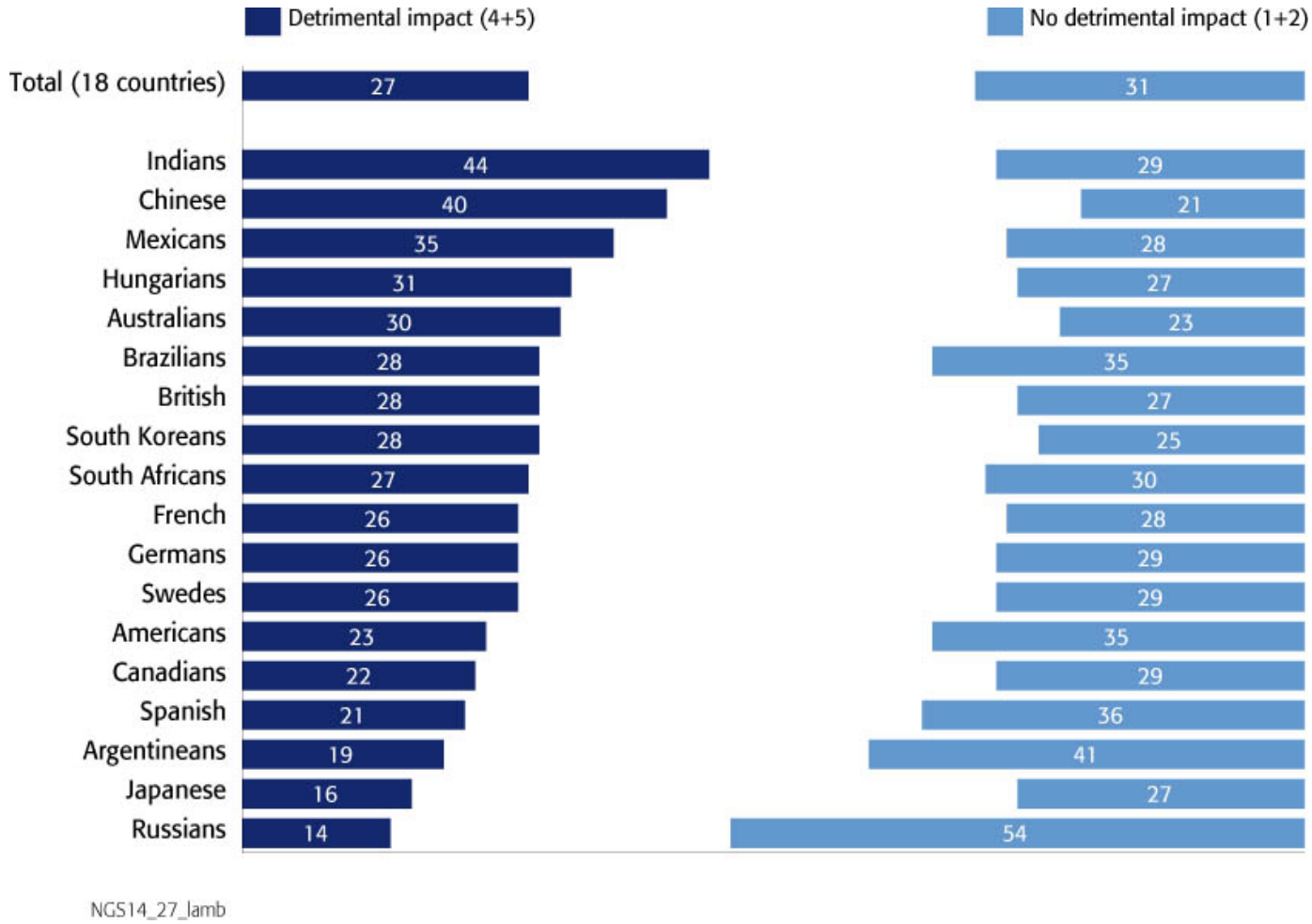
Beef: Consumption vs Perceived Environmental Impact

Consumers in Each Country, 2014



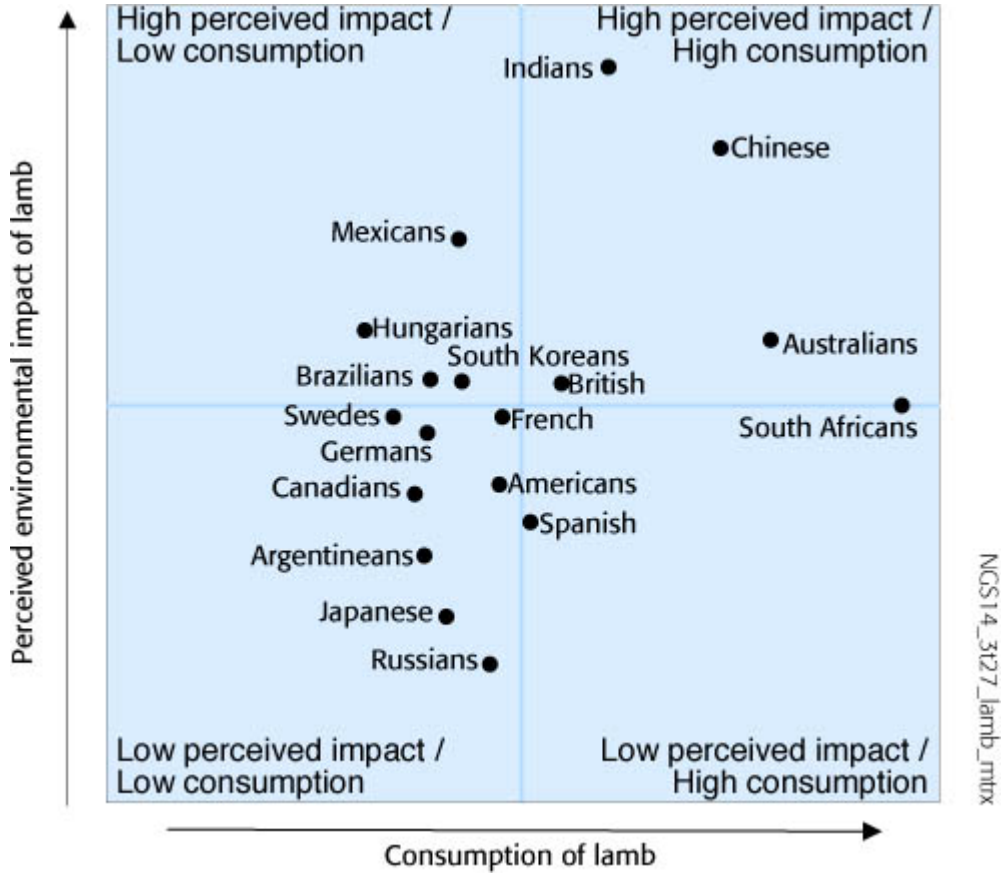
Perceived Environmental Impact of Producing Lamb

Percentage of Consumers in Each Country, 2014



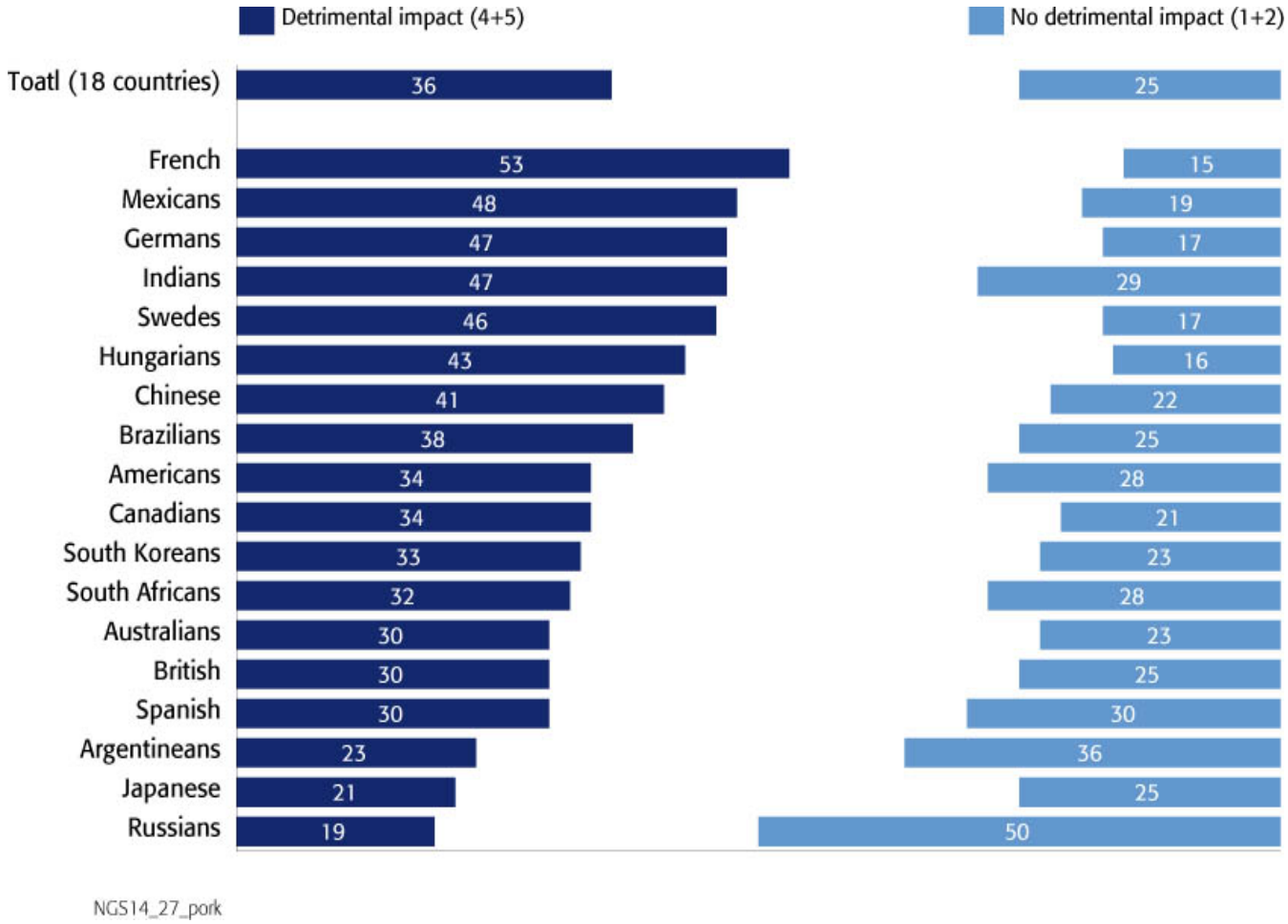
Lamb: Consumption vs Perceived Environmental Impact

Consumers in Each Country, 2014



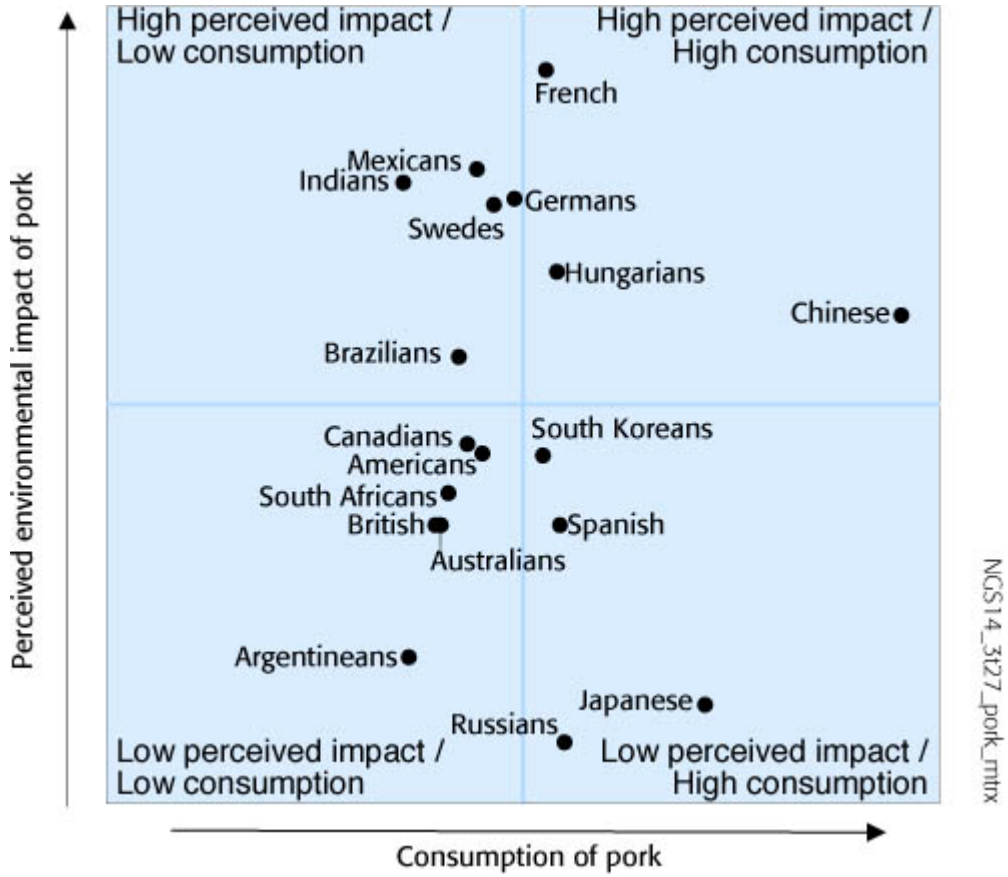
Perceived Environmental Impact of Producing Pork

Percentage of Consumers in Each Country, 2014



Pork: Consumption vs Perceived Environmental Impact

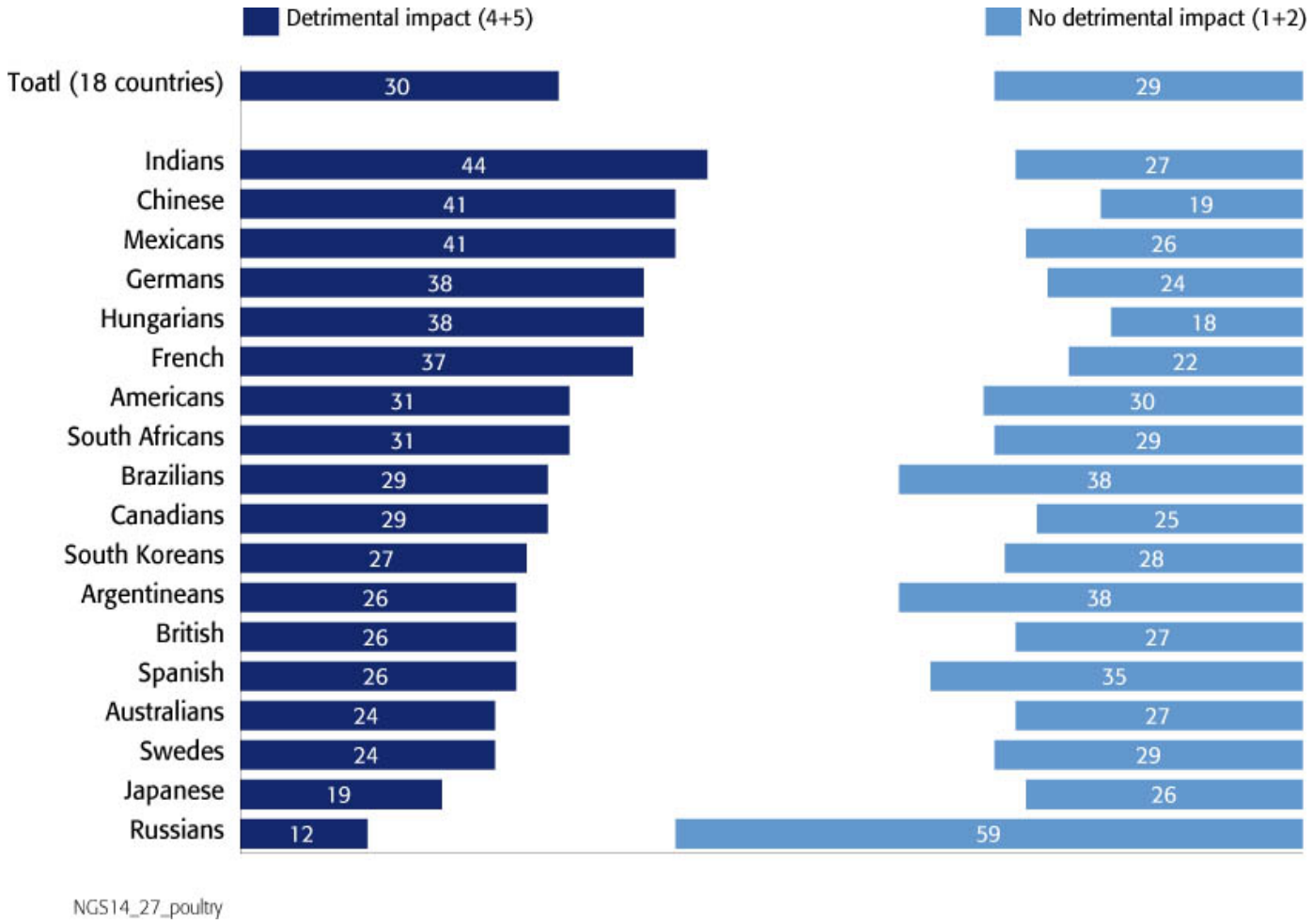
Consumers in Each Country, 2014



Perceived Environmental Impact of Producing Poultry

NATIONAL GEOGRAPHIC

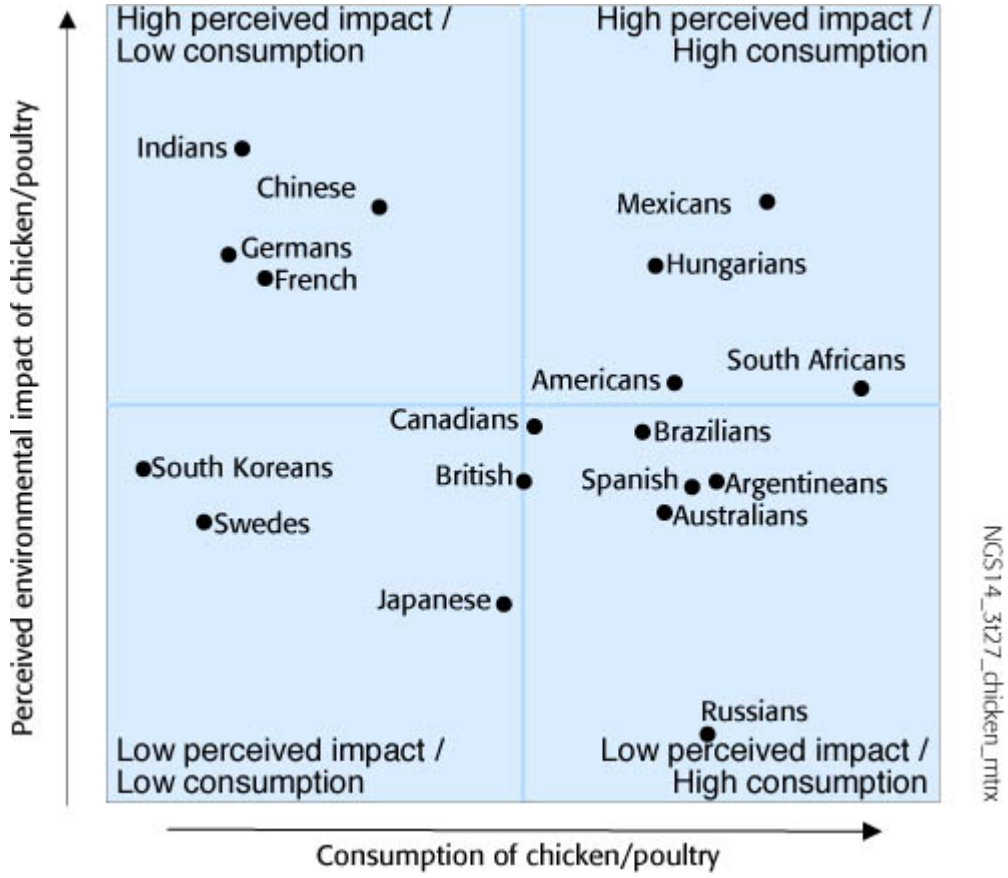
Percentage of Consumers in Each Country, 2014



GLOBESCAN

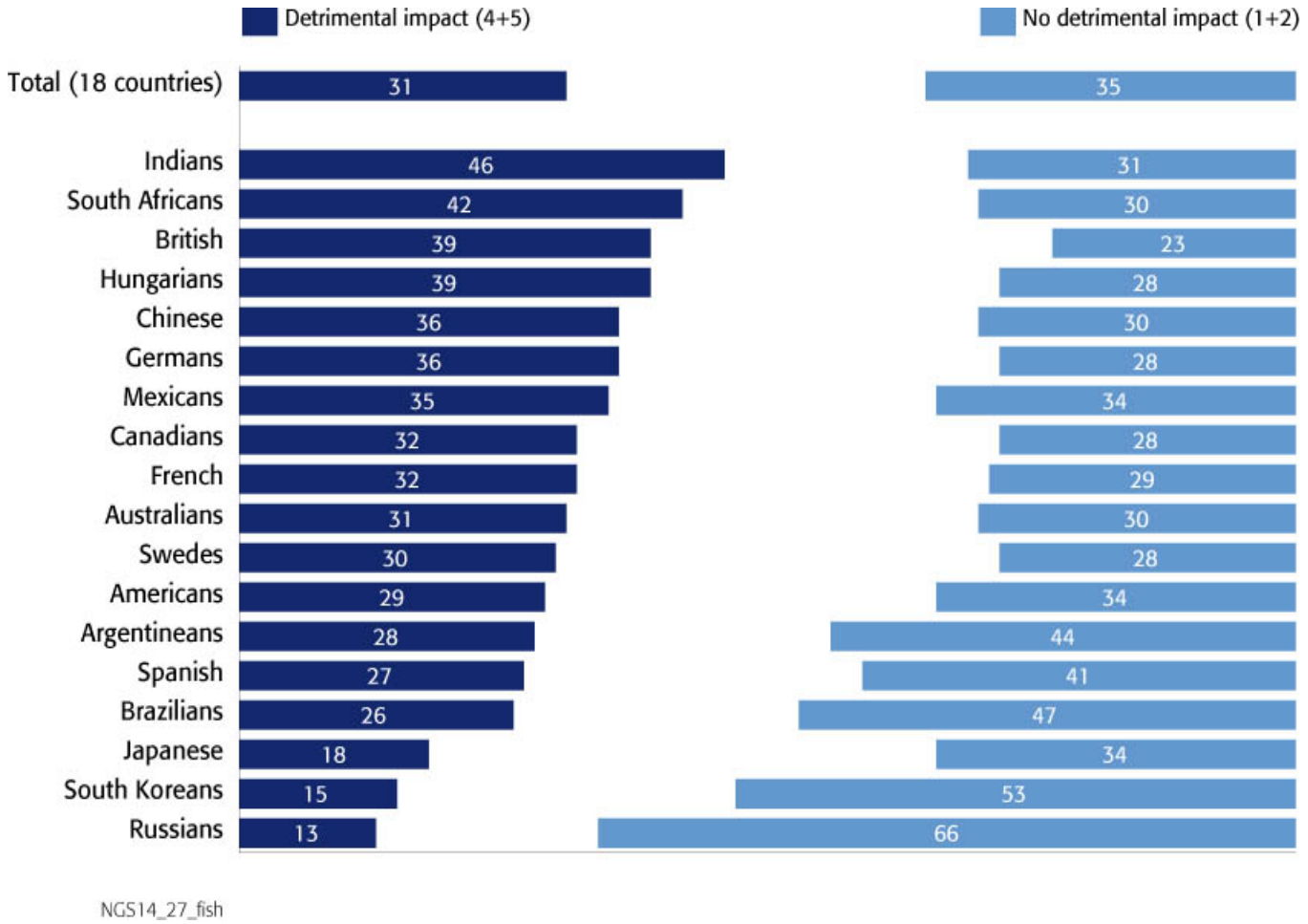
Poultry/Chicken: Consumption vs Perceived Environmental Impact

Consumers in Each Country, 2014



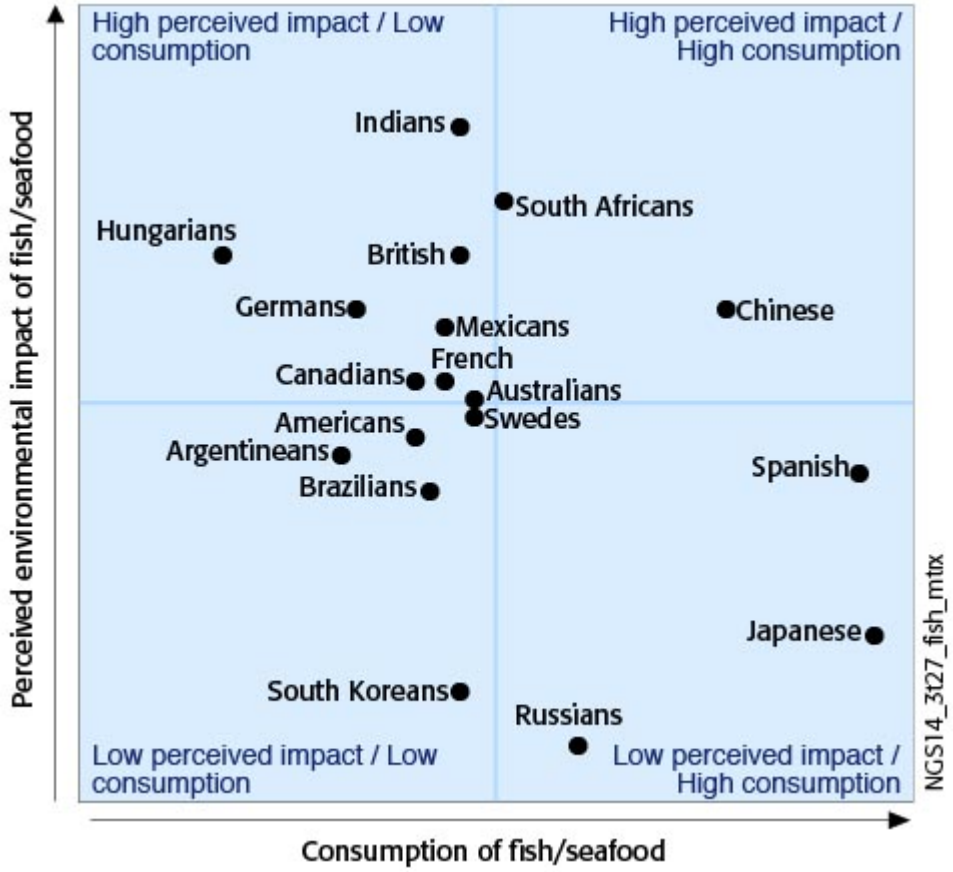
Perceived Environmental Impact of Producing Fish/Seafood

Percentage of Consumers in Each Country, 2014



Fish/Seafood: Consumption vs Perceived Environmental Impact

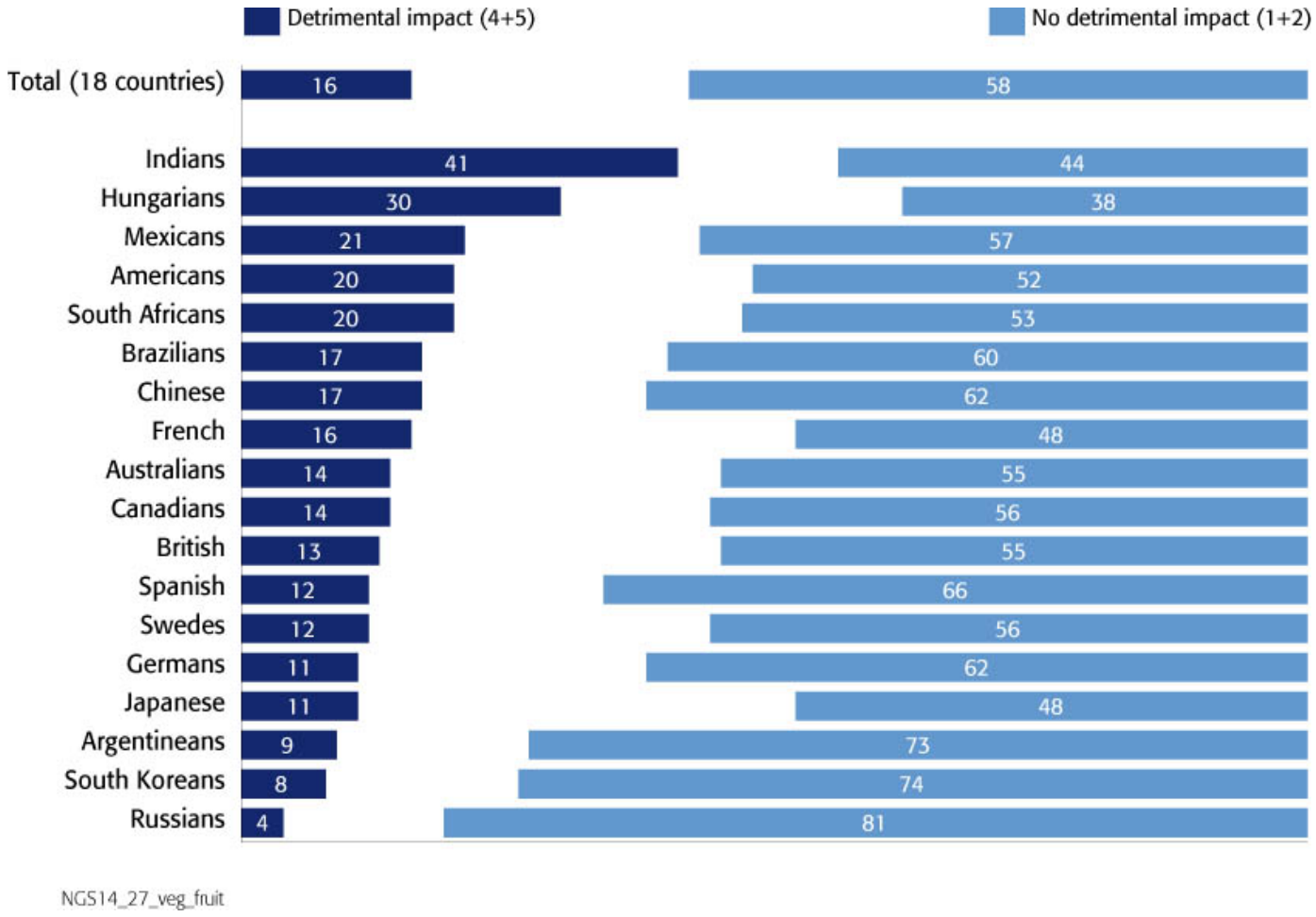
Consumers in Each Country, 2014



Perceived Environmental Impact of Producing Vegetables and Fruits

NATIONAL GEOGRAPHIC

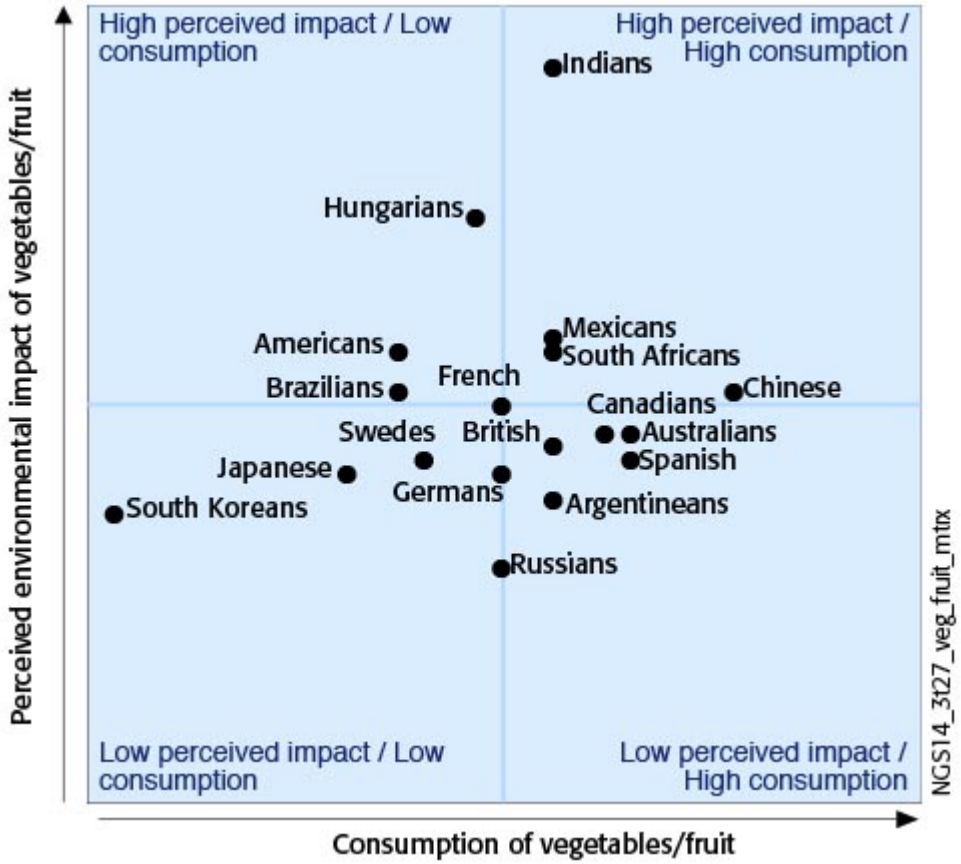
Percentage of Consumers in Each Country, 2014



GLOBESCAN

Vegetables and Fruits : Consumption vs Perceived Environmental Impact

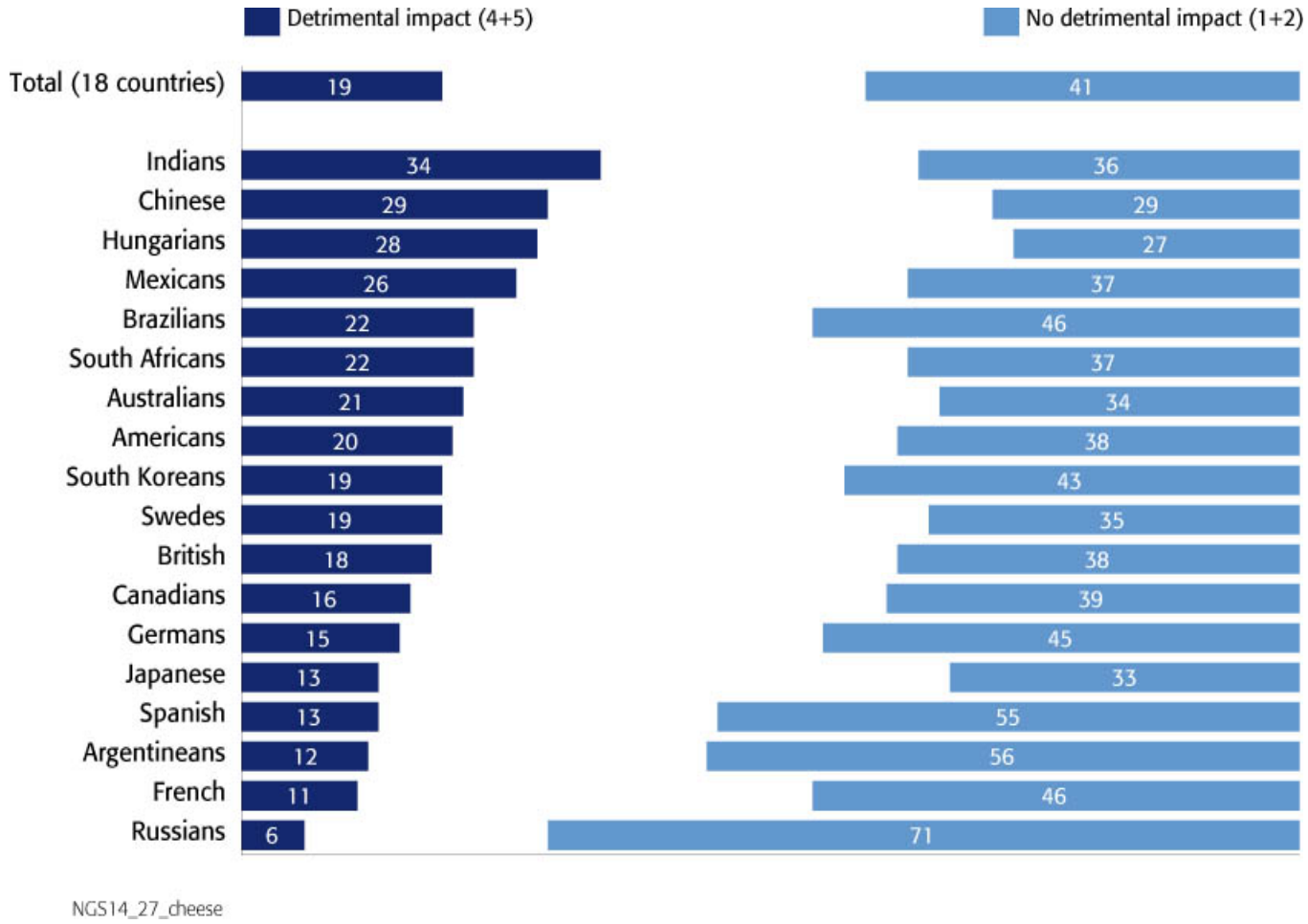
Consumers in Each Country, 2014



Perceived Environmental Impact of Producing Cheese

NATIONAL GEOGRAPHIC

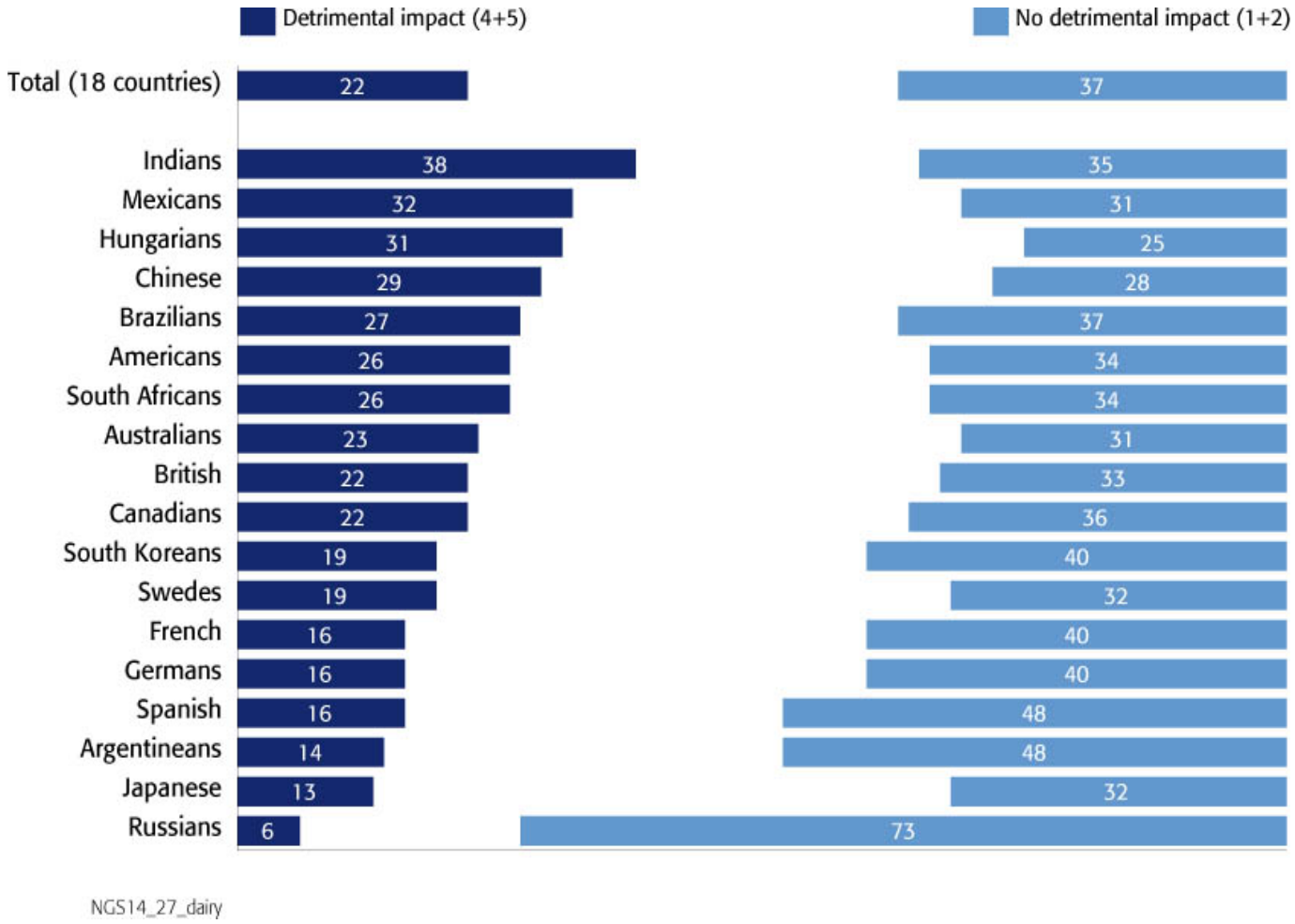
Percentage of Consumers in Each Country, 2014



GLOBESCAN

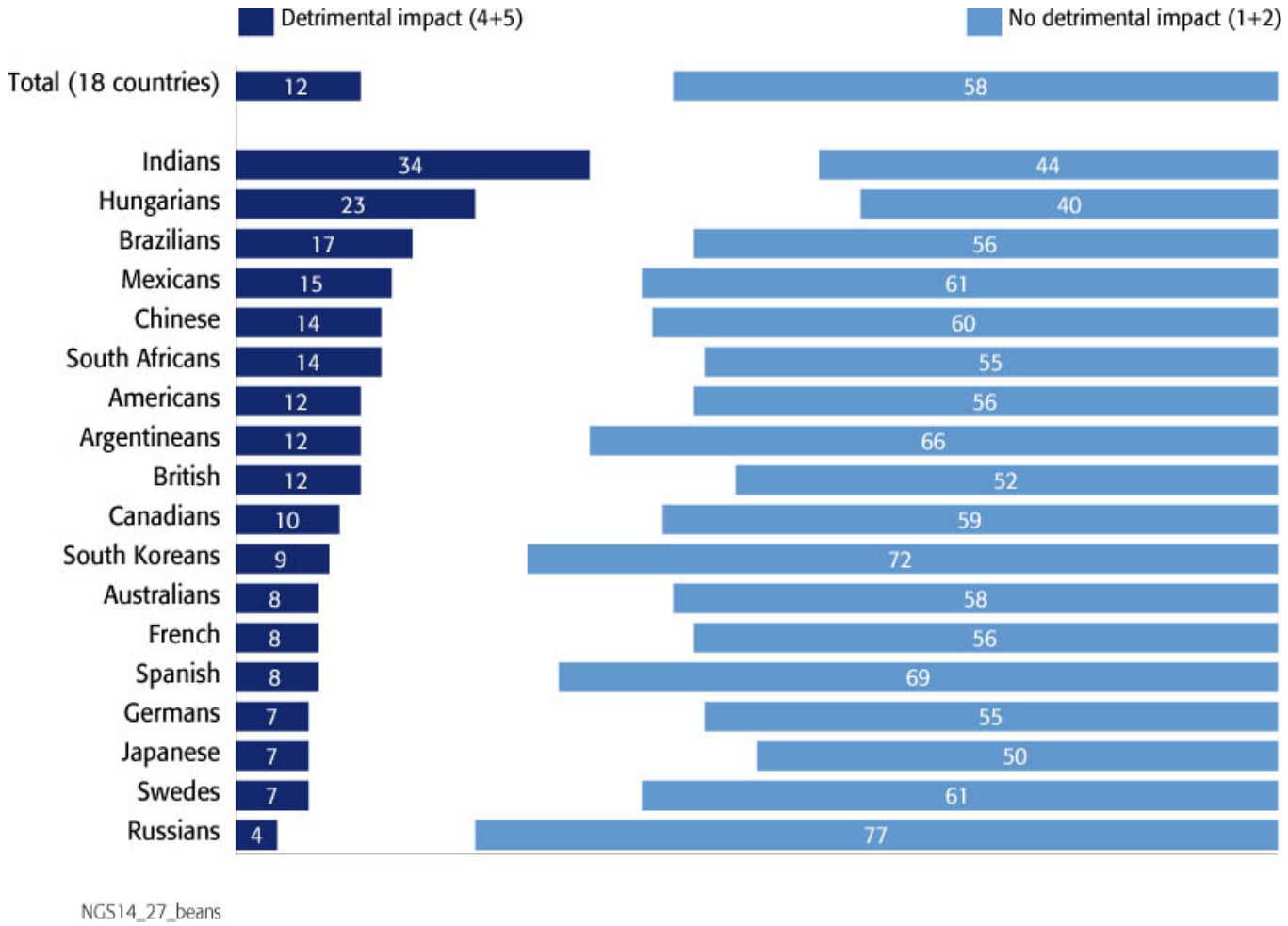
Perceived Environmental Impact of Producing Dairy (Other than Cheese)

Percentage of Consumers in Each Country, 2014



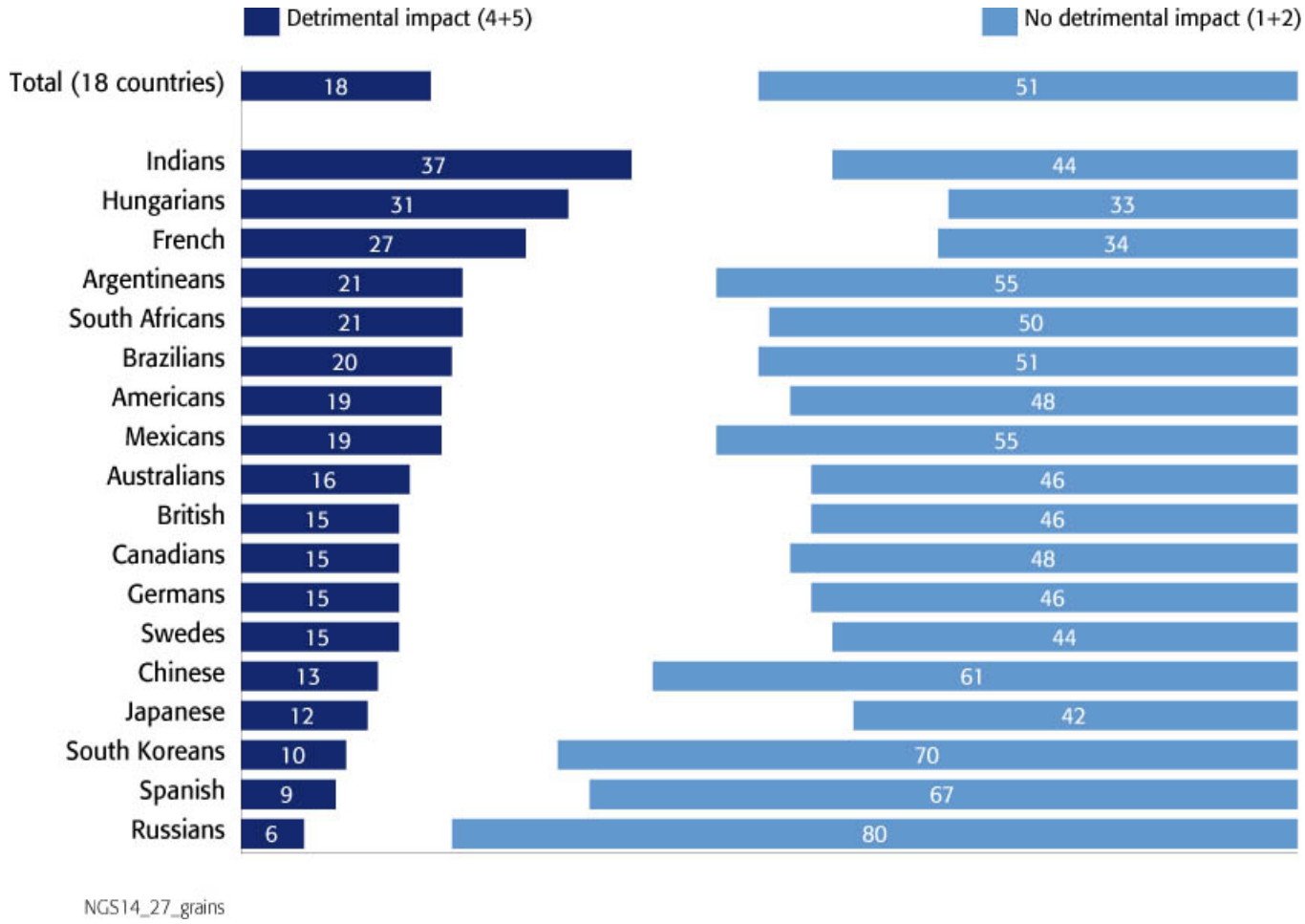
Perceived Environmental Impact of Producing Beans

Percentage of Consumers in Each Country, 2014



Perceived Environmental Impact of Producing Grains

Percentage of Consumers in Each Country, 2014



Most Important Reasons for Never Eating Meat

Total Mentions, Percentage of Consumers in Each Country,* 2014

	Total (18 countries)	Americans	Argentineans	Australians	Brazilians	British	Canadians	Chinese	French	Germans	Hungarians	Indians	Japanese	Mexicans	Russians	South Africans	South Koreans	Spanish	Swedes
Ethical reasons	59	51	67	70	46	75	81	0	79	88	62	38	29	64	22	69	45	100	71
Health considerations	34	59	38	39	41	25	45	30	21	11	37	23	14	45	51	30	68	0	27
Environmental considerations	32	20	47	33	47	32	26	0	39	38	19	26	7	29	89	21	0	44	56
Do not like the taste	19	32	13	18	18	21	26	31	0	20	30	19	37	8	0	10	18	23	15
Cultural/religious restrictions	16	6	24	6	17	1	0	39	5	0	6	55	0	27	38	43	14	0	0
Too expensive	7	10	0	3	0	2	0	14	28	0	0	1	26	0	0	6	36	0	7
Other	10	5	0	10	11	11	13	0	10	15	9	8	28	9	0	6	18	19	2

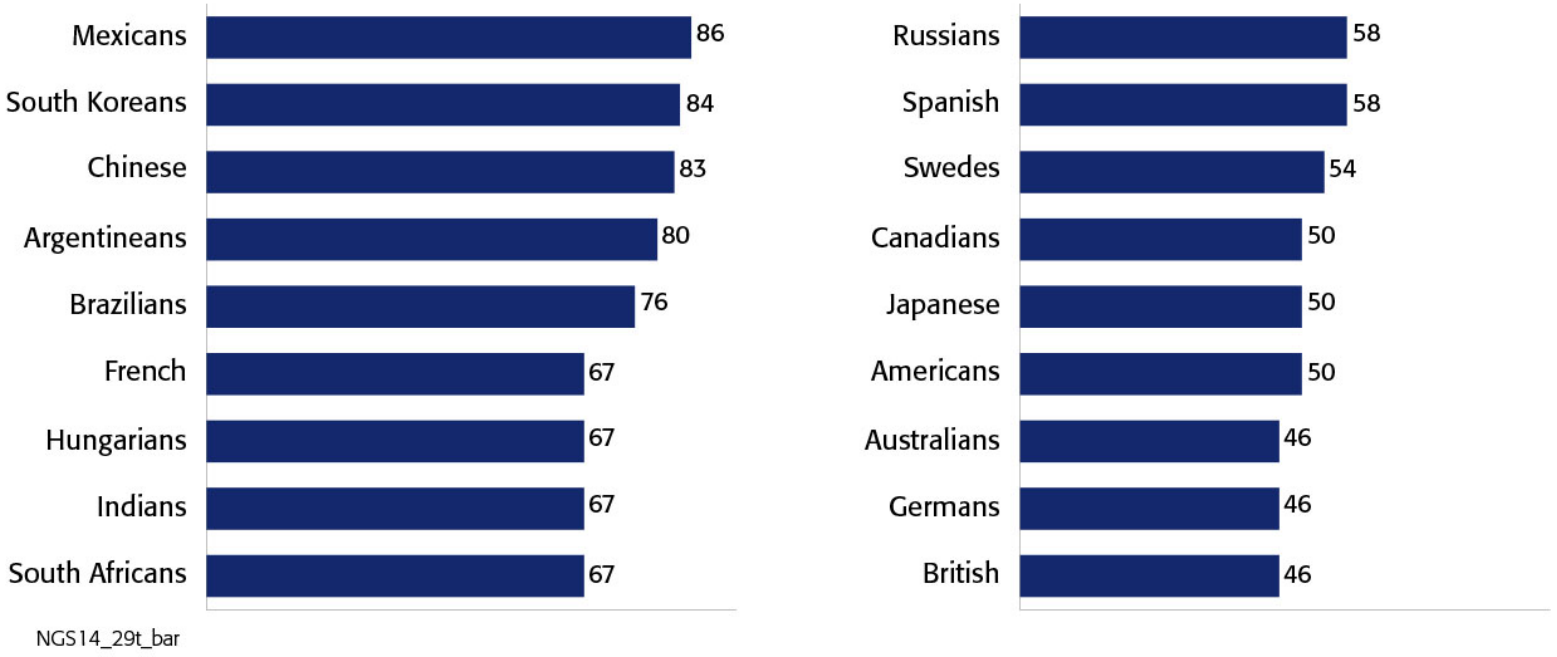
NGS14_28_tbl

Highlighted cell indicates most frequent reason for not eating meat

Asked only to those who never eat meat (*n*=531).
*Respondents could select up to two responses.

Future Food Consumption Intentions

Consumers Who Intend to Change in Future for Environmental Reasons,* by Country, 2014

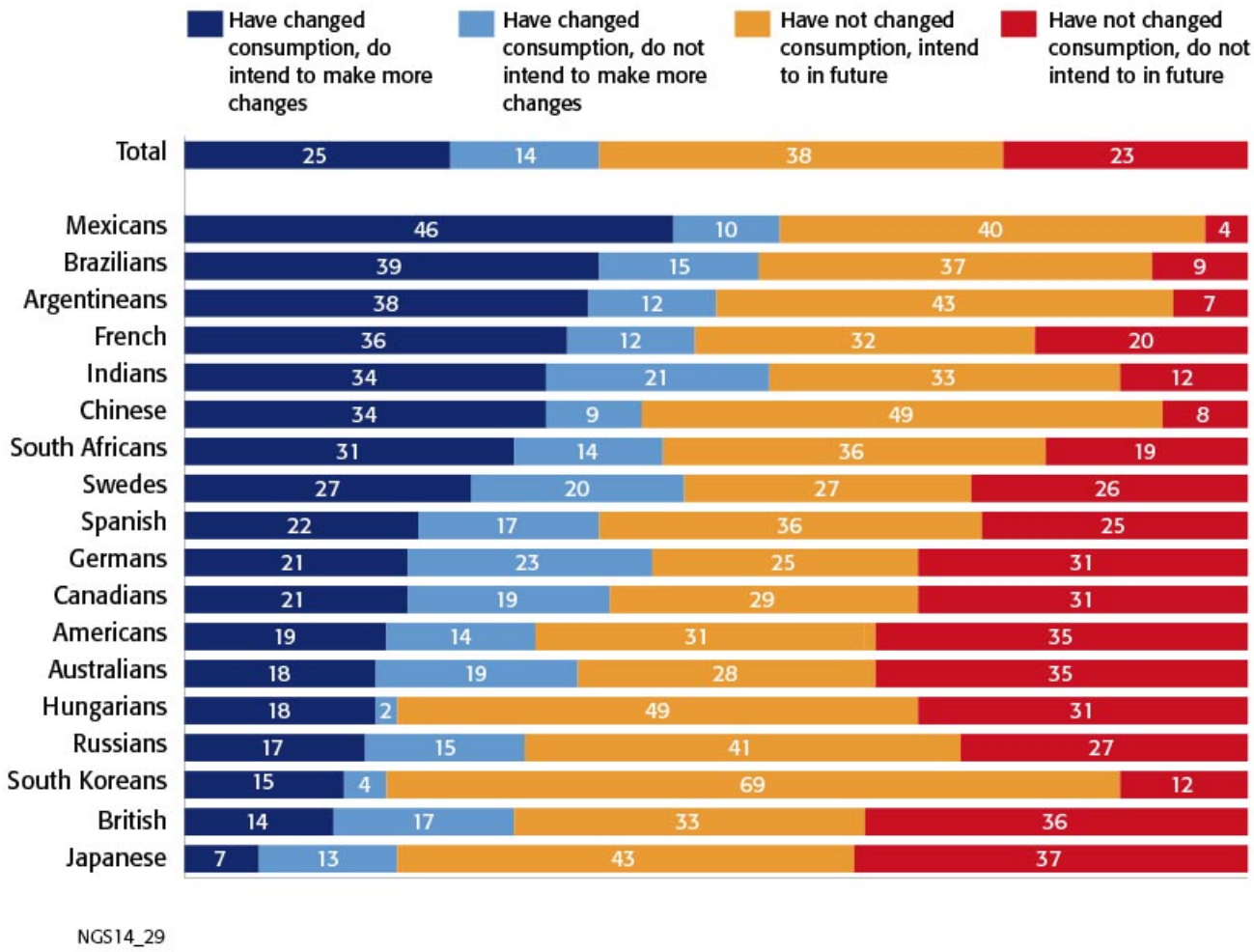


*Includes "I have not changed my food consumption habits for environmental reasons, but I do intend to in the future" and "I have already changed my food consumption habits for environmental reasons, and do intend to make more changes in the future"

Food Consumption Intentions Specifically Related to Environment

NATIONAL GEOGRAPHIC

Percentage of Consumers in Each Country, 2014



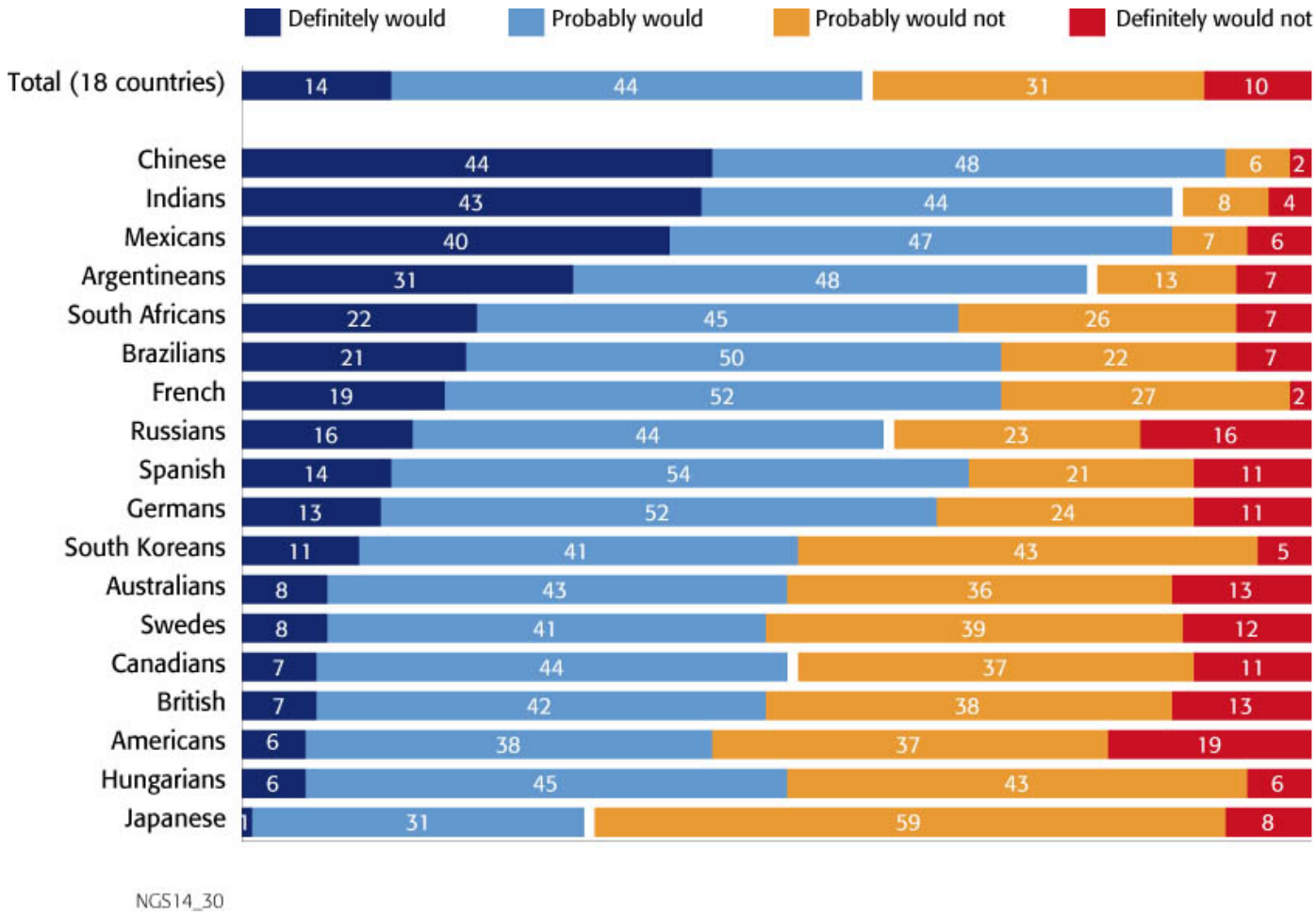
GLOBESCAN

 The white space in this chart represents "DK/NA."

Willingness to Change Food Choices to Reduce Environmental Impact After Learning about Environmental Impact of Different Foods

NATIONAL GEOGRAPHIC

Percentage of Consumers in Each Country, 2014



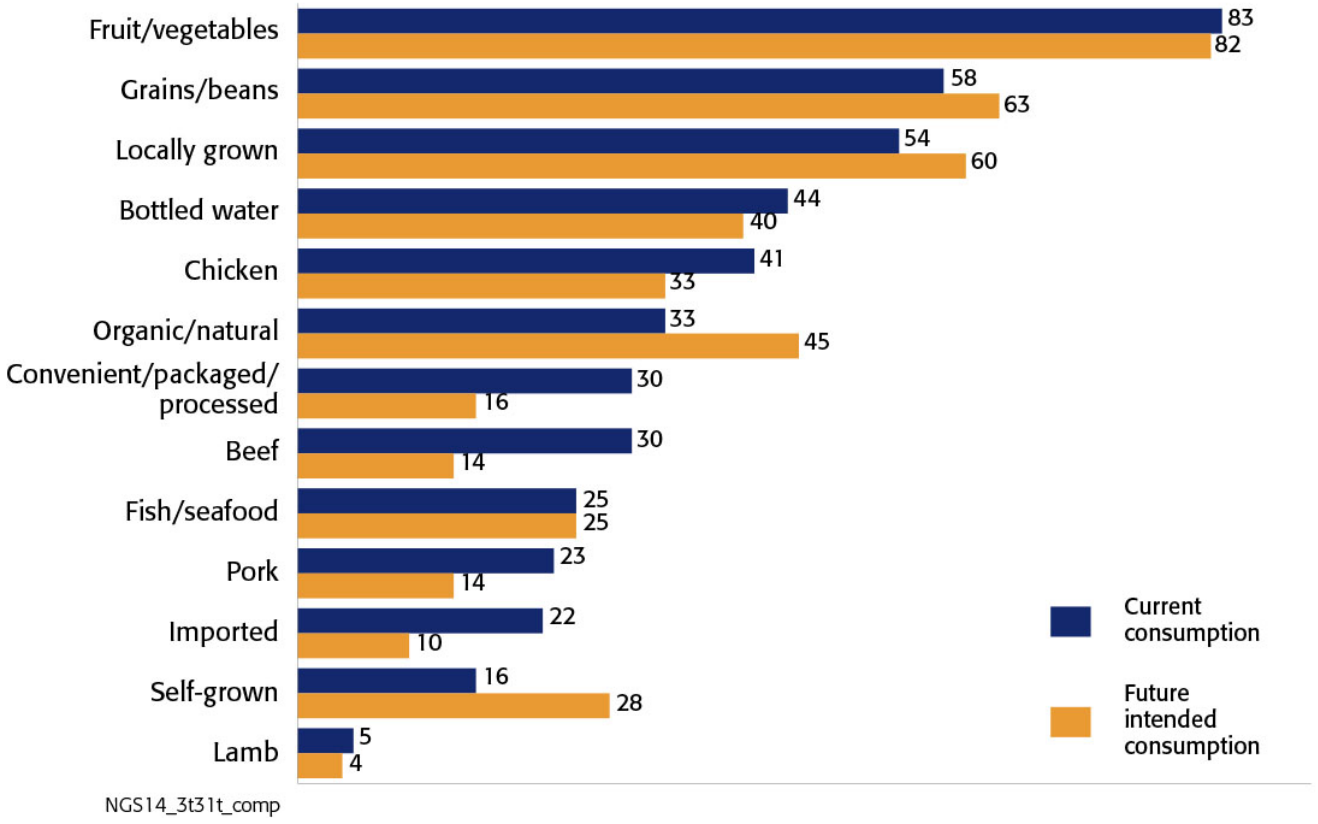
The white space in this chart represents "DK/NA."
Not asked to those who never eat meat

GLOBESCAN

Current and Future Intentions of Consuming Foods in Future After Learning of Environmental Impact

NATIONAL GEOGRAPHIC

"Daily" and "Several Times per Week," Consumers in Each Country, 2014

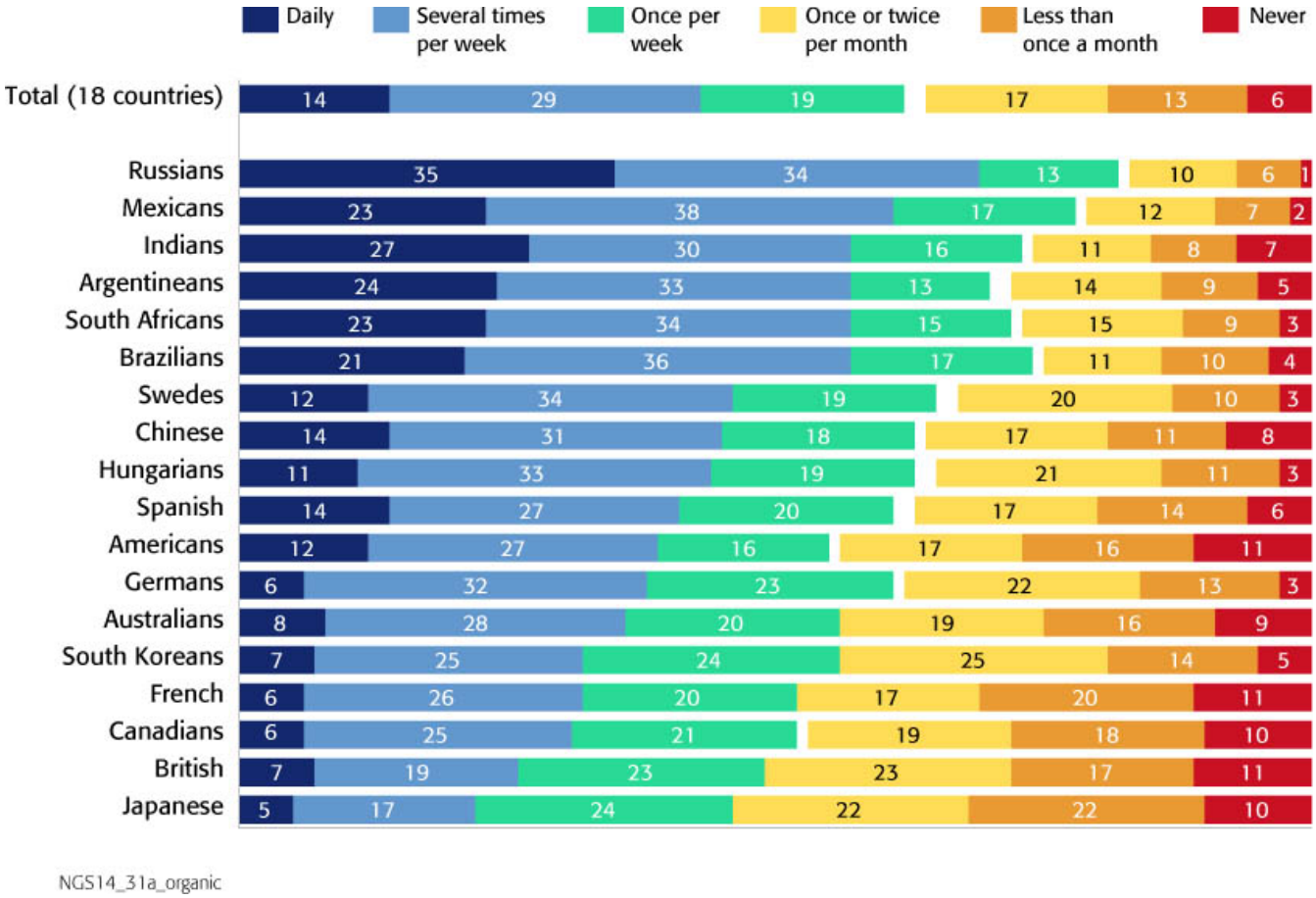


GLOBESCAN

Estimated Frequency of Consuming Organic or Natural Foods in Future After Learning of Environmental Impact

NATIONAL GEOGRAPHIC

Percentage of Consumers in Each Country, 2014



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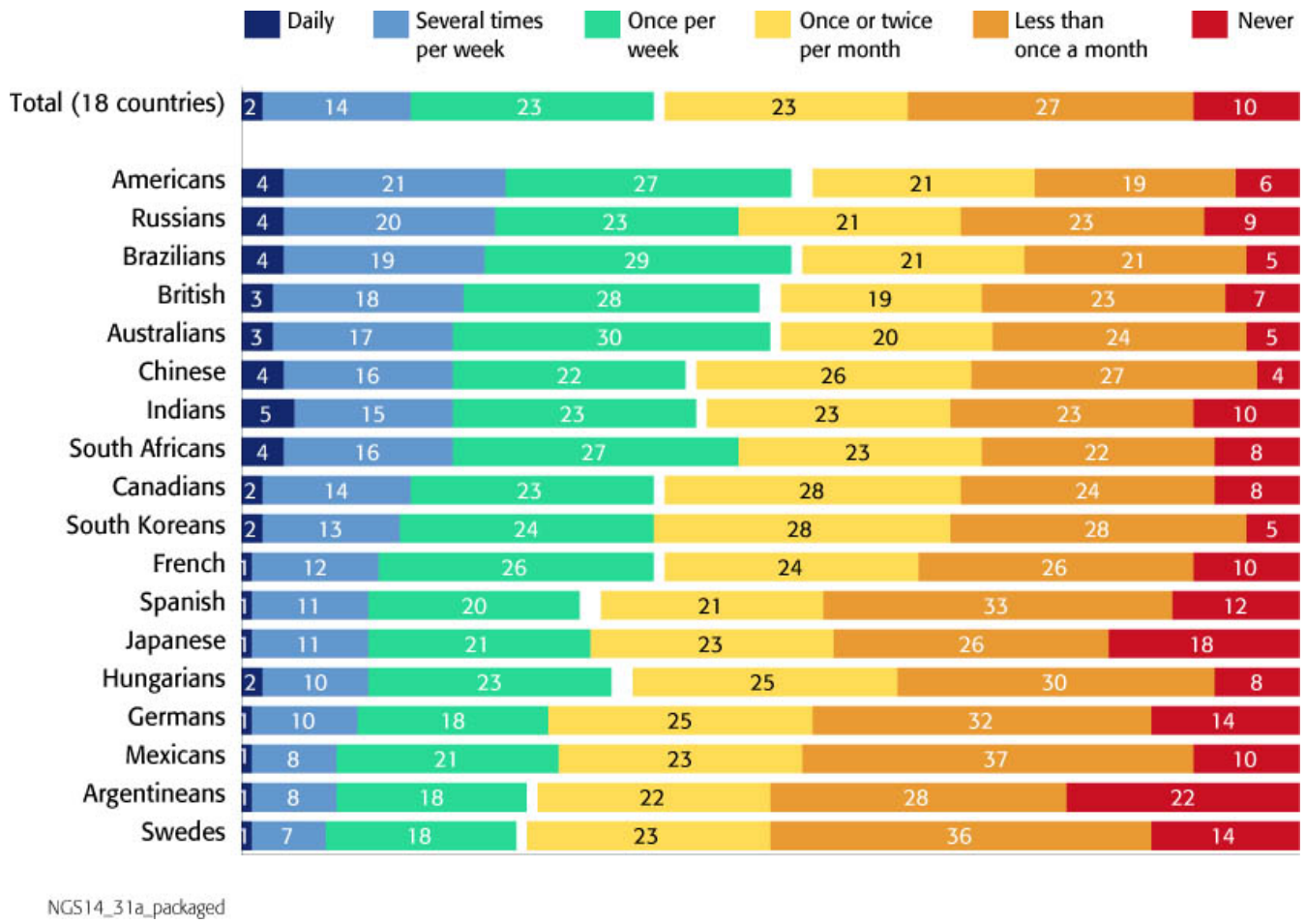
The white space in this chart represents "DK/NA."
Not asked to those who never eat meat

GLOBESCAN

Estimated Frequency of Consuming Convenient (Prepared/Processed/Packaged) Foods in Future After Learning of Environmental Impact

NATIONAL GEOGRAPHIC

Percentage of Consumers in Each Country, 2014



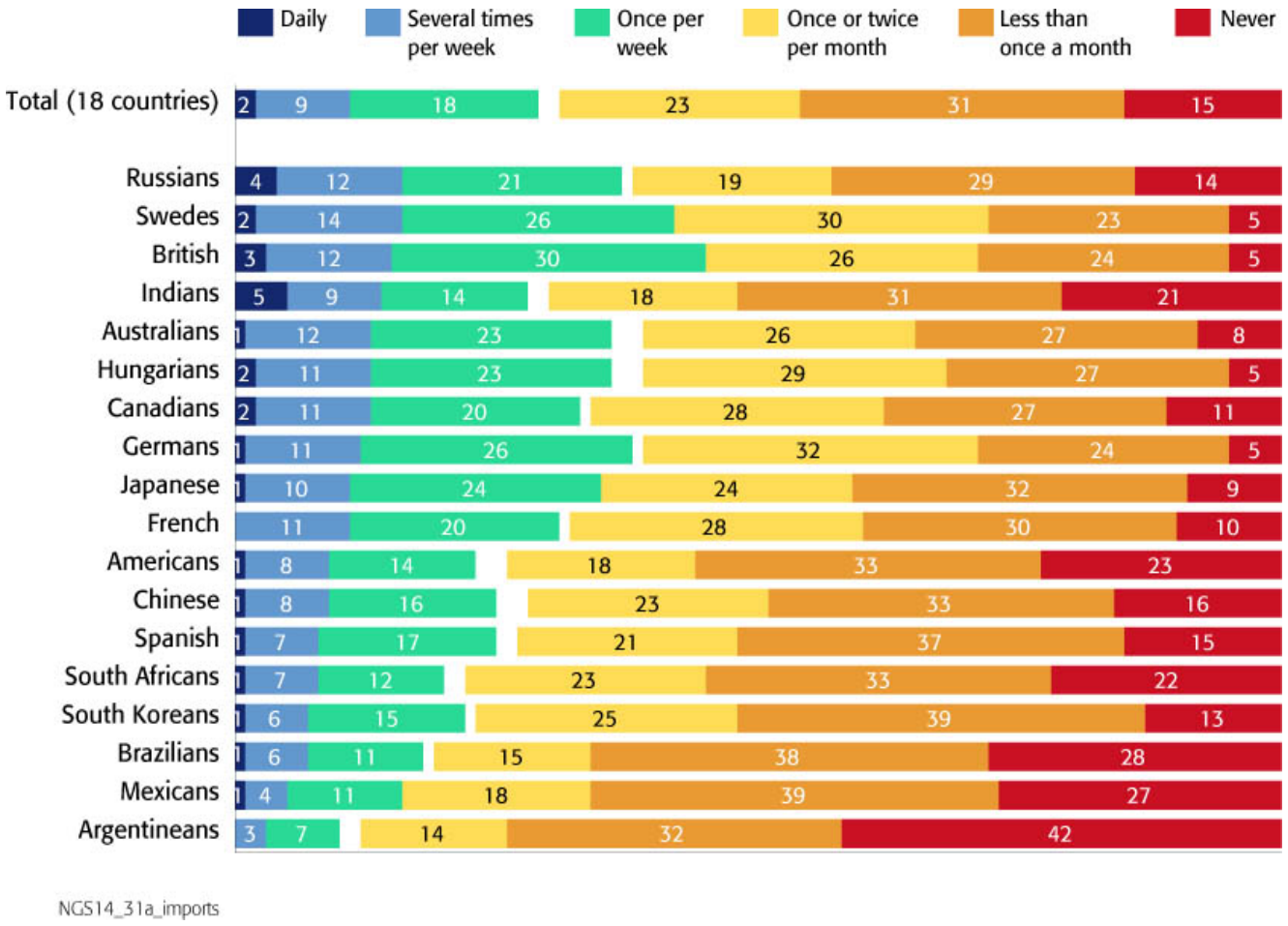
The white space in this chart represents "DK/NA."
Not asked to those who never eat meat

GLOBESCAN

Estimated Frequency of Consuming Imported Foods in Future After Learning of Environmental Impact

NATIONAL GEOGRAPHIC

Percentage of Consumers in Each Country, 2014



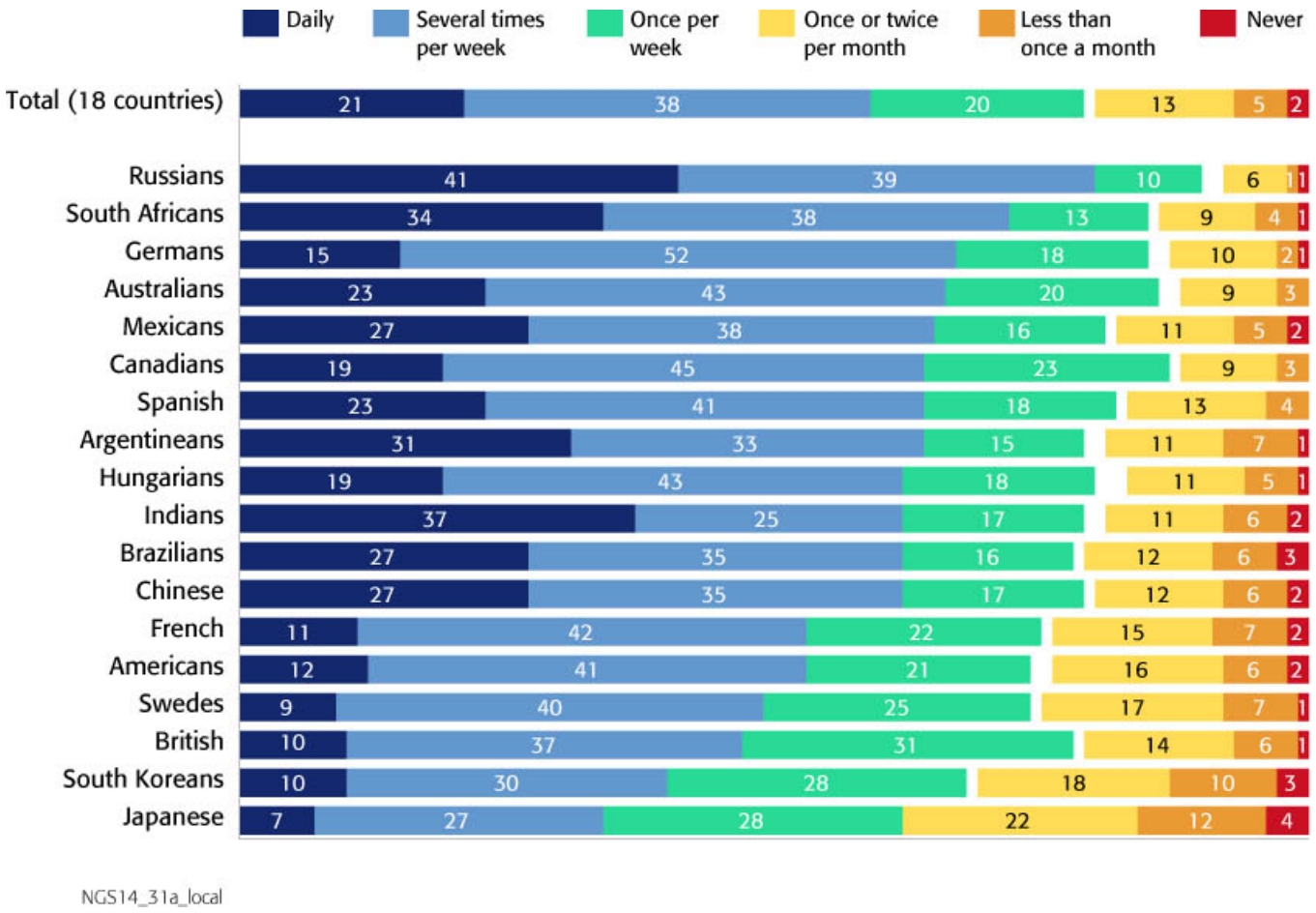
The white space in this chart represents "DK/NA."
Not asked to those who never eat meat

GLOBESCAN

Estimated Frequency of Consuming Locally Grown Foods in Future After Learning of Environmental Impact

NATIONAL GEOGRAPHIC

Percentage of Consumers in Each Country, 2014



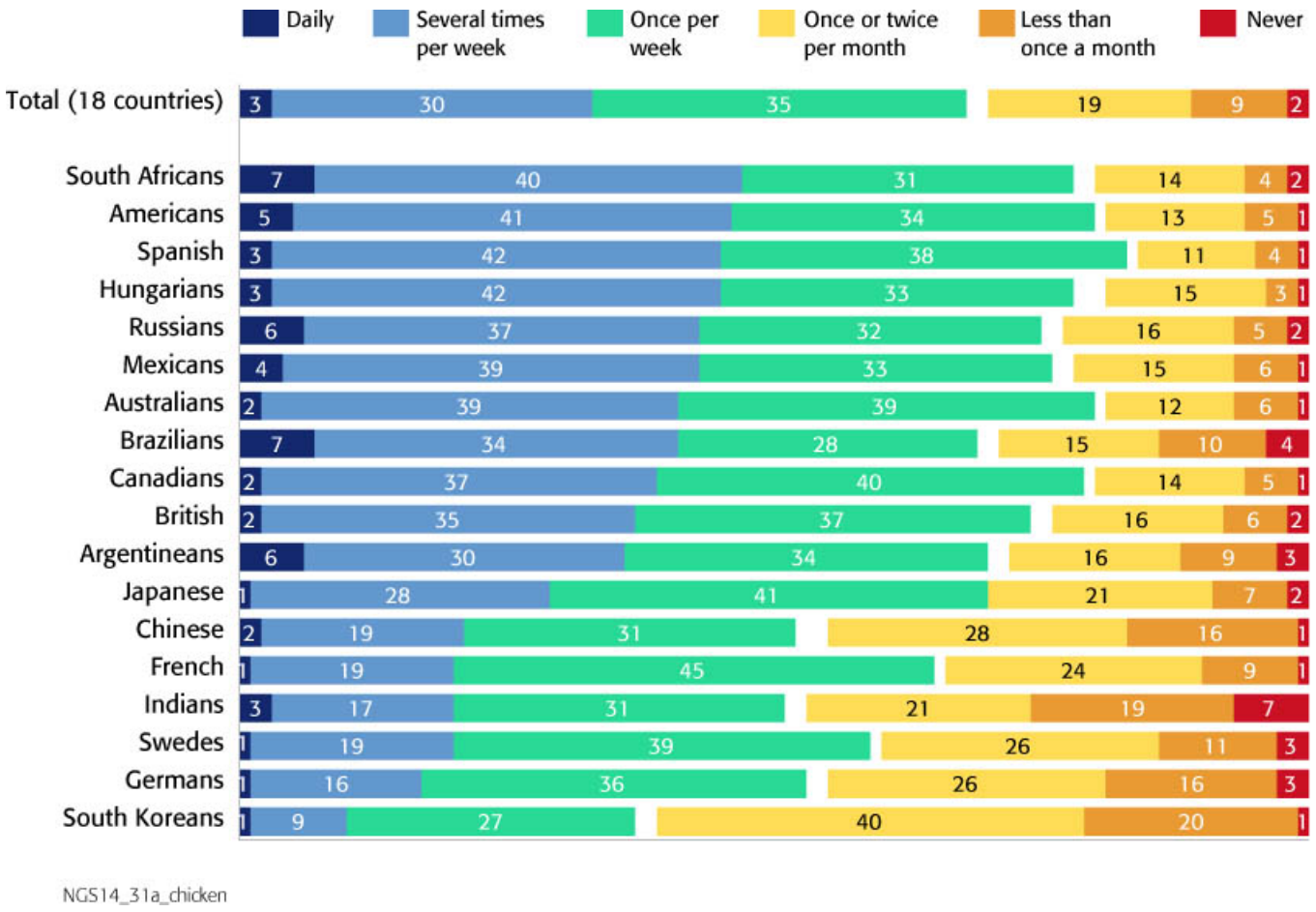
The white space in this chart represents "DK/NA."
Not asked to those who never eat meat

GLOBESCAN

Estimated Frequency of Consuming Chicken in Future After Learning of Environmental Impact

NATIONAL GEOGRAPHIC

Percentage of Consumers in Each Country, 2014



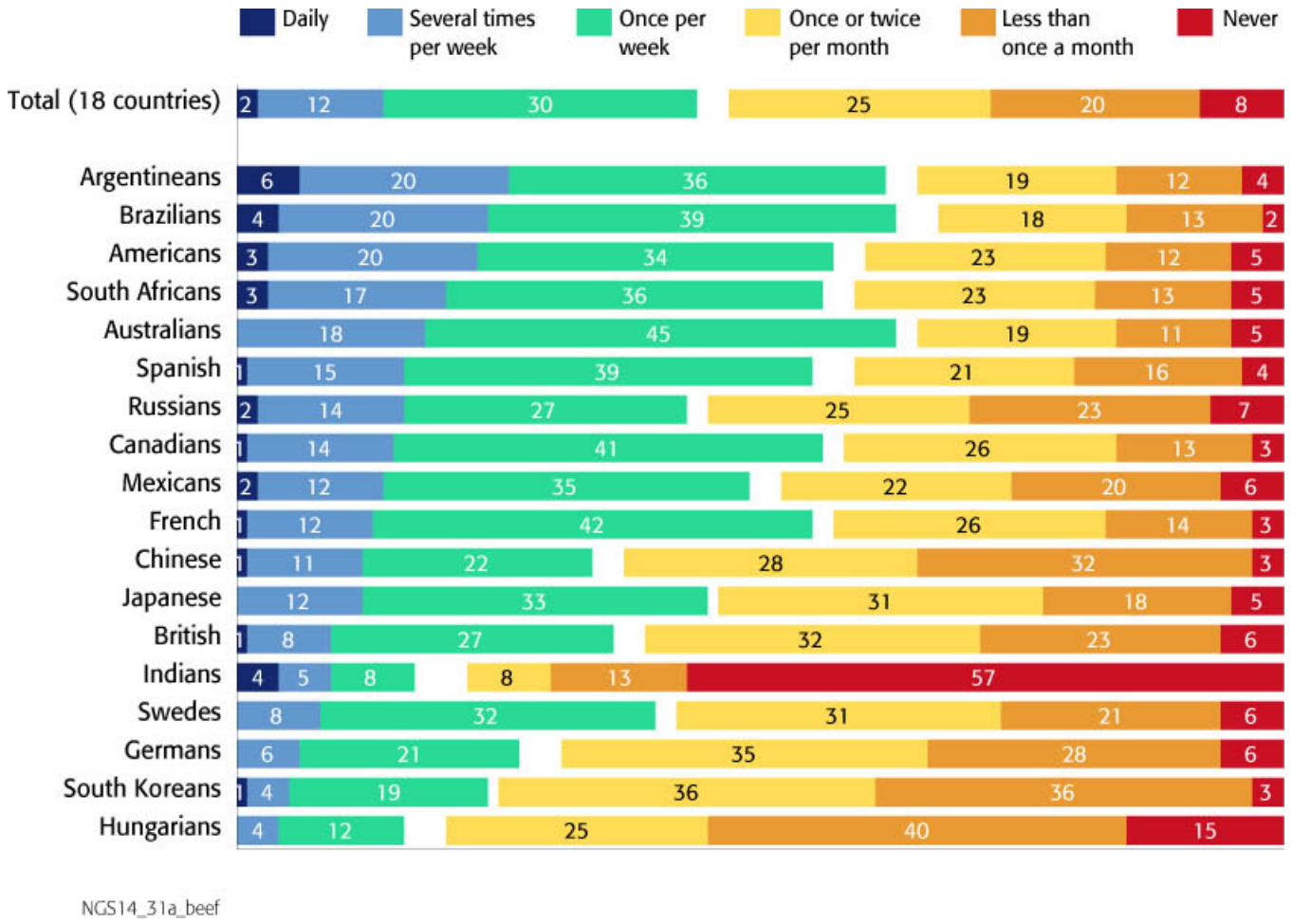
The white space in this chart represents "DK/NA."
Not asked to those who never eat meat

GLOBESCAN

Estimated Frequency of Consuming Beef in Future After Learning of Environmental Impact

NATIONAL GEOGRAPHIC

Percentage of Consumers in Each Country, 2014



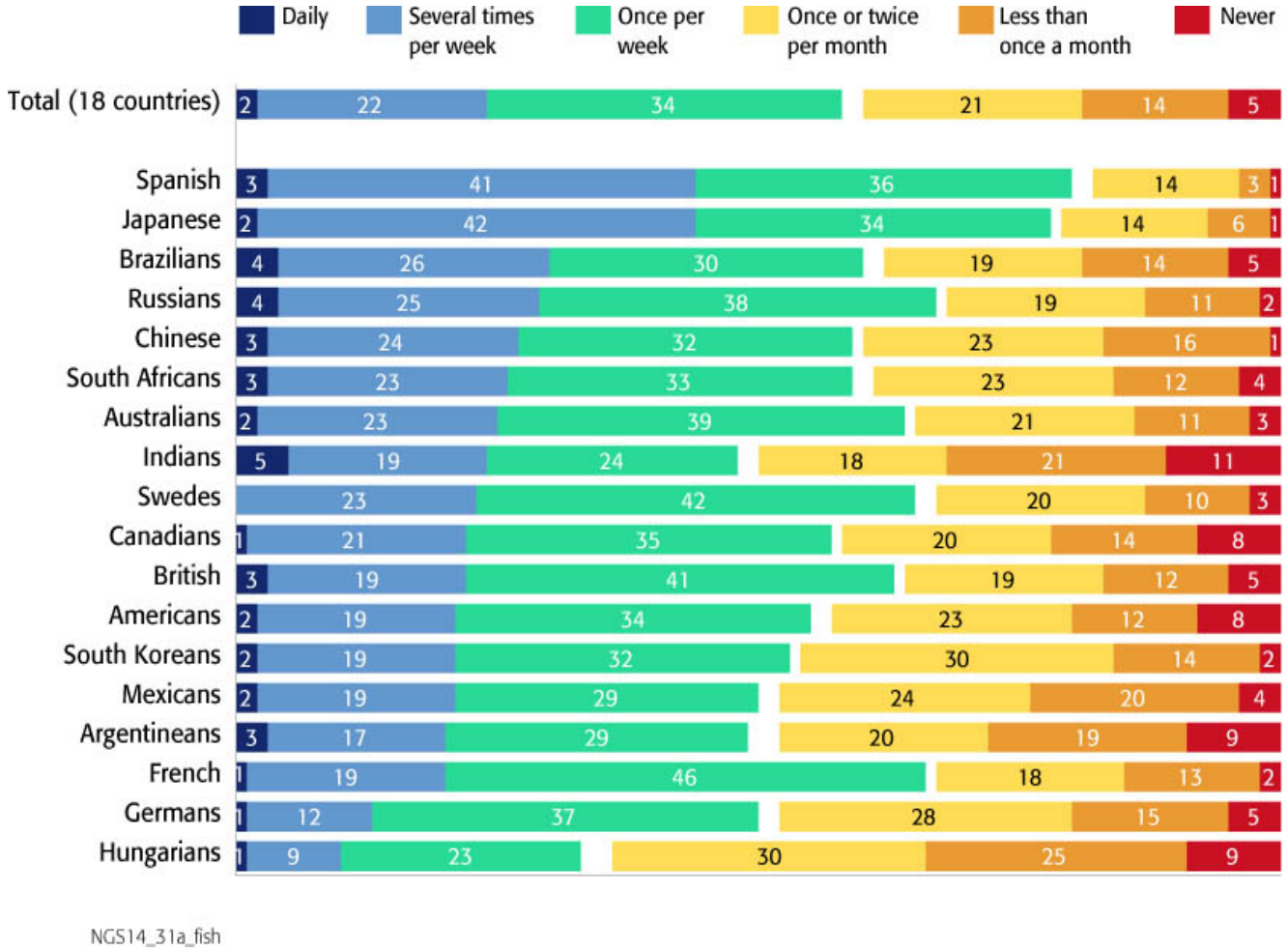
The white space in this chart represents "DK/NA."
Not asked to those who never eat meat

GLOBESCAN

Estimated Frequency of Consuming Fish and Seafood in Future After Learning of Environmental Impact

NATIONAL GEOGRAPHIC

Percentage of Consumers in Each Country, 2014



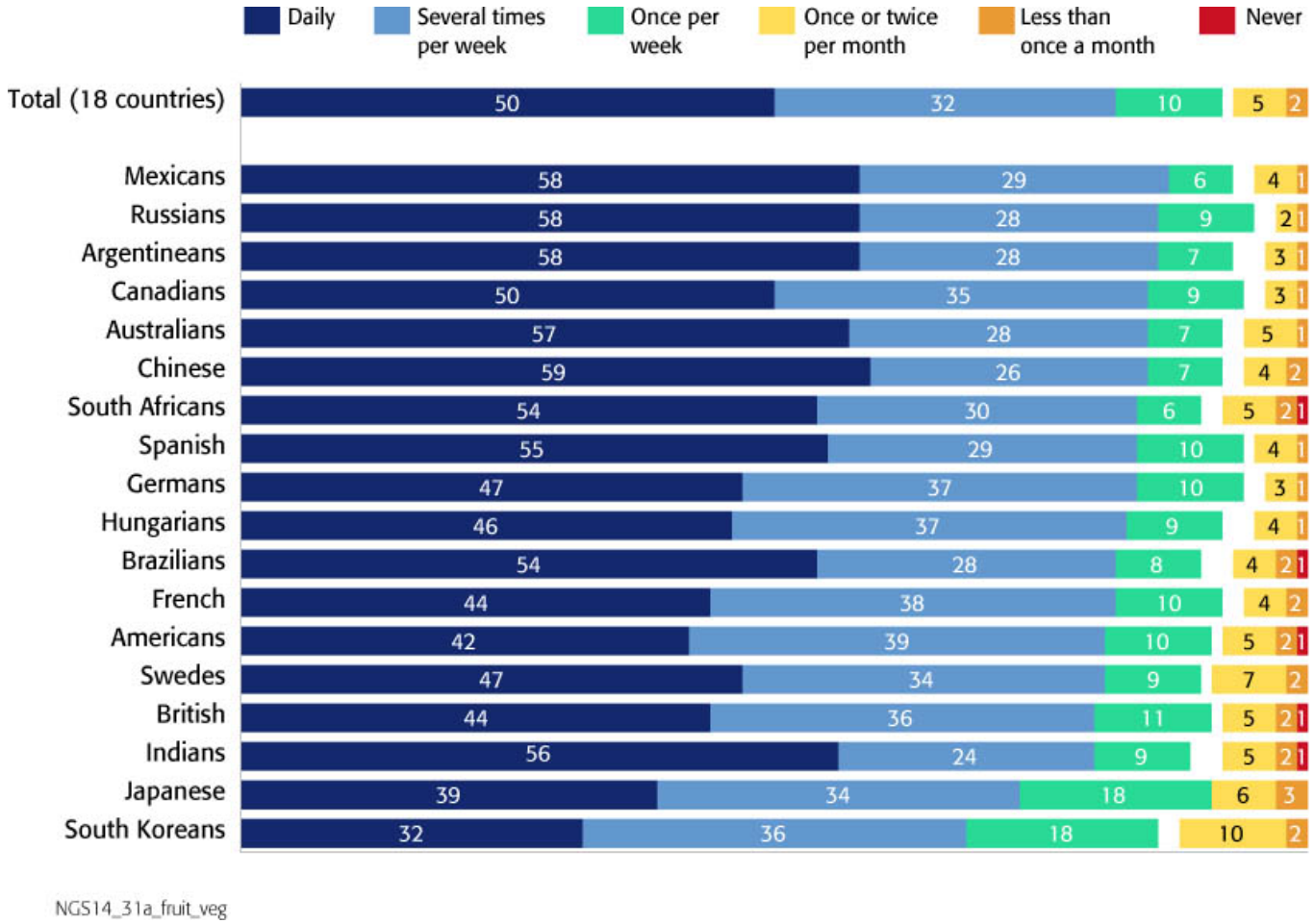
The white space in this chart represents "DK/NA."
Not asked to those who never eat meat

GLOBESCAN

Estimated Frequency of Consuming Fruits and Vegetables in Future After Learning of Environmental Impact

NATIONAL GEOGRAPHIC

Percentage of Consumers in Each Country, 2014



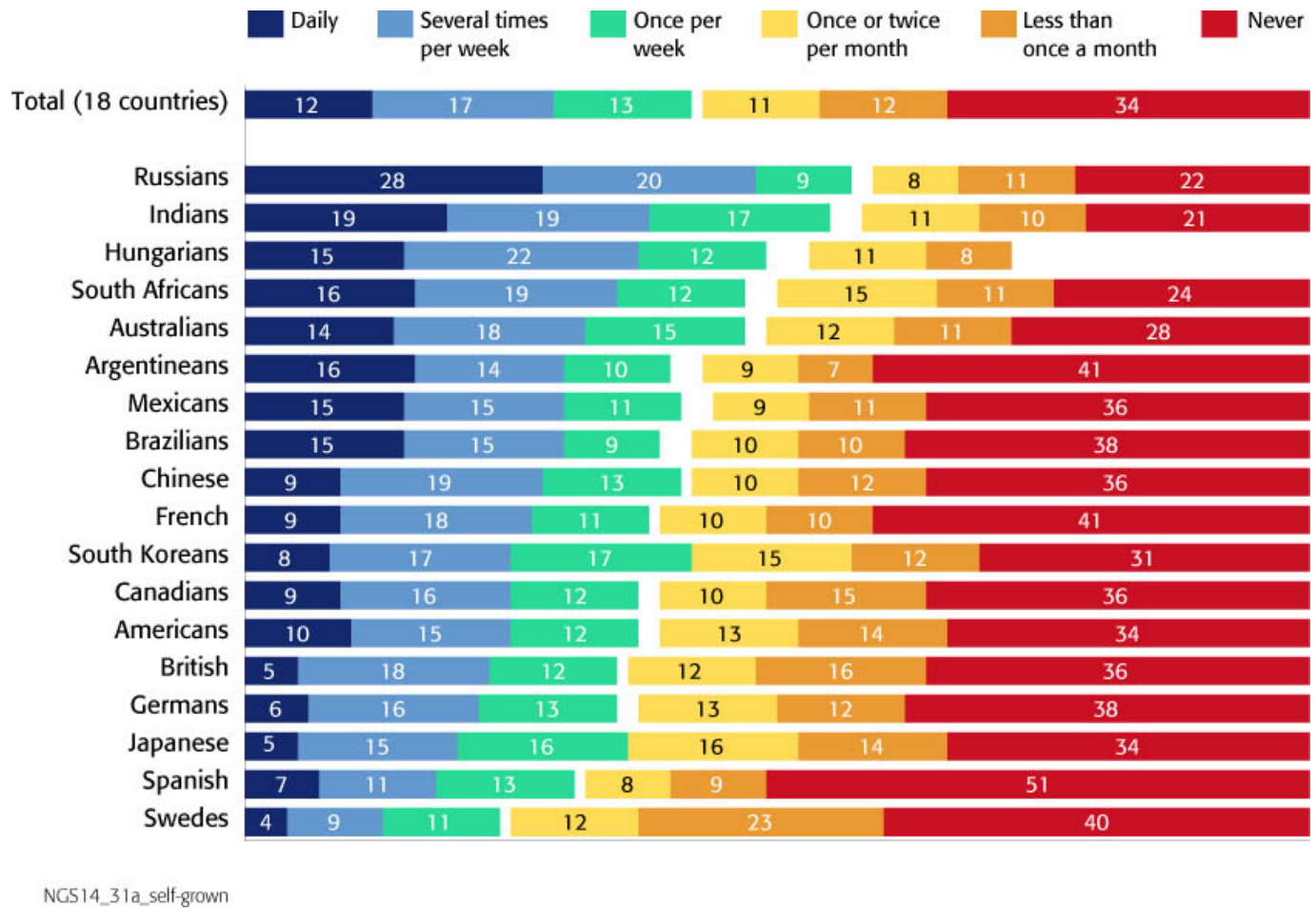
The white space in this chart represents "DK/NA."
Not asked to those who never eat meat

GLOBESCAN

Estimated Frequency of Consuming Self-Grown Food in Future After Learning of Environmental Impact

NATIONAL GEOGRAPHIC

Percentage of Consumers in Each Country, 2014



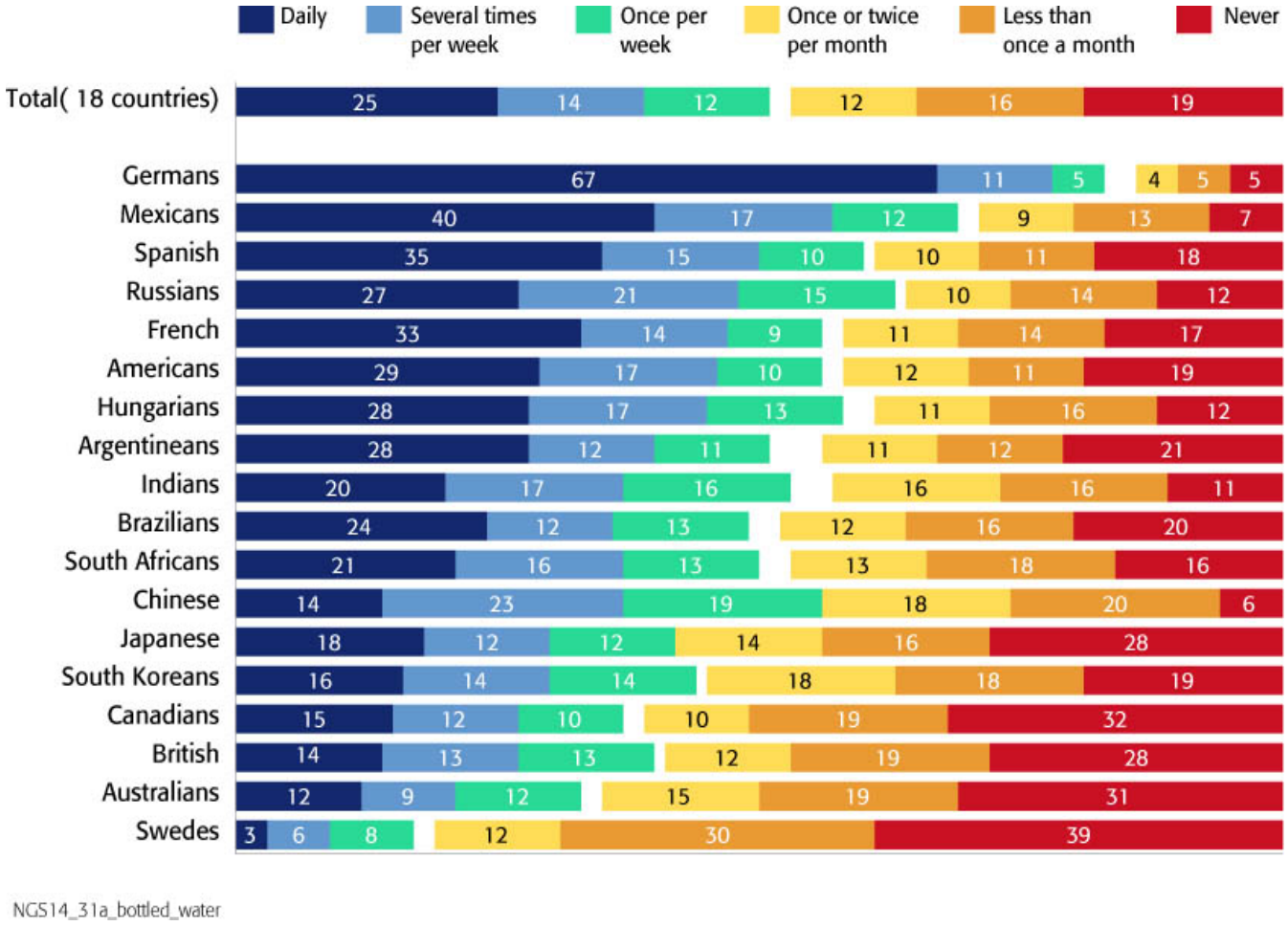
The white space in this chart represents "DK/NA."
Not asked to those who never eat meat

GLOBESCAN

Estimated Frequency of Consuming Bottled Water in Future After Learning of Environmental Impact

NATIONAL GEOGRAPHIC

Percentage of Consumers in Each Country, 2014



NGS14_31a_bottled_water

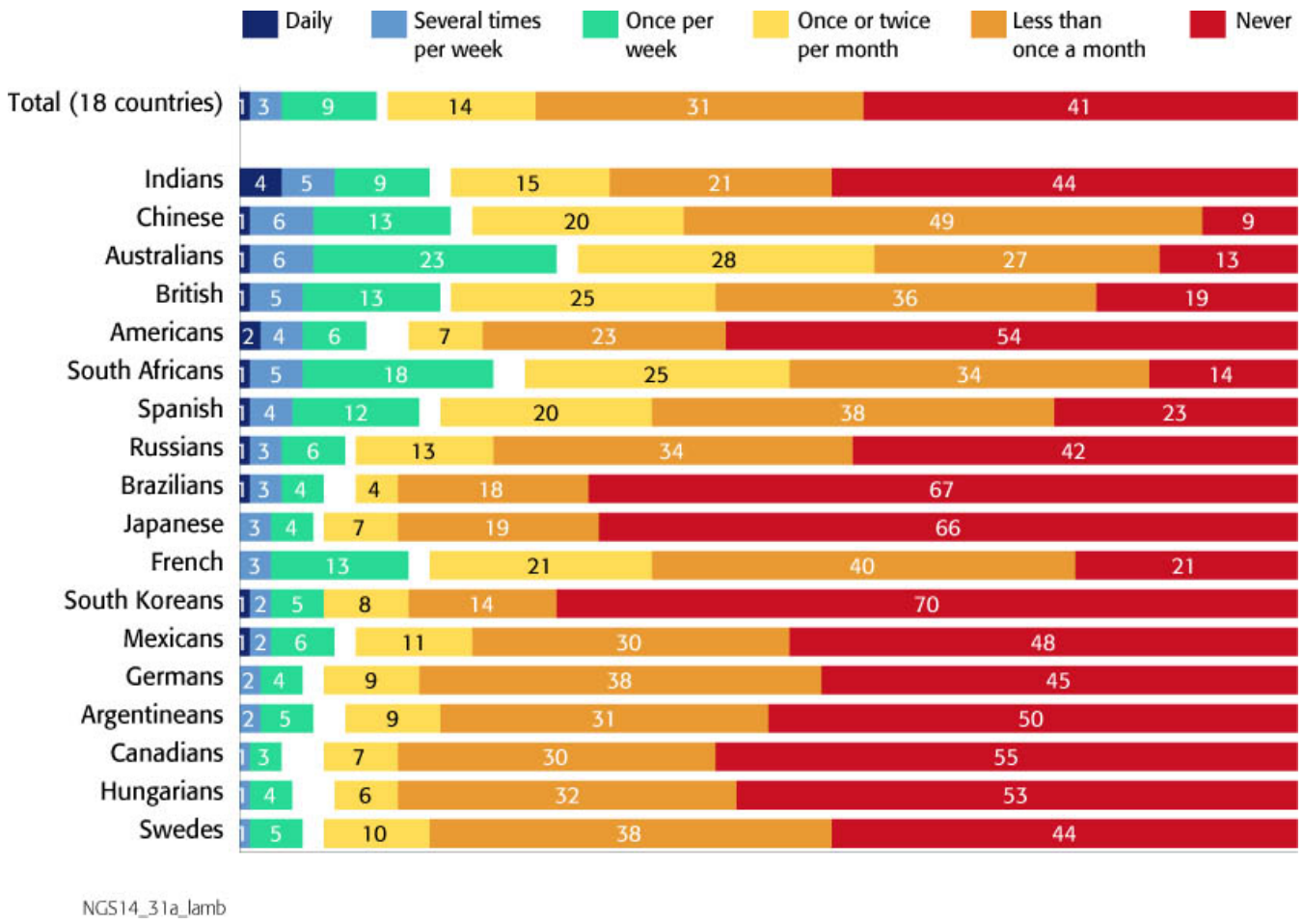
The white space in this chart represents "DK/NA."
Not asked to those who never eat meat

GLOBESCAN

Estimated Frequency of Consuming Lamb in Future After Learning of Environmental Impact

NATIONAL GEOGRAPHIC

Percentage of Consumers in Each Country, 2014



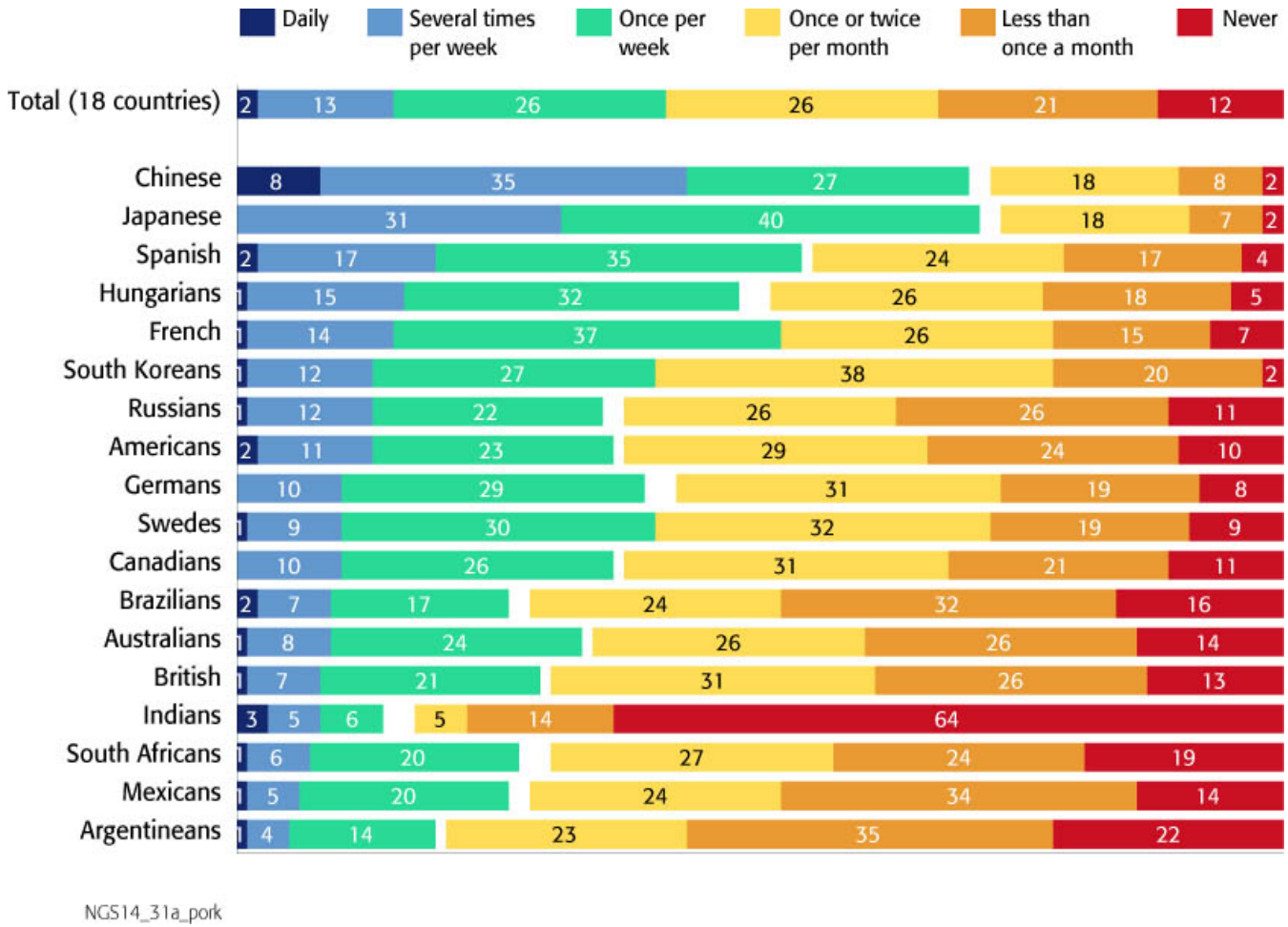
The white space in this chart represents "DK/NA."
Not asked to those who never eat meat

GLOBESCAN

Estimated Frequency of Consuming Pork in Future After Learning of Environmental Impact

NATIONAL GEOGRAPHIC

Percentage of Consumers in Each Country, 2014



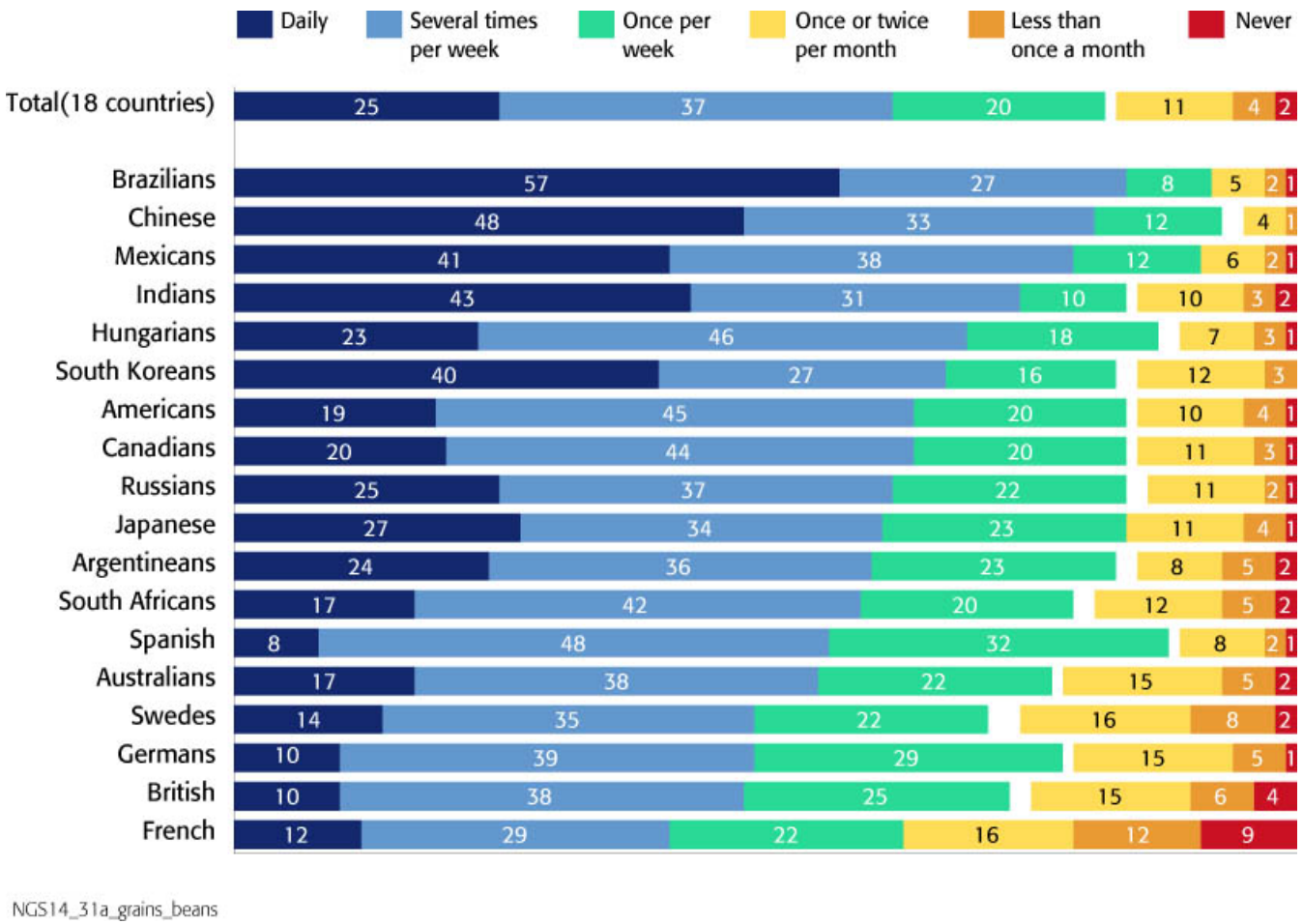
The white space in this chart represents "DK/NA."
Not asked to those who never eat meat

GLOBESCAN

Estimated Frequency of Consuming Grains and Beans in Future After Learning of Environmental Impact

NATIONAL GEOGRAPHIC

Percentage of Consumers in Each Country, 2014



The white space in this chart represents "DK/NA."
Not asked to those who never eat meat

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Changing Meat Consumption

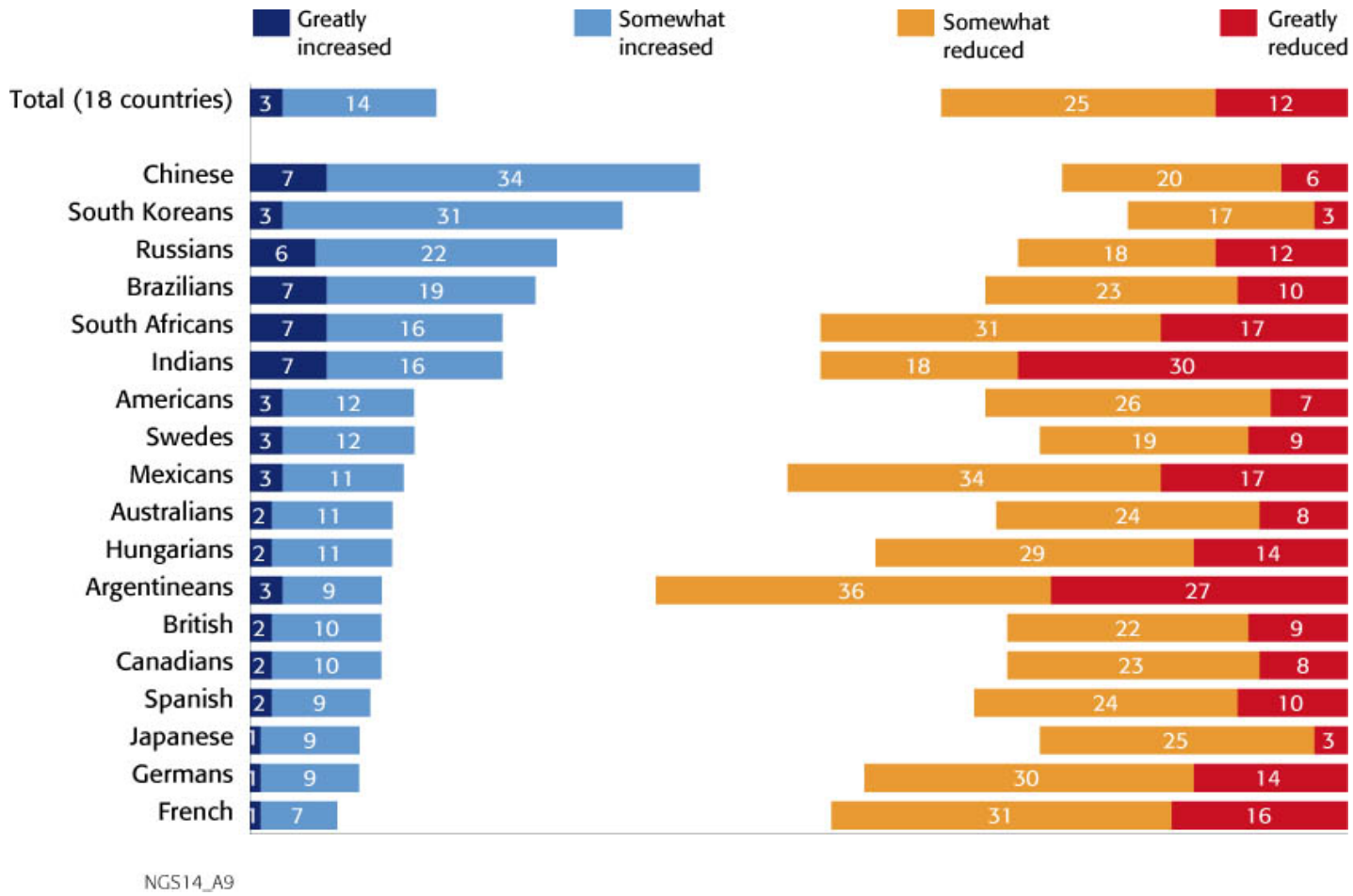
Changing in Meat Consumption

- Meat consumption among consumers in the 18 countries surveyed is most likely to have stayed the same or been somewhat reduced over the past five years. Chinese and South Korean consumers claim the largest proportion of increases in meat consumption. Argentineans are most likely to claim to have reduced their meat consumption, even though their reported frequency of eating beef has actually increased over the past four years.
- Overall, the most important reason for reducing meat consumption is cost. Reducing meat for health reasons is the second-most important reason. Environmental concern ranks as least important for consumers in the countries surveyed, although Swedish consumers are more concerned about the environment in this context than are consumers in other countries surveyed. Food safety is a relatively high priority among Chinese, French, and Indian consumers. Animal treatment is the top reason for reduced meat consumption among Germans and Swedes.
- Consumers' motivations for eating less meat in the future are most likely to be health reasons, followed by cost. Animal treatment, food safety, and the environment are least likely to be motivators. However, food safety is more likely to be a motivator for Chinese and Indians, whereas environmental concerns is a motivator for Swedes and animal treatment is a motivator for Germans.

Change in Meat Consumption over the Past Five Years

NATIONAL GEOGRAPHIC

Percentage of Consumers in Each Country, 2014



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 The white space in this chart represents "Stayed the same" and "DK/NA."

Most Important Reasons for Reducing Meat Consumption

NATIONAL GEOGRAPHIC

Percentage of Consumers in Each Country, 2014

	Total 18 countries	Americans	Argentineans	Australians	Brazilians	British	Canadians	Chinese	French	Germans	Hungarians	Indians	Japanese	Mexicans	Russians	South Africans	South Koreans	Spanish	Swedes
First priority	56%	60%	69%	68%	51%	63%	58%	66% ▲	66% ▼	61%	67% ▼	54% ▲	65%	56%	61%	74%	60% ▲	62% ▲	51% ▲
Second priority	51%	57%	48%	57%	48%	54% ▼	57% ▲	58%	42% ▲	43% ▼	46% ▲	34%	55% ▲	56%	52% ▲	45%	51% ▼	53% ▲	42%
Third priority	31%	33%	24%	28%	32%	28%	30%	37% ▼	40% ▲	34%	36%	30%	40% ▼	37%	42% ▼	26%	33% ▼	31%	36%
Fourth priority	29%	23%	22%	15%	27%	25%	25%	14%	26%	28%	18%	29%	14% ▲	24%	13%	25%	22%	30%	35%
Fifth priority	17%	16%	16%	15%	19%	15%	14% ▼	12% ▼	16%	26% ▲	26% ▲	24% ▼	9% ▼	16%	13%	14%	17%	12%	16% ▼

NGS14_a9i

Health reasons
Cost
Food safety
Animal treatment
Environmental concern

▲ Indicates an increase >6 points from 2012
▼ Indicates an decrease >6 points from 2012

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Motivations for Eating Less Meat in Future

NATIONAL GEOGRAPHIC

Percentage of Consumers in Each Country, 2014

	Total 18 countries	Americans	Argentineans	Australians	Brazilians	British	Canadians	Chinese	French	Germans	Hungarians	Indians	Japanese	Mexicans	Russians	South Africans	South Koreans	Spanish	Swedes
First priority	51%▼	45%▼	55%	39%	59%	40%	43%	74%	49%	40%	49%▲	48%▲	50%	63%▼	45%	54%	64%	62%	39%▲
Second priority	36%	44%	42%	38%	40%▲	37%	38%	42%	38%	34%	39%	36%	36%▲	37%	33%	50%	40%▼	30%	34%
Third priority	21%	19%	21%	22%	21%	25%▲	19%	27%	27%▲	25%▼	17%	29%	21%	31%▲	23%	19%	25%	22%	33%▼
Fourth priority	20%	19%	20%	16%	21%	15%	18%	23%	24%	21%	17%	28%	16%▼	22%	15%	18%	23%	22%	26%
Fifth priority	20%	12%	18%	16%	20%	15%	15%	15%	12%	9%	16%	23%	10%	18%	13%	18%	21%	16%	10%

NGS14_a9ii

Health reasons
Cost
Food safety
Animal treatment
Environmental concern

▲ Indicates an increase >6 points from 2012
▼ Indicates an decrease >6 points from 2012

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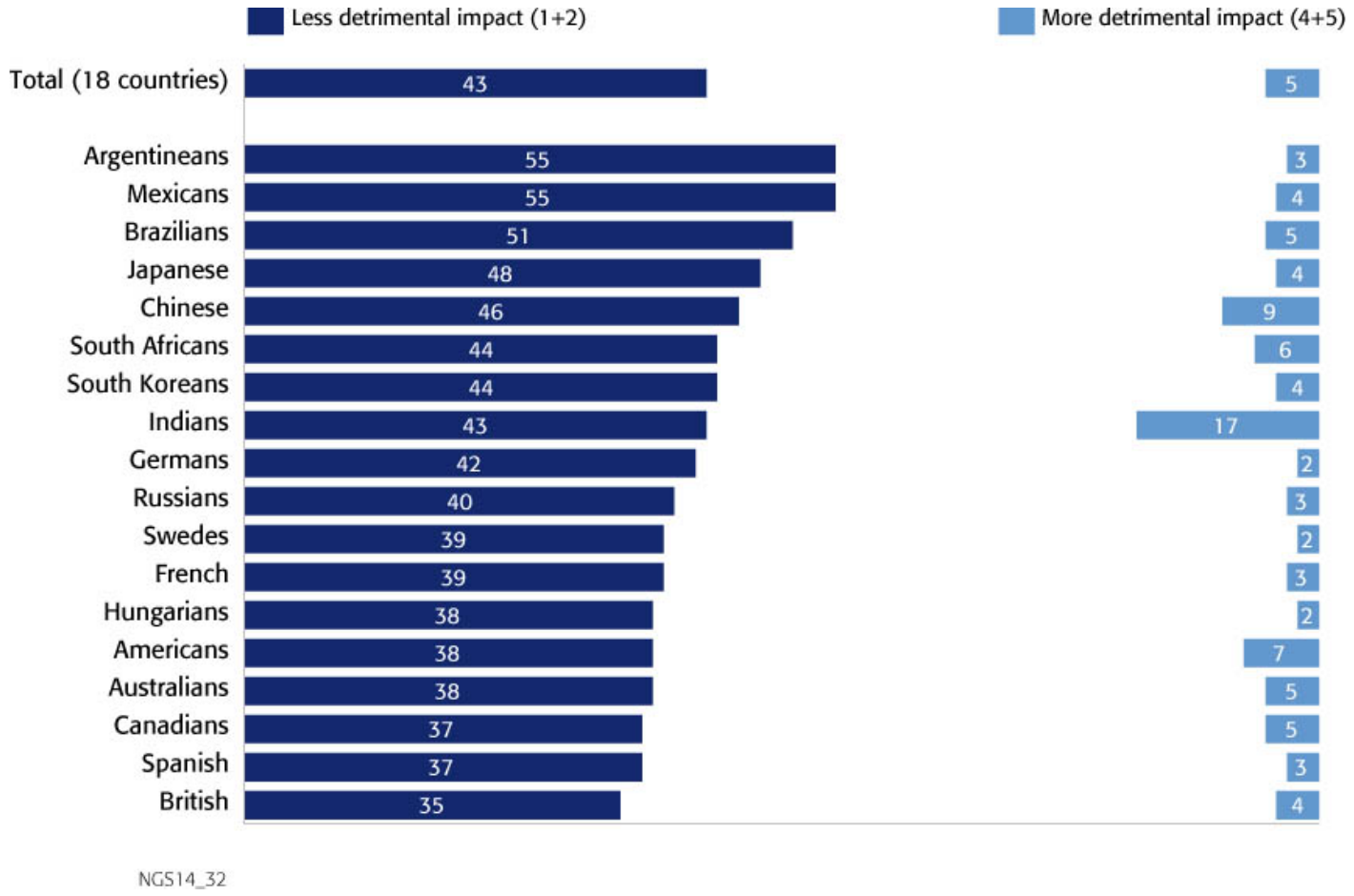
Influencing Food Consumption

Influencing Food Consumption

- Consumers in all the 18 countries surveyed are much more likely to say their own food choices are less detrimental to the environment than are those of friends and/or peers than to say their choices are more detrimental.
- Chinese and Indians are most likely to claim their friends and/or peers strongly encourage them to make food choices that have less of a detrimental environmental impact. Australian and British consumers, followed by Germans, Canadians, and Americans, are most likely to say their friends or peers do not encourage them at all.
- Of those whose friends and/or peers encourage them to make food choices that have less of a detrimental environmental impact, the Chinese are the most prone to think they will comply with the encouragement.
- When asked to pick two sources that could most influence them to make their food consumption choices more environmentally friendly, consumers tend to choose doctors or other healthcare practitioners most frequently. Swedish consumers are more likely to pick scientists, while British and Japanese tend to say none of the options available would influence them.
- Indians and Chinese are most likely to say they strongly encourage their friends and/or peers to make food choices that have less of a detrimental impact on the environment. Australians, British, and Japanese consumers are the most likely to say they do not influence their friends and/or peers at all.

Food Choices Compared to Friends/Peers

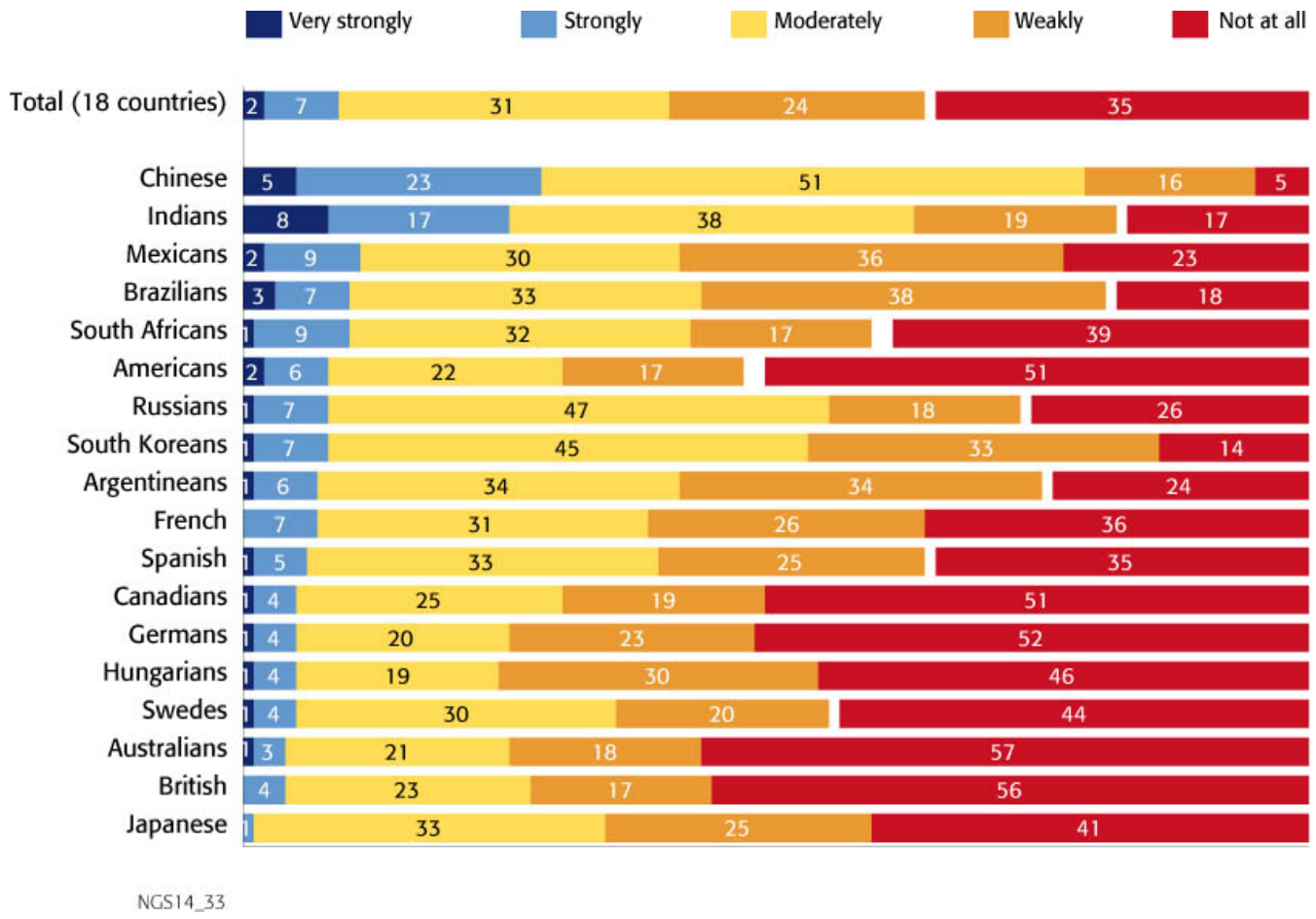
Percentage of Consumers in Each Country, 2014



Strength of Encouragement by Friends/Peers to Make Food Choices with Less of a Detrimental Environmental Impact

NATIONAL GEOGRAPHIC

Percentage of Consumers in Each Country, 2014



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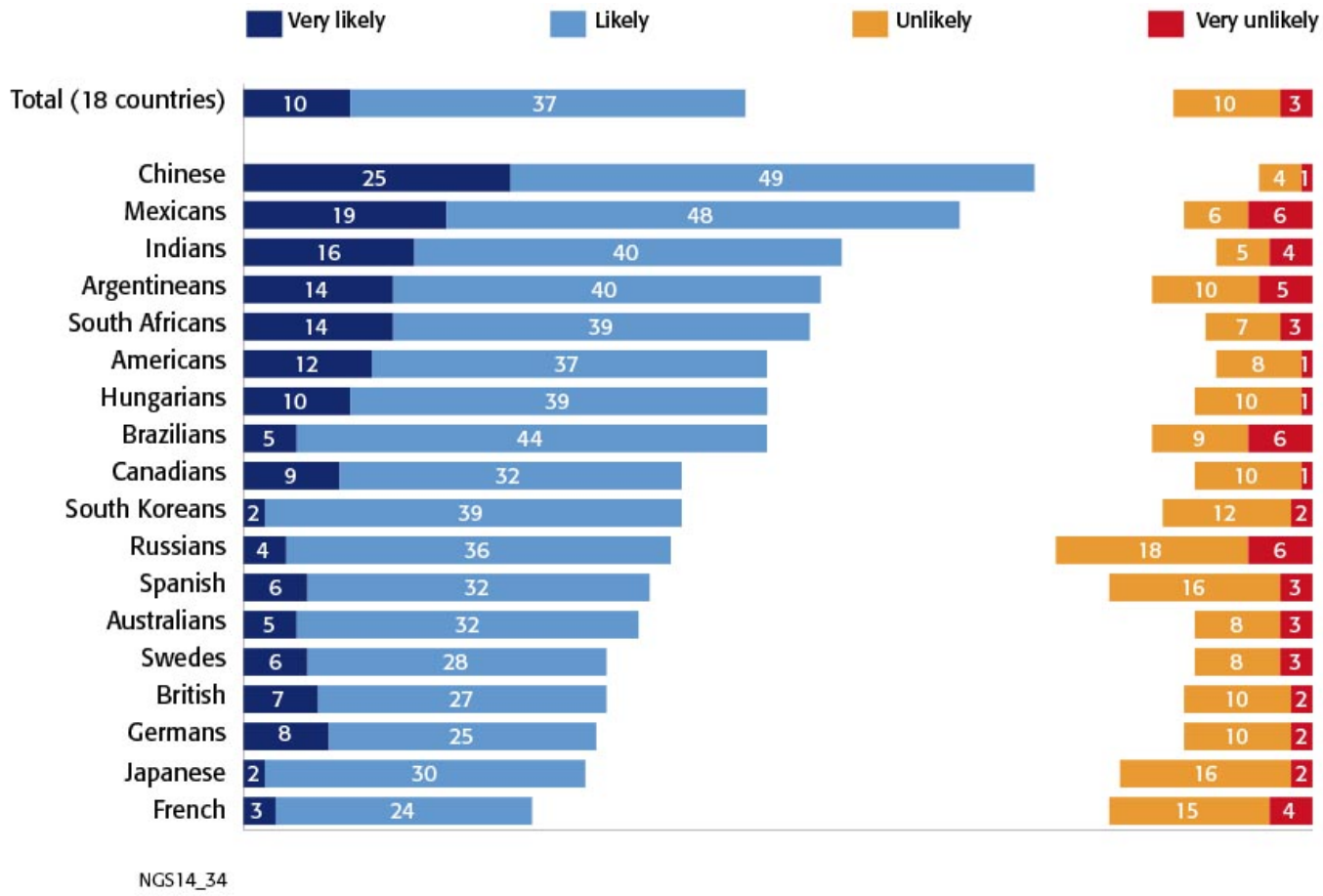
 The white space in this chart represents "DK/NA."

Likelihood to Comply with Encouragement by Friends/Peers to Make Food Choices with Less of a Detrimental Environmental Impact

NATIONAL GEOGRAPHIC

Percentage of Consumers in Each Country, 2014



The white space in this chart represents “Hard to say” and "DK/NA.“
Not asked to those whose friends/peers do not encourage food choices that have less of a detrimental environmental impact

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Most Influential Sources for Encouraging Environmentally Friendly Food Choices

NATIONAL GEOGRAPHIC

Percentage of Consumers in Each Country, 2014

	Total (18 countries)	Americans	Argentineans	Australians	Brazilians	British	Canadians	Chinese	French	Germans	Hungarians	Indians	Japanese	Mexicans	Russians	South Africans	South Koreans	Spanish	Swedes
Doctors / healthcare practitioners	42	36	53	40	52	32	42	43	33	31	56	45	25	51	51	54	39	48	29
Scientists	30	25	30	31	24	27	30	29	36	30	38	17	24	35	40	28	14	47	43
Environmental orgs	28	21	36	22	23	22	17	42	23	27	31	37	20	40	24	30	35	23	27
Humanitarian/ development orgs	12	12	15	14	12	12	9	13	15	11	9	20	6	19	5	12	9	15	9
Print/broadcast journalists	10	5	10	5	31	4	4	8	4	10	3	10	10	10	5	9	31	4	12
Government leaders	7	6	7	6	7	7	7	20	4	2	2	7	14	3	12	8	3	3	4
Celebrities	6	4	5	4	5	5	3	10	1	4	3	12	7	6	3	8	18	4	4
Business leaders	4	2	5	3	3	3	2	4	1	3	2	5	7	5	4	5	4	3	3
Famous athletes	4	3	7	2	5	4	2	5	2	3	5	7	6	6	5	6	7	3	3
Politicians	4	2	6	2	3	4	2	4	3	4	2	6	9	2	3	3	3	4	11
None of the above	19	35	7	29	8	33	32	6	29	30	16	10	29	7	16	11	14	14	21

NGS14_35a

Highlighted cell indicates most influential source

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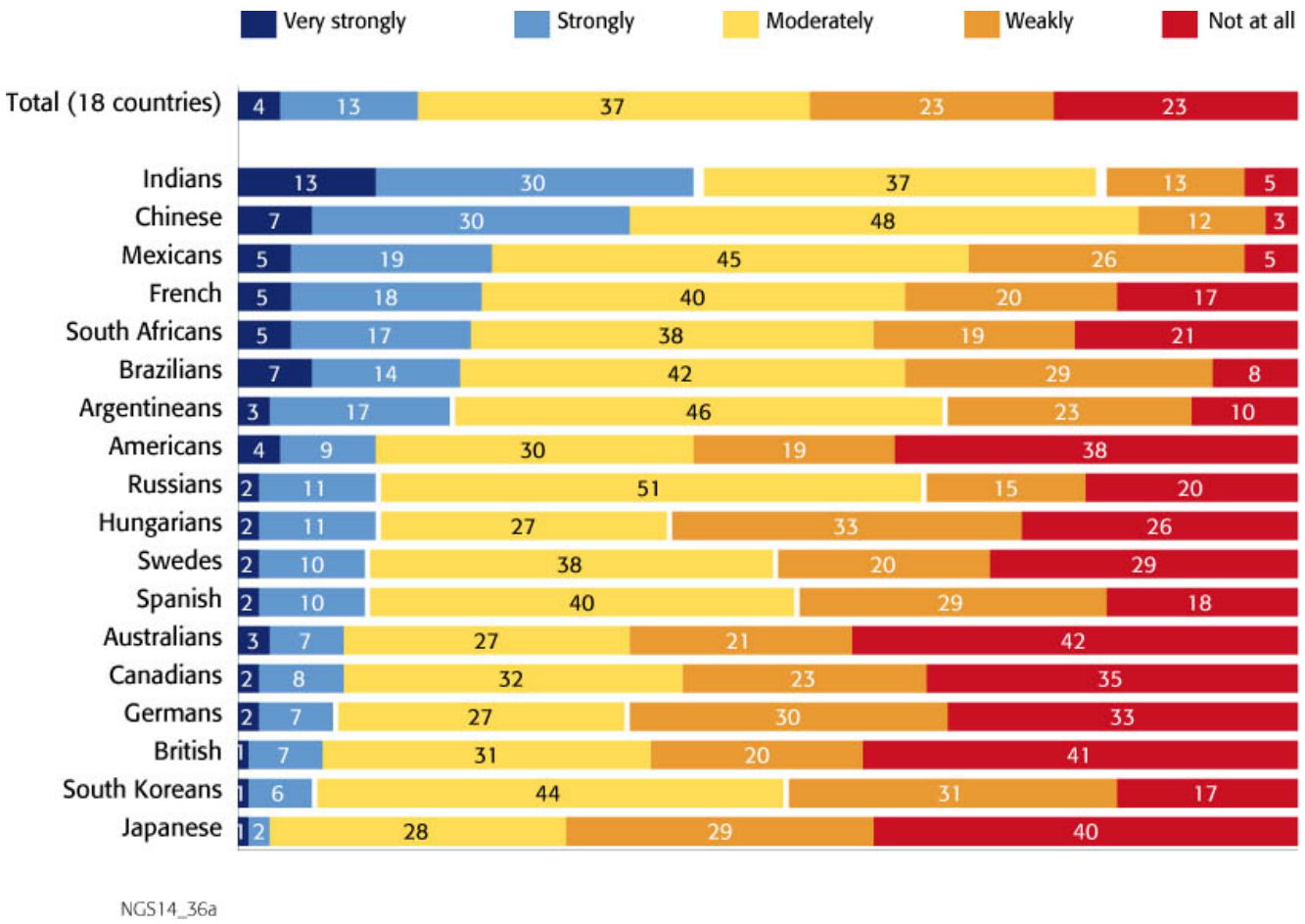
Respondents were allowed to pick two sources.

Strength of Respondent's Encouragement of Friends/Peers to Make Food Choices with Less Detrimental Environmental Impact

NATIONAL GEOGRAPHIC

Percentage of Consumers in Each Country, 2014



NGS14_36a

GLOBESCAN

139 The white space in this chart represents "DK/NA."

Greendex Results: Food

Food

- Food sub-index scores have increased in 11 of the countries surveyed and have decreased in five. Indian consumers still score the highest on this sub-index. Consumers in Hungary have greatly increased their food sub-index score, and they now rank near the top of this index, at third place. Mexican consumers continue to score lowest, along with Japanese, American, and Spanish consumers.
- Consumers living in colder climates are more likely to consume imported foods. Russian and Australian consumers remain the most likely to report consuming locally grown food at least once a week. Fewer consumers in China consume locally grown food than did in 2012.
- A majority of consumers in 14 out of the 18 countries surveyed say that they consume beef once or more per week. Indians continue to eat the least beef. Argentinean and Brazilian consumers are still the most likely to consume beef, with approximately 60 percent saying they do so daily or several times a week. Beef consumption has increased in Brazil since 2012.

Food

- Chicken consumption is also high among the majority of consumers in most countries surveyed. Compared to 2012, Spanish and Brazilian consumers are even more likely now to eat chicken often.
- Spanish, Japanese, and Chinese consumers are still the most likely to consume fish and seafood regularly—though Chinese consumption has decreased somewhat in the last two years. French consumers are also less likely to consume this type of food compared to 2012.
- As in 2012, Russian, Indian, and Hungarian consumers eat food that they have grown themselves more frequently than do those in other countries. Consumers in Sweden, Spain, and Latin America are less likely to eat food they have grown themselves.
- Large majorities of consumers in all of the 18 countries surveyed report that they eat fruits and vegetables daily or several times a week. Consumers in Sweden are more likely to do this now than they were in 2012.
- German and Mexican consumers drink bottled water most often, with the majority of Germans saying that they do so on a daily basis. Consumers in Hungary have decreased their consumption of bottled water since 2012.

Sub-Index Content: Food

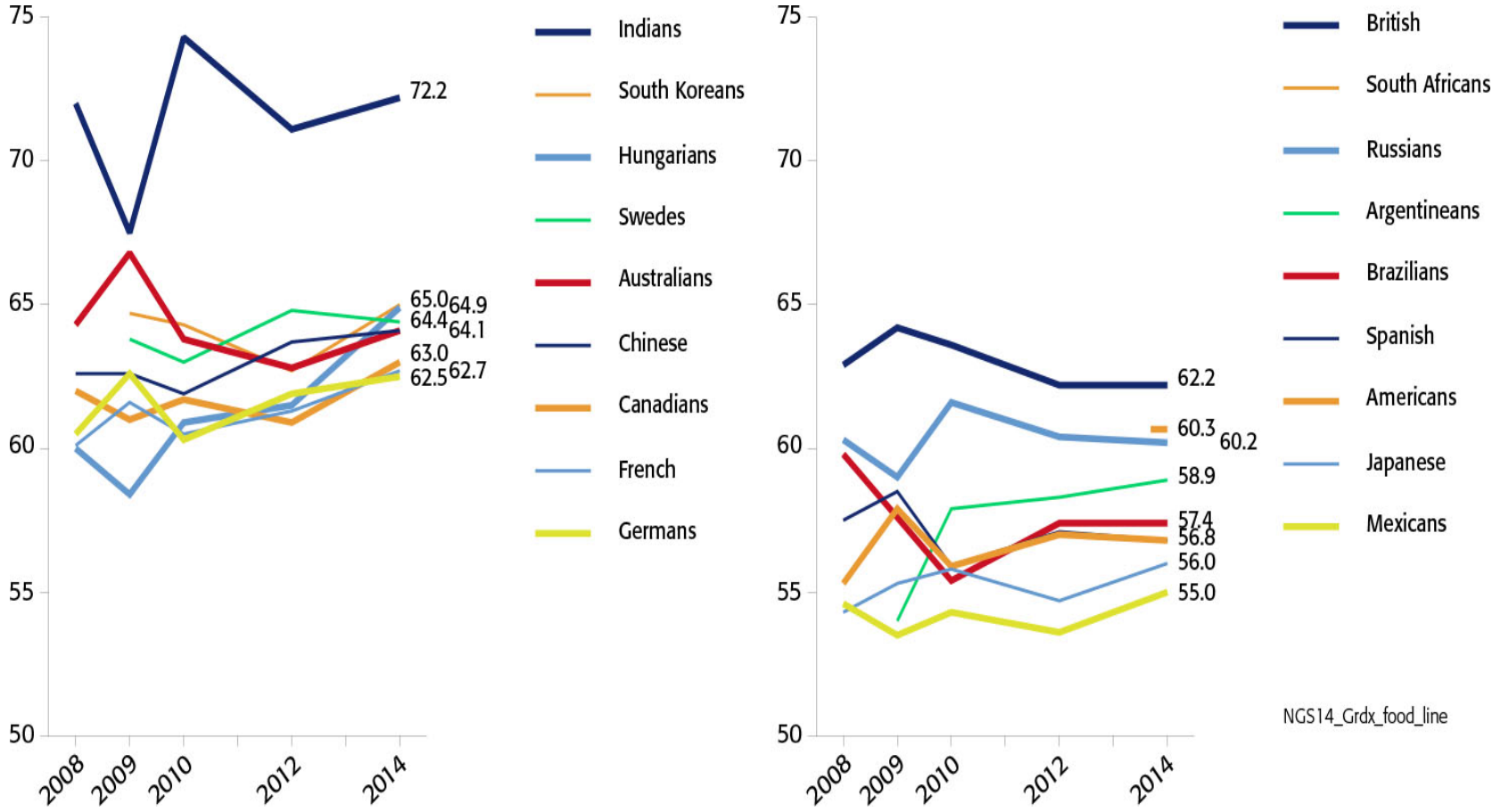
The Food sub-index consists of eight variables measuring consumption of the following:

- Locally produced foods
- Foods grown or raised by oneself
- Fruits and vegetables
- Beef
- Chicken
- Seafood
- Bottled water

Organic foods were not included in the sub-index, due to high variability in the definition and understanding of “organic” from country to country.

Greendex Rankings: Food

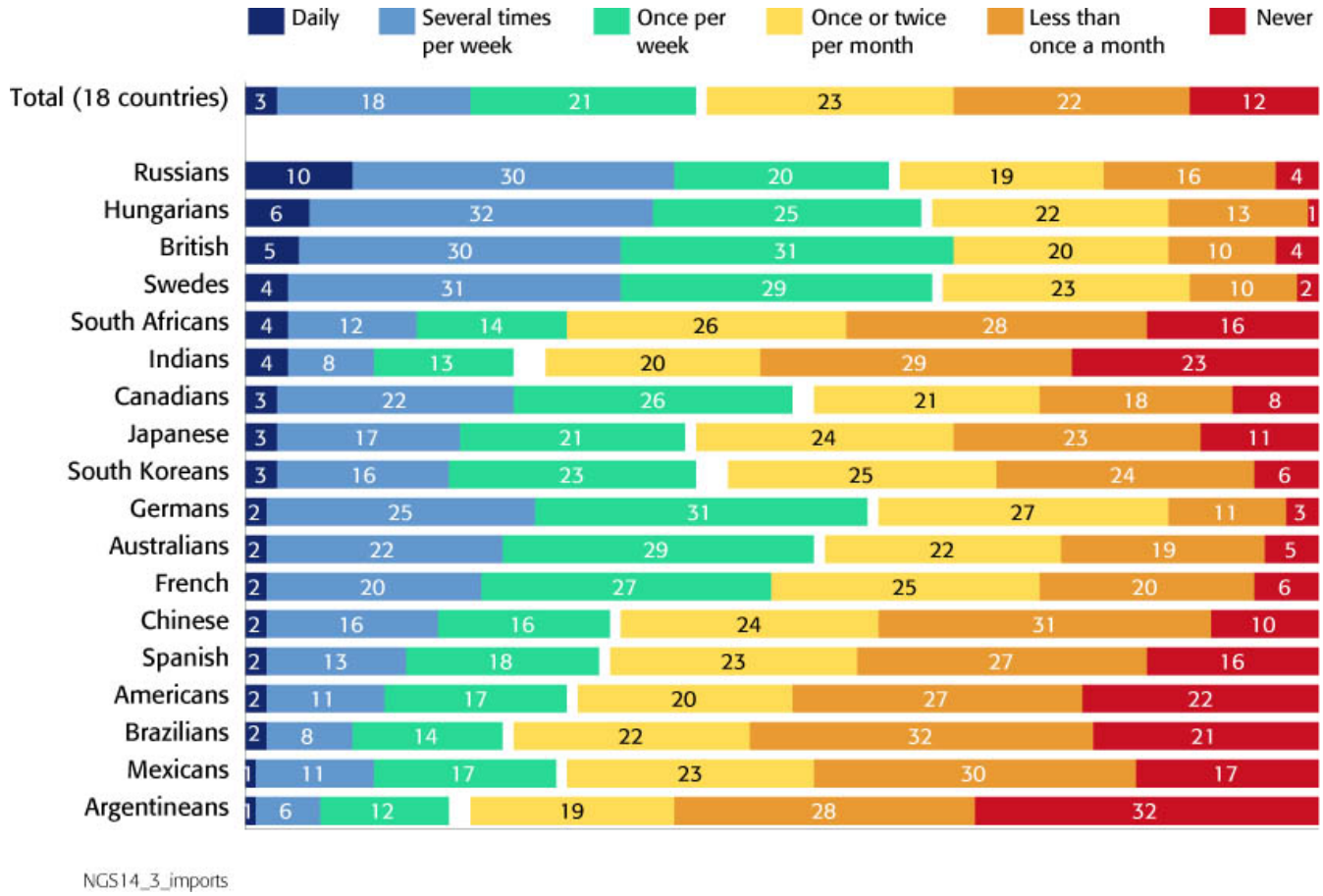
Percentage of Consumers in Each Country, 2014



Frequency of Consuming Imported Foods

NATIONAL GEOGRAPHIC

Percentage of Consumers in Each Country, 2014

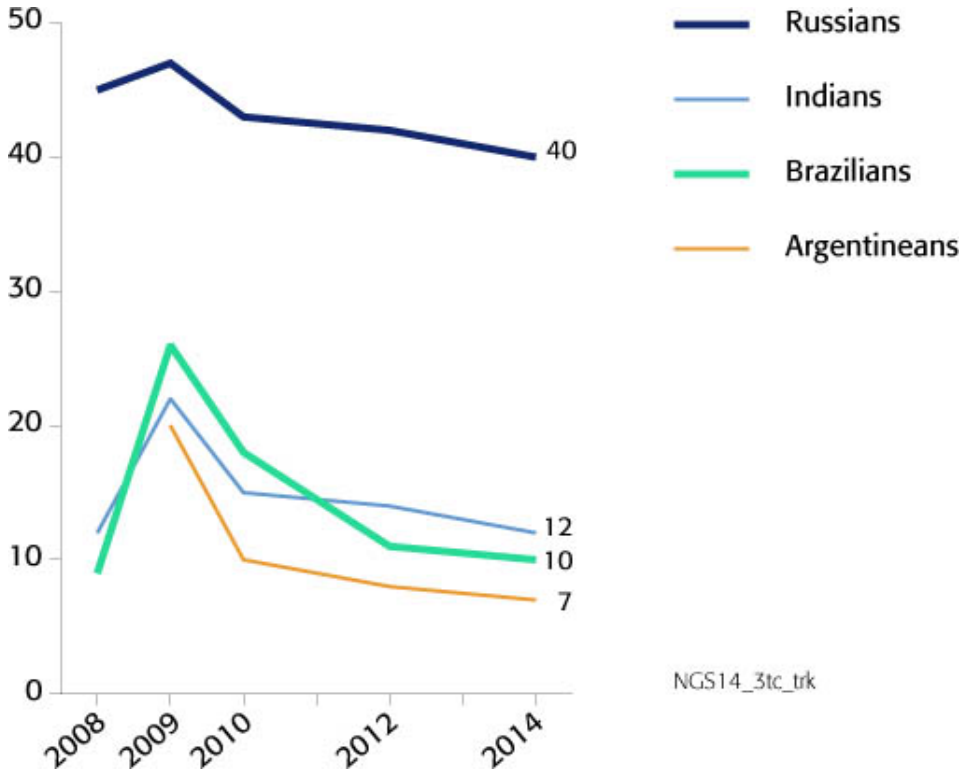


GLOBESCAN

The white space in this chart represents “DK/NA.”

Frequency of Consuming Imported Foods

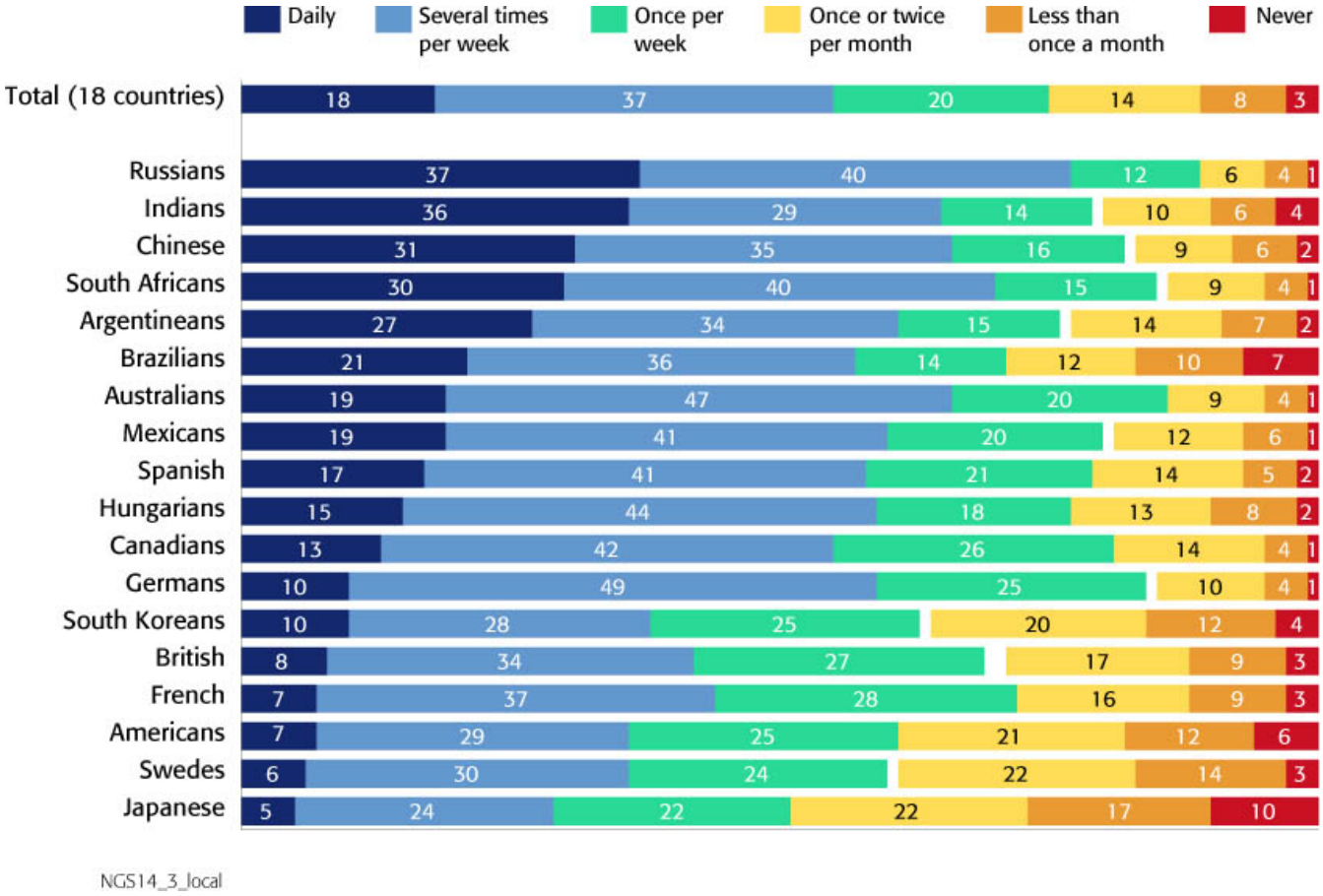
"Daily" and "Several Times a Week," Percentage of Consumers in Each Country, Increases: 2008–2014



Frequency of Consuming Locally Grown Food

NATIONAL GEOGRAPHIC

Percentage of Consumers in Each Country, 2014



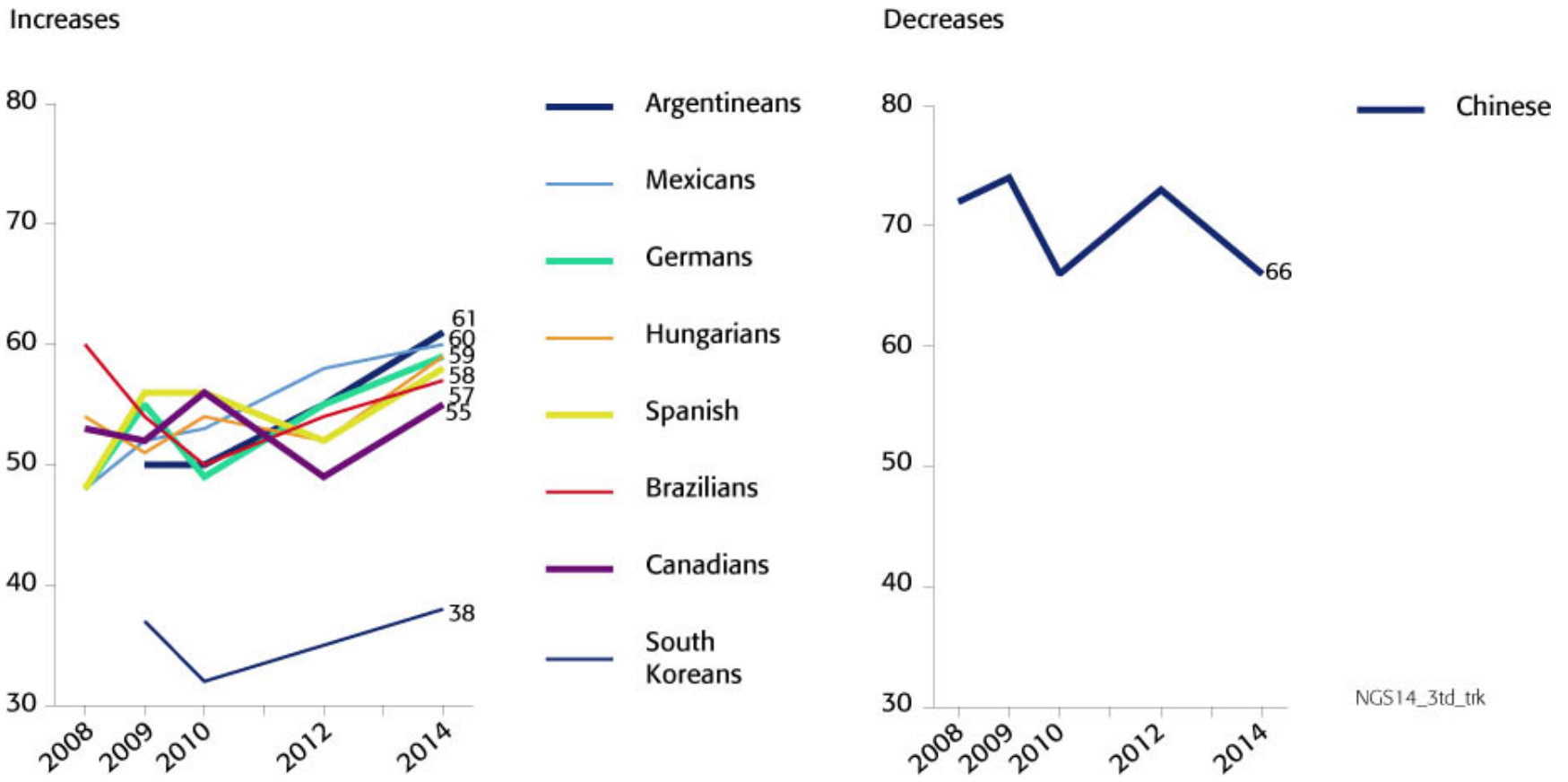
GLOBESCAN

The white space in this chart represents “DK/NA.”

Frequency of Consuming Locally Grown Food

NATIONAL GEOGRAPHIC

"Daily" and "Several Times a Week," Percentage of Consumers in Each Country, Increases: 2008–2014

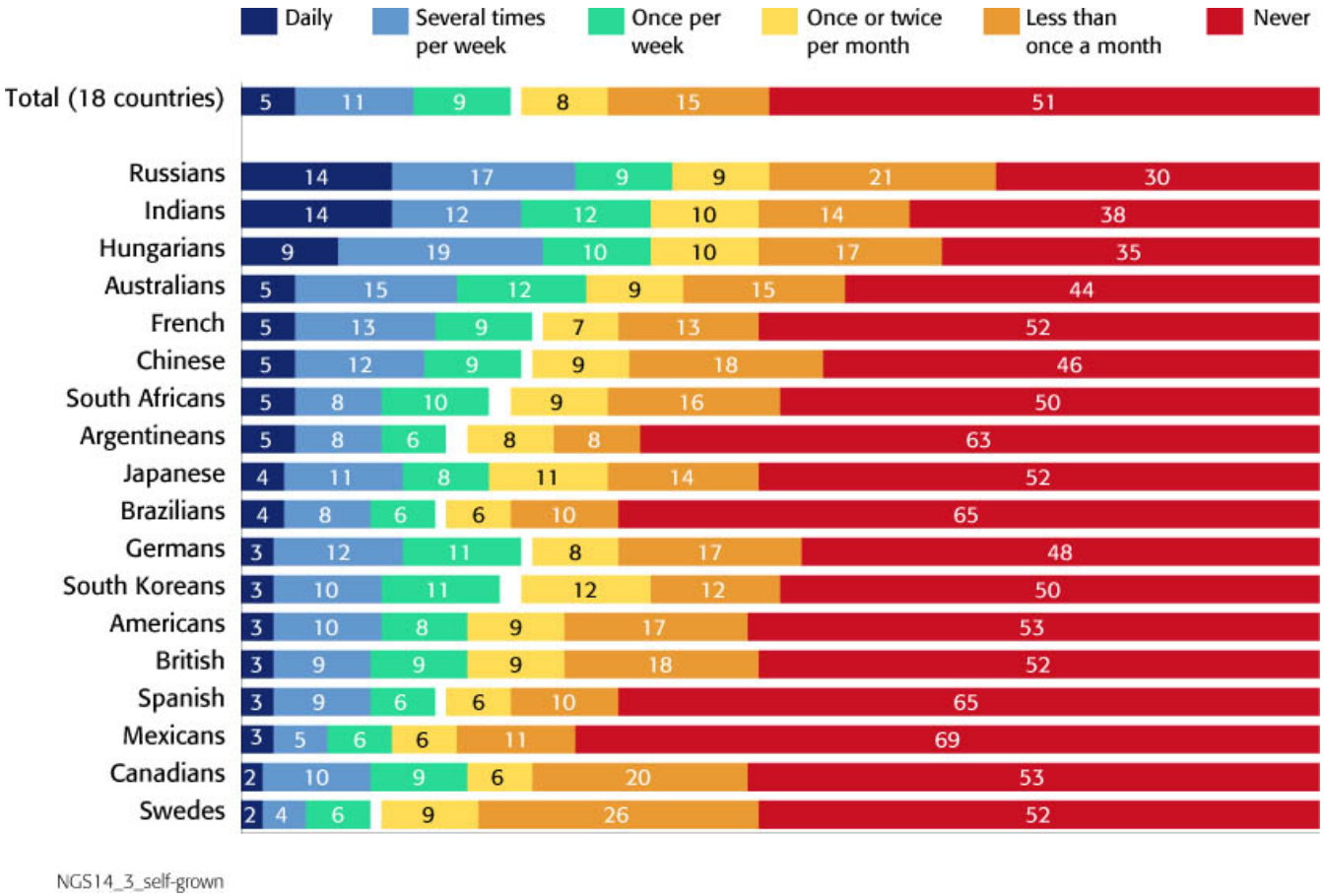


GLOBESCAN

Frequency of Consuming Self-Grown Food

NATIONAL GEOGRAPHIC

Percentage of Consumers in Each Country, 2014

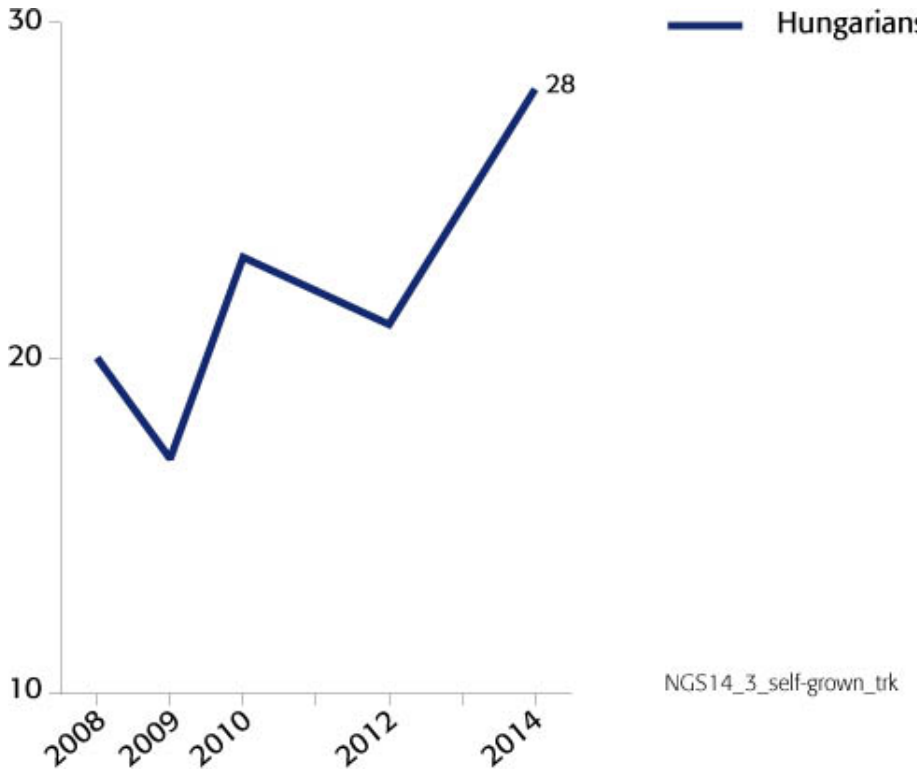


GLOBESCAN

The white space in this chart represents “DK/NA.”

Frequency of Consuming Self-Grown Food

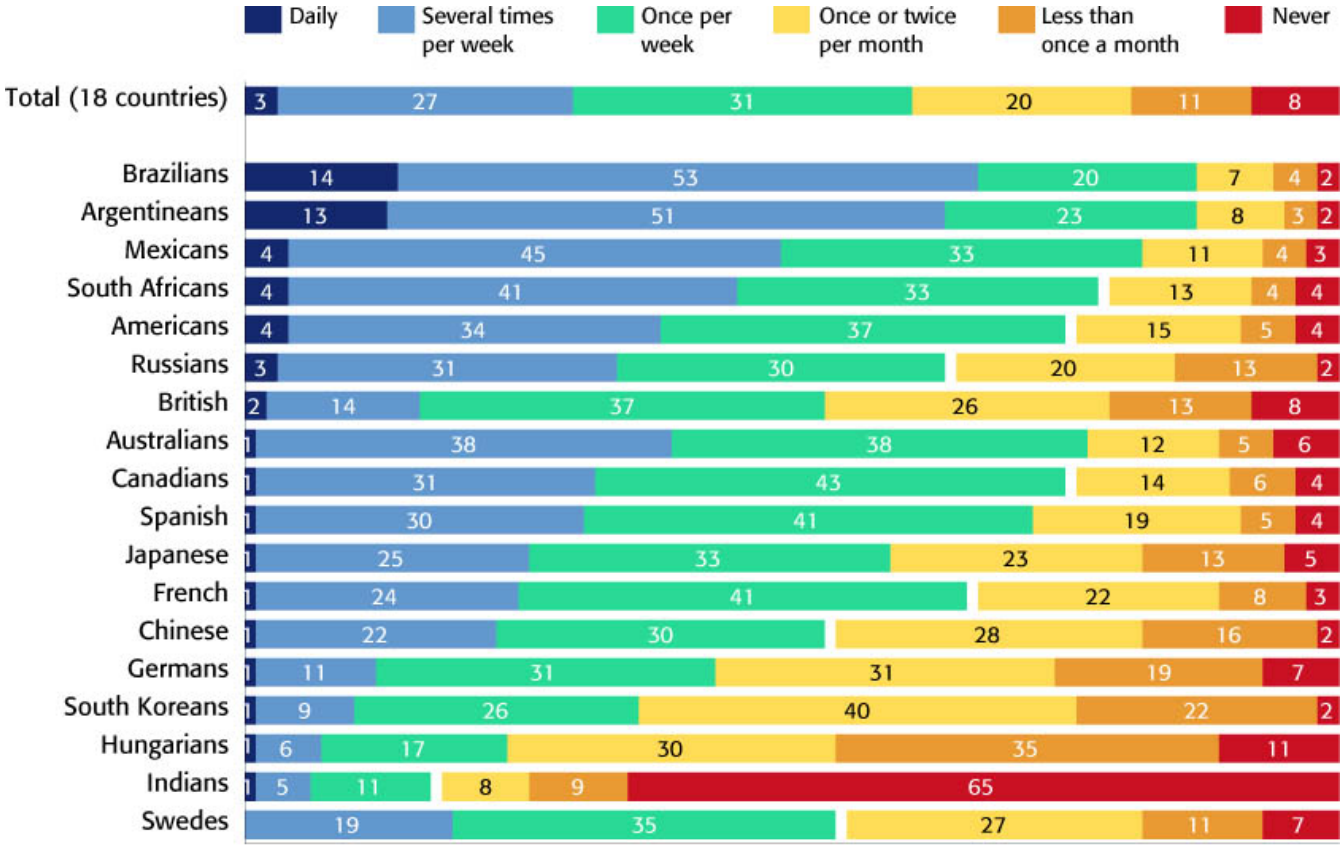
"Daily" and "Several Times a Week," Percentage of Consumers in Each Country, Increases: 2008–2014



Frequency of Consuming Beef

NATIONAL GEOGRAPHIC

Percentage of Consumers in Each Country, 2014



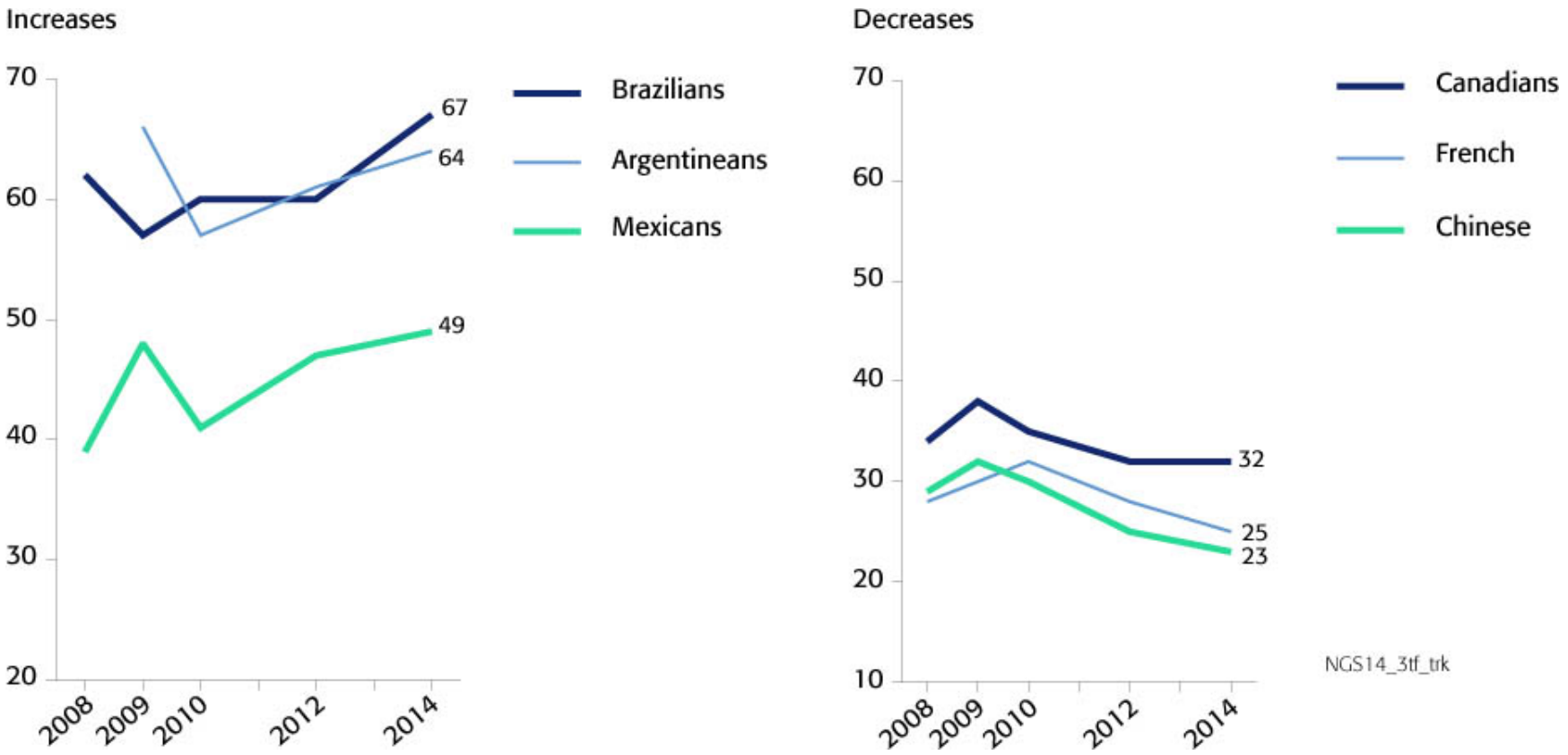
GLOBESCAN

The white space in this chart represents “DK/NA.”

Frequency of Consuming Beef

NATIONAL GEOGRAPHIC

"Daily" and "Several Times a Week," Percentage of Consumers in Each Country, Increases: 2008–2014



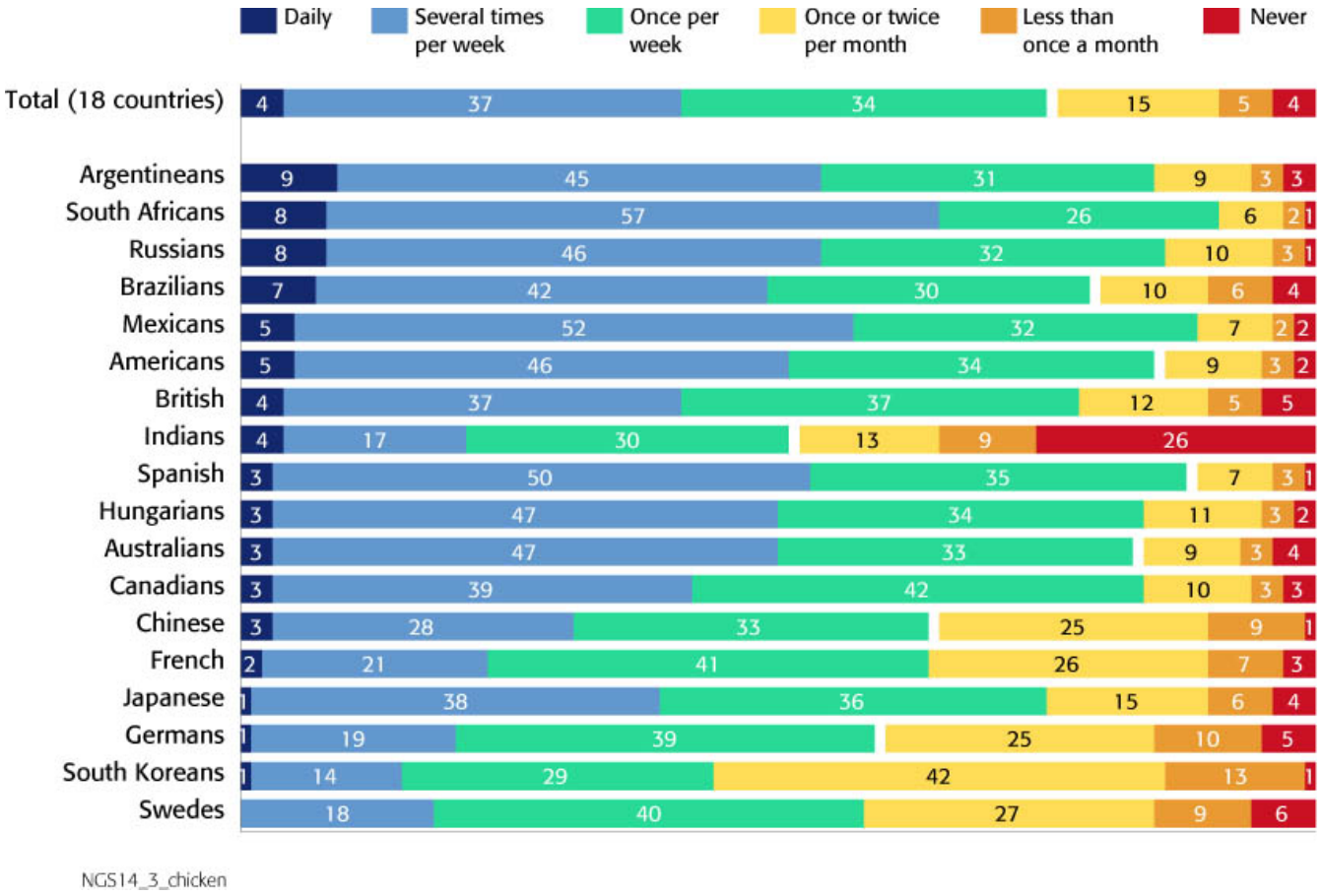
The white space in this chart represents "DK/NA."

GLOBESCAN

Frequency of Consuming Chicken

NATIONAL GEOGRAPHIC

Percentage of Consumers in Each Country, 2014

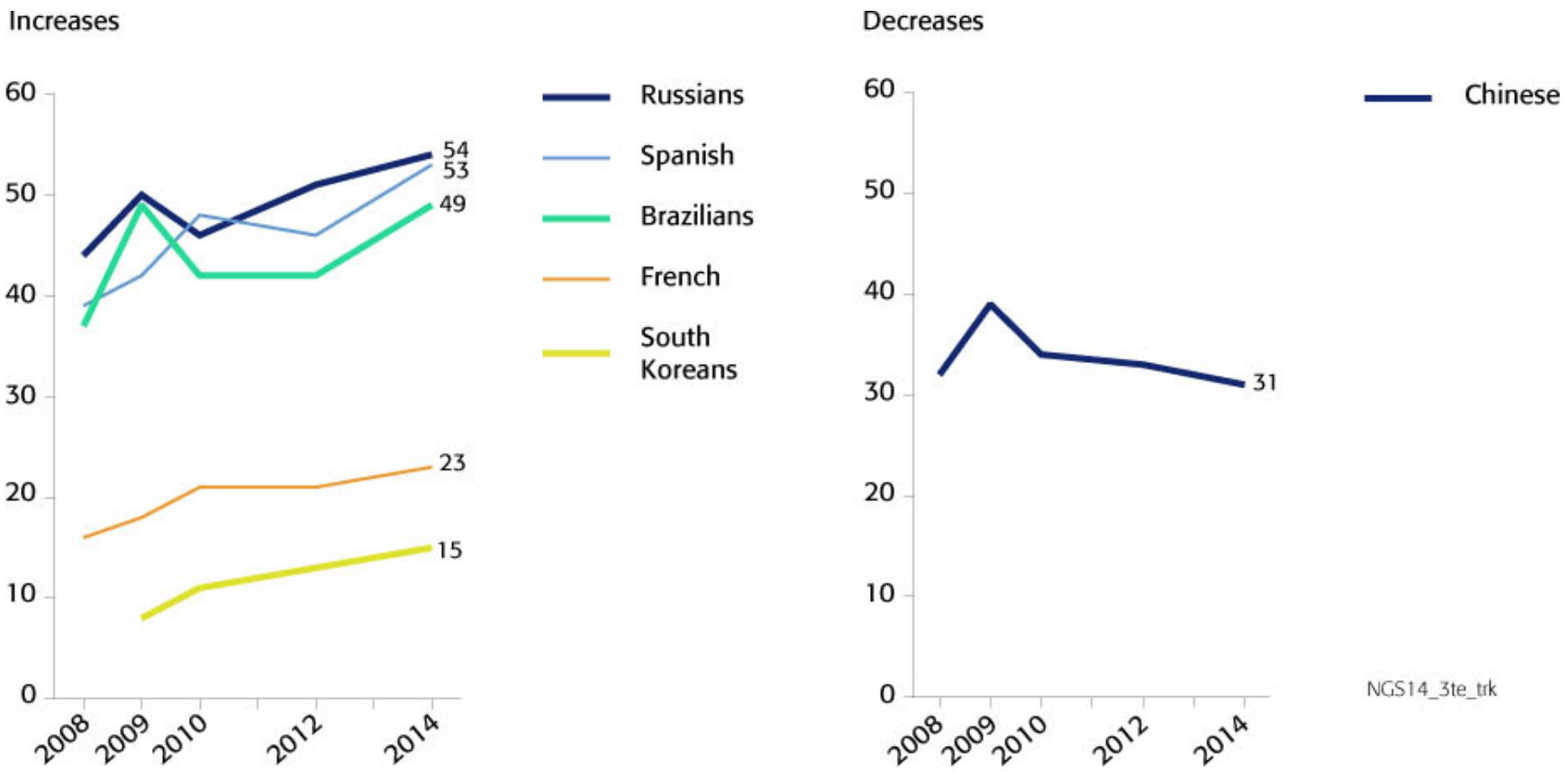


GLOBESCAN

The white space in this chart represents “DK/NA.”

Frequency of Consuming Chicken

"Daily" and "Several Times a Week," Percentage of Consumers in Each Country, Increases: 2008–2014

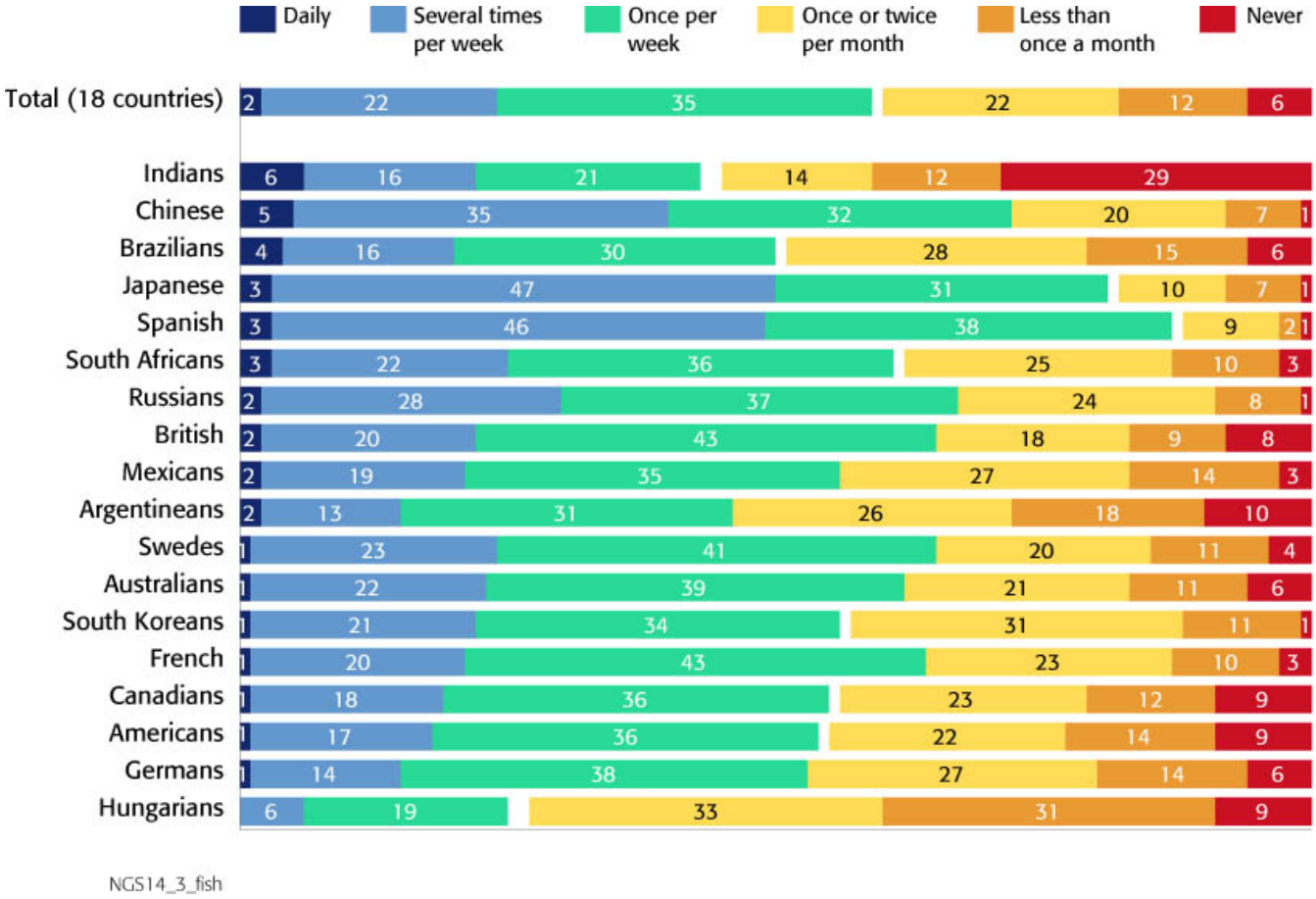


The white space in this chart represents "DK/NA."

Frequency of Consuming Fish and Seafood

NATIONAL GEOGRAPHIC

Percentage of Consumers in Each Country, 2014



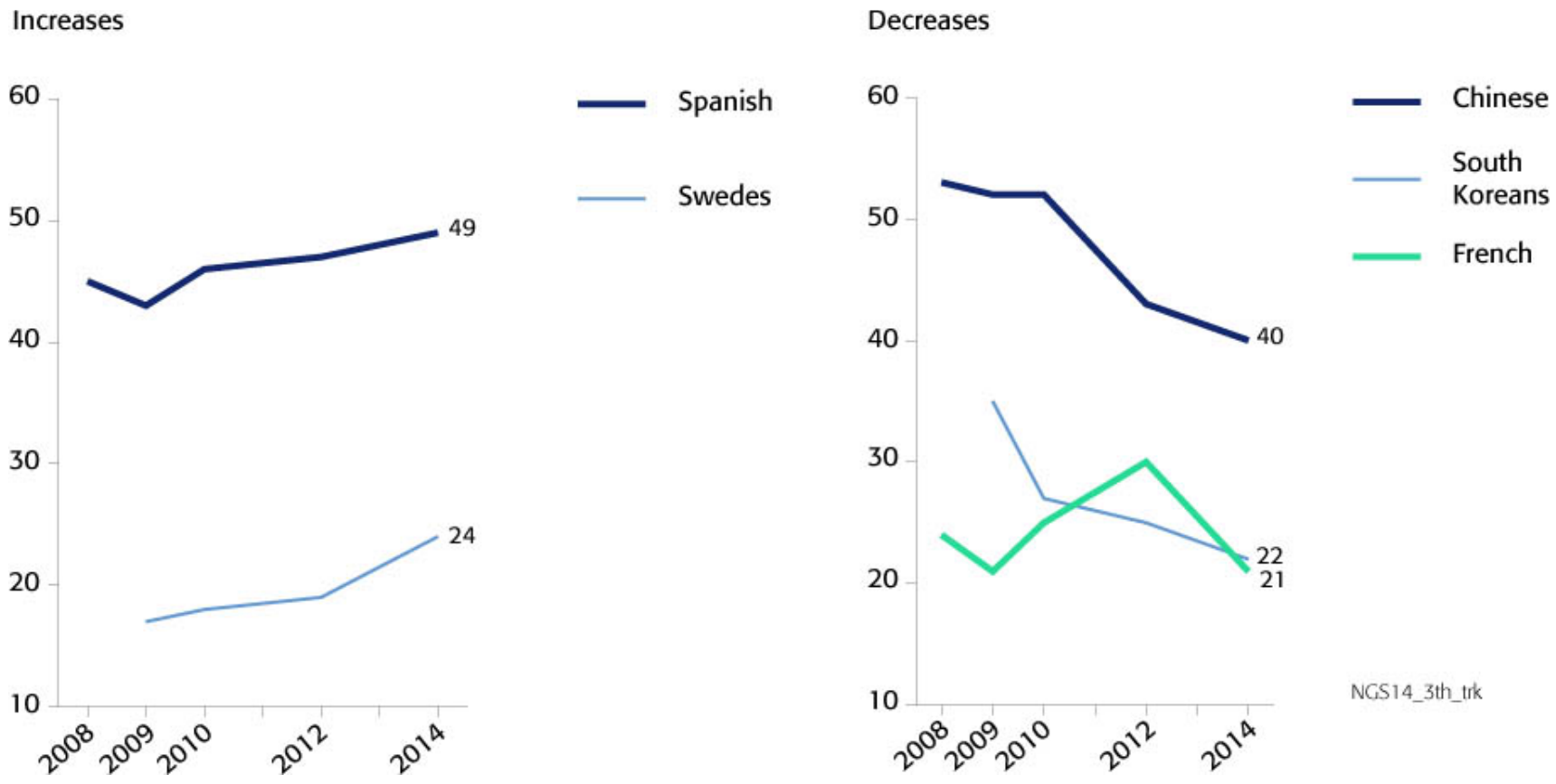
GLOBESCAN

The white space in this chart represents “DK/NA.”

Frequency of Consuming Fish and Seafood

NATIONAL GEOGRAPHIC

"Daily" and "Several Times a Week," Percentage of Consumers in Each Country, Increases: 2008–2014

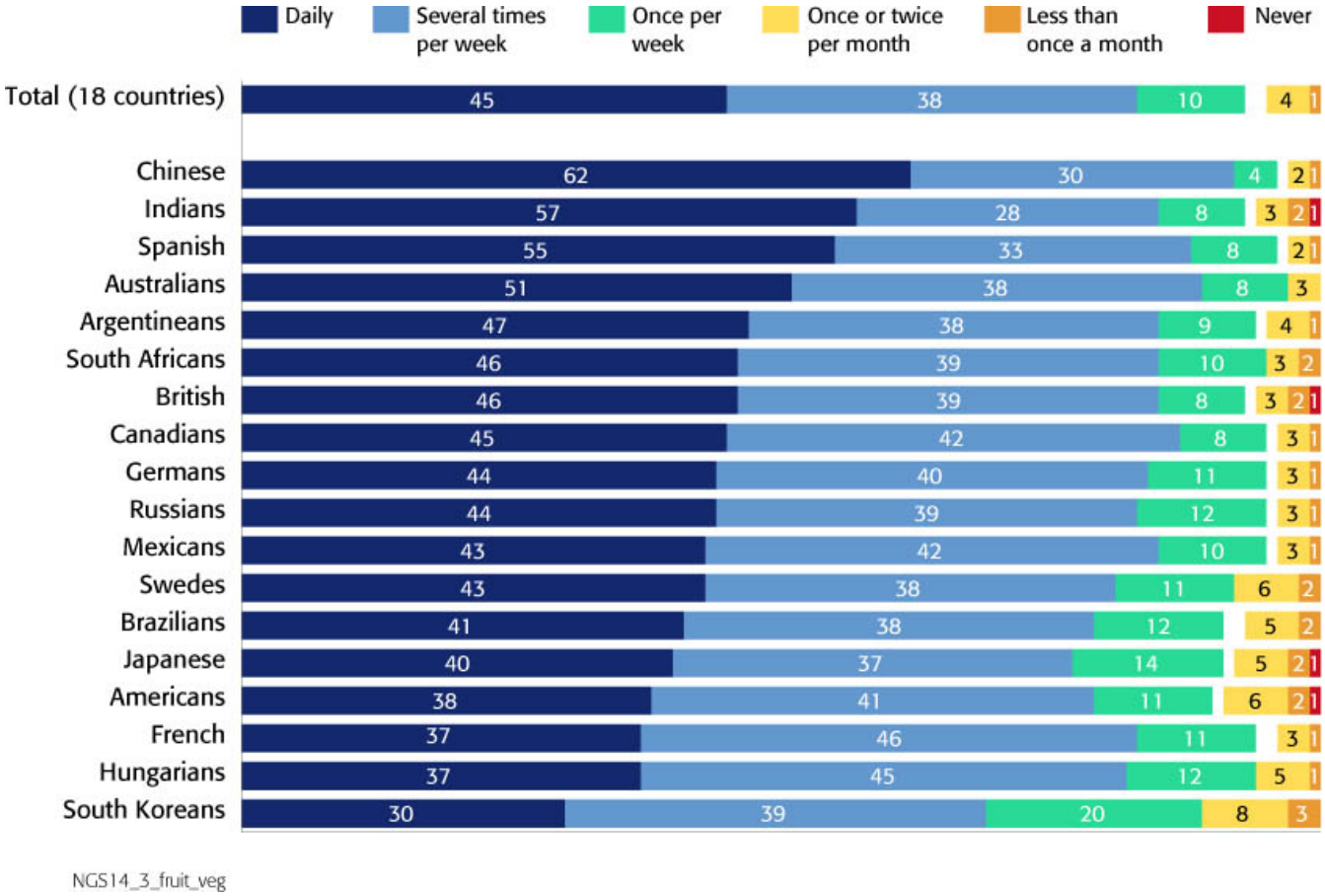


GLOBESCAN

Frequency of Consuming Fruits and Vegetables

NATIONAL GEOGRAPHIC

Percentage of Consumers in Each Country, 2014

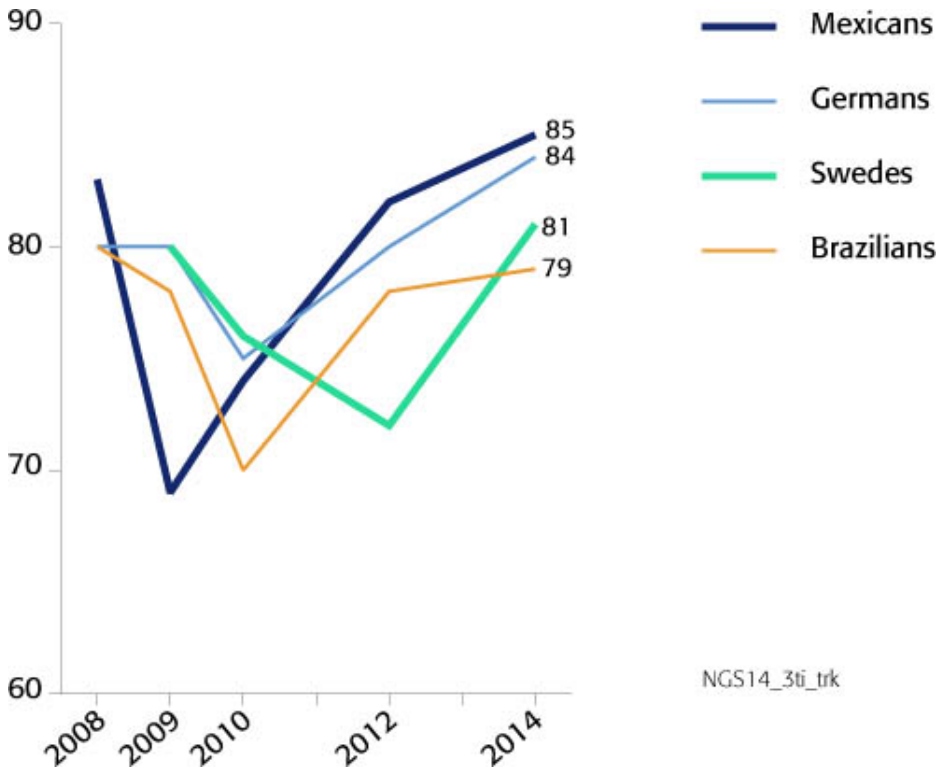


GLOBESCAN

The white space in this chart represents “DK/NA.”

Frequency of Consuming Fruits and Vegetables

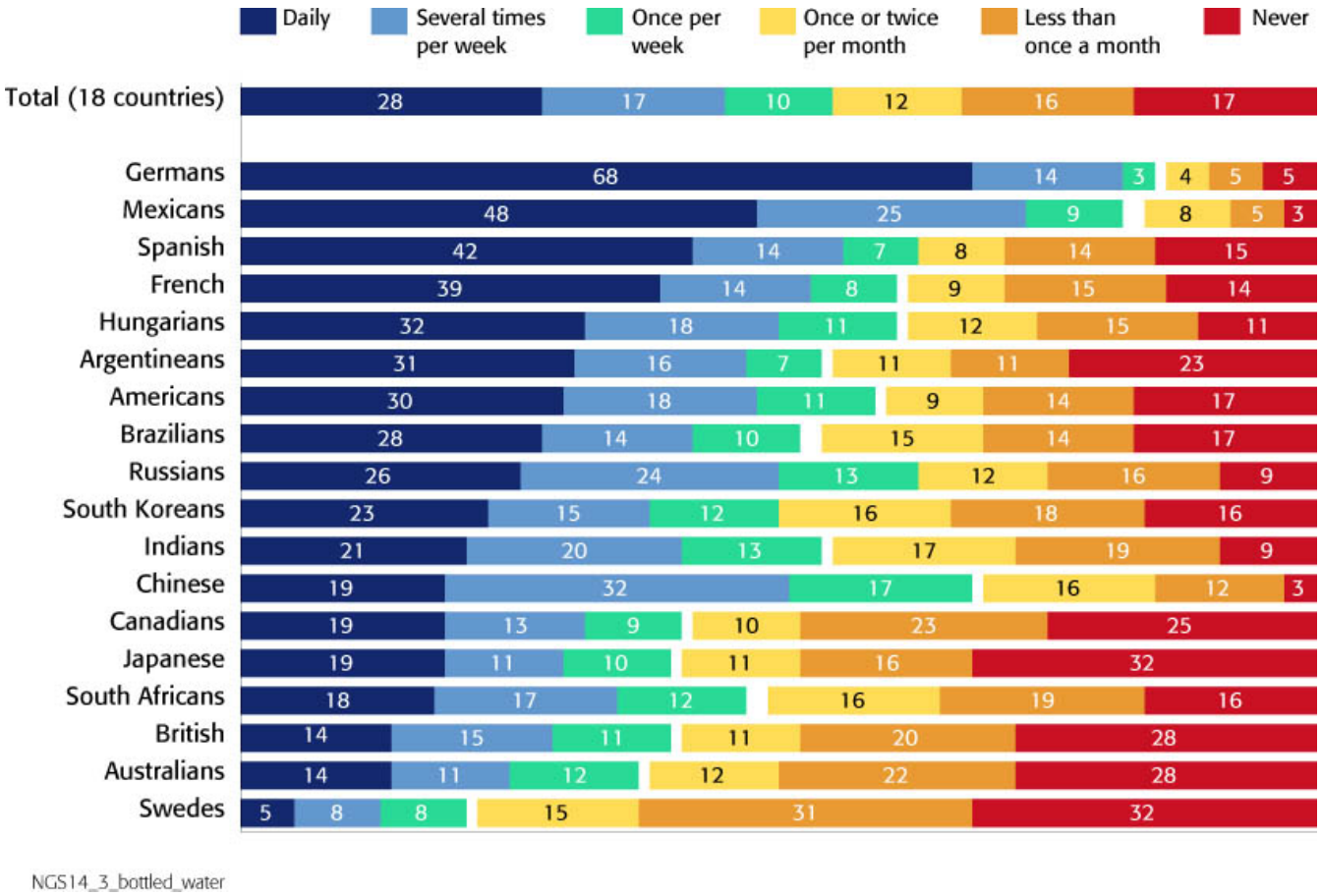
"Daily" and "Several Times a Week," Percentage of Consumers in Each Country, Increases: 2008–2014



Frequency of Consuming Bottled Water

NATIONAL GEOGRAPHIC

Percentage of Consumers in Each Country, 2014



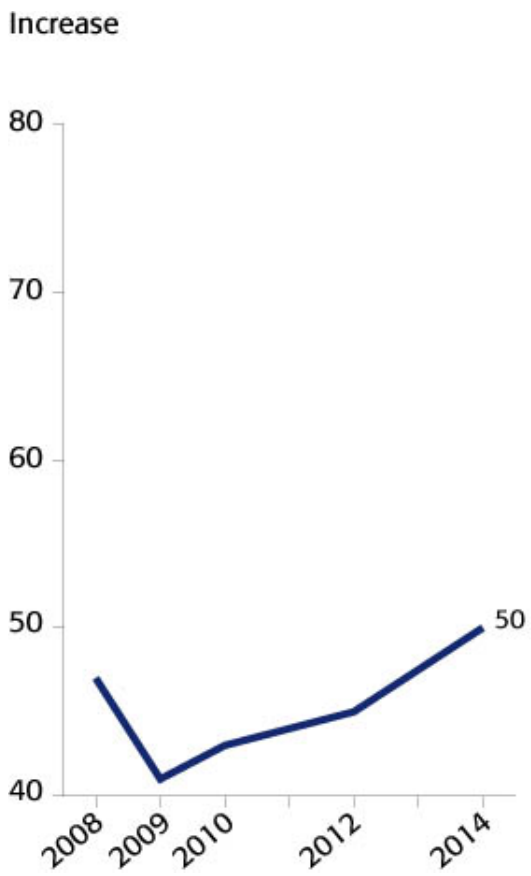
GLOBESCAN

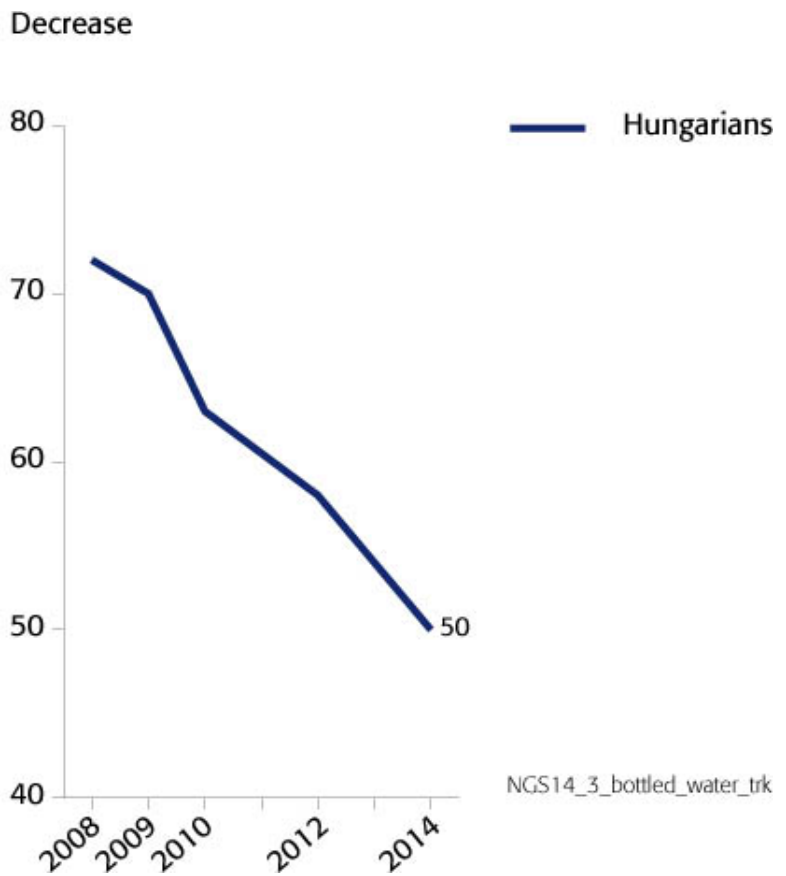
The white space in this chart represents “DK/NA.”

Frequency of Consuming Bottled Water

NATIONAL GEOGRAPHIC

"Daily" and "Several Times a Week," Percentage of Consumers in Each Country, Increases: 2008–2014



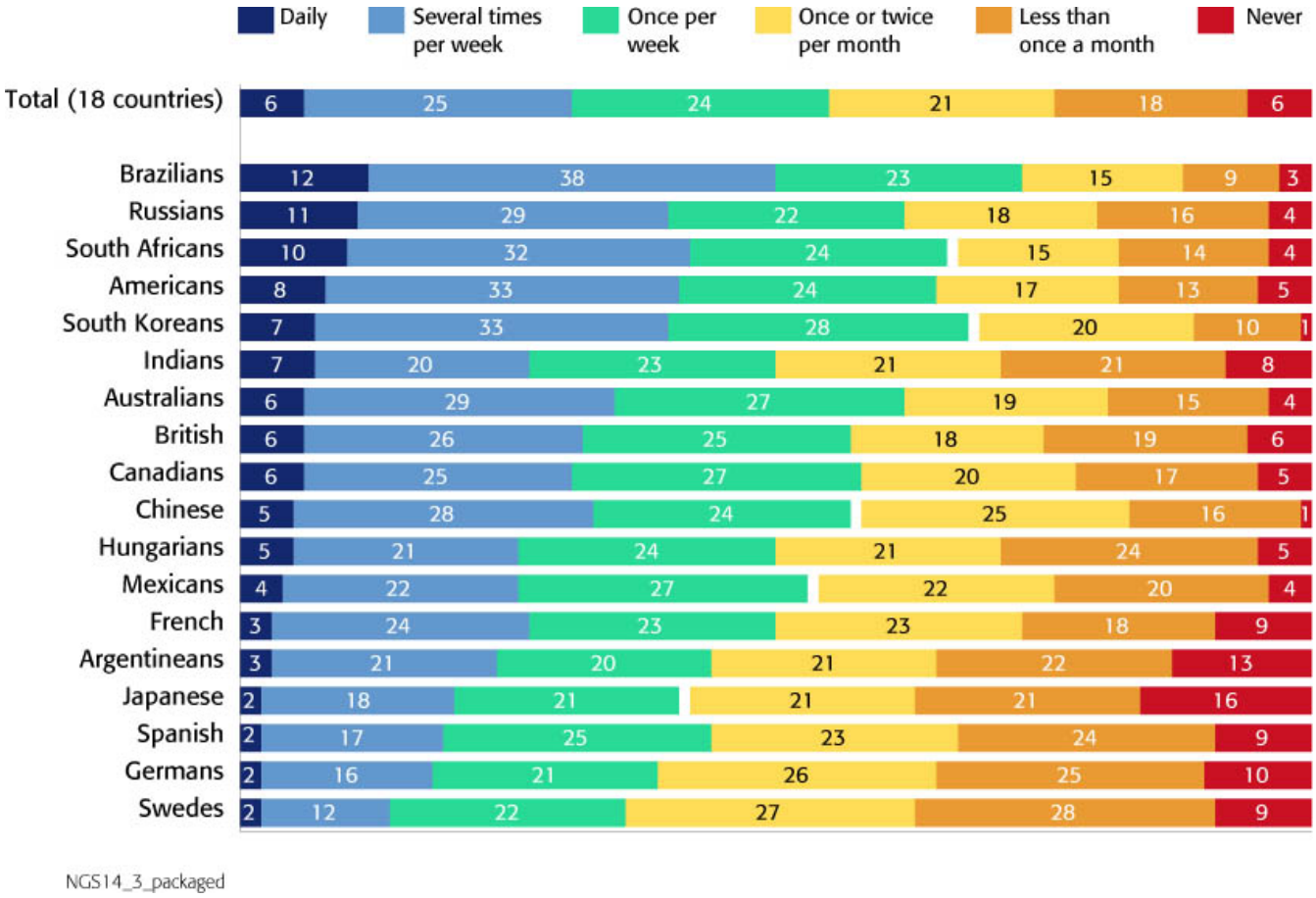


GLOBESCAN

Frequency of Consuming Convenient (Prepared/Processed/Packaged) Foods

NATIONAL GEOGRAPHIC

Percentage of Consumers in Each Country, 2014



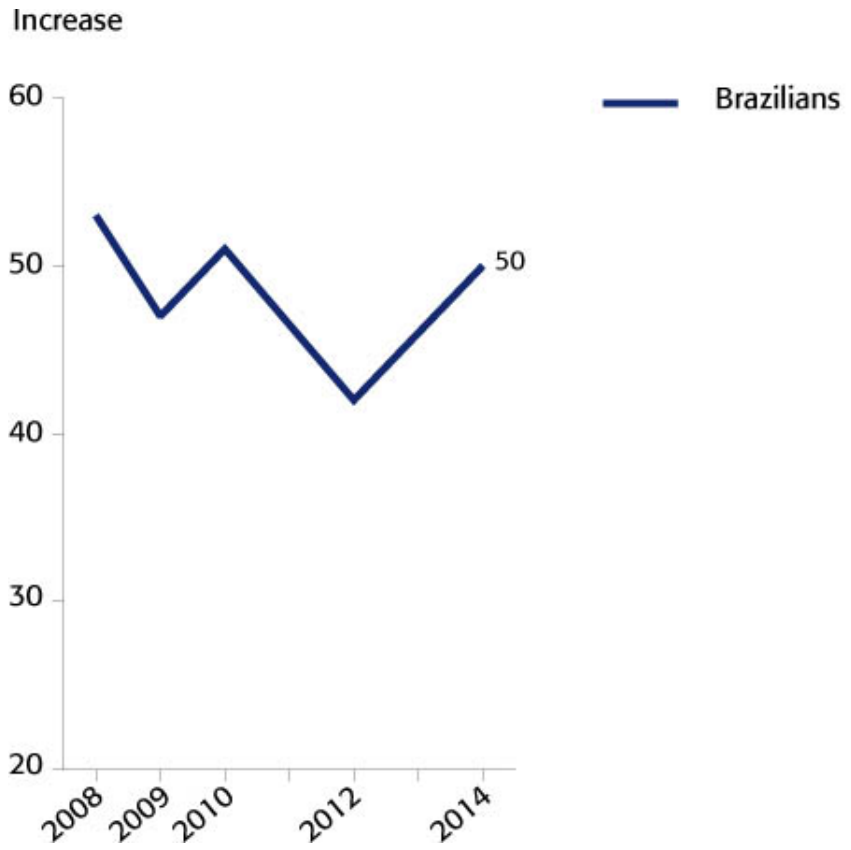
GLOBESCAN

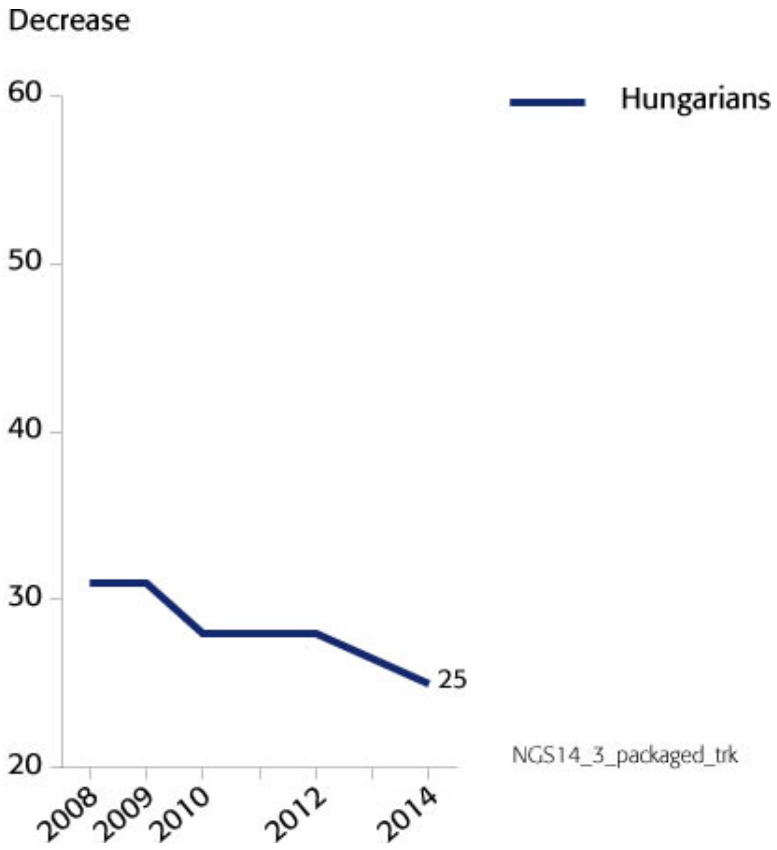
The white space in this chart represents “DK/NA.”

Frequency of Consuming Convenient (Prepared/Processed/Packaged) Foods

NATIONAL GEOGRAPHIC

"Daily" and "Several Times a Week," Percentage of Consumers in Each Country, Increases: 2008–2014



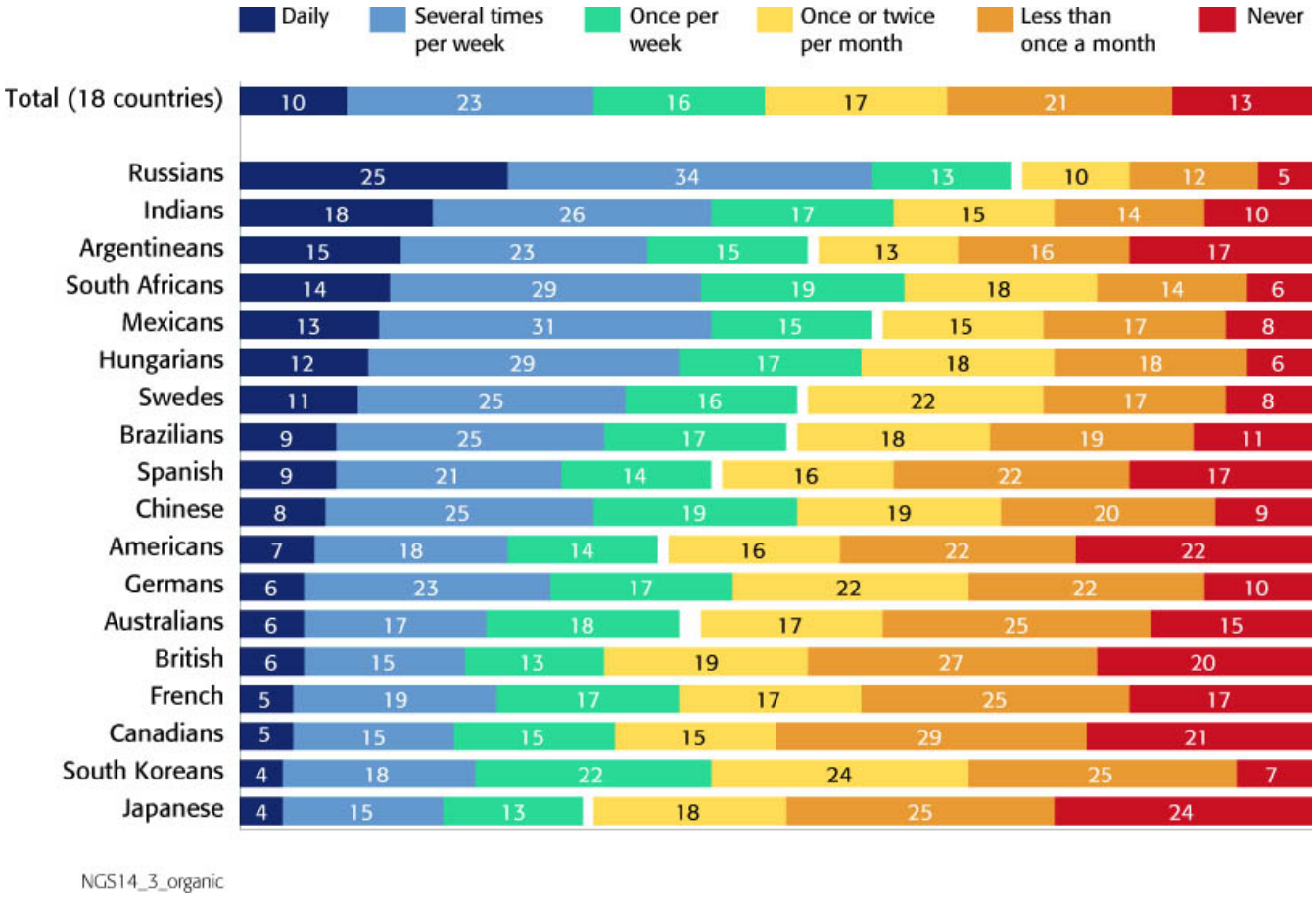


GLOBESCAN

Frequency of Consuming Organic or Natural Foods

NATIONAL GEOGRAPHIC

Percentage of Consumers in Each Country, 2014



The white space in this chart represents “DK/NA.”

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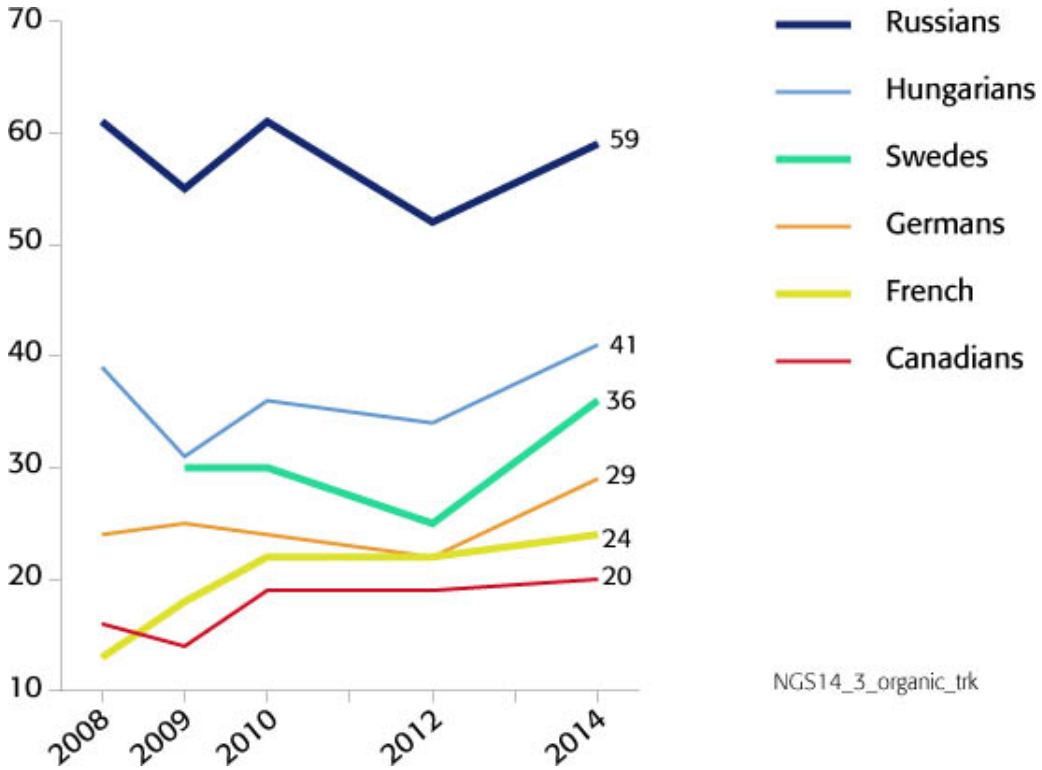
Frequency of Consuming Organic or Natural Foods

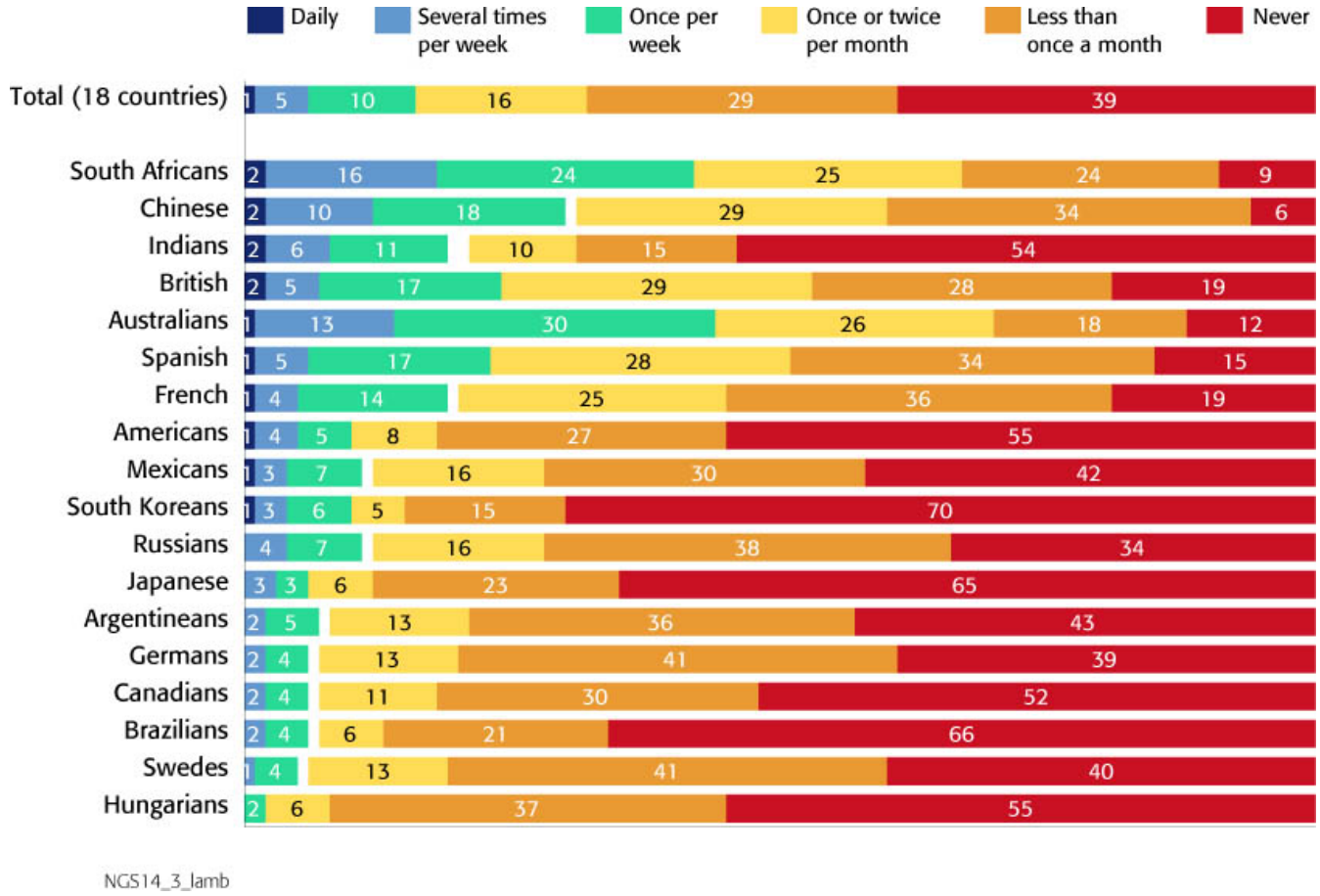
"Daily" and "Several Times a Week," Percentage of Consumers in Each Country, Increases: 2008–2014



Frequency of Consuming Lamb

NATIONAL GEOGRAPHIC

Percentage of Consumers in Each Country, 2014



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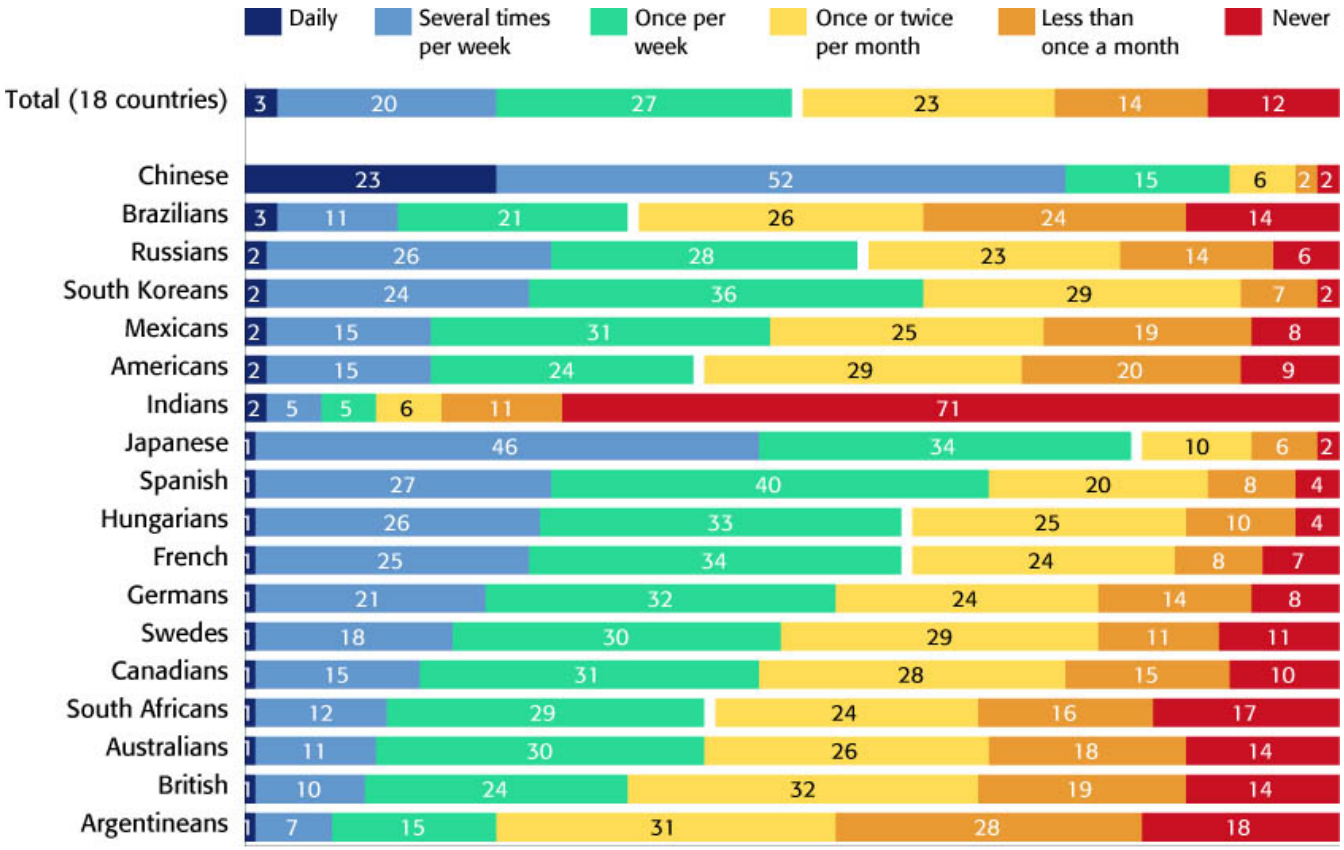
The white space in this chart represents “DK/NA.”

Frequency of Consuming Pork

NATIONAL GEOGRAPHIC

Percentage of Consumers in Each Country, 2014



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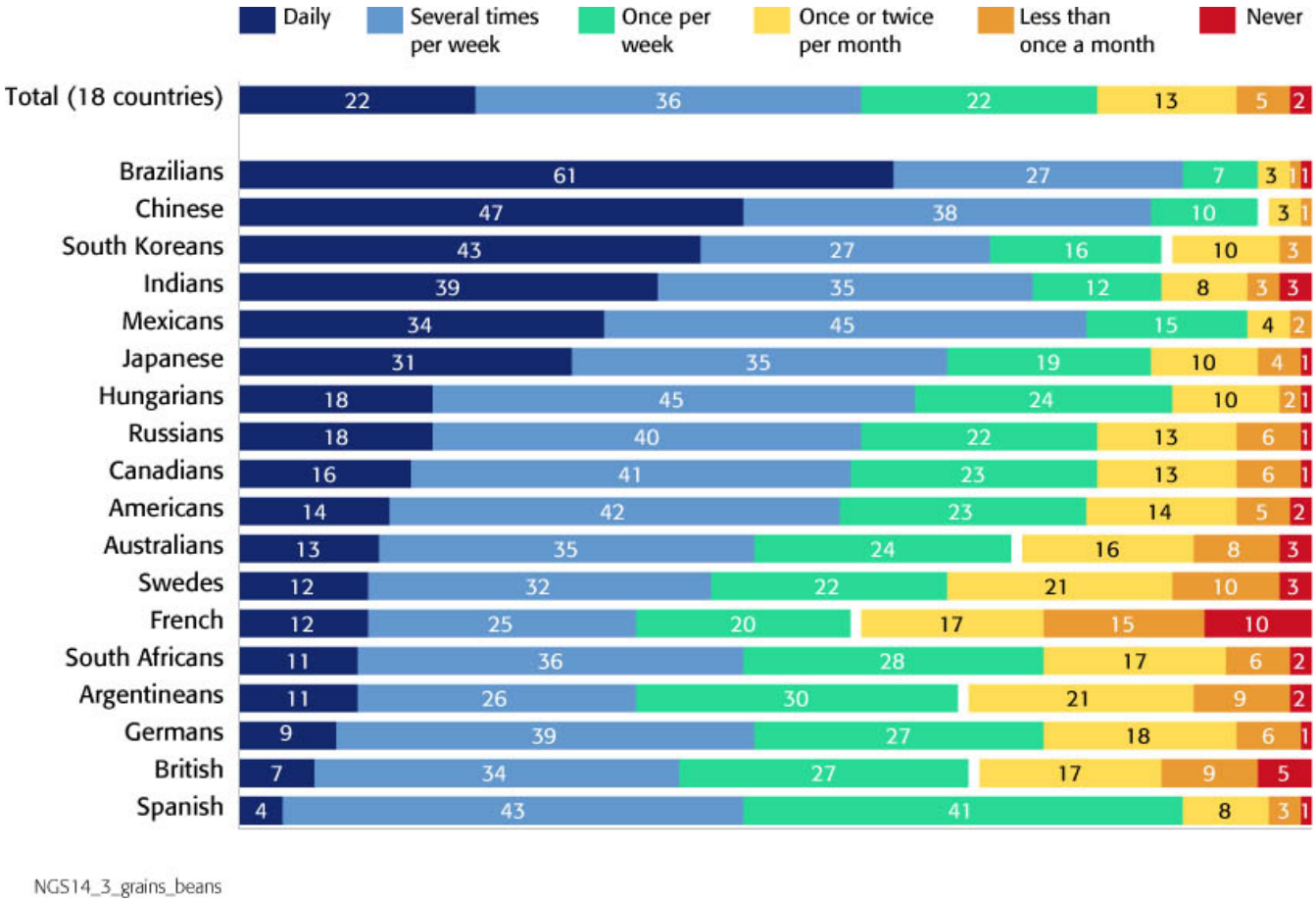
The white space in this chart represents “DK/NA.”

Frequency of Consuming Grains and Beans

NATIONAL GEOGRAPHIC

Percentage of Consumers in Each Country, 2014



NGS14_3_grains_beans

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The white space in this chart represents “DK/NA.”

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