Japan is facing big challenges as its population gets smaller, older, and alarmingly suicidal. Here's a closer look at some of the country's problems.

Graphics by John Zhu

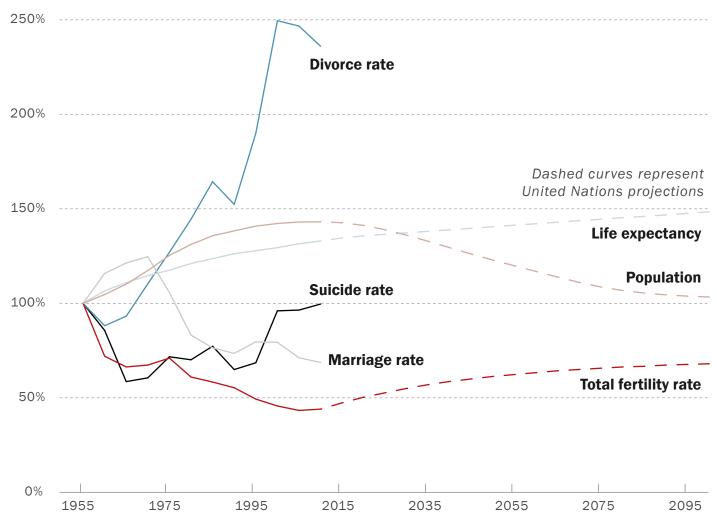
Sources: CIA World Factbook, United Nations, National Institute of Population and Social Security Research, World Health Organization, Statistics Bureau and the Director-General for Policy Planning of Japan, Wikipedia, National Police Agency, The Economist, The Japan Times

Japan's Challenges | Smaller, Older | Marriage and Divorce | Suicides | Good News?

## **Changes and challenges**

Fertility, population, suicide, marriage, and divorce. All of these numbers are heading in the wrong direction for Japan. Even a longer life expectancy can be problematic as it helps create a rapidly aging society. Here's how those numbers have changed since 1955.

## Percent change from 1955



## How does Japan compare with its peers?

Countries	2011 Total fertility rate	Marriages per 1,000 people*	Divorces per 1,000 people*	Suicides per 100,000 people**

Japan	1.39	5.5	2.0	24.1
United States	2.06	6.8	7.6	11.8
Similar population				
Russia	1.43	8.5	4.9	21.4
Mexico	2.27	5.5	0.8	4
Similar GDP				
United Kingdom	1.91	3.8	2.0	6.9
France	2.08	3.9	2.1	16.2
Neighbors				
South Korea	1.23	6.2	2.5	31.2
China	1.55	7.5	1.6	22.2

\* – Latest available data from the United Nations. No earlier than 2006.

\*\* — Latest available data from the World Health Organization. No earlier than 2008.



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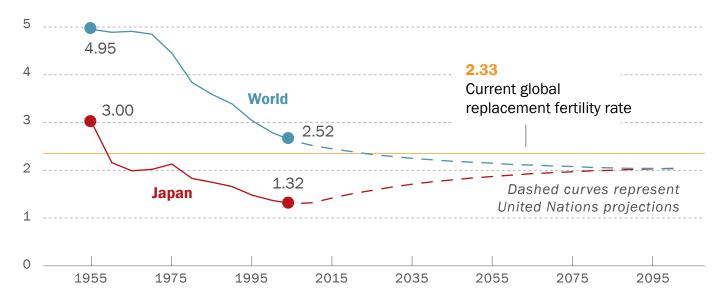
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## **Declining fertility: A global story**

Japan's plummeting fertility rate draws attention, but it is only part of a larger story. The world's fertility rate has been falling since the 1950s.

**Total Fertility Rate** 



## **Defining fertility**

The total fertility rate is NOT a measure of how many children are actually born. It is a prediction of the average number of children a woman would have over her lifetime if she lives through her entire reproductive life (ages 15-49) and follows the exact current fertility rates for each age group as she ages.

The **replacement fertility rate** is the fertility level at which a population exactly replaces itself from one generation to the next. This rate varies from country to country. The current worldwide replacement fertility rate is 2.33 children per woman. In industrialized nations, it's about 2.1.

**Total fertility rate > replacement fertility rate** population increases

lf

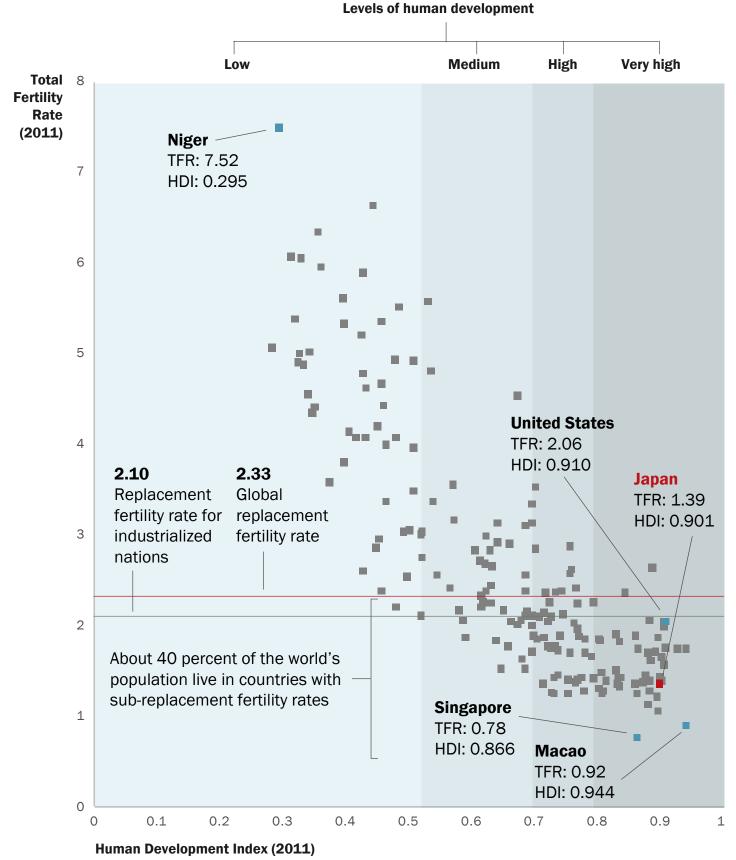
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## Total fertility rate < replacement fertility rate

population decreases

## What makes fertility rates decrease?

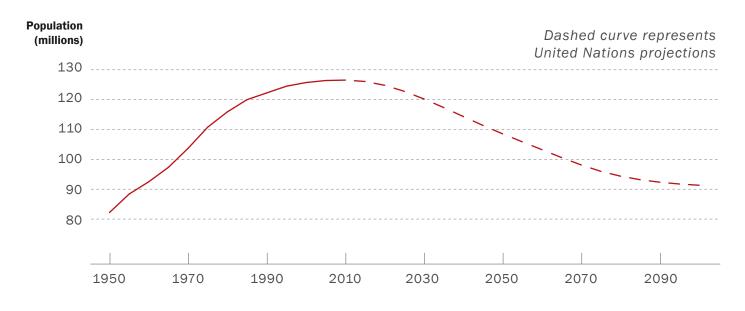
There is a strong connection between a country's fertility rate and its level of development. As a country becomes more developed, wealth, education and urbanization all contribute to a lower fertility rate as mortality goes down and birth control becomes more accessible. Here's a look at the fertility rates of countries at various stages of development.



The HDI measures levels of development. It takes into account life expectancy, mean years of schooling, expected years of schooling, and gross national income per capita. HDI scores range from 0 to 1. Larger numbers represent greater levels of development.

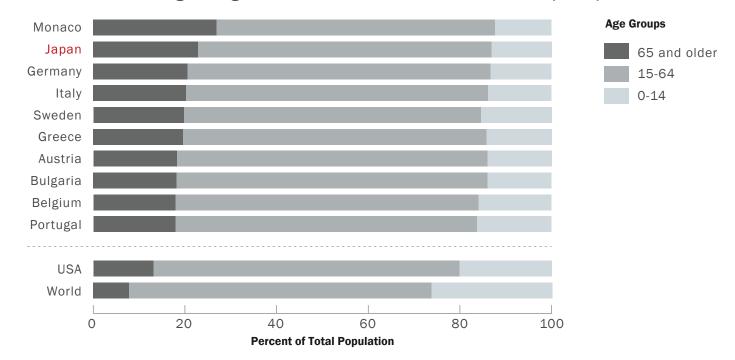
### Japan's population is still increasing, but ...

Despite Japan's declining fertility rate, its population is still seeing modest gains. It takes several generations to see the effects of fertility decline because of population momentum. As this graph shows, however, Japan's population is expected to plunge this century.



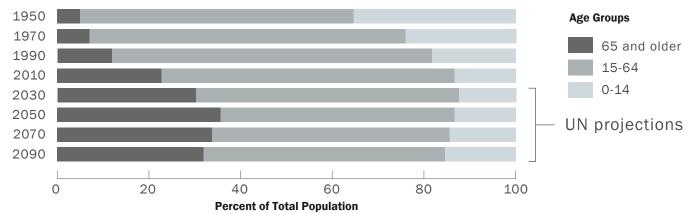
## An age-old problem

A declining population might sound like a good thing for Japan, which is 10th in the world in total population. In the short term, however, it creates an older population, which places a greater burden on a shrinking group of working-age people who must care for the elderly.



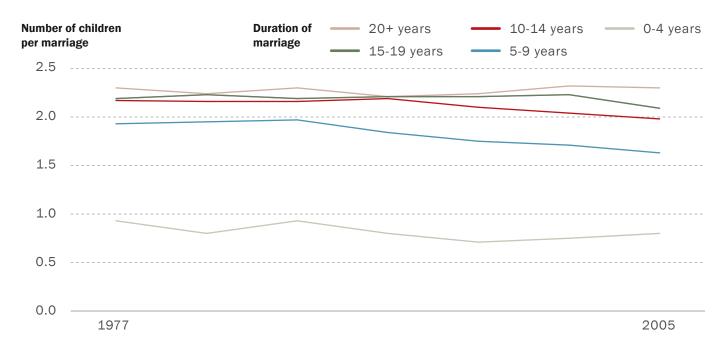
Countries with the largest segments of residents who are 65 and older (2011)





## Married ... with children

While Japan's total fertility rate is plummeting, the average number of children its married couples are having has actually remained relatively steady around two children per couple. Here's a look at the number of children for Japanese marriages of different durations.



If married couples are having an average of about two children, why is Japan's total fertility rate so low? Researchers have attributed the decline in part to the falling marriage rate. In Japan, few children are born out of wedlock, so the declining marriage rate has a big effect on the fertility rate.

> Why are there fewer marriages in Japan?

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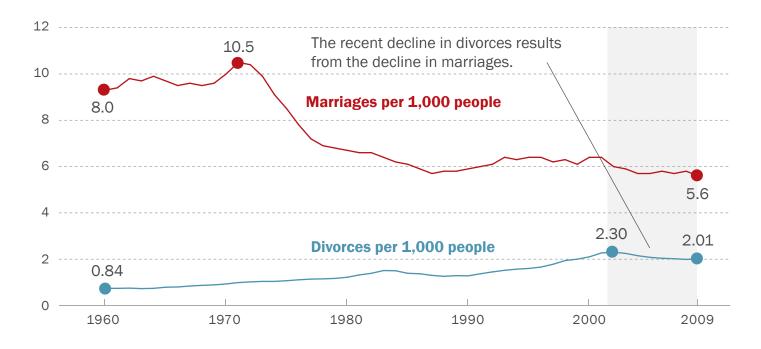
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## Marriages down, divorces up

After rising in the late 1960s and early 1970s, Japan's **marriage rate** dropped sharply in the ensuing decades before the decline slowed in the 1990s and 2000s. The rate is now slightly more than half of what it was in 1971. Meanwhile, the **divorce rate** has climbed steadily before leveling off in recent years. Here's a look at the changes.

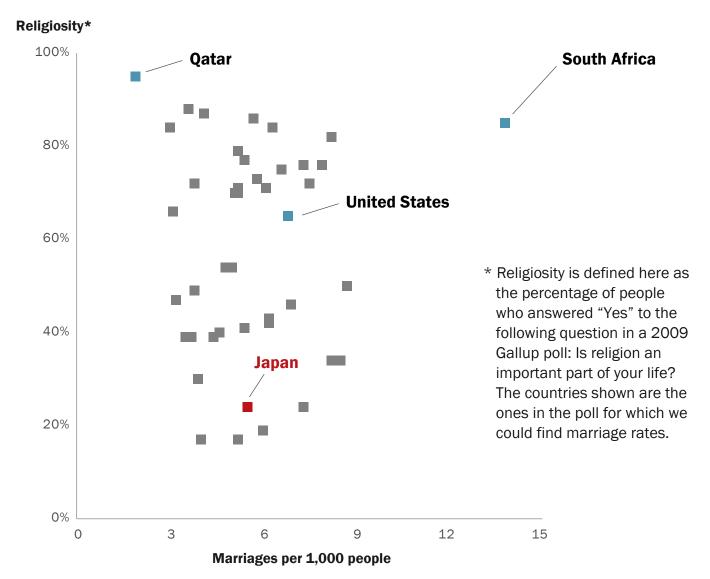


## Why the trends?

In an April 28 piece, New York Times columnist Ross Douthat wrote, "Japan is one of the world's least religious nations, the marriage rate has plunged and the divorce rate is higher than in Northern Europe." This implies a connection between religiosity and marriage and divorce rates. Do the numbers back that up?

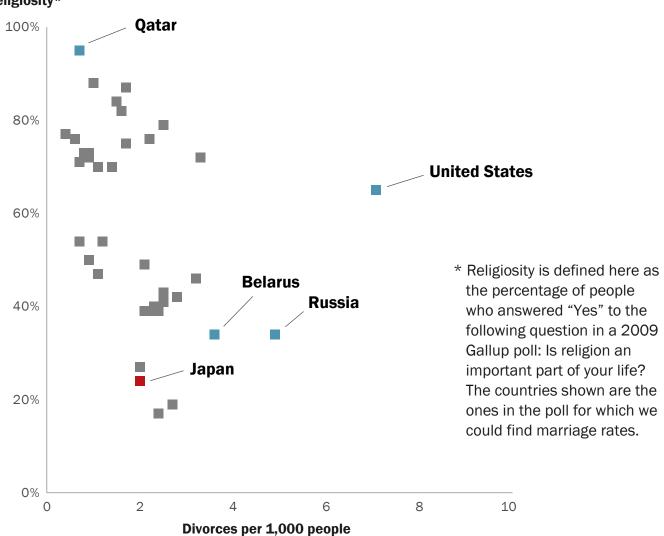
### **Religiosity and marriage**

A look at select countries' religiosity and marriage rates in 2009.



#### **Religiosity and divorce**

A look at select countries' religiosity and divorce rates in 2009.



#### For a list of the countries shown in these two graphs and their data, see http://bit.ly/religiosity\_marriage.

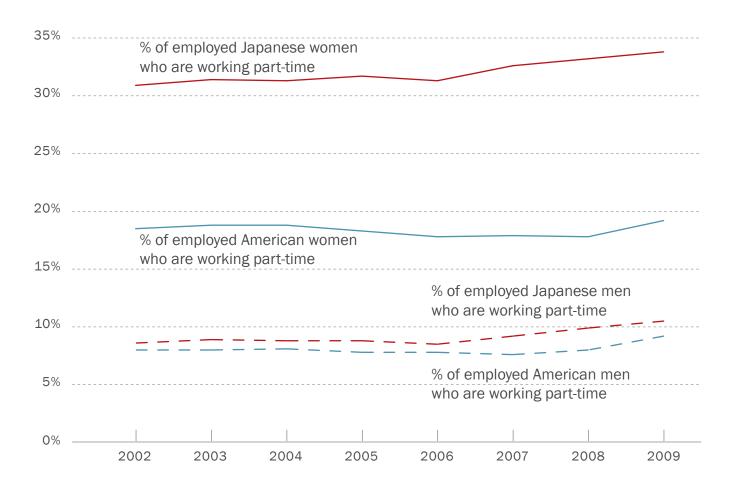
These graphs suggest that, contrary to Mr. Douthat's claim, there is no strong connection between a country's religiosity and its marriage or divorce rates.

#### Religiosity\*

## If not religion, what then?

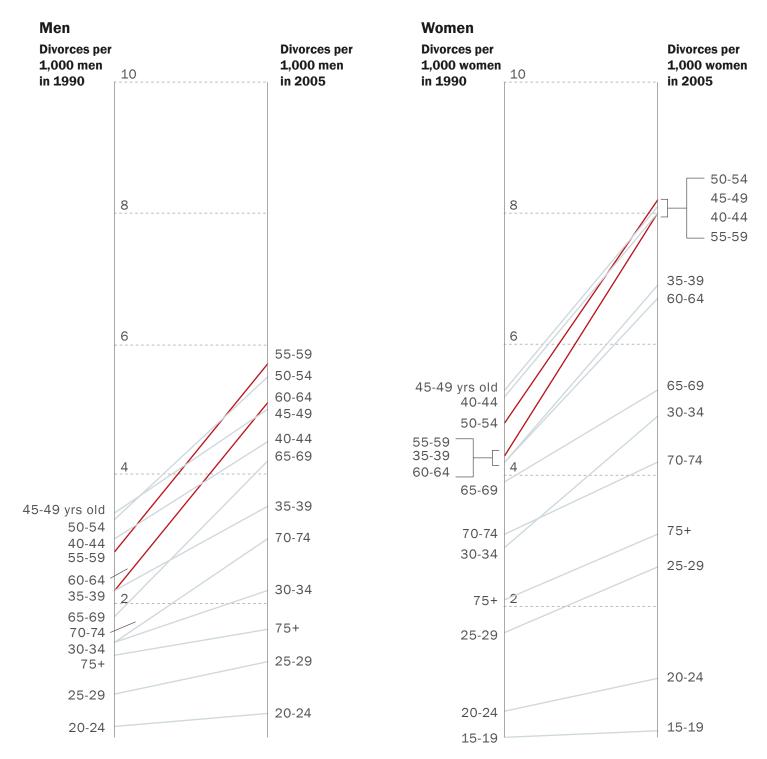
### The cost of marriage and motherhood

More and more Japanese women are postponing marriage or not getting married at all. Aside from the cost of the average Japanese wedding (\$40,000 in 2010), Japanese women also face poor job prospects after they have children. The private sector's business practices discourage many from returning to their old jobs after giving birth, forcing them to take low-paying part-time jobs. Note the sizable gender difference in part-time employment.



### **Divorce upon retirement**

One reason for Japan's divorce rate is that as workaholic men who have spent little of their working lives at home begin to retire, their spouses find them too much to bear. That, along with new laws that make it easier for women to share their ex-husbands' pensions after divorce, has resulted in large increases in divorces among the older population. Here's a look at the change in divorce rates by gender and age groups.



Despite the sharp increase, Japan's divorce rate is still relatively low, especially when compared to the United States'. Another number, however, is much more troubling — the country's surging suicide rate, one of the highest in the world.

Who, where, when and why of suicides

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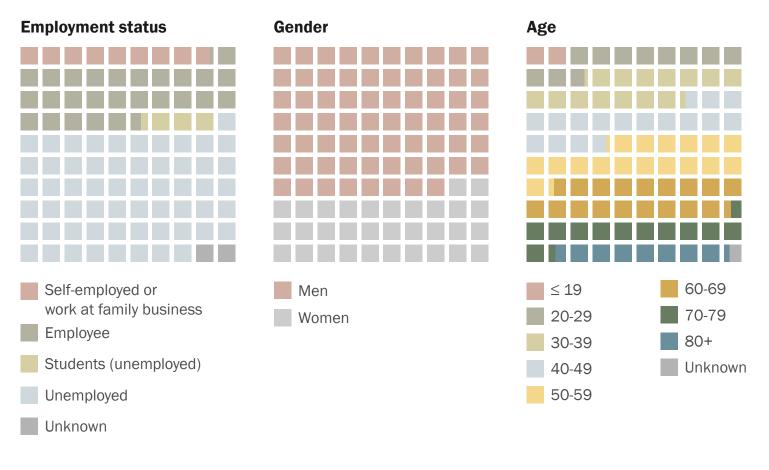
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## Who are committing suicides?

A look at the demographics behind Japan's suicides. Each square represents 1 percent of the 30,651 suicides in 2011.



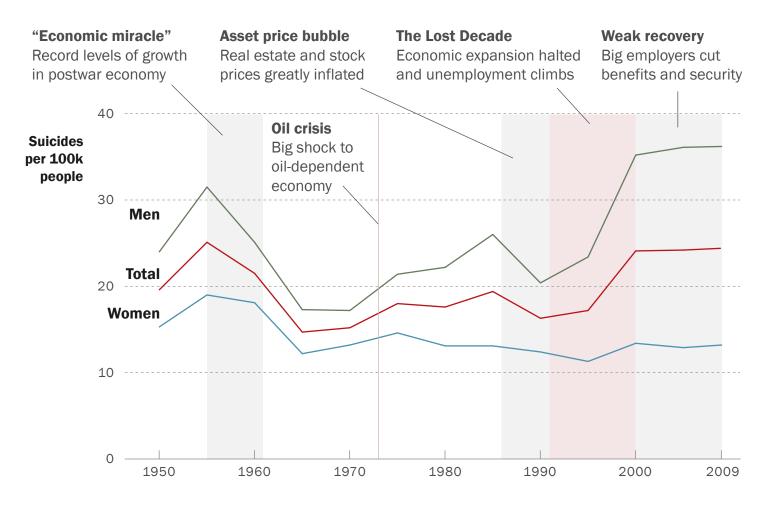
## **Reasons for suicides**

Leading cause for suicides A look at the motives behind Japan's suicides in 2011. in every age group except 19 and under Family issues 4,547 Health issues 14,621 6,406 Financial/life issues Job-related issues 2,689 Of the 30,651 suicides in 2011, 22,581 1,138 Relationship issues had known motives. The numbers in this graph do not add up to 22,581 because 429 School issues up to three reasons are recorded for Other 1,621



### When economy sours, suicides rise

Japan's economic problems have been cited as a major reason for its suicide rate. Here's a look at how changes in the suicide rates have corresponded with economic events.

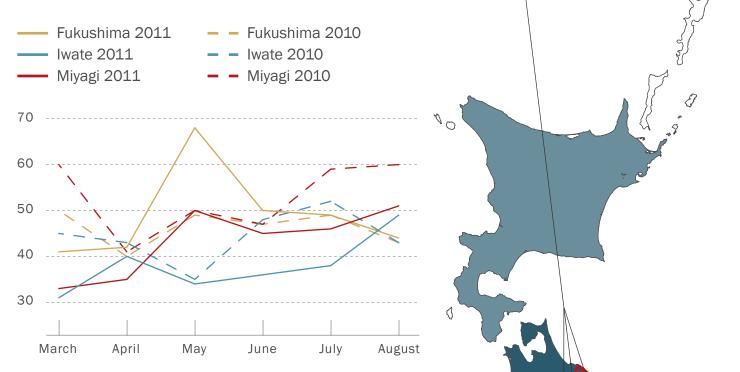


## Where are the suicides?

A look at each prefecture's suicide rate in 2011.



Suicides often go up after natural disasters. In March 2011, Iwate, Miyagi and Fukushima prefectures bore the brunt of the damage from the Tohoku earthquake, tsunami, and nuclear plant accidents. A look at their number of suicides after the disaster, compared to the same months from 2010.



Yamanashi Prefecture had by far the highest suicide rate among Japan's 47 prefectures in 2011 at 36.1 suicides per 100,000 people. It was the fifth straight year that Yamanashi had the worst rate. One reason is that the prefecture is home to the Aokigahara Jukai forest, whose long association with death and suicides draws numerous people planning to kill themselves.

¢ ¢



Flickr photo by ajari http://www.flickr.com/people/ 25766289@N00

#### **Tokushima Prefecture**

Fewest suicides in 2011 with 150

#### **Tokyo Prefecture**

Most suicides in 2011 with 3,120

#### **Nara Prefecture**

Lowest suicide rate at 17.0; also had the largest percent decrease from 2010 (-22.2%)

#### Ehime **Prefecture**

Largest percent increase from 2010 (8.2%)

With its 164-foot-high cliff overlooking the sea, the town of Sandanbeki is another suicide hotspot in Japan. There are signs on the rocky outcropping advising would-be jumpers to call suicide help lines.



Flickr photo by alexxis http://www.flickr.com/ photos/alexxis/





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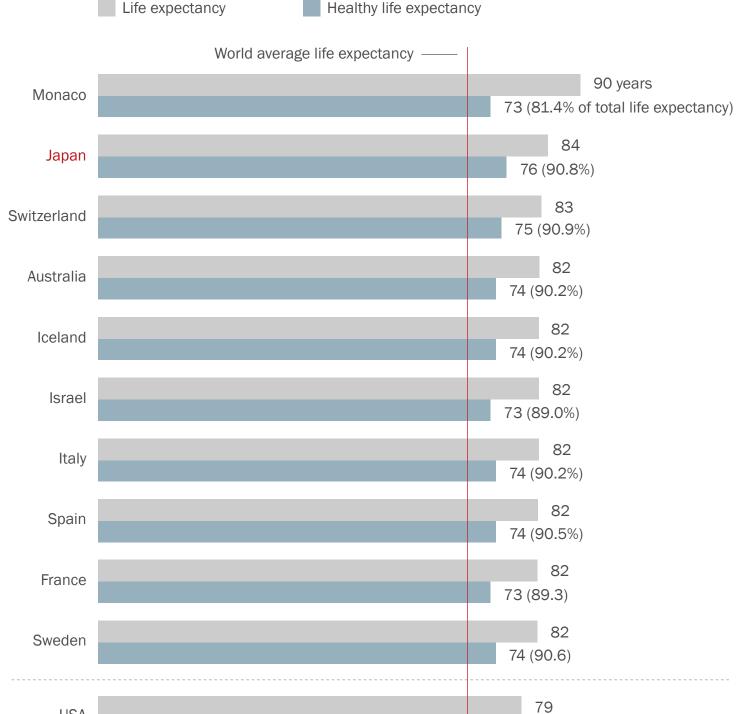
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## Living longer, healthier

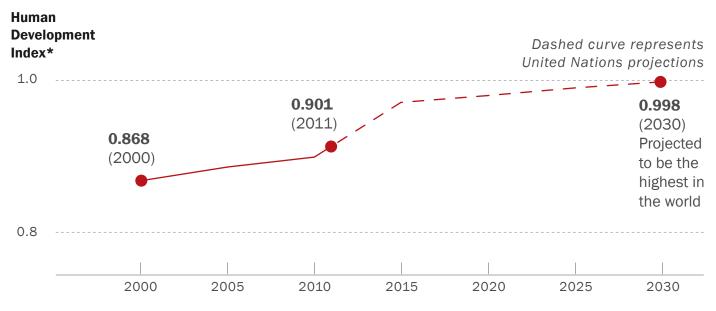
Japan's population may be getting older, but the upside is that its people have some of the longest and healthiest lives in the world. Here are the countries with the longest life expectancies and how they compare in healthy life expectancy.





## **Living better**

Japan already has one of the world's top standards of living, and it is expected to improve. According to the United Nations' projections, the country's quality of life will be the highest in the world by 2030 as measured by its score on the human development index.



\* HDI scores range from 0 to 1. Larger numbers represent greater levels of development.

### What goes down must come up ... at some point?

While high levels of development are generally connected with lower fertility rates, studies have found that trend holds only up to a certain point of development as some very highly developed nations have seen fertility rates rebound. Japan is nearing their development level, and UN projections predict that the country's fertility rate will start to rise again.

