

Global Economic Insight



Population aging complicates efforts to curb inflation

In early 2023, inflation appeared to be turning the corner globally—at least in 63 countries that account for more than 80 percent of total global consumer spending. However, efforts to curb inflation have faced a countervailing force that is becoming increasingly relevant post-pandemic: population aging.

In January, the average inflation rate across the 63 countries on a consumer expenditure weighted basis fell back a full percentage point after peaking last September at 9 percent year-over-year (YoY). This progress follows a synchronous and rapid increase in interest rates, with central banks in all but two of these economies raising their policy rates. In aggregate, the weighted average central bank policy rate across these economies rose 3 percentage points to nearly 5 percent, the highest average rate since 2007.

At the same time, economies with older populations experienced a sharper spike in inflation than those with younger populations. Analysis leveraging the Visa Spending Momentum Index (SMI) reveals that, in U.S. cities with older populations, a shortage of workers due to retirement could be driving up inflation. This finding has important implications for market stability and growth. Using the SMI, cross-country comparative analysis across economies in North America, Europe and Asia Pacific indicates that an increase in inflation today impacts consumer discretionary spending much more than it did prior to the pandemic.

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Key Points:



Aging and retirement could keep inflation elevated for longer



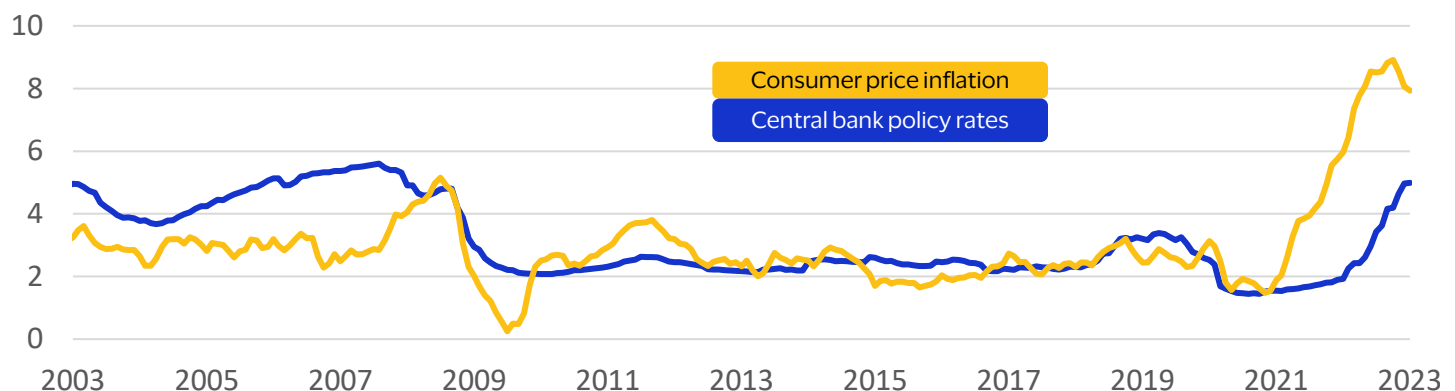
As retirements increase, prices could be pushed higher



Increased inflation has a greater impact on consumer spending than it did prior to the pandemic

Fig.1: Global central bank policy rates and inflation

Weighted averages based on total consumer spending across 63 major economies, YoY percent



Sources: Visa Business and Economic Insights analysis of data from the Bank for International Settlements, International Monetary Fund and Haver Analytics



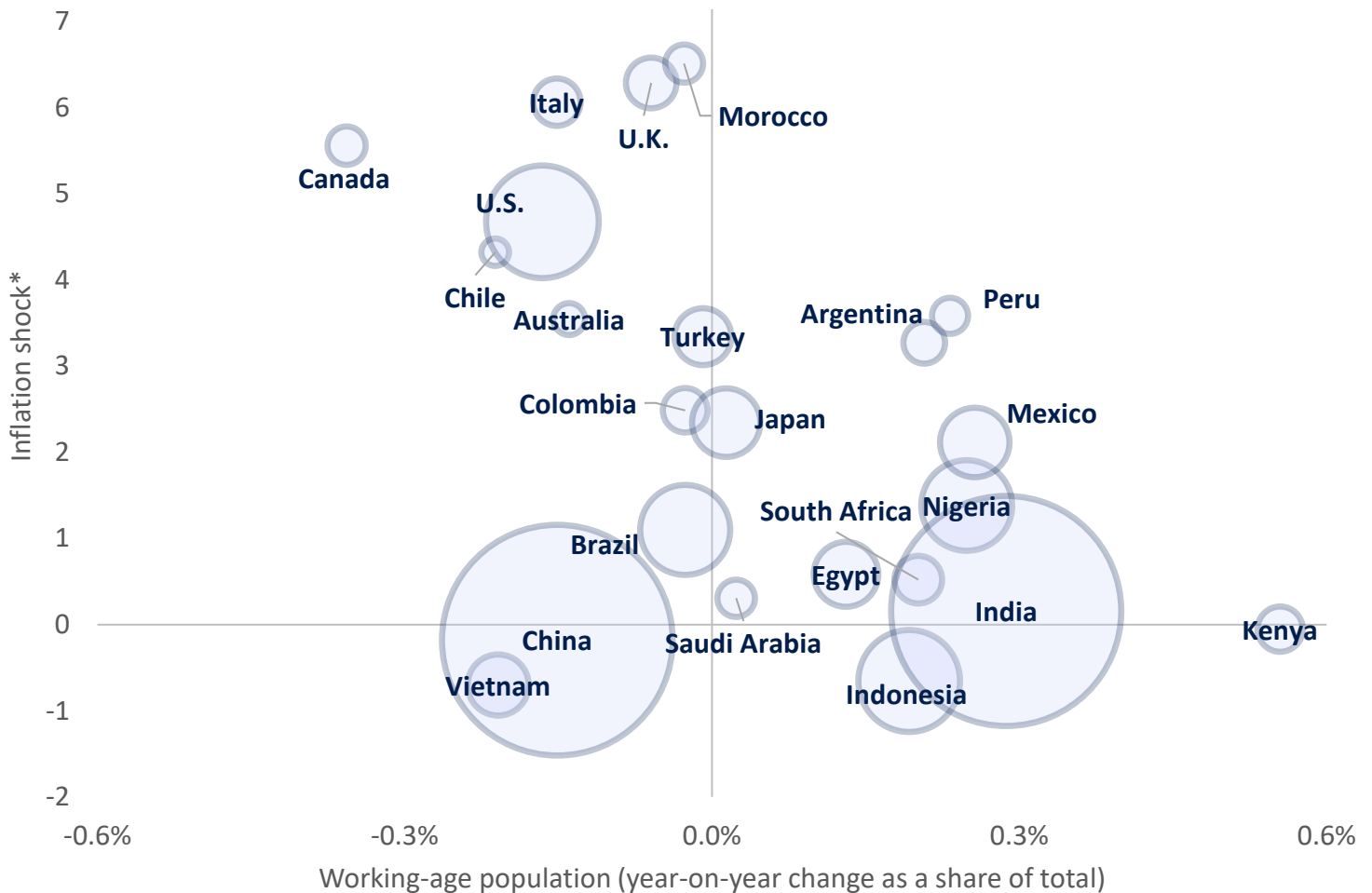
Inflation in 2022 ran hotter in areas with older populations

Supply chain disruptions, the energy crisis and the aftereffects of government stimulus programs all contributed to rising prices last year, but inflationary shock was much worse in markets with fewer working-age people.¹ Without enough available workers, businesses in these areas were unable to ramp up capacity in response to surging demand. In regions with aging populations, such as Europe, the inflation rate could have been as much as 4 percentage points lower this year if their working-age populations had not declined. The chart below helps illustrate this trend in major economies around the world, showing that in countries where the working-age population declined, the inflation shock was greater, defined as the difference in 2022 inflation from 2000-2019 averages (measured in standard deviations). For example, where the working age population declined, such as Canada, the U.S. and Italy, the inflationary shock in 2022 was 6 to 8 standard deviations above the historical norms. In contrast, the working age populations in India and Indonesia increased as a share of total in 2022, and the increase in inflation was within historical ranges.

Looking ahead, demographic headwinds are likely to sustain elevated levels of consumer price inflation through the end of this decade. As the share of workers continues to decline in major economies, a higher proportion of the goods and services they produce will go towards current consumption, leaving less for savings and investment in future growth. If technological innovation does not compensate for the demographic drag, businesses are facing a decade of slower growth and lower returns on investment ahead.

Fig. 2: Global inflation hit harder in areas where the working-age population declined

Share of working-age (15 to 64-year-old) people in total population vs. inflation rates in 2022



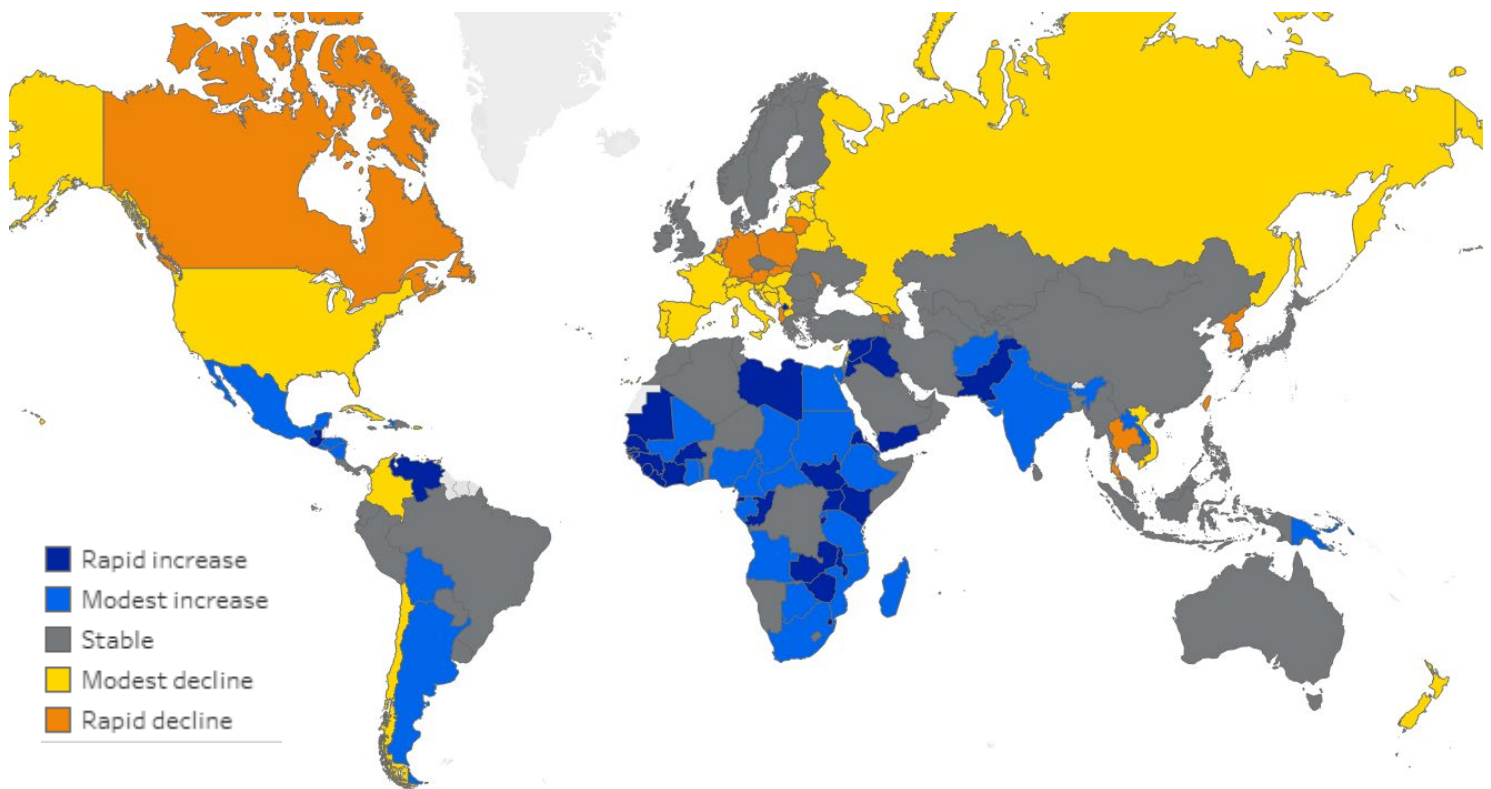
*Difference in year-to-date consumer price inflation in 2022 relative to 2000-2019 average (standard deviations). Bubbles are sized in proportion to total population. Sources: Visa Business and Economic Insights analysis of national sources, UN Population Division, Haver Analytics



Graying labor force could keep prices elevated for longer

Demography need not be destiny when it comes to population aging and retirement, with many workers continuing to work into their later years. However, age remains the strongest predictor of workers leaving the workforce due to retirement. For example, researchers from the Bank for International Settlements found that inflation can be up to 0.4 percentage points higher for every worker out of 100 who ages out of the prime working-age group.² Conversely, countries with 1 percentage point more workers (as a share of the total) in their peak earning years enjoy about half a percentage point cooler inflation than they would have otherwise. The pandemic marked an inflection point where global demographics were no longer working to moderate inflation. Given the aging populations of the world’s largest economies—which together account for two-thirds of global output—their demographics have turned from a force mitigating inflationary pressures to one that will fan it further in the coming years.

Fig. 3: Projected change in working-age populations as shares of total from 2022 to 2025



Sources: Visa Business and Economic Insights, U.S. Census Bureau, United Nations Population Division, Haver Analytics



Retirements contribute to rising prices at the local level

A detailed look across major U.S. metros reveals prices have increased more where retirees make up a larger share of the resident population. Official data on inflation and retirement rates, coupled with Visa’s SMI as a measure of consumer demand, show that each percentage point increase in the share of retirees added 0.2 percentage points on average to local inflation. Up to one-third of the differences in observed inflation across major U.S. metro areas in 2022 were due to retirements.

This finding is in keeping with what economists have long postulated. As the share of the retired population increases, fewer workers are available to support the provision of goods and services for the overall population; thus, inflation should increase. Taking the U.S. economy as an example, retirements alone have reduced U.S. domestic productive capacity by at least 2 percent relative to demand. This output loss could be even greater if the workers replacing them are not as experienced or productive, adding further to the upward pressure on prices this year.

This might not seem important at the local level, as the goods consumers buy are often sourced from national

and even international suppliers. However, local labor market dynamics are critical due to the simple fact that the average household in an advanced economy allocates most of its budget to services. In fact, U.S. households spend two out of every three dollars on services that are supplied locally in their communities, such as haircuts, medical services, education and housing.

Consider the comparison between Boston and Phoenix, two metro areas where consumer spending has recovered to roughly the same extent, as measured by Visa’s SMI. Both have similar unemployment rates as well, averaging at around 3.1 percent in 2022. Yet the inflation rate in Phoenix, where retirees account for 18 percent of the resident adult population, was 4.3 percentage points higher than in Boston, with its more favorable worker-to-consumer ratio. On average, this pattern partially accounts for why inflation in cities like Miami has far exceeded national averages this year. Miami’s inflation rate is a full percentage point higher even compared to cities like Washington, D.C., where strong consumer demand is playing a bigger role in stoking local inflation.

Fig. 4: Retired population³ as a share of total, by U.S. metro area (2022)

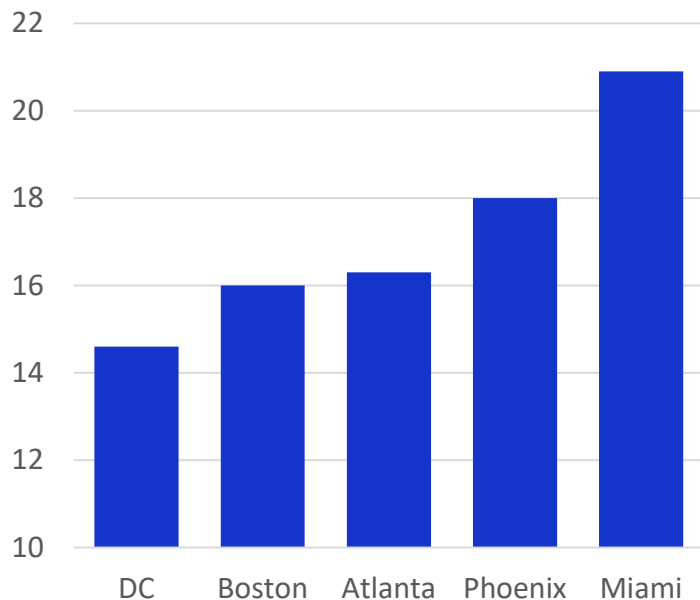
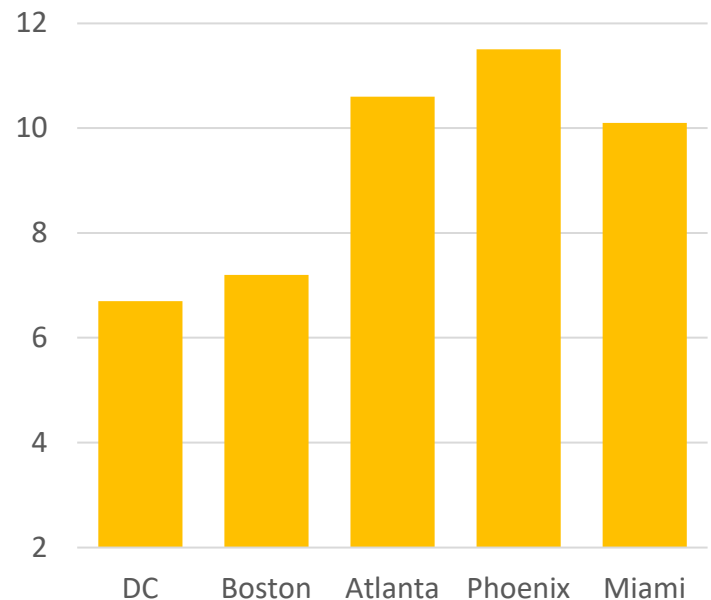


Fig. 5: Annual consumer price inflation, by U.S. metro area (YoY percent, 2022)



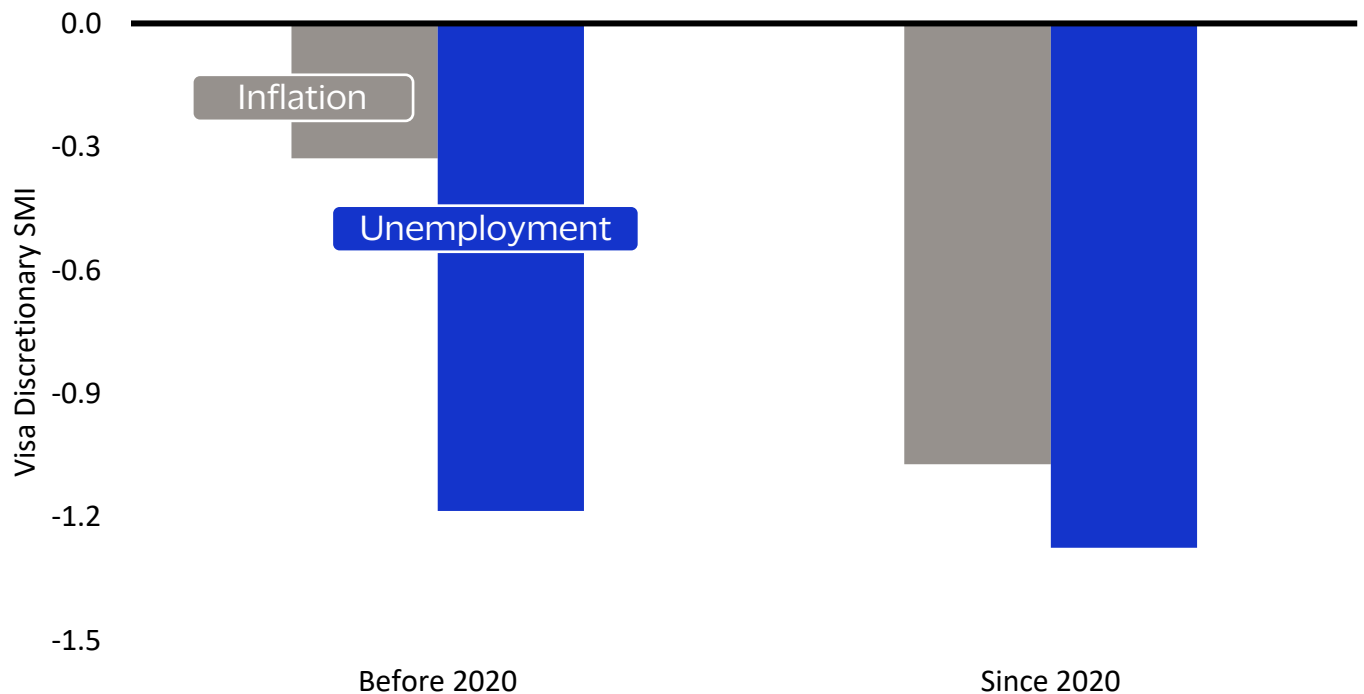
Sources: Visa Business and Economic Insights, Census Bureau (Current Population Survey), Bureau of Labor Statistics, Haver Analytics

Inflation presents as much risk to spending growth as unemployment

Whatever the underlying cause, persistent inflation presents significant medium-term risks to business. Inflation and unemployment are often treated as two sides of the same coin, bringing equal misery to consumers. Both erode the purchasing power of households and reduce their ability to maintain quality of life. Periods of high and persistent inflation are typically marked by declining revenues for merchants and lower transaction and purchase volume growth for issuers, particularly in discretionary categories of spending. Moreover, interest rate hikes by central banks in response to inflation further squeeze issuer profit margins and curtail business investment as credit conditions tighten and delinquencies rise.

Inflation now rivals unemployment in its power to impede spending growth. Prior to 2020, each percentage point rise in the unemployment rate presented about three times as much drag on discretionary spending momentum as one percentage point increase in inflation. Since 2020, however, inflation's effect on discretionary spending momentum has more than doubled to nearly match that of the unemployment. ⁴ Based on this shift in inflation's impact on spending, the surge in prices last year in Australia, Canada and the United Kingdom had as much of an impact on spending as if their unemployment rates had risen by as much as 3, 4 or 6 percentage points, respectively.

Fig. 6: Impact of a 1 percentage point increase in inflation or unemployment on discretionary spending⁴



Sources: Visa Business and Economic Insights, VisaNet, national statistical agencies, Haver Analytics



Footnotes

1. Working age population is defined as population aged 15 to 64.
2. Mikael Juselius and Elod Takats, "Can demography affect inflation and monetary policy?" BIS Working Papers, No. 485, 9 February 2015. <https://www.bis.org/publ/work485.htm>
3. Based on counts of respondents who indicated "not employed or looking for work due to retirement" in the Current Population Survey.
4. Estimates are based on panel regression analysis of quarterly data for eight markets around the world where SMI is available (United States, Canada, United Kingdom, Ireland, Australia, New Zealand, Italy and Brazil).

Accessibility Notes

Figure 1: Line chart plotting global central bank policy rates and consumer price inflation rates over the past two decades from 2003 to 2023. For most of this period, the average inflation line is range-bound between 2 and 4 percent, but surges up from 1.9 percent in January 2021 to a peak of 8.9 percent in September 2022 before dropping back to 7.9 percent at the latest reading in January 2023. The central bank rates line on the same chart starts at a higher range in the early 2000s, ranging between 4 and 6 percent, but drops to around 2 percent for most of 2010s before starting to rise sharply from 1.9 percent in January 2022 to 5 percent in January 2023.

Figure 2: A bubble chart plotting countries around the world based on their year-over-year changes in the working-age share of population in 2022 on the horizontal axis and consumer price inflation in 2022 relative to each country's normal inflation rate on the vertical axis (measured as standard deviation difference of 2022 inflation from its 2000-2019 averages). The chart places all countries into four quadrants. The upper left quadrant includes economies where working-age population declined as a share of total in 2022 and also where price inflation rose above normal ranges. Markets represented in this quadrant include the Italy, where working-age population declined by 0.2 percentage points during the year and which experienced an inflationary shock 6 standard deviations above its historical averages. Closely clustered around the Italy are other aging economies such as the United States, Canada, United Kingdom and Australia, all experiencing a similar decline in the share of working age population and all reporting inflation rates 5 to 6 standard deviations higher than normal in 2022. Next is the upper right quadrant, indicating countries where inflation was higher than normal despite also having a growing working-age population as a share of total. Outliers in this quadrant include Latin American economies like Argentina and Peru where 2022 inflation rose nearly 4 standard deviations above their historical averages even while the working-age population increased by 0.2 percentage points as share of total. Most other countries displayed in this quadrant are plotted much lower on the inflationary shock scale than countries on the upper left quadrant. India is the largest and most representative market in this group, experiencing strong (0.3 percentage points) increase in the working-age share of population while experiencing a level of inflation not significantly different from its historically normal ranges. Closely clustered around it are many other emerging markets such as Nigeria, Egypt or South Africa, where inflation was likewise not too far above historical norms. The lower right quadrant only includes Indonesia, where the working-age population expanded by 0.3 percentage points while also experiencing a full standard deviation lower inflation than normal. Last, there is the lower left quadrant containing two countries (China, Vietnam) where inflation was lower than historical averages in 2022 despite its shrinking labor force as a share of total population. In both, the working-age population declined by about 0.2 percentage points as a share of total while also experiencing up to a standard deviation lower than historical average inflation in 2022.

Figure 3: Heat map of countries around the world, colored based on the projected rate of change in the working-age population as a share of total over the next three years (according to United Nations estimates). Canada in North America, Germany and Poland (Europe), South Korea and Thailand (Asia Pacific) are marked as countries where demographic trends are least favorable, expected to experience a rapid decline in the working-age share of population (i.e. declining by more than a full percentage point between now and 2025). Next at risk are the United States, most of the European Union and Eastern European countries, New Zealand, Colombia and Chile, all expected to decline in their working-age population but at a less rapid pace. On the flip side, Argentina and Mexico in Latin America, India and Pakistan in Asia, and most of Africa are colored as regions where the working-age population is expected to increase as a share of total. The rest of the world is projected to have stable demographics, projected to have no significant shift in the degree of population aging.

Figure 4: Bar chart showing the retired population in 2022 as a share of total for five U.S. metro areas. Cities are displayed from those with the lowest share of retirees on the left to highest on the right: 14.6 percent in Washington D.C., 16 percent in Boston, 16.3 percent in Atlanta, 18 percent in Phoenix and 20.9 percent in Miami.

Figure 5: A companion bar chart to figure 4, plotting consumer price inflation in 2022 for the same five metro areas shown in the same order. Inflation rates for the cities are: 6.7 percent in Washington D.C., 7.2 percent in Boston, 10.6 percent in Atlanta, 11.5 percent in Phoenix and 10.1 percent in Miami.

Figure 6: Bar chart comparing the impact of inflation and unemployment on Visa's Spending Momentum Index on discretionary purchases across six countries (bars represent change in discretionary SMI in response to a 1 percentage point rise in either inflation or unemployment). Prior to 2020, a one percentage point rise in the unemployment rate led to a 1.2 point decline in the discretionary SMI, compared to a 0.3 point decline from a one percentage point rise in inflation. Since 2020, the chart shows that inflation's impact on consumer spending has grown to be nearly as harmful to spend as the rise in unemployment, leading to a 1.1 point decline in the discretionary SMI, compared to a 1.3 point impact from higher unemployment.



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