

Rural Migration News

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RURAL AMERICA

CALIFORNIA: WEATHER, HOUSING

California’s weather is normally predictable: wet and cool winters and dry and hot summers. However, weather patterns are changing. Sacramento experienced its wettest day on record in October 2021, then a long period without rain, and then its hottest ever temperature of 116F in September 2022 during a heat wave.

On September 6, 2022, as the demand for electricity surpassed 52,000 megawatts, the state sent an emergency text to residents asking them to conserve energy to avoid blackouts. Residents complied and blackouts were avoided. The September 2022 heatwave highlighted California’s rapid expansion of solar power that is available during the day but not in the evening when energy demand peaks.

On the hottest days, California’s Independent System Operator is rejecting megawatts of solar power during the day even as it seeks more power in the evening, much of which is imported from other states. The solution to this mis-match of supply and demand for energy is to build more battery storage and transmission lines to move power over time and space, a process often slowed by local opposition.

The average California household pays about \$300 a month for electricity, twice the US average.

The first major wildfire of the season erupted near Yosemite National Park in July 2022; the Oak Fire burned over 17,000 acres and threatened giant trees in the park. The Mosquito Fire east of Sacramento burned over 75,000 acres before firefighters and rains extinguished the fire. Wildfires burned fewer than 375,000 acres in 2022, much less than the five year average of 1.7 million acres.

California's Air Resources Board in August 2022 voted to ban the sale of new internal combustion vehicles in the state after 2035 in a bid to spur sales of electric vehicles. A sixth of cars sold in California are EVs, and the percentage is supposed to climb to 35 percent in 2026 and 68 percent in 2030. The mandate will be enforced by fining automakers that fail to comply.

The US Clean Air Act allows California to set its own emissions standards, and 15 other US states with a third of US residents often adopt California's standards. The average electric vehicle sold for \$66,000 in 2022 compared with \$48,000 for the average internal combustion engine vehicle.

Housing

California has high rents and over 100,000 homeless residents, prompting state efforts to force cities and counties to approve more housing. However, cities and counties have pushed back, with some requiring the duplexes that are now permitted everywhere to have the highest level of energy efficiency, which raises their cost.

Higher land costs and government mandates and fees make it hard to construct cheaper starter homes

that cost less than \$250,000. With monthly housing costs averaging one percent of the cost of a home, a \$250,000 home means \$2,500 in monthly payments, although many lenders allow interest only or balloon mortgages that lower monthly payments for the first five or 10 years.

A million California residents lack access to clean drinking water, including many farm workers who live in isolated communities, such as those living in the 230-unit Oasis mobile home park on tribal land in eastern Riverside county. Complicated governance puts the US Bureau of Indian Affairs in charge of ensuring that non-Indian residents on tribal lands have clean water.

Worker advocates want Riverside county to build more affordable housing so that residents of the 400 unpermitted mobile home parks have alternatives.

Napa county wine grape growers in 2002 created County Service Area 4 to subsidize the cost of farm worker housing at three 60-bed centers, Calistoga, Mondavi, and River Ranch. In 2021, the \$11 per acre tax on 45,000 acres generated almost \$500,000, a third of the cost of operating the centers. Residents paid \$14 a night for room and board, which covered half of the cost. Grape growers are expected to pay \$12 an acre in 2022, and center residents \$15 a day.

Other

A 3,000 page report outlined the environmental impacts of a 45-mile tunnel to move Sacramento Valley water under the Delta and into the San Joaquin Valley. The cost of a Delta tunnel is likely to exceed \$20 billion, and if approved the project is unlikely to be completed before 2040.

About 70 percent of California's oil is from Kern county, which is also a leading farm county. Oil provides 16,000 jobs and a quarter of the county's property tax revenue, which could challenge the county if oil production ends in 2045 as proposed.

Many counties adopted policies during covid to reduce their jail populations by allowing persons arrested for some crimes to be released without posting cash bail. However, many of those released without bail were soon re-arrested, prompting some counties to return to pre-covid bail policies in mid-2022.

Reducing jail populations to prevent the spread of covid was separate from policies to reduce incarceration favored by progressive DAs.

California has issued 1.1 million restricted driver's licenses to unauthorized foreigners since AB 60 went into effect in 2016. AB 1766 would allow all state residents, regardless of legal status, to obtain state IDs from the DMV. A quarter of the state's residents were born abroad, and a quarter of these 11 million foreign-born residents are unauthorized.

Polls find that over half of California's residents think the state is moving in the wrong direction. California is considered a leader among states in providing high-quality public education to diverse students, making health care available to poor residents at little or no cost, and coping with climate change, aiming for climate neutrality by 2045.

However, economic inequality is increasing and housing is often unaffordable. California has the highest personal income tax rate among states and taxes capital gains as ordinary income, so that

90 percent of the state's income tax revenue is from the richest 10 percent of residents, and 40 percent is from the richest 0.5 percent of residents.

There are seven propositions on the November 2022 ballot, including Prop 26, which would allow in-person sports betting only in tribal casinos and horse racing tracks, and Prop 27, which would allow online betting throughout California.

MEAT AND MIGRANTS

The three largest US chicken processors, Tyson, 20 percent of US chicken production; Pilgrim, 17 percent; and Sanderson-Wayne, 17 percent, struggled to find enough employees to staff dis-assembly lines in summer 2022, prompting them to accelerate investments in labor-saving automation such as deboning machines.

Cargill and Continental Grain (Wayne Farms) in August 2021 proposed to buy Sanderson for \$4.5 billion and create a company that accounts for 15 percent of US chicken production. To gain DOJ approval, Cargill and Continental promised to abandon the tournament system that pits poultry growers against each other by paying more to growers whose chickens gain the most weight with the least feed.

Almost all chickens and some hogs are raised by farmers who have contracts with meat processors. The processors provide farmers with chicks or piglets and feed and buy the finished chickens and hogs. In most cases, there is only one processor for farmers in a particular area, which some farmers say allows the processors to dictate contract terms. Farmers say that, if they complain, processors can

retaliate by providing them with inferior chicks or feed or not weighing their finished chickens properly.

USDA solicited comments on the tournament system in summer 2022; many processors encouraged their contract growers to urge USDA to maintain the status quo. A USDA effort to end the tournament system in 2010 failed.

Cargill, Sanderson Farms and Wayne Farms in July 2022 agreed to pay \$84 million to employees whose wages were suppressed by the companies sharing wage information in a bid to hold down labor costs.

Smithfield will close its 1,800-employee hog-processing plant in Vernon, California in 2023, saying high costs and Prop 12 made the plant that produces Farmer John pork products uneconomical; Prop 12 requires pork sold in California to come from pigs whose mothers have space to move freely. UFCW Local 770 represents Vernon employees, 80 percent of whom are older Hispanics who earn \$15 to \$20 an hour. Smithfield has 45 US plants, and says that lower feed costs in the Midwest and south make pork production cheaper there.

Walmart in August 2022 announced an investment in Nebraska's Sustainable Beef; the retailer opened a milk processing plant in Indiana in 2018. Sustainable Beef is projected to have 800 employees who will process 1,500 cattle a day, and is receiving USDA assistance to increase competition in beef processing, where four firms have an 85 percent market share.

LABOR, FAST, MIGRANTS

US employment returned to pre-covid levels in July 2022 as the unemployment rate dropped to 3.5 percent. The US added over 400,000 jobs a month in 2022, keeping the unemployment rate below four percent. By June 2022, private sector employment had returned to pre-covid levels, although public sector employment was still 600,000 below pre-covid levels.

The labor-force participation rate, which dropped from 63 percent before covid to 60 percent in April 2020, was 62 percent in summer 2022, which translates into 1.6 million more people employed or looking for work. Many workers 55 or older retired during covid, and the LFPR fell three percent for those under 25. About 88 percent of men 25 to 54, and 76 percent of prime-aged women, were in the labor force in summer 2022.

The federal government in March 2020 provided an extra \$600 a week in unemployment insurance benefits to deal with covid-related layoffs; some \$675 billion was paid out by September 2022. DOL's IG estimated that at least 10 percent of the federal UI payments were stolen by persons who used the SSNs of dead people or prisoners and received benefits in multiple states.

Economic growth slowed in summer 2022; US GDP shrank in the first two quarters of the year. The private NBER defines a recession as a significant, persistent and broad decline in economic activity, and considers more than GDP to make after-the-fact determinations of whether there was a recession.

US labor productivity, the value of output divided by hours worked, rose over 10 percent in the second

quarter of 2020 as low- but not high-wage workers lost jobs. However, by the second quarter of 2022, labor productivity fell over four percent as restaurants and hotels hired more workers. These workers generate less valuable output per hour worked.

Inflation rose more than expected in 2022, and persisted at high levels in summer 2022 even as energy prices fell. Inflation has been held in check by globalization that added workers to the labor force and held down wages and generally low energy and commodity prices. De-globalization, slower labor force growth, and the transition away from oil reverse these anti-inflation forces, promising more inflationary pressures.

Automation is spreading in warehouses. Amazon, which accounted for almost 40 percent of investment in warehouse robotics in 2021, has over 500,000 robots in its warehouses and plans to install more. Until the 2008-09 recession, most robots were in auto manufacturing; the downturn in car buying forced robot makers to turn to logistics. The US is expected to have dark warehouses, those with only robots, by 2025.

At the height of covid lockdowns in spring 2020, two-thirds of US workers were only remote, but the only-remote share of workers fell to one-third in mid-2022. Hybrid schedules that combine on-site and remote work are spreading, with many IT-related workers mostly remote while trade and hospitality workers are mostly on site. The highest rates of remote and hybrid work are in particular places, including New York City and San Francisco, and types of jobs, as with government jobs around Washington DC.

FAST

California Governor Newsom signed AB 257 in September 2022, the Fast Food Accountability and Standards Recovery Act, which creates a 10-member council to set wages and working conditions for the 500,000 employees of the fast-food industry in the state. The Fast Food Sector Council could raise the minimum wage for employees of restaurants without table service to \$22 in 2023, when the state's minimum wage will be \$15.50.

FAST Council regulations would apply to restaurants with at least 100 US outlets, but would not make franchisors jointly liable for the violations committed by their franchisees. The fast-food industry and the state Department of Finance opposed AB 257, while unions supported the creation of a fast-food council. The Protect Neighborhood Restaurants aims to collect 623,000 signatures for a referendum to overturn AB 257 in the November 2024 election.

California has 70,000 owner-operators of big rig trucks, and AB 5 may require some of them to become employees of the companies that now treat them as independent contractors. Driverless trucks with safety drivers are already on restricted access highways, and may be adopted quickly if the cost of drivers increases by developing transfer hubs where trailers are handed off to local drivers for final delivery.

Migrants

There were about 2.1 million foreigners with temporary work permits in the US in 2019, making over one percent of US workers guest workers.

Three types of workers dominated among guest workers. Almost 600,000 or 30 percent of guest workers were H-1B college graduates, often Indian IT workers

employed year round, followed by 335,000 L-1 intra-company transfers that also frequently involve IT workers. The next largest group included about 225,000 exchange visitors with J-1 visas, often college students who work for three to six months in the US, and 225,000 F-1 foreign students, who can work part-time while studying and full-time during school breaks.

There were about 200,000 H-2A farm workers and 160,000 H-2B nonfarm workers who filled seasonal US jobs. These six of the 24 temporary work visa categories account for over 85 percent of foreign workers.

Income

Median household income was \$70,800 in 2021, meaning that half of US households had higher and half had lower incomes. Median incomes varied from a low of \$63,400 in the south to \$79,400 in the west.

Some 38 million people, about 11.6 percent of US residents, lived in households with incomes below the poverty line of \$27,740 for a household of four. If taxes and government benefits are included, the poverty rate dropped to less than eight percent for all US residents and five percent for children.

Median earnings for all workers were \$45,500, and for those who worked full-time \$56,500. There were 168 million US workers with earnings in 2021, including 117 million who worked full time and year-round.

Education

Public school K-12 enrollment declined to 43 million in 2021-22. Many parents joined anti-vaccine and anti-mask protests during extended school shutdowns in 2020 and 2021, turning some Democratic suburbs into Republican suburbs.

The anti-vaccine movement took advantage of parental frustration with covid school policies to extend its reach, taking partial credit for the victory of Glenn Youngkin in the Virginia governor's race in 2021. There could be several lasting consequences of 2020-21 covid school policies, including more mothers with school-age children voting Republican and shunning all vaccines for their children.

President Biden via executive order cancelled up to \$10,000 in student debt for individual borrowers who earn less than \$125,000 a year, and another \$10,000 for those who received the Pell grants for low-income students. Biden also continued the covid-started repayment holiday through the end of 2022. Some 45 million Americans had \$1.7 trillion of student debt in 2022, an average of almost \$38,000, and 40 million are expected to benefit, with half having their student debt erased.

The CBO estimated that Biden's student debt forgiveness plan would cost at least \$400 billion. The actual cost will depend on how many students limit their loan repayments to five percent of their income when they are required to resume making payments, down from the current 10 percent. Those earning less than 225 percent of the federal poverty line will not have to repay any of their student debt.

Critics called Biden's student debt plan the most costly executive action in history. They warned that, because many students are likely to repay only half of what they borrow, they will take out maximum student loans, which will enable colleges to raise tuition faster. They note that exempting low-earners from repaying student debt will provide incentives for students to major in subjects that may not lead to high-earning jobs.

US students currently borrow \$100 billion a year for higher education, some of it to attend for-profit colleges whose graduates often fail to find higher-wage jobs. Biden's plan ends the rule barring loans to students who attend institutions where many students default.

College enrollment is declining, from a peak of 20 million in 2011 to 18 million in 2019 and 16 million in 2022. Declining enrollment combined with rising costs are forcing some colleges to close; over 500 four-year colleges are expected to merge or close in the next five years. Boston-based Northeastern University, which emphasizes work-study programs, is expanding by taking over shrinking colleges such as Mills in California.

Half of private universities, including most elite institutions such as Harvard, give preference to the children of alumni. So-called legacy admissions are coming under attack as the USSC is set to consider whether universities may give preference to underrepresented minorities. Those admitted under legacy preferences, about a seventh of the freshman class at some elite schools, are more likely to attend and to donate.

Oberlin, a private university in Ohio, in September 2022 agreed to pay over \$36 million to local bakery Gibson's after Oberlin administrators backed students who protested when a Black student was caught shoplifting in November 2016. Students and Oberlin administrators accused Gibson's of racial profiling for its chase-and-detain policy regarding suspected shoplifters, and a jury found that Oberlin libeled Gibson's.

Two-thirds of US-born economic PhDs had a parent with a graduate degree in 2020, compared with 20 percent in 1970, suggesting that having educated parents is becoming a prerequisite for earning an

economic PhD. In the top 15 economics 15 PhD programs, 80 percent of graduates had a parent with a graduate degree.

The share of parents with graduate degrees and college-age children rose from four to 14 percent between 1970 and 2020, perhaps reflecting the willingness of graduate degree holders and their children to accept lower salaries in exchange for more creative and enjoyable work.

The Hot Seat is a book that examines college football via the Michigan Wolverines, who attract an average TV audience of 4.7 million for their games. As TV networks pay more to broadcast college football, they run more commercials, which slows play and stretches many college games to three or four hours. Disney earns \$8 a month from ESPN, while Fox News generates \$2 a month.

FARM WORKERS

CALIFORNIA: WAGE THEFT

Rising labor costs due to California's increasing minimum wage, overtime pay requirements, covid-related protocols, and fewer new entrants to the farm workforce are prompting three major reactions, more mechanization and mechanical aids, more H-2A guest workers, and more US crop changes and rising imports of labor-intensive commodities.

How much wage theft occurs in California? The Labor Commissioner's office received 17,000 claims from workers alleging \$300 million in stolen wages in 2021, down from the average 30,000 worker claims a year for \$320 million. An analysis of 2017 wage theft claims found that workers alleged an average theft of \$10,000, and if they settled or proceeded to a hearing received

about 10 percent of their claim in back wages.

Wage theft covers payment for hours worked that are less than the minimum wage, failure to pay premium wages for overtime, or employers making unlawful deductions or keeping tips and bonuses. Individuals file wage theft claims with the state Labor Commissioner's office, which is supposed to make a decision on the claim within 120 days if the parties do not settle. Most cases settle.

The leading sectors for wage theft claims in 2021 were health and child care, 13 percent of all claims, followed by retail, 11 percent, and hotels and restaurants, office support (janitors), and professional services, 10 percent each. Construction accounted for five percent of claims, and agriculture less than five percent.

A 2021 state law makes wage theft of more than \$950 over one year or more a crime that can lead to jail time if the employer deliberately committed wage theft via fraud.

Cal-OSHA has since the 1970s required that "all self-propelled equipment shall, when under its own power and in motion, have an operator stationed at the vehicular controls." Makers of autonomous tractors such as Monarch want the regulation changed so that one operator could monitor several driverless tractors.

California and New York have budget surpluses and debts to the federal government of \$18 billion and \$8 billion, respectively, due to borrowing to pay UI benefits. States administer UI programs and determine both the taxes that employers pay and access to benefits, and states collectively borrowed a peak \$55 billion to pay UI benefits in April 2021. Since then, UI claims fell and most states repaid their UI loans.

1983

A survey of 1,280 farm workers found that 80 percent were born in Mexico, but only 20 percent were unauthorized; 20 percent were US citizens. These hired workers earned an average \$4.66 an hour, almost 40 percent more than the state's \$3.35 minimum wage. They worked an average of 24 weeks a year, earning \$175 a week and \$4,200 a year. The highest-earning workers were young men who worked for piece rate wages, making the harvest labor market akin to professional sports with high earning years concentrated when workers are in their 20s and 30s.

The survey was conducted by 42 EDD offices throughout the state. The sample reflected average employment, including 45 percent in the San Joaquin Valley, 25 percent in Southern California, and 20 percent in the Salinas Valley. A higher share of workers were employed by FLCs in the SJV than in Salinas or Oxnard.

Men averaged 26 weeks of farm work a year and women 16 weeks, and the quarter of farm workers who had nonfarm jobs averaged four weeks of nonfarm work. A third of workers visited Mexico in 1982-83.

FLORIDA, SOUTHEAST

Florida's citrus acreage continues to decline, falling to 375,000 acres and 56 million trees in 2022, down from 830,000 acres in 2000. About 60 percent of the state's orange acreage are valencias, and the value of the 2021-22 citrus crop was \$440 million. California has 265,000 acres of citrus, and does not have the huanglongbing (HLB) or citrus greening disease that has bedeviled Florida citrus since 2005.

Georgia

The federal government charged 28 defendants with forcing H-2A workers to work for them between 2015 and 2021, generating \$200 million for themselves from 700 H-2A workers who had to pay for their jobs. The indictment in Operation Blooming Onion alleges that the H-2A workers were housed in substandard conditions and were not paid promised wages.

Some of those indicted in Blooming Onion were or are employed by the state workforce agency that checks employer job offers and housing. Brett Bussey left the Georgia Labor Department in 2018 to work as an agent who helps farmers to satisfy H-2A regulations. Farm worker monitor advocate Jorge Gomez had several relatives who were indicted; Gomez retired when questioned about his role in facilitating the trafficking of H-2A workers.

MIDWEST, NORTHEAST, NORTHWEST

Colorado

Some 2,000 sheepherders (borregueros) with H-2A visas watch flocks of 1,000 to 2,000 sheep in the public lands of the western US. Most sheepherders are from Peru, most earn the AEW \$1,807 a month for 48-hour workweeks, and most are in the US for three years, followed by at least three months at home.

The Peruvians are the latest group to guard sheep in the western states. During the 1950s and 1960s, many of the sheepherders were Basques from northern Spain, some of whom settled in the US. Employers can sponsor H-2A sheepherders for immigrant visas, but few do.

The reservoirs on the Colorado river are at record lows in 2022, threatening water supplies for 40 million

people and farms. The four upper basin states, Colorado, Utah, New Mexico and Wyoming, use less than their allotted share of Colorado river water, while the lower basin states of California, Nevada and Arizona use their full allotment.

Iowa

Pella Corp, a privately owned maker of windows and doors with annual sales of over \$1 billion, is adding amenities to the 10,000 resident city of Pella to attract and retain employees. Pella celebrates its Dutch heritage with an annual tulip festival and Dutch-themed buildings on the main square, but only a quarter of its 2,500 employees in the Pella plants live in the city. Pella has other manufacturing plants, including farming-equipment maker Vermeer Corp, and they also have difficulty attracting employees.

Ohio

The Secor Nursery in Perry was debarred from the H-2A program for three years and assessed over \$75,000 in CMPs for underpaying workers in the US and charging them for some of the costs of transportation. The WHD previously found violations at Secor in 2009, 2011, and 2018.

Maine

A state law that forbids H-2A workers from driving logging trucks for operations with 50,000 or more acres within the state is being challenged in federal court. Proponents argue that logging companies prefer to hire Canadians, while opponents contend that DOL must certify the need for H-2A workers, so no Maine workers are displaced by H-2A Canadians.

The Gulf of Maine accounts for two-thirds of US lobster, some 44,000 metric tons in 2020. Lobsters are caught using cone-shaped baited traps that attract lobsters who cannot escape. Lobster fishers

must release both small and large lobsters over three pounds that are likely to produce more young.

Most traps or pots are laid out in strings or fleets with a number of traps attached to a rope with a buoy that marks its location. The traps are hauled to the surface and rebaited after sorting the lobsters inside. The lobster season peaks from June through October. The surface of the Gulf of Maine is warming, but water at the bottom where lobsters live remains cold. Lobster has thrived as predators such as cod and haddock declined.

Monterey Bay Aquarium's Seafood Watch in September 2022 recommended that consumers avoid American lobster because the ropes used to suspend lobster traps or pots could entangle the 350 remaining North Atlantic right whales. Seafood Watch says that six right whales a year die due to rope entanglement. Ropeless traps are available, but they cost over \$2,000 each, compared to \$50 for a traditional trap.

Mississippi

DOL Secretary Marty Walsh met with seven Black workers in Indiana in July 2022 who allege that white farmers paid white South African H-2A workers higher wages than they received. The Mississippi Center for Justice, which is representing the US Blacks in suits against Harris Russell Farms and Pitt Farms, wants DOL to investigate these farms. Over 80 percent of the farms investigated by WHD over the past 15 years had at least some violations of federal labor laws and regulations.

Kentucky

Morehead-based AppHarvest has been producing tomatoes since January 2021 from a 60-acre tomato greenhouse. AppHarvest plans to add another 60-acre tomato greenhouse, a 30-acre

cucumber greenhouse, and a 15 acre berry greenhouse by the beginning of 2023. USDA guaranteed 80 percent of a \$50 million loan for the AppHarvest berry facility in Somerset.

Controlled Environment Agriculture continues to expand, often with investments from private ESG investors. Gotham Greens, a New York City based operator of CEA hydroponic greenhouses founded in 2009, has raised over \$400 million from private investors in order to operate 13 greenhouses around the US by 2023.

New York

The Farm Laborers Wage Board's in September 2022 recommended that overtime wages for farm workers be phased in over a decade and that a tax credit be available to help farmers to cover the cost of overtime pay. New York has a reported 55,000 farm workers, including about 11,000 on H-2A visas; the Board recommended that the weekly threshold for hours worked before overtime pay is required drop from 60 to 40 over a decade.

Vermont

Vermont produces half of US maple syrup, about two million gallons a year worth \$30 a gallon. Vermont's six million taps yield a third of a gallon of syrup each. Since the sap collected by the taps is mostly water, about 40 gallons of sap must be collected to obtain a gallon of syrup that is 66 percent sugar.

Texas

Republican Mayra Flores, a Mexican-born woman who worked in US fields with her parents, was elected in June 2022 to complete the term of a House Democrat who resigned. Flores echoed Trump in calling unauthorized immigration an invasion, and her "God, family, country" slogan resonated with the district's Hispanic voters in south Texas.

Idaho

Resort towns such as Sun Valley and nearby Ketchum do not have enough housing for the workers who provide services to wealthy and often absentee residents. With median home prices topping \$1 million and rents over \$3,000 a month for two bedroom apartments, workers earning entry-level wages cannot afford to live near their jobs.

Large employers in Sun Valley, Aspen, and Jackson Hole often offer dorm-style accommodation to single employees, but families sometimes crowd into converted garages, RVs or other housing. Many resort cities prohibit people from living in RVs parked on private land for more than a month, but these rules are rarely enforced due to the lack of affordable housing.

Oregon

Siri and Son of St Paul was sued in 2020 by a US worker who alleged that Siri favored H-2A workers. A federal jury in August 2022 rejected the discrimination charge, finding that Siri lawfully hired the complaining US worker as a weeder at a lower wage and eventually fired him for being hostile and abusive. US workers also charged Coleman Farms in Marion county and Cal Farms with favoring H-2A workers.

Oregon is debating new farm worker housing rules. Farmers say that many of the worker advocates involved in the discussions are anti-farmer, such as one who said that farm workers are akin to “indentured servants.”

Washington

The US is expected to produce 265 million bushels or 11 billion pounds of apples in 2022, slightly above the five-year average of 260 million bushels. The leading varieties are Gala, 50 million bushels; Red Delicious, 35 million; and Honeycrisp and Fuji, 30 million each. The

US is a net exporter of fresh apples, sending 40 million bushels abroad and importing five million bushels.

DOL in July 2022 debarred Welton Orchards and Storage for three years from the H-2A program after Welton failed to pay for worker transportation, failed to try to recruit US workers, and did not offer promised hours of work. Welton allegedly threatened to fire workers who complained, and did not provide DOL with required employment and earnings records.

Ostrom Mushroom Farms was charged with firing most of its female employees in violation of state laws and replacing them with male H-2A workers. The complaint alleges that 140 of the 177 mushroom pickers were replaced in 2020-21.

Alaska

Between 100 million and 200 million salmon are caught each year in Alaska; the peak was almost 300 million in 2013. Some 120 million salmon were harvested in 2020, including 60 million pinks; 46 million sockeye; nine million chum; two million coho, and 250,000 Chinook.

The Bristol Bay sockeye salmon run set a record in 2022, with over 60 million of the 80 million returning fish caught; processors paid \$1.15 a pound for sockeye salmon. Some 25 million pink salmon were caught in 2022.

A third of Alaska’s harvested wild salmon were bred in hatcheries, and two-thirds were spawned by wild salmon in streams and rivers. The largest salmon hatchery is Prince William Sound Aquaculture, which releases 35 million sockeye each year into lakes 260 miles from the Gulf of Alaska. The fish eventually migrate to the ocean via the Gulkana River, and many become prized Copper River salmon.

Six of the 10 largest wildfires in the United States in 2022 were in Alaska, where lightening caused fires are often allowed to burn unless they threaten structures. A drought in south central Alaska combined with thunderstorms led to fires in the boreal forest of spruce and fir trees. Boreal forests in the far north include 30 percent of the global forest area. Dry trees and more grasses in the tundra ecosystem mean there is more biomass to burn.

UFW, ALRB, NLRB

About 25 UFW supporters marched 355 miles from Delano to Sacramento over 24 days in August 2022 to encourage Governor Newsom to sign AB 2183, the Agricultural Labor Relations Voting Choice Act. The UFW solicited donations for what it said was a \$130,000 march to persuade Governor Newsom to sign AB 2183.

AB 2183 would allow unions to be certified to represent California farm workers without a secret ballot or polling place election if a majority of employees signed union authorization cards collected over one year, the card-check election procedure. This reverses the goal of UFW founder Cesar Chavez, who insisted that the state conduct in-person secret ballot elections to determine if farm workers want to be represented by a union to avoid having growers sign contracts with the Teamsters union without elections.

The UFW sought card-check after losing an election at Giumarra Vineyards on September 1, 2005, when table grape workers voted 1,121 to 1,246 or 47-53 percent against the UFW. The UFW was expecting to win because it had signed cards from over 2,000 Giumarra workers, but some of these workers voted for no union. The UFW had a contract with Giumarra from 1970 to 1973,

and Giumarra workers voted against the UFW in an ALRB-supervised election in 1977.

Previous card-check bills approved by the Legislature were vetoed by governors in 2010, 2011, and 2021. President Biden urged Newsom to sign AB 2183 saying “In the state with the largest population of farm-workers, the least we owe them is an easier path to make a free and fair choice to organize a union.” Newsom responded: “Governor Brown vetoed that bill, I vetoed that bill.”

AB 2183 would allow the ALRB to fine employers up to \$10,000 if they failed to provide a list of their current employees with street addresses and contact information after a union files a petition that shows it has at least 10 percent support among employees. The ALRB would give the employee list to the union trying to organize workers, and employers could also face fines for other violations of the ALRA. Employers who appeal ALRB orders to the courts would have to post bonds for the amounts sought by the ALRB.

The UFW, which left the California Labor Federation in 2006, rejoined in July 2022 when ex-Assembly Rep Lorena Gonzalez became the CLF leader. The CLF has 1,200 member unions with 2.1 million members; the UFW is one of the smallest unions in the CLF with fewer than 7,000 members.

As UFW marchers reached Sacramento, AB 2183 was amended to allow agricultural employers at the end of each year to decide whether to agree to a labor peace compact for the following year that would give unions access to workers on their farms, thereby negating the 2021 USSC Cedar Point decision that limited the access of union organizers to workers on farms. Employers who make labor peace agreements must remain neutral

during the campaign by not holding captive audience meetings, and workers could vote by mail to decide if they want a union to represent them.

If farm employers do not agree to labor peace agreements, AB 2183 would allow unions to organize workers via card check, meaning that unions would have 12 months to accumulate enough signatures to win union recognition. Union organizers could complete card-check ballots requesting union representation, but workers would have to sign them.

Under current procedures, secret-ballot elections are usually held on the employer’s property after unions obtain signatures from at least 50 percent of workers when employment is at least 50 percent of peak employment.

Cannabis farms must sign labor peace agreements with unions after July 1, 2024 if they have 10 or more employees as a condition of receiving a license from the Department of Cannabis Control. The ALRB can investigate to determine if the unions are genuine.

ALRB

The ALRB in July 2022 for the first time imposed civil money penalties on Cinagro Farms for unlawfully mis-classifying six farm workers as independent contractors and firing them for complaining about improper payroll stubs. The Cinagro case is the first time that the ALRB imposed CMPs on an employer under Labor Code 226.8, which allows CMPs of \$5,000 to \$15,000 for willful mis-classification of employees.

Cinagro admitted that it mis-classified the workers to save payroll taxes and terminated the crew that complained. The ALRB found that the mis-classification was a separate violation from the unlawful firing. As independent contractors, Cinagro’s

employees are not eligible for work-related benefits.

Cinagro argued that, except for not reporting and paying taxes on worker wages, it complied with applicable labor laws, including providing workers with tools and satisfying Cal-OSHA requirements. Cinagro plans to appeal, arguing that the ALRB is not empowered to levy CMPs for worker mis-classification. Cinagro argues that the ALRB is empowered only to restore the economic status quo of workers adversely affected by the employer unfair labor practices defined in the ALRA.

The ALRB in July 2022 won \$6,687 in back wages for four workers fired by Seventh Tree Farms. The four alleged that Seventh Tree fired them after they complained of unpaid work time and poor sanitation; Seventh Tree offered to reinstate the workers.

Unions

Employees at Amazon, Starbucks and other large firms are organizing, often via new worker organizations that are sometimes supported by extant unions. The Amazon Labor Union, which won one of two elections to represent workers at Staten Island warehouses, charged that Amazon discriminated against union supporters who advocated for the ALU in non-work areas. The GC filed a complaint against Amazon in September 2022.

Between December 2021 and August 2022, employees at over 200 of the 9,000 Starbucks outlets voted for unions; in some Starbucks outlets, college graduates became employees in order to organize workers. Workers at 37 Starbucks outlets voted against unions.

Historians note that unionization often proceeds in waves, with success in one sector prompting organizing in another, and that workers feel empowered to vote for unions when jobs are plentiful.

The last two presidents of the United Auto Workers were convicted of embezzling member dues; current President Ray Curry will be the first to be tested by a direct vote of the 400,000 members and 600,000 retirees rather than elected by delegates from local unions. Contenders for UAW president want the major auto makers to restore COLA provisions in union contracts and to reduce the wage and pension gaps between new hires and experienced workers.

UAW workers hired before the 2008-09 recession earn over \$30 an hour and, with extensive benefits, cost employers over \$50 an hour. Those employed at GM received over \$10,000 each in profit sharing in 2021.

The NLRB, which enforces labor relations laws in the private non-farm economy, has a budget of \$275 million and 1,200 employees, including 30 ALJs who issue about 200 decisions a year. Some 16,000 to 20,000 ULPs are filed each year, and a quarter go to complaint, meaning the NLRB's General Counsel is prepared to pursue the charge filed by workers, unions, or employers in a trial before the ALJ. However, most ULP complaints are settled without trials.

The five member NLRB issues about 250 decisions a year, and a quarter are appealed to US federal court of appeals. The NLRB wins about 80 percent of the appeals court cases.

General Counsel Jennifer Abruzzo is taking a more aggressive stance toward employers who violate labor laws, seeking fuller compensation when workers are fired unlawfully. Abruzzo asked the NLRB to overturn its 1970 Ex-Cell-O decision that found employers could not be required to make their employees whole when they failed to bargain in good faith.

Abruzzo wants the NLRB to ban captive audience speeches, which employers call before union elections to urge workers to vote no on union representation. Captive audience speeches were permitted by the USSC in the 1956 Babcock and Wilcox case.

IMMIGRATION

Migrant Buses

Over 7,000 migrants a day entered the US and applied for asylum in September 2022, bringing total encounters or apprehensions just inside the Mexico-US border to over 2.2 million for FY22.

The Biden administration allowed over a million migrants seeking asylum to enter the US in its first 18 months. Another 1.7 million migrants were returned to Mexico under Title 42, including some who were returned multiple times.

Most of the asylum seekers released into the US wait for several years until their cases are heard by immigration judges. Asylum applicants can receive work permits after 150 days as they wait for their cases to be heard, and their access to housing and support services vary by state.

The Republican governors of Texas and Arizona sent busloads of mostly Venezuelan asylum seekers to Chicago, New York City and Washington DC during the summer and fall of 2022. Some of the Venezuelans bussed to these cities traveled to friends and relatives around the US, but hundreds entered homeless shelters that were soon overcrowded. The US cannot return Venezuelans to Venezuela.

The Texas National Guard and the state police began to apprehend unauthorized migrants and return them to ports of entry in July 2022, setting up a clash with the federal

government over illegal immigration. Managing migration is a federal responsibility, and the USSC has overturned some state laws that sought to deal with unauthorized migrants, such as an Arizona law in 2012.

The US has a registry program that allows unauthorized foreigners who have been living in the US since January 1, 1972 to become legal immigrants. HR 8433, introduced in July 2022, would replace the 1972 date with a rolling seven-year registry date, so that unauthorized foreigners in the US at least seven years could adjust their status. The registry date would roll forward each year, creating a continuous legalization program.

If Republicans win control of the House in November 2022 elections, they are likely to investigate unauthorized migration over the Mexico-US border. The House Oversight Committee would be led by Rep James Comer (R-KY), who indicated he would also investigate the activities of Hunter Biden and the origins of the covid virus.

The great replacement theory argues that some governing elites want to replace current populations with immigrants who have different cultures and values. French author Renaud Camus in 2011 asserted that European elites wanted to replace white Christians with non-white Muslims, while Enoch Powell in a 1968 Rivers of Blood speech predicted race riots in the UK due to immigration. Jean Raspail's 1973 Camp of the Saints novel portrayed third-world immigrants overwhelming France.

Great replacement theory appeared in several Republican campaigns in 2022, including in Blake Masters bid to be the Republican nominee for Senate in Arizona. Masters, supported by billionaire Peter Thiel, argues that unauthorized migration into the US is a Democratic policy

aimed at reducing the power of US-born voters via amnesty; he vows to “put Americans first.”

CBP, ICE, USCIS

CBP

Over 2.1 million migrants were encountered just inside US borders in the first 11 months of FY22, putting CBP on track to encounter 2.3 million migrants in FY22, up 600,000 from the record 1.7 million foreigners in FY21.

Over 60 percent of those encountered in FY22 were Mexicans and Central Americans. The 40 percent from other countries included over 175,000 Cubans, more than the 125,000 who arrived during the Mariel boatlift of 1980.

CBP estimated that a quarter of those encountered were apprehended at least once previously, 70 percent were solo adults, and 1.3 million were removed under Title 42. About a million migrants were admitted under Title 8, which allows unauthorized foreigners to apply for asylum in the US.

About 80 percent of Title 8 asylum applicants are released into the US, but the US government sometimes failed to give the migrants who were released into the US the Notice to Appear documents needed to begin an asylum case. There is a backlog of two million cases in immigration courts, and the lack of NTAs adds to the backlog.

The USSC in June 2022 allowed the Biden administration to end the Remain in Mexico program that began in 2019, prompting a debate over how quickly to end a program that has allowed the US to send foreigners who enter illegally and seek asylum back to Mexico until their cases are heard.

Over 5,000 people were charged with human smuggling in 2021, almost double the 2,800 charged with human smuggling in 2014. Mexican cartels are smuggling both drugs and people into the US, generating revenues of \$13 billion in 2022 from migrants paying \$5,000 to \$20,000 each; 1.3 million immigrants each paying \$10,000 would generate \$13 billion.

Some 20,000 trucks a day travel on I-35 to and from Laredo, Texas. Smugglers often try to conceal migrants in trucks, often painting them with the colors and logos of well-known firms such as Fed Ex.

ICE

The USSC in July 2022 refused to allow the Biden administration to prioritize for deportation foreigners who pose national security, public safety and border security risks. Under Trump, ICE agents focused on criminal aliens and security threats, but also arrested other unauthorized foreigners they encountered.

Under Biden’s priorities, ICE agents would have to justify arresting non-priority unauthorized foreigners. Several states sued, alleging that the new guidelines burdened the states with unauthorized foreigners who should be removed. A federal judge agreed with the states, and a federal appeals court and the USSC agreed that ICE agents can arrest all unauthorized foreigners.

The ICE case is an example of states suing to block federal policies. California sued the Trump administration 122 times, while Texas sued the Biden Administration 27 times in its first 1.5 years in office.

USCIS

There are 140,000 employment-based immigrant visa available each year, with most going to

foreigners and their families who are sponsored by US employers who cannot find US workers to fill jobs. Immigrant visas that are not used for family-based visas in one year can be used for employment-based immigrant visas the next year. The covid slowdown in processing immigrant visas made extra visas available for employment applicants, and USCIS pledged to ensure that they would all be used in FY22.

USCIS asylum officers rather than DOJ immigration judges are making decisions on applications for asylum. Under the new system, migrants are to be interviewed within 45 days of their applications, and decisions made within five weeks of these interviews. The backlog in immigration courts is 1.9 million, including 750,000 asylum applications, including many that have been pending more than five years. Asylum applicants can work legally while their applications are pending, and their children can attend K-12 schools.

There are 650 USCIS asylum officers and 600 immigration judges. A quarter of the asylum officers have been assigned to decide asylum cases, where they granted asylum in about 25 percent of cases. Applicants denied are returned to immigration court for expedited removal proceedings.

President Biden promised to admit 125,000 refugees in FY23, the same as in FY22. Advocates noted that slow processing means that fewer than 125,000 migrants arrived in FY21. People from Afghanistan and Ukraine were paroled into the US and did not count against the 125,000 refugee goal.

H-2A; FWMA

Employer associations and worker advocates in summer 2022 called on the Senate to approve the Farm Workforce Modernization Act, HR 1603. The FWMA was approved by the House in 2019 and 2021, but has not yet received a vote in the Senate, where Michael Bennet (D-CO) and Mike Crapo (R-ID) are leading the effort to revise and enact a version of the FWMA.

Proponents of the FWMA say that legalization and H-2A reform could slow food price inflation, while opponents including the AFBF object to a provision of the FWMA that would extend the Migrant and Seasonal Agricultural Worker Protection Act to H-2A workers. Many Republicans are reluctant to support any type of legalization until unauthorized migration over the Mexico-US border is under control.

The FWMA would make unauthorized farm workers who did at least 180 days of farm work over the past five years Certified Agricultural Workers. CAWs would receive 5.5 year renewable work permits that allow them to live and work anywhere in the US.

In order to maintain CAW status, CAWs would have to do at least 100 days of farm work a year. After four or eight years of 100 day farm work a year, CAWs and their spouses and children could apply for immigrant visas.

The H-2A program would change by allowing H-2A workers to fill up to 20,000 year-round farm jobs and grant workers three-year visas, so that dairies and other animal agriculture operations could employ H-2A workers. The Adverse Effect Wage Rate would be frozen, and annual increases and decreases limited while USDA and DOL study the need for an AEWR. H-2A workers would be protected by the Migrant

and Seasonal Agricultural Worker Protection Act.

Once CAW legalization and the H-2A changes are implemented, farm employers would have to verify newly hired workers using E-Verify.

A House hearing in July 2022 focused on abuses of H-2A and H-2B workers. Worker advocates cited the Operation Blooming Onion case in Georgia, where H-2A workers were forced to work for low wages, while employer advocates emphasized that most farm employers treat H-2A workers well.

Overlook Harvesting, a central FL FLC that harvests citrus and other commodities with H-2A workers, was denied certification for 302 H-2As to harvest citrus between November 2021 and May 2022 because DOL found that Overlook's need for labor was not temporary or seasonal, since Overlook employed H-2A workers year-round via multiple applications and from several entities, including Central Florida Labor Services and JJT Services, the latter formed by the spouses of the three Bently brothers who formed Overlook and CFLS to provide 60 H-2A workers to nursery Marian Gardens.

Overlook argued that it would no longer provide H-2A nursery workers to Marian Gardens, which has a year-round need for labor, and that it should be allowed to hire citrus harvesters despite trying to hire H-2A workers to fill year-round nursery jobs. Overlook argued that ambiguity in H-2A regulations encouraged the development of a business model that aimed to provide workers year-round via several FLC businesses.

Overlook has 15 to 20 year-round workers and up to 1,000 H-2A workers, and employs H-2A workers continuously via multiple businesses and applications. The ALJ agreed with OFLC that Overlook did not

have a seasonal or temporary need for H-2A workers, and upheld the denial of one of Overlook's applications. In response, DOL on September 26, 2022 issued a call for comments on how applications from FLCs who serve multiple clients with H-2A workers year-round should be treated.

Virginia-based Maslabor led by Ed Silva merged with Georgia-based AgWorks H-2A led by Dan Bremer in July 2022, creating a firm that arranges for the entry of 60,000 H-2A and H-2B workers a year.

USDA announced a \$65 million pilot program to streamline the H-2A program while enhancing protections for farm workers. The UFW submitted an unsolicited proposal offering USDA "technical support" for the streamlining, which drew criticism from Republicans.

CANADA, MEXICO

Latin America is a laggard in globalization. Trade is equivalent to 45 percent of regional GDP, lower than the average 55 percent for all countries, and only a third of Brazil's GDP. Mexico is an exception, with trade almost 80 percent of GDP in 2020, up from 20 percent in 1980. Most Latin American exports are minerals or farm commodities rather than manufactured goods.

Cross-border connections in manufacturing are associated with more sophisticated industries and higher wages. Latin American free-trade agreements such as Mercosur are riddled with non-tariff barriers that limit freer trade and slow cross-border economic integration. The Central American Common Market, Andean Community of Nations, and Caribbean Community have similarly failed to deepen cross-border ties.

Canada

Canada's Conservatives selected populist Pierre Poilievre as their leader in September 2022. The next federal election is expected in 2025, when the Liberals led by PM Justin Trudeau will seek to stay in power. In 2021 elections, the Conservatives and the Liberals each got a third of the vote, but the Liberals won 160 seats to 119 for the Conservatives,

Poilievre pledged to make Canada the "freest country in the world" by rolling back covid-related public health mandates and government regulations. The Conservatives are strongest in Alberta and Saskatchewan and the Liberals in the more populous provinces of Ontario, Quebec, and British Columbia. Most federal elections are decided by voters in the suburbs of Toronto and Vancouver.

Pope Francis made a six-day visit to Canada in July 2022 and apologized for the "evil committed by so many Christians against the indigenous peoples" at boarding schools. There were 130 schools for indigenous children between the 1870s and 1996, and Catholic orders operated two-thirds of them.

Some of the First Nation children were abused at the schools, and some of those who died were buried in unmarked graves; a discovery of unmarked graves at the Kamloops Indian Residential School in 2021 helped to prompt the Papal visit. The Canadian government and Protestant churches that operated schools have apologized for their roles in the removal of indigenous children from their families.

Three First Nations tribes with 7,500 members in Vancouver, the Squamish, Musqueam, and Tsleil-Waututh, cooperated to acquire 175 acres of prime land from the local government, drawing Canadian and Chinese investors who are helping

the tribes to build the Senakw, Lelem, and Jericho projects. First Nations tribes in other Canadian cities, seeing the success in Vancouver, are pressing similar land exchanges.

Quebec has been the most Catholic province in Canada, with the church operating many of the province's schools and hospitals until the quiet revolution of the 1960s made them secular. Quebec has been enacting laws to promote the dominance of the French language and culture. Bill 96 enacted in May 2022 requires immigrants to deal with government agencies only in French after six months in Quebec and requires most Quebec businesses to operate in French.

The 2021 census found that 76 percent of Canadians spoke English as their first official language and 21 percent spoke French. About 18 percent of all Canadians, and 46 percent of Quebec residents, are bilingual in English and French. About 12 percent of Canadian residents spoke a language other than English or French at home, led by Mandarin and Punjabi.

Canada's Seasonal Agricultural Worker Program (SAWP) allows farmers who cannot recruit local workers to hire seasonal guest workers if they are paid the higher of three wages: the province's minimum wage, a standard seasonal agricultural rate set by the federal government and determined by the type of work being done, or the rate an employer would otherwise pay a Canadian worker doing the same job.

Almost 60,000 guest workers were employed in Canada in 2020 under the SAWP and the agricultural stream of the related TFWP. Of the 37,000 workers admitted via the SAWP in 2019, over 70 percent were from Mexico; 46 percent were in Ontario and 26 percent were in Quebec. Guatemalans were 60

percent of the 20,000 workers admitted under the agricultural stream of the TFWP

Jamaican labor minister Karl Samuda toured Canadian farms in August 2022 and said he was impressed with the good treatment of Jamaican SAWP workers. However, NGO Migrant Workers Alliance for Change countered that the SAWP permits the "systematic slavery" of foreign workers who are afraid to complain for fear of losing their jobs. Guest workers know that many of their countrymen would like to work in Canada, making them vulnerable to employer pressure to work fast and not complain.

Canada created an Open Work Permit for Vulnerable Workers in June 2019 that allows workers "experiencing or at risk of abuse" to change employers and remain in Canada. One study found that 60 percent of applicants received open permits in the first year of the program.

Mexico

President Andrés Manuel López Obrador visited President Biden in July 2022 after refusing to attend the Summit of the Americas in June 2022 in Los Angeles. In addition to the perennial issues of migration and drugs, the two presidents discussed AMLO's efforts to nationalize Mexican oil and electricity production and distribution, which critics allege violates USMCA commitments.

The US government filed a formal complaint about AMLO's energy policies in July 2022. If the US wins its case, it could impose tariffs on Mexican exports. AMLO calls the 2013 opening of Mexico's energy sector to foreign investors "the theft of the century." However, US officials in September 2022 warned the Mexican government during the High-Level Economic Dialogue that Mexico risked losing manufacturing

jobs as US firms move production out of China. Instead of near-shoring jobs in Mexico, US firms may move jobs to southeast Asia if the conflict over energy widens and the US imposes tariffs in retaliation.

AMLO asked Biden to increase the number of visas available for Mexican and Central American temporary workers. AMLO wants the US to make more work visas available to Mexicans and Central Americans, especially as more Mexicans are encountered just inside the US border. The US wants Mexico to do more to crack down on fentanyl, the drug responsible for many US deaths.

AMLO is a fiscal conservative and did not expand government spending during covid lockdowns. One result was more poverty; 56 million people or 44 percent of Mexicans were in households with incomes below the poverty line in summer 2022. Some 5.2 million or a seventh of K-12 children dropped out of school, in part because hot meals at school were stopped.

AMLO remains popular, in part because his government replaced conditional cash transfer programs with direct grants. Instead of giving money only to poor mothers who kept their children in school, AMLO's government gave money to all poor parents and the elderly. Economists decry the lack of targeting of cash aid.

Mexico has turned Tapachula, a city of some 350,000 people near the Guatemalan border, into a migrant containment point by refusing to allow migrants to leave without a Mexican asylum visa. Mexico has assigned 30,000 immigration agents and soldiers to manage migration over its southern border, and has over 70 migrant detention centers.

The Sinaloa and Jalisco drug cartels supply most of the pain-relieving

fentanyl consumed in the US, replacing Chinese fentanyl. Fentanyl is much cheaper to make than heroin, only \$200 per kg versus \$6,000, and sometimes sold in pills as oxycodone. Over 108,000 US residents died of fentanyl overdoses in 2021.

Security in many areas of Mexico is worsening as gangs increase their influence and control. AMLO downplayed gang violence, converted the Federal Police into the National Guard, and promised "hugs, not bullets" to extirpate the root causes of violence. AMLO's strategy has failed to improve security, and the lack of intelligence from the former Federal Police means that the government is often unable to anticipate and react to gang violence.

The US is the world's major importer of fresh tomatoes, importing 1.9 million kg in 2021 or a quarter of the world's total tomato imports; over 90 percent of US tomato imports are from Mexico. Germany is the second leading importer, accounting for almost 10 percent of global tomato imports of 8.3 million kg and importing half of its tomatoes from the Netherlands and a quarter from Spain. France is the third leading importer, and its leading source was Morocco. Mexico accounts for a quarter of the world's tomato exports, followed by the Netherlands with 12 percent and Spain and Morocco, nine percent each.

Central America

The US pledged to tackle the root causes of migration by reducing corruption and providing aid so that residents could hope for economic opportunity at home. However, poverty, inequality, and impunity persist, encouraging ever-more Central Americans to emigrate.

Over 600,000 Guatemalans, Hondurans, Salvadorans and Nicaraguans were encountered by the Border Patrol in the first 10 months

of 2022, an average of 2,000 a day. Critics say that the Biden administration tolerates corrupt Central Americans government in exchange for their help to reduce migration.

Caribbean

The US has five island territories: Puerto Rico with 3.3 million people, US Virgin Islands (87,000), Guam (154,000), the Northern Mariana Islands (47,000), and American Samoa (50,000). All are losing population. The Virgin Islands lost almost 20 percent of its residents between 2010 and 2020, while Puerto Rico lost over 10 percent of its residents.

Tax breaks such as Section 936 led to manufacturing jobs in the 1970s and 1980s, and reducing these incentives in the 1990s as China emerged as the world's factory led to job losses and outmigration. Children often left the islands for education and did not return, and birth rates fell as populations aged.

Hurricanes Irma and Maria caused major damage to the Virgin Islands and Puerto Rico on September 20, 2017, leaving more than 3,000 dead and destroying much of the island's electricity infrastructure. Since island residents can move to the mainland US, these natural disasters accelerated emigration and the downward economic spiral.

Hurricane Fiona in 2022 demonstrated that Puerto Rico has not hardened its infrastructure. High winds and up to 30 inches of rain in some places left half of PR residents without electricity. Despite almost \$15 billion in federal aid and a new private sector entity LUMA, many PR residents remained without electricity a week after Fiona.

Barbados and many other Caribbean island nations are unable to repay the loans their governments have taken. Barbados has fewer than 300,000 people and owes \$9

billion, giving it one of the world's highest per capita debt levels.

There are many reasons why small island nations take on debt, including to recover from natural disasters. Much of the debt in Barbados was taken by government agencies for projects that were not completed due to fraud and corruption, leading to the election of PM Mia Mottley to clean up government finances and reduce the government's debt by at least a third.

Mottley succeeded in persuading bond holders to reduce the country's debt by a quarter in order to reduce the share of GDP going to pay interest on the debt to three percent. Mottley included a clause in the new bonds that allows Barbados to suspend debt payments if the country suffers from a natural disaster such as a hurricane. Some Caribbean countries want their former colonial masters to pay reparations to help them reduce accumulated debts.

The IMF counsels developing countries to keep government debts at less than 60 percent of GDP, hoping that economic growth will generate increasing government revenues over time to repay the debt. Many industrial countries have government debts that are more than 100 percent of GDP, and some economists urge the IMF to allow developing country governments to carry higher debt loads in order to cope with the adverse effects of climate change.

South America

Almost seven million Venezuelans or 20 percent of all Venezuelans have emigrated since 2013. Economic mismanagement reduced the number of jobs and wages.

There is a pink tide in Latin America, as voters elect leftist leaders who promise to expand the safety net and reduce economic inequality. The last leftist shift around 2000

was accompanied by rising commodity prices that allowed leftist governments to share extra revenue with the poor via cash transfer programs for children and pensions for the elderly. Latin American economies today are constrained by rising energy prices and slowing economic growth.

Chile in 1980 embraced private pensions, abolishing the pay-as-you-go system of having current workers support retirees and instead having workers contribute 10 percent of their earnings to privately managed pension funds that were expected to earn high returns via their investments so that workers would receive an average of 70 percent of their pre-retirement earnings.

Private pensions have been an unfulfilled promise. Retired workers receive an average of 30 percent of their pre-retirement earnings because employers did not contribute, and the 40 percent of retired Chileans who did not work enough to qualify for private pensions depend on the minimal government safety-net pension. High management fees erode pension assets, especially as funds compete for worker contributions.

The Chilean government in 2022 proposed to raise the minimum public pension of \$200 a month to the \$300 a month minimum wage and to use pay-as-you-go contributions from both employers and workers to fund public pensions. If this reform is adopted, privately managed pensions would become more like 401k options, providing extra retirement benefits.

Over 62 percent of Chile's voters rejected a new 50,000-word constitution drafted by a largely leftist constituent assembly in the wake of 2019 protests in September 2022. The new constitution would have decentralized power and granted Mapuche and other indigenous groups who comprise about 12

percent of the population more power over the resources on their lands. Farmers opposed the new constitution, fearing that it would threaten private property and water rights.

Global production of bananas rose 70 percent between 2000 and 2020, keeping a lid on prices for the tropical fruit that is produced year-round. Supermarkets usually sign one-year contracts with banana suppliers that specify a price, and are purchasing more bananas from smaller producers with the introduction of refrigerated containers, eliminating the need for refrigerated ships.

Ecuador, the leading exporter of bananas, is debating whether to set a minimum price for a 40-pound box. Farmers (Fenabe) want the minimum price to be almost \$8 a box, which would bring the FOB price to \$11, well above the \$8 FOB price of Costa Rican bananas. Ecuadoran exporters want a farm price of \$6 to generate an FOB price of \$8.

Sao Paulo, the largest city in the southern hemisphere with 22 million residents, is riven by inequality. Traffic jams have given Sao Paulo one of the largest fleets of private helicopters to transport the rich from their gated communities, while the poor often live outside these gated communities in informal housing.

Sao Paulo had two million residents in 1950, and expanded rapidly as migrants from rural areas and poorer northeastern states sought opportunity. Many begin their Sao Paulo journey living under elevated highways or viaducts or by squatting in nearby parks.

EUROPE, ASIA

Russia invaded Ukraine on February 24, 2022. After six months of fighting, some 6.6 million Ukrainians had moved to European countries,

including 3.8 million who registered for temporary protected or similar status. Seven million Ukrainians are displaced inside the country, and 13 million are trapped by fighting and unable to move.

Five million Ukrainians, mostly women and children, moved to the EU, where almost four million applied for permits that allow work and access to schools and health care. By August 2022 over 400,000 Ukrainians were employed in EU countries, including 200,000 in Poland and 100,000 each in the Czech Republic and Italy.

In September 2022, Ukraine counterattacked and pushed Russian forces back in the northeast of the country. As the fighting continued, analysts outlined three possible outcomes, Russian or Ukrainian victories or a stalemate, with stalemate the most likely outcome. Russia often wins wars of attrition eventually, as in Chechnya, Syria and WWII.

Many EU governments introduced plans to attract non-EU citizens who can work from anywhere, hoping to boost local economies with skilled tech workers who earn at least E2,000 to E3,000 a month. Most countries grant five-year visas to digital nomads. There were 15 million US digital nomads in 2021, double the number in 2019 before covid.

Europe struggled to adapt to higher gas prices, raising the prospect of another 1970s era of falling real incomes, growing inequality and rising social tensions. China, the US, and the Eurozone account for two-thirds of global economic activity, and slowdowns in all three promise rising unemployment.

Britain

Inflation topped 10 percent in summer 2022, prompting a wave of strikes by workers whose real earnings dropped. A quarter of

British workers belong to unions, and union leaders argued that British workers must receive sufficient wage increases to maintain their real earnings and incomes.

Conservative PM Boris Johnson was replaced by Liz Truss in September 2022, who immediately pledged action to help people deal with rising energy prices. The pound has been dropping against the dollar, and approached parity with the dollar in September 2022. Truss is known for being opportunistic, switching positions to be on the winning side, although Truss says her hero is the Iron Lady Margaret Thatcher who took on unions and deregulated the British economy.

The House of Lords was created in the 1300s and has existed in its current form since 1801. Members receive \$379 a day for their service, and some pay L3 million or more for an appointment in the form of support for the ruling PM who appoints them. There are about 800 members of the House of Lords compared to 650 in the House of Commons, making it second only to China's National People's Congress with 2,980 members among legislative bodies.

The average age of Lords is 71, and about 100 are hereditary peers whose titles and membership pass from one generation to the next. Some Lords work hard and scrutinize bills approved by the Commons, while others rarely appear. About 700 Lords are nominated by the PM and appointed by the Queen, including 86 who were nominated by Johnson.

Queen Elizabeth II's death in September 2022 highlighted the wealth of the Windsor royal family, which Forbes estimates to be \$28 billion, including the \$20 billion Crown Estate. The British government provides a Sovereign Grant of almost \$100 million a year.

Germany

The coalition government led by Olaf Scholz struggled with energy policy in summer 2022 after Russia reduced the volume of gas flowing through the Nord Stream 1 pipeline. Nord Stream 2 was completed but not put into service because of Russia's February 24, 2022 invasion of Ukraine, which also led to a *Zeitenwende* or major increase in German defense spending.

Germany deepened its dependence on Russian energy over the past two decades and decided to close its nuclear plants by 2024 after the Fukushima nuclear accident in 2011. In August 2022, the government announced that the three remaining nuclear plants would continue to operate after 2024.

The gas crisis prompted a rethink of Germany's energy policies. Germany resisted LNG gas because Siberian gas delivered via pipeline was cheaper, but allocated \$2.5 billion for four floating LNG plants to handle gas delivered by ship and moved around the country via new pipelines. Liquefied natural gas is chilled to minus 260F so that its volume is reduced to one six-hundredth for transport. The US surpassed Qatar as the world's largest exporter of LNG in 2022.

Drought reduced water levels on the Rhine and Danube rivers, disrupting shipping and the river-boat cruise industry. Over 1.5 million visitors a year take river cruises in Europe, and Viking and other river boat operators offered vouchers good for discounts on future cruises when they had to substitute buses for ships when the river was too low.

Greece

The government has struggled to deal with Syrian and other migrants who travel by boat from Turkey's western coast to nearby Greek islands. Under a 2016 EU-Turkey agreement, the EU provides money

to Turkey to improve conditions for migrants there in exchange for Turkish efforts to prevent illegal exits and to accept the return of migrants who reach Greece.

Relatively few migrants have been returned from Greece to Turkey. Instead, Greek authorities have been towing boats and rafts with migrants back to Turkey, according to a 2022 EU audit of border control agency Frontex. The Greek government disputes NGO reports of widespread migrant pushbacks.

Italy

Rising interest rates and the falling Euro strained business in Italy, where public debt is 150 percent of GDP and there is regional inequality and social polarization that contributes to political instability.

PM Mario Draghi lost a vote of no confidence, and the Brothers of Italy led by Giorgia Meloni won 26 percent of the vote on September 25, 2022 in the first national elections since 2018. Meloni, Italy's first female PM, promised to restore respect for the family and reduce immigration with the support of populists Matteo Salvini and Silvio Berlusconi; their coalition won 44 percent of the vote.

Italy banned cruise ships weighing more than 40,000 tons from the San Marco basin surrounding Venice in 2012, but delayed enforcement until alternative ports were developed nearby so that cruise ship visitors could travel to Venice by bus. Many of the largest cruise ships went to Marghera, the commercial port on Venice's mainland, while some smaller ships went to Chioggia, another city built on islands nearby.

Netherlands

The Dutch government in June 2022 proposed to halve the country's ammonia and nitrogen emissions by 2030; many of the nitrogen emissions are from the country's 1.5

million cows. Some 52,000 Dutch farms employed 150,000 full-time workers in 2020.

The government has allocated E25 billion to help farmers to reduce nitrogen emissions or, if they cannot, to buy out their farms. Environmentalists praised the government plans, while farmers protested. The PM and his cabinet went on a listening tour to discuss with farmers ways to reduce emissions and preserve farming.

The EU's Natura 2000 plan aims to protect 18 percent of EU land and eight percent of its marine territory from too much ammonia and nitrogen, including on privately owned land. Over half of Dutch residents live below sea level, prompting government efforts to reduce climate change.

A \$500 million, 417-foot long sailing yacht built by the 300-employee Oceano boat builder for Amazon founder Jeff Bezos in Rotterdam has a mast too high to pass under the historic 1927 Hef bridge, which can be raised to 230 feet above the water. Oceano offered to pay to remove the middle section of the bridge and replace it after the yacht passed, drawing protests from those opposed to dis-mantling the bridge.

Historically, most Dutch residents were Calvinists, Protestants who believe in self-discipline, frugality and conscientiousness. A third of the Netherlands is below sea level, forcing residents to cooperate to build dikes and keep the sea at bay.

Sweden

The anti-immigrant Sweden Democrats became the second-largest party in September 2022 elections, winning 20 percent of the vote while the dominant Social Democrats won 30 percent. The Sweden Democrats are expected to support a center-right coalition government

led by Ulf Kristersson of the Moderate Party that has 176 seats in the 349-member Parliament.

The Sweden Democrats are expected to push the coalition to adopt policies that restrict immigration and make it easier to deport foreigners convicted of crimes. Almost 20 percent of Swedish residents were born abroad, and there has been an uptick in gang-related gun violence often linked to immigrant youth.

The anti-migrant Danish People's Party and Norway's Progress Party have joined governing coalitions in these countries. However, the center-right coalition in Sweden is expected to keep the Sweden Democrats out of the cabinet.

Turkey

Turkey hosts over four million refugees, mostly Syrians, more than any other country. However, economic turmoil and nationalism are eroding the welcome for immigrants, prompting President Recep Tayyip Erdogan to promise to send a million refugees home within the next year, echoing populists who use anti-migrant messages in a bid for votes in national elections scheduled for 2023.

At least 200,000 Syrians are seasonal farm workers, many of whom receive half of the \$10 daily wage paid to Turkish farm workers. In Malatya, east of Ankara, the heart of Turkey's dried apricot production, Syrians are employed to shake apricots from trees onto tarps and then cut them and remove the pits before drying. The government acknowledges the importance of seasonal Syrian workers by exempting them from the need for work permits. Most of the Kurds who once migrated seasonally within Turkey to fill seasonal farm jobs no longer do so.

China

China's GDP was \$18 trillion in 2021, second to US GDP of \$23 billion. With more rapid Chinese economic growth, China was expected to have the world's largest GDP by 2030, but covid lockdowns and an aging population may slow Chinese growth.

China provided \$1 trillion in grants and loans to 150 developing countries via its Belt and Road initiative, which the US called debt-trap diplomacy because of the danger than countries would be unable to repay. Sri Lanka, Zambia, and other borrowers built roads, ports, and railroads and are unable to repay, requiring that China stretch out repayment.

Chinese manufacturers installed half of the world's heavy duty industrial robots, almost 250,000, in 2021 to cope with a shrinking workforce. China produced 30 percent of the world's manufactured goods in 2021 with 147 million employees, down from the peak 169 million in 2021; 365 million Chinese were employed in services.

China continues to build coal-fired power plants and increasing its carbon emissions; coal generates about two-thirds of China's power. US power plants generate 1,150 gigawatts to produce electricity (one gigawatt powers 770,000 homes).

China's repression of Muslims in Xinjiang has led many governments and firms to avoid goods from this western region in order to avoid forced labor. Many ethnic Uyghurs are forced to live in camps and work in factories, prompting the US to ban all products from Xinjiang.

The US the Uyghur Forced Labor Prevention Act that went into effect in June 2022 assumes that goods from Xinjiang are made with forced labor, while the EU is considering a ban on all products made with forced labor without mentioning

Xinjiang. DHS chairs the inter-agency Forced Labor Enforcement Task Force, and is seeking more funds for CBP to investigate and block imports of goods that may be made with forced labor, including cotton, tomatoes and polysilicon-based products.

The ILO in September 2022 reported that there were 17 million people in forced labor around the world, including four million forced to work by governments.

China has over 3,000 ships that fish in deep waters, and environmentalists believe that they are overfishing waters around the world. Over 10 percent of the Chinese deep-sea fishing ships operate legally around the Galápagos islands, raising fears that overfishing there may deplete unique species in the UNESCO World Heritage Site that inspired Charles Darwin's theory of evolution.

Chinese fishing boats transfer their catch to refrigerated mother ships that provide food and fuel and return the catch to China. The FAO warned that stocks of the most prized ocean fish continue to decline.

India

India produces more milk than any other country, over 200 million tons a year from 80 million cows (the US has fewer than 10 million dairy cows). Almost half of India's milk is from buffaloes and another quarter is from crossbred cattle bred for the resilience of indigenous cattle and the higher yields of European breeds. India's dairy sector includes large farms that use fans and misters to cool cows as well as small farmers who sell milk to village cooperatives.

Philippines

The Philippine government ordered KBR to raise the wages of the 1,200 Filipino workers employed at the US

military base of Diego Garcia from \$5.25 an hour to the \$7.25 federal minimum wage. KBR says that, when considering the housing and food provided to migrants, they already earn more than the federal minimum wage. Diego Garcia is 1,000 miles off the southern tip of India.

Qatar

Facilities for the November-December 2022 World Cup were built by migrants from Asian countries, some of whom paid for their Qatari jobs and then were not paid by local employers. The Al Bandyari firm did not pay workers for months; workers who protested were deported. About two-thirds of the 2.8 million residents of Qatar are migrant workers.

After winning its bid to host the World Cup in 2010, Qatar adopted a minimum wage and ended the kafala employment system that made workers dependent on their sponsors, giving employers the power to prevent workers from leaving the country.

Saudi Arabia

Saudi Arabia plans to spend \$100 billion a year over the next decade to become a destination for tourists, with a goal of attracting 55 million by 2030. However, with Mecca accessible only to Muslims and alcohol often banned, attracting tourists may be difficult.

The government is spending \$40 billion to develop Ad Diriyah, the mud-brick UNESCO World Heritage site 15 miles from Riyadh where the ruling ibn Saud family took power in the 1700s and forged an alliance Wahhab religious leaders in 1744. The Saudi Arabia population rose from about two million in the 1920s to 34 million today, including 12 million foreigners led by two million Bangladeshis, 1.5 million Filipinos and a million Egyptians.

The Standard Oil Company of California, which discovered oil in

Saudi Arabia in 1935, became Saudi Aramco, and after WWII the US guaranteed Saudi Arabia's security in exchange for Saudi oil. After the November 1979 attack on the Grand Mosque in Mecca, Saudi Arabia became more conservative, restricting women and adding religious instruction in schools.

King Fahd turned to the US to help liberate Kuwait after Iraq invaded in 1990, prompting dissent from Osama bin Laden and other Saudi Arabia religious conservatives that culminated in 15 of the 19 hijackers on 9/11 being Saudis. Current King Salman appointed his 31-year old son crown prince in 2017, making Mohammed bin Salman the heir apparent.

Saudi Arabia is locked in a proxy war with Iran in Yemen. MBS has come under suspicion for the surprise resignation of the Lebanese PM during a visit to Saudi Arabia that was quickly reversed and the killing of journalist Jamal Khashoggi in 2018. MBS has launched a Vision 2030 plan to substitute technology and tourism for oil as the mainstay of the Saudi Arabia economy despite some dis-satisfaction with MBS's policies among the 15,000 members of the royal family, including 2,000 senior family members.

Sri Lanka

The Rajapaksa family led by Mahinda used a victory over Tamil Tiger separatists in 2009 to take and hold power for most of the past two decades. After being voted out in 2015 elections, the Rajapaksas returned to power in 2019 with the support of Buddhist Sinhalese who are a majority of the 22 million residents, and turned the country into a family business.

The Rajapaksa government made many mistakes in economic policy, taking on foreign debt to expand government and welfare services while cutting taxes. The Sri Lankan government defaulted on its \$36

billion in foreign debt in May 2022, the first Asian country to default since Pakistan in 1999. Whimsical Rajapaksa policies backfired, including forcing farmers to go organic by banning imports of fertilizer, which reduced crop yields and required more food imports. Food prices rose over 80 percent between 2021 and 2022.

Protestors took over government buildings in July 2022, forcing the Rajapaksas to flee to the Maldives. China holds much of Sri Lanka's debt, and its strategy is usually to defer repayment of loans but not reduce the principal owed. The Rajapaksas took Chinese loans to upgrade the port in their hometown of Hambantota and, when it was unable to repay the loan, gave the Chinese state company that rebuilt the port a 99-year lease in 2017, an example of what the US calls debt-trap diplomacy.

South Africa

The government is debating Basic Income Grants of at least R620 a month for the 34 million people aged 18 to 59 by raising taxes on the richest 10 percent of households, which have 3.5 million people. Average pretax incomes in these households are about R38,000 per person, and their tax rate would have to increase from 33 to 50 percent to cover the cost of a BIG system.

ANZ

The OECD reported that Canada and Australia faced the most severe labor shortages in summer 2022. About 30 percent of the residents of Australia and New Zealand were born abroad, and both countries largely closed their borders to immigration to prevent the spread of covid. About two-thirds of the population growth that averaged 1.6 percent a year before covid came from immigration, and population growth slowed during covid.

Australian issued 80,000 working holiday visas in 2020 and 2021, down from 180,000 a year before covid.

Citrus farmers in Riverina NSW complained in September 2022 of labor shortages in 2022, saying that they must pay more than the casual rate under the horticultural award of A\$26.73 an hour. Some farmers say that their employees are earning A\$200 to A\$300 a day. The National Farmers Federation (NFF) wants the value of benefits such as housing and food when determining whether workers are receiving at least the minimum wage, and supports criminal penalties for employers who commit wage theft.

Under the UK-Australia FTA, British backpackers will not have to do 88 days of farm work beginning in 2024 in order to extend their working holiday visas and accept non-farm jobs. The Labor government elected in 2022 plans a special agriculture stream under the Pacific Australia Labor Mobility (PALM) program to bring more Pacific Islanders to Australia that includes four-year portable visas and respect for worker rights.

Australian farm land prices are rising. Macquarie Group sold its 103,000-hectare Lawson Grains farm in NSW and Western Australia for A\$600m to Canada's Alberta Management Investment Corporation, while Hughes Pastoral paid A\$215 million for the 438,000-hectare Miranda Downs station at Normanton in Queensland and \$100 million for 550,000 hectares in the Northern Territory.

Dutch seafarer Abel Tasman discovered New Zealand in 1642, and a year later the Dutch East India Company adopted the name in honor of Zeeland, a western province of the Netherlands. Te Paati Maori wants to change the name of the country to Aotearoa or land of the long wide cloud and to change other place names to their Maori labels.

GLOBAL POPULATION

The world's population is projected to reach eight billion on November 15, 2022, up from three billion in 1960. Global fertility peaked at an average of almost seven children per woman in 1970, and has since declined to about four births per woman.

Over half of the world's people, 52 percent, live in seven of the world's 200 countries. The US is third after China and India with 338 million people, followed by Indonesia with 276 million people, Pakistan with 236 million, Nigeria with 219 million, and Brazil with 215 million.

China and India each have 1.4 billion people and together they include a third of the world's people. Most of the increase in the world's population between 2022 and 2050 is projected to be in sub-Saharan Africa, where the average woman has almost five children, double the global average of 2.3 births per woman. Collectively, eight African countries are expected to add a billion people by 2050, accounting for half of the world's population increase: Democratic Republic of Congo, Egypt, Ethiopia, India, Nigeria, Pakistan, the Philippines and Tanzania.

The major variable affecting the size of the future population is fertility. The UN projects the world's population to stabilize at about 10.4 billion in the 2080s. By 2100, India is expected to have more people than China, Nigeria more than the US, and half of the world's most populous countries are expected to be in Africa. About 250 babies were born each minute in 2022 or 1,000 every four minutes, including half in Asia and a third in Africa.

The UN projects the world's population to stabilize at about 10.4 billion in the 2080s, raising the question of how many people can the earth

support. The Toba supervolcano on Sumatra in 72,000 BC sent volcanic ash 30 miles into the atmosphere and created a volcanic winter that may have reduced the human population to 10,000.

Most of the world's population growth is recent. The world's population was a billion in 1820, and a century was required for the global population to double. Between 1927 and 2022, the world's population quadrupled from two billion to eight billion.

Amazon founder Jeff Bezos predicts and welcomes a trillion people, emphasizing that some will live on other earths, while naturalist Sir David Attenborough believes that many of earth's problems can be traced to overpopulation. The Population Bomb (1968) echoed the fears of overpopulation and predicted widespread famine.

There are many ways to think about the effect of humans on the earth. By weight, humans are a third of the weight of terrestrial vertebrates, livestock 66 percent, and wildlife one percent, demonstrating the way in which feeding the human population has shrunk wildlife.

World leaders in 2015 adopted 17 Sustainable Development Goals (SDGs) to ensure "peace and prosperity for people and the planet, now and into the future." Over 150 world leaders addressed the UN General Assembly in September 2022 amidst acknowledgement that many of the SDG's goals such as eliminating poverty, defined as living on less than \$1.90 a day, improving gender equality and offering education for all, and reducing the inequalities that lead to disorganized migration.

Most of the September 2022 speeches dealt with short-term issues such as the effects of the Russian invasion of Ukraine on higher food and energy costs. Many

leaders referenced climate change, where developing country leaders demanded that richer countries to do more to assist developing countries to cope with the effects of climate change. The OECD in September 2022 warned that economic growth would slow in 2022 and 2023 due to higher food and energy costs.

OTHER

CALIFORNIA AG

California farm sales topped \$51 billion in 2021, up from \$49 billion in 2020, 12 percent of US farm sales of \$434 billion, including \$238 billion from the sale of crops and \$195 billion from the sale of animal commodities.

In 1970, California accounted for 10 percent of US farm sales. Some 8.5 million acres were harvested in 1970, including three-fourths field crops led by 1.9 million acres of hay, 1.1 million acres of barley, 660,000 acres of cotton, 535,000 acres of wheat, and about 330,000 acres each of rice and sugarbeets.

There were 450,000 acres of grapes in 1970, including 55 percent raisin grapes and 30 percent wine grapes. Lettuce was the largest acreage vegetable, 145,000 acres, and there were 35,000 acres of fresh market tomatoes and 8,500 acres of strawberries. There were 160,000 acres of oranges, 80,000 acres of peaches, and 40,000 acres of pears.

There were 150,000 acres of almonds and 145,000 acres of walnuts in 1970; pistachio acreage was not recorded.

Persisting drought is changing cropping patterns. Sacramento Valley rice farmers have some of the most senior water rights, but in 2022 rice acreage fell to 285,000, the lowest

since the 1950s. California farmers specialize in Japonica varieties used in foods such as sushi and paella. One reason for declining rice acreage is that many farmers also have perennial crops, so that less water means diverting the water available to almonds, pistachios and walnuts. Acreage of tree nuts has continued to increase despite rising costs for fertilizer and water and stable or declining prices.

Mechanization

Rising labor costs are prompting more efforts to mechanize tasks now done by hand. The keys to mechanization include uniform ripening and standardizing plants and the fruits and vegetables they produce. Over the next five years, farmers are likely to make incremental changes that improve worker efficiency and to adopt labor-saving machines in packing houses and other controlled environments.

By 2030, there are expected to be more innovations that improve worker productivity and more robotic pruners, sprayers, and disease/pest detectors in use, setting the stage for mobile robotic systems that can identify and harvest crops. Mobile robotic systems for major commodities are in development, but many growers say that, until they are perfected, they need secure sources of seasonal workers, generally from lower wage countries.

In order to promote the mass adoption of mobile robotic systems, government could invest in basic research, facilitate collaboration across the supply chain, and share risks as robots are developed and refined. An ecosystem of private specialists who combine technology with the needs of specific farms is likely to evolve, and produce buyers may have to offer assurances to growers that they will purchase produce from more automated farms in order to justify grower investments.

Past predictions of the development and diffusion of labor-saving mechanization proved optimistic. For example, in the late 1970s it was estimated that five percent of the state's lettuce, 10 percent of the raisin grapes, and up to 25 percent of the state's fresh tomatoes would be harvested mechanically by 1985. Four decades later, mechanization shares are far less.

Cannabis

Prop 64 legalized recreational use of cannabis in 2016; Prop 215 legalized medical marijuana in 1996. The goal was to legalize the industry and generate tax revenues, but the result is more illegal cannabis growing and selling than ever, and far fewer tax revenues than anticipated.

One goal of Prop 64 was to ensure that legal cannabis is produced by small farmers, which is why licenses are limited to one acre until January 1, 2023. However, larger farmers can accumulate multiple one-acre licenses, so that the 10 largest legal growers had 1,862 of the 8,338 licenses issued by the state in 2022. Humboldt county had over 15,000 grow sites before Prop 64, but had fewer than 1,000 licensed growers in 2022.

Prop 64 allows cities and counties to ban cannabis businesses within their jurisdictions. Two-thirds of the state's cities prohibit brick-and-mortar retail cannabis stores, giving the state 1,200 retail outlets and 600 home-delivery businesses in 2022.

Growing cannabis illegally was downgraded from a felony to a misdemeanor, which is one reason why marijuana produced illegally accounts for 70 percent of the state's cannabis sales. State and local taxes can be as much as 40 percent of the retail price of legal cannabis, fueling the untaxed black market.

California shares a Mediterranean climate, long periods of sunshine

and no rain during the hottest time of the year, with southwestern Australia, Central Chile, and South Africa. The five regions with Mediterranean climates account for two percent of the world's land area but 20 percent of its plant species, some of which are threatened due to fewer winter storms to replenish water supplies.

US AG, TRADE

US net farm income is projected to be \$148 billion in 2022, up from \$140 billion in 2021; about 10 percent of net farm income reflects government support for farmers. Farm sales are expected to be \$525 billion in 2022, reflecting \$274 billion worth of crops and \$251 billion worth of livestock commodities. Much of the increase in farm sales reflects higher prices.

Farm sector assets are about \$4 trillion, while farm debt is about \$500 billion or an eighth of farm assets.

The Specialty Crops Competitiveness Act of 2004 defines specialty crops as fruits and vegetables, tree nuts, dried fruits, and horticulture and nursery crops, including floriculture. California had 61 percent of US fruit and nut acreage and 45 percent of vegetable acreage in 2017, while Florida and Washington each had over 5 percent of total US acreage of fruits, nuts and vegetables.

Milk prices rose to a record \$26 per hundredweight in spring 2022, surpassing the previous record in fall 2014. The US has 9.4 million dairy cows, and they are being consolidated on fewer and larger farms; a third of dairy cows are in CA and WI.

Milk consists of water (87 percent), milk fat (four percent), and skim solids (nine percent) such as protein, lactose, minerals, and trace elements. The consumption of fluid milk is declining, while consumption of butter and cheese is rising;

over 40 percent of milk fat is used to make cheese, and 20 percent is used to make butter. The retail price of butter approached \$5 a pound in Fall 2022.

Photosynthesis is the biological process that allows plants to use sunlight, water and carbon dioxide to produce oxygen and energy-rich carbohydrates. Amanda P. De Souza of the University of Illinois modified the genes of soybean plants so that they use photosynthesis more efficiently, raising yields, by reducing the time that plants require to return to growth after periods of too much sun. The more usual way of increasing crop yields is to help plants take in more nutrients such as nitrogen.

Agriculture produces 11 percent of US greenhouse gas emissions. USDA in 2022 committed \$22 billion to reducing such emissions with climate-smart agriculture assistance policies that aim to store carbon in the soil. Most of USDA's climate funding supports conservation programs that are already oversubscribed, as when farmers receive payments in exchange for keeping their land in grass.

Moline, Illinois-Deere sells 60 percent of the high-horsepower tractors used in Canada and the US, generating \$44 billion in sales in 2021. Deere and its competitors are developing software to make farm equipment operate autonomously and capture data from growing and harvested crops. Some farmers do not want to share production data with equipment makers, arguing that doing so could give them too much insight into their operations.

Deere acquired Blue River Technology in 2017, which found that two-thirds of the herbicides applied by conventional sprayers lands on places other than weeds. Blue River developed technology that allows precision spraying to target weeds, reducing the use of herbicides.

FOOD, WINE

The price of wheat, which was less than \$8 a bushel before Russia invaded Ukraine in February 2022, jumped over 50 percent to over \$12 a bushel in March and again in May 2022, and then returned to \$8 a bushel in July-August 2022 as Ukraine resumed wheat exports. Wheat and other grain prices are expected to remain higher than historical averages because of high energy and fertilizer costs.

World food supplies are sufficient to provide each of the world's eight billion people with 3,000 calories, 85 grams of protein, and 90 grams of fat a day, more than enough for human metabolic needs. However, poverty and food loss and waste mean that three billion people are food insecure, and more people may become food insecure due to rising food prices that hurt those who spend a higher share of their incomes on food.

A global index of food prices jumped almost 20 percent between January and March 2022; Russia invaded Ukraine February 24, 2022. Only a quarter of the world's food by value crosses national borders. This trade in food helps to stabilize prices by smoothing demand and supply in areas affected by weather and disease events.

The UN requested \$46 billion for emergency food assistance in 2022; countries pledged to provide a third of this amount. Advocates for more food aid warned that failure to feed people could lead to more migration, which could be more costly for rich countries.

Critics of the current food system note that the demand for grains and oil seeds to feed animals raised for meat and to make bio-fuel have increased much faster than the demand for food. Governments could free up grains and oil seeds for people by encouraging

consumers to eat less meat and reducing ethanol mandates.

The price of Arabica coffee beans doubled from \$1 a pound in mid-2020 to \$2 a pound in mid-2022 due to drought and frost in Brazil, the world's largest exporter. Instead of the 50 million 132-pound bags expected between July 2022 and June 2023, Brazil's harvest may be only 35 million bags. About half of Brazil's Arabica coffee is from Minas Gerais.

The cocoa industry employs six million people in Ivory Coast, including a million farmers who grow and harvest cocoa beans that are usually exported raw; Ivory Coast produces 45 percent of the world's cocoa beans. With the support of NGOs, some cocoa producers are roasting and grinding cocoa beans to make chocolate in a bid to create more jobs that pay more than the country's \$100 monthly minimum wage.

Cocoa pods are harvested in the spring and fall and the white pulpy beans are extracted and dried, turning them brown. Farmers receive \$0.60 to \$0.70 per pound for their dried beans.

US

Three fourths of Americans adults are obese based on the body mass index. The White House Conference on Hunger, Nutrition and Health in September 2022 released a five-point plan to make healthy food more affordable and accessible and to invest in expanding physical-activity options and enhancing research on food and nutrition. Biden also promised to reduce food waste; a third of US food is not eaten.

American adults get over half of their calories from ultra-processed foods, defined as everything from breakfast cereals to sweetened yogurts; adults in Europe get a third of their calories from similar foods. Ultra-processed foods often include

salt, sugar, and fat, making them addictive in some people and leading many adults to consume extra calories.

Rising food prices changed consumer behavior in summer 2022, with more people switching from national to cheaper store brands such as Kroger's Simple Truth, Whole Foods Market's 365 or Costco's Kirkland. TreeHouse Foods, the largest private-brand food manufacturer, notes that store brands are 20 percent to 30 percent cheaper than national brands from Campbell's, Mondelez or Kellogg.

Self-checkout is spreading in grocery stores aiming to reduce costs and minimize interactions. The Food Industry Association reported that 96 percent of grocery stores with at least 50,000 square feet offered self-checkout in summer 2022. The machines cost \$15,000 to \$30,000, and usually require one employee per five machines.

An E. coli outbreak was linked to romaine lettuce served by Wendy's in August 2022 in midwestern states. E. coli bacteria can lead to cramps, diarrhea and vomiting after three to four days, and usually recover within a week.

Wine

Americans drank more alcohol during the pandemic, leading to over 140,000 deaths linked to drinking and raising questions about whether alcohol taxes should be raised. Studies show that raising taxes on tobacco reduced smoking, and many advocates want alcohol taxes raised to discourage especially young people from excessive drinking. Oregon, which has no state sales tax, defeated a proposal for a \$0.21 increase in the tax on a 12 -ounce beer and a \$0.40 increase on a five ounce glass of wine.

Fred Franzia, CEO of Bronco and best known for creating affordable

wines such as Two-Buck Chuck, died in September 2022. The price of the 2.7 pounds of grapes needed to make a bottle of wine costs less than \$1 in California. Franzia asserted that no wine should cost more than \$10 a bottle, suggesting that more expensive wines were efforts to get consumers to pay more than necessary for wine.

Bronco is the seventh largest US winery, producing about nine million cases a year; the Wine Group sells Franzia boxed wine. In 2008, a 17-year-old pregnant employee of a farm labor contractor died while working in a vineyard owned by a Bronco subsidiary.

EU vineyards averaged 1.4 hectares or 3.5 acres, and ranged from an average 11 hectares in France to less than 0.5 hectares in Greece and Romania. Italian and Spanish vineyards are on average two hectares or five acres. By comparison, California vineyards average 30 hectares and Washington state 22 hectares.

Bordeaux is producing too much wine. Some 4.7 million hectoliters were sold in 2018 and 3.9 million in 2020. In 2005, some 10,000 hectares of wine grapes were removed to reduce the supply of wine, and there are proposals to reduce wine grape acreage again at a cost of about E2,000 per hectare.

CLIMATE CHANGE

The UN's Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services issued a report in July 2022 that concluded that half of the world's people rely on 50,000 wild species for at least some of their food, energy, medicine and income. Earlier reports concluded that a million plant and animal species were at risk of extinction, and that governments were doing too little to prevent catastrophic biodiversity collapse.

Plants use photosynthesis to convert carbon dioxide from the air into energy that is stored in the soil. Many food companies want farmers to do more to reduce greenhouse gas emissions, prompting the development of programs that pay farmers to adopt practices such as planting cover crops that store more carbon dioxide in their soil. Cargill in 2022 is offering farmers \$25 per metric ton of carbon dioxide that they take from the atmosphere and store in the soil.

Should countries that emit carbon compensate countries that suffer from global warming? A study published in July 2022 estimated that the five leading carbon emitters caused \$5 trillion in economic losses between 1990 and 2014, including \$1.8 trillion each from the US and China and \$500 billion each from Russia, India, and Brazil. The methodology involved estimating how much emissions raised temperatures in various countries, and how rising temperatures reduced GDP growth.

World Bank president David Malpass in September 2022 agreed that burning fossil fuels contributes to climate change, writing "it's clear that greenhouse gas emissions from human activities are causing climate change, and that the sharp increase in the use of coal, diesel, and heavy fuel oil in both advanced economies and developing countries is creating another wave of the climate crisis."

European nations experienced record heat and drought in summer 2022, with temperatures topping 40C or 104F in London and Paris; the temperature was 51C or 124F in Sicily. Wildfires forced evacuations and reduced air quality, and rivers including the Rhine and Po were at historic low levels.

The US also experienced record heat in Texas and the Midwest in summer 2022, wildfires in the west,

and drought that is drying up of the Great Salt Lake and reducing flows in the Colorado River. The seven hottest years in the US since the 1880s have occurred since 2015, including a record 134F in Death Valley in July 1913. Death Valley is a below-sea-level desert in south-eastern California surrounded by high mountains. The warmest and coldest days in the mainland US are west of the Mississippi river.

China also experienced drought and hotter temperatures in summer 2022. The Three Gorges Dam, China's biggest hydropower project that lies upriver on the Yangtze, released extra water to allow shipping on the Yangtze to continue. Heat in the center of China was accompanied by flooding at the edges of the country, leading to floods and displacement.

Many analysts attributed the record heat and drought of 2022 to climate change. However, policy makers had more immediate priorities, including grappling with inflation and the war in Ukraine. Some of the younger people most concerned about climate change do not vote.

President Biden promised to reduce US greenhouse gas emissions by 50 percent from 2005 levels by 2030, which requires changing how electricity is generated and a higher share of electric cars. The US emitted 6.6 billion tons of greenhouse gases in 2005 and 5.2 billion tons in 2020.

Economists have long argued that the most efficient policy to reduce emissions is a tax on carbon that would give emitters incentives to reduce their emissions by buying and selling rights to emit, carbon trading. Economists say that the optimal carbon tax is about \$50 per ton emitted, drawing criticism from activists who believe the price should be \$100 or more per ton. Furthermore, activists argued

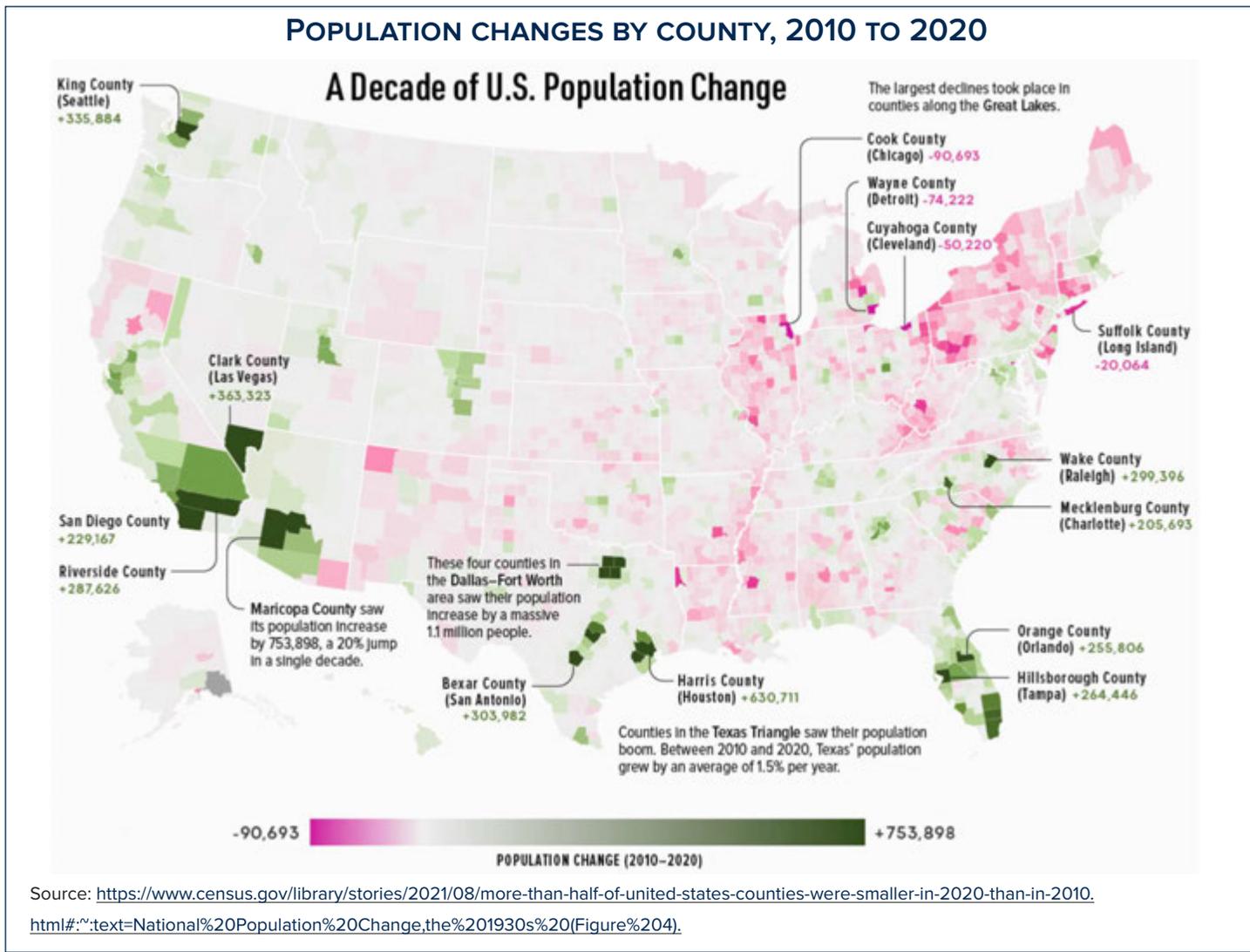
that, as with freer trade, carbon taxes would be borne by poorer residents.

The Inflation Reduction Act enacted in August 2022 uses subsidies for clean energy rather than carbon taxes to encourage an energy transition. Many activists favor more government investment as contained in the IRA rather than carbon taxes.

About three-fourths of the world's fresh water is frozen ice that is concentrated in Antarctica and Greenland; if all of the world's ice melted sea levels would rise up to 300 feet. The East Antarctica Ice Sheet is about the size of the US and accounts for over half of the world's ice.

Between 2010 and 2020, the US population rose from 309 million to 331 million. Population trends vary by county. Over half of the 3,143 US counties lost population during the decade. Counties losing people are often rural, while most metro countries gained residents. Over 86 percent of US residents were in metro counties in 2020.

Maricopa county (Phoenix) gained the most residents over the decade, almost 754,000, followed by Harris county (Houston) with over 630,000. Five of the 10 counties adding the most people over the past decade were in Texas. Midwestern counties lost the most residents, led by the net loss of over 90,000 residents in Cook county (Chicago) and almost 75,000 from Wayne county (Detroit).



Rural Migration News summarizes the most important migration-related issues affecting agricultural and rural America. Topics are grouped by category: Rural Areas, Farm Workers, Immigration, Other, and Resources.

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