

Doomslayer: Weekly Progress Roundup

Regulatory reform, roadrunner resurgence, and a whole lot of robot news.

MALCOLM COCHRAN

JUL 06, 2025

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Economics & Development

- North Carolina has **banned** local mandates that force developers to build parking lots, lowering construction costs and freeing up land.
- California has **relaxed parts of its environmental review law**, the California Environmental Quality Act, in an effort to speed up housing construction.

Energy & Environment

- Populations of greater roadrunner, the desert-dwelling bird of Looney Tunes fame, are **expanding in both range and number** as the climate warms. Beep beep!
- A critically endangered Argentine frog is **rebounding** thanks to hardworking conservationists who have removed invasive predators, fenced off its habitat from cattle, and released thousands of captive-bred tadpoles.

Food & Hunger

- Bloomberg reports that the BeeHome, a **high-tech apiary**, has a colony loss rate 5 times lower than normal beehives. The machine uses a scanner paired with artificial intelligence to monitor the hives for parasites and other dangers. And it's not just a prototype: 300,000 BeeHomes are already in farms across the United States.



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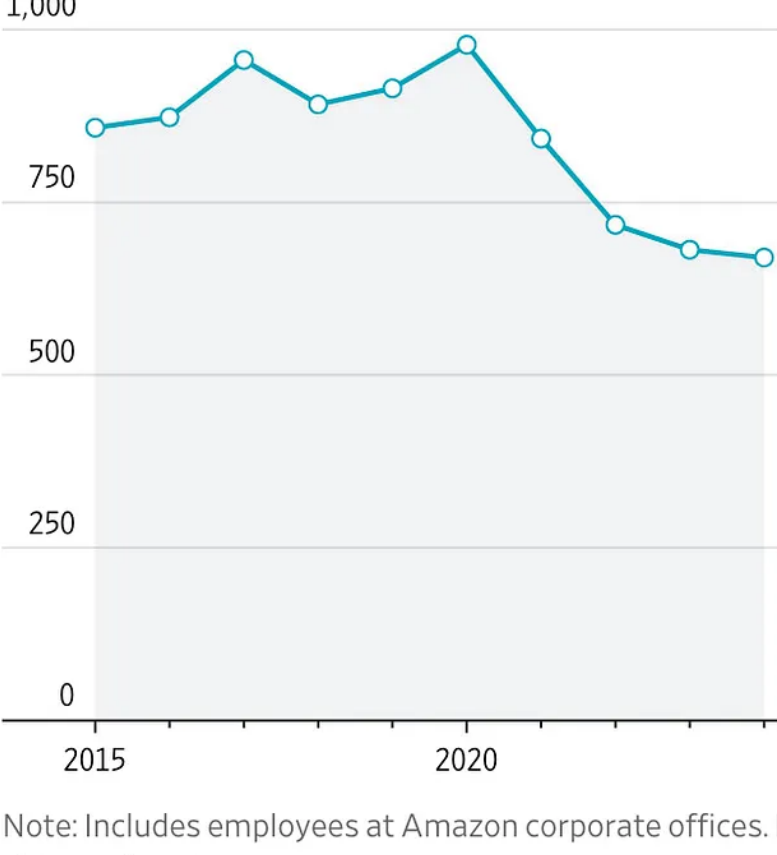
Health & Demographics

- Suriname has become the **46th country** to eliminate malaria.
- US fast food consumption is **trending down**. New CDC data show that—as of mid-2023—adults get just 11.7 percent of their daily calories from fast food, down from 14 percent in 2013–14. Among kids and teens, fast food accounts for 11.4 percent of daily calories, and about 30 percent eat it on any given day, compared to over 36 percent in the mid-2010s.
- Microsoft has unveiled an **AI tool that outperformed doctors at diagnosing tricky medical cases**. Tested on real case studies from *The New England Journal of Medicine*, the system got it right about 86 percent of the time, compared to just 20 percent for a panel of physicians.
- A team in Houston has performed the **first fully robotic heart transplant in the United States**.

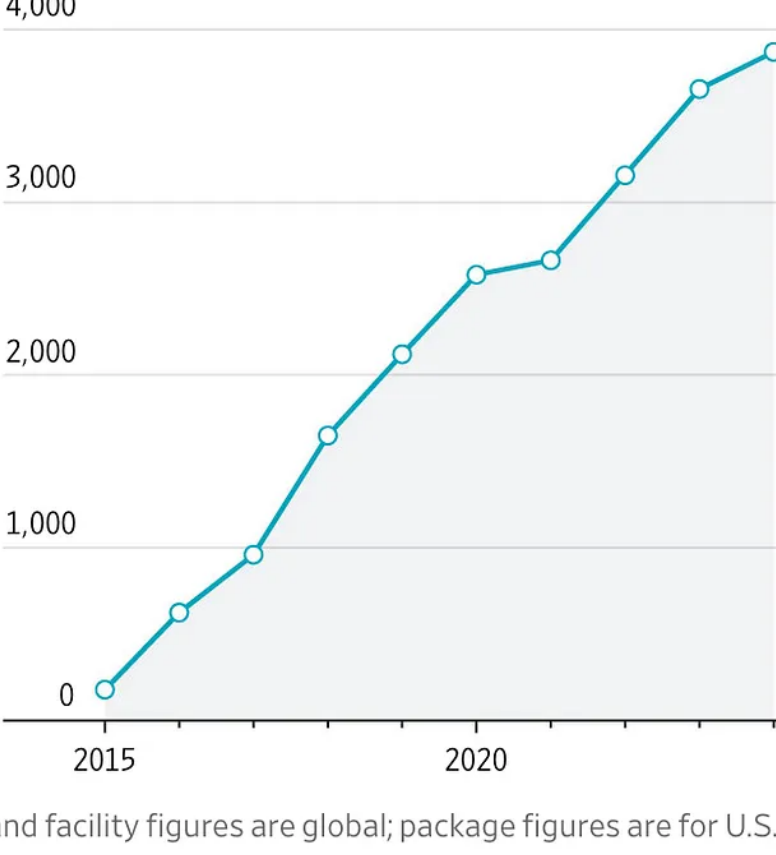
Science & Technology

- A **new wave of warehouse robots** is finally tackling one of the toughest tasks: loading and unloading trucks. Boston Dynamics's Stretch robot can unload around 580 packages per hour—nearly twice the speed of a human—and the shipping company DHL already has seven operating in the US, with 1,000 more on order.
- Amazon now employs over **one million robots** in its warehouses—almost equaling the size of its human workforce. This automation has coincided with surging productivity.

Number of Amazon employees, per facility



Packages handled by Amazon end-to-end, per employee



Note: Includes employees at Amazon corporate offices. Employee and facility figures are global; package figures are for U.S. shipments only.

Sources: WSJ analysis of data from the company (employees), MWPVL International (facilities) and ShipMatrix (packages)

- A Tesla has **driven itself** home from the factory.
- From July 1 onward, **any research funded by the US National Institutes of Health will be made immediately free to read** at publication. Previously, papers could be held behind paywalls for up to 12 months.

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Progress Studies

Clifford Asness and Michael Strain defend material prosperity in the United States.



The Free Press

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A quick look at some recent headlines shows that we have problems. The nation sharply and angrily divided along political lines. Rioters in the streets of Los Angeles. A destructive trade war. Debt and deficits at unsustainable levels...

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Kevin Kohler on preventable heat deaths in Europe.



Machinocene

Make Europe Cool Again

As I'm writing this, Europe has been suffering under a heatwave for about a week. Paris 38°C, London 33°C, Berlin 33°C, Rome 35°C, Madrid 38°C. I'm typing these words from Geneva where it's 33°C both outside and within my apartment except in whatever room I'm running a small, mobile AC. My brain is a bit fried and my sleep quality is a bit worse than us...

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Hannah Ritchie surveys geothermal energy and its prospects.



Sustainability by numbers

How does geothermal energy work, and why don't we use it more?

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No, Prosperity Doesn't Cause Population Collapse

Wealth doesn't have to mean demographic decline.

CHELSEA OLIVIA FOLLETT
JUL 04, 2025

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For years, it was treated as a demographic law: as countries grow wealthier, they have fewer children. Prosperity, it was believed, inevitably drove birth rates down. This assumption shaped countless forecasts about the future of the global population.

And in many wealthy countries, such as [South Korea](#) and [Italy](#), very low fertility rates persist. But a growing body of research is challenging the idea that rising prosperity always suppresses fertility.

University of Pennsylvania economist Jesús Fernández-Villaverde recently [observed](#) that middle-income countries are now experiencing lower total fertility rates than many advanced economies ever have. His latest work shows that Thailand and Colombia each have fertility rates around 1.0 births per woman, which is even lower than rates in well-known low-fertility advanced economies such as Japan, Spain and Italy.

“My conjecture is that by 2060 or so, we might see rich economies as a group with higher [total fertility rates] than emerging economies,” Fernández-Villaverde [predicts](#).

This changing relationship between prosperity and fertility is already apparent in Europe. For many years, wealthier [European countries](#) tended to have lower birth rates than poorer ones. That pattern weakened around 2017, and by 2021 it had flipped.

This change fits a broader historical pattern. Before the Industrial Revolution, wealthier families generally had more children. The idea that prosperity leads to smaller families is a modern development. Now, in many advanced economies, that trend is weakening or reversing. The way that prosperity influences fertility is changing yet again. Wealth and family size are no longer pulling in opposite directions.

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This shift also calls into question long-standing assumptions about women’s income and fertility. For years, many economists thought that higher salaries discouraged women from having children by raising the opportunity cost of taking time off work. That [no longer](#) seems to hold in many countries.

In several high-income nations, rising female earnings are now associated with higher fertility. Studies in [Italy](#) and the [Netherlands](#) show that couples where both partners earn well are more likely to have children, while low-income couples are the least likely to do so. Similar findings have emerged from [Sweden](#) as well. In [Norway](#), too, higher-earning women now tend to have more babies.

This trend is not limited to Europe. In the United States, richer families are also beginning to have [more babies](#) than poorer ones, reversing patterns observed in previous decades. A study of [seven countries](#) — including the United States, the United Kingdom, Germany and Australia — found that in every case, higher incomes for both men and women increased the chances of having a child.

This growing body of evidence challenges the assumption that prosperity causes people to have fewer children.

Still, birth rates are falling across much of the world, with many countries now below replacement level. While this trend raises serious concerns, such as the risk of an aging and less innovative population and widening gaps in public pension solvency, it is heartening that it is not driven by prosperity itself. Wealth does not automatically lead to fewer children, and theories [blaming consumerism](#) or [rising living standards](#) no longer hold up.

Although the recent shift in the relationship between prosperity and fertility is welcome, it is not yet enough to raise fertility to the replacement rate of around 2.1 children per woman — a challenging threshold to reach.

But the [growing number](#) of policymakers around the world concerned about falling fertility can consider many simple, freedom-enhancing [reforms](#) that lower barriers to raising a family, including reforms to education, housing and childcare. Still, it’s important to challenge the common assumption that prosperity inevitably leads to lower birth rates: Wealth does not always mean fewer children.

This article was [published](#) at The Hill on 6/16/2025.

Grim Old Days: Lauro Martines' Furies

Early modern war was waged not just with weapons, but also hunger and social collapse.

CHELSEA OLIVIA FOLLETT

JUL 01, 2025

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Lauro Martines' book *Furies: War in Europe, 1450–1700* powerfully illustrates the impact of war and war-driven famines. In 1633, during the Thirty Years War, Benedictine monk Maurus Friesenegger described Italian and Spanish soldiers with “blackened and yellowed faces,” who were “emaciated, only half dressed or in tatters.” In 1636, the archbishop of Burgos wrote to King Philip IV that most conscripts from his diocese “die of hunger before they reach the garrisons.”

Civilians also died of hunger as armies passed through their villages. To the agricultural laborers along an army's route, even friendly (as opposed to enemy) troops could cause a food shortage. In Friesenegger's firsthand account, he notes, “I can't really say whether more was stolen by foreigners or by natives.”

In the Early Modern Era, “an army of twenty thousand men . . . exceeded the population of most European cities; and when that winding horde of soldiers, with ten to fifteen thousand horses, set out on campaign, it could easily eat up, in a few days, all the food and fodder in the adjacent villages and countryside for many miles around.” Armed runaway conscripts also ate their way through villages. “Desertion was rife, and in the early eighteenth century gangs of disciplined deserters occasionally terrorized rural communities.”

Foreign armies also famously pillaged without mercy. In 1710, an army composed of more than ten thousand of the Dutch Republic's mercenaries descended upon Rumegies in France, and the diarist Alexandre Dubois recorded that “they destroyed everything. They took fifty cows and thirty horses; and having stolen things at will . . . they violated some of the women and killed several villagers with staff blows.” He observed that in less than three months, 180 villagers died, many from malnutrition rather than direct violence. Dubois wrote that survivors turned in desperation to eating the sort of bread “that dogs would not have eaten the year before.” In the 1630s, “the Hessian countryside was made desolate. Meat became a rarity, while ‘meager handfuls of grain’ were about as much of this substance as villagers were likely to see.”

Fearing pillaging soldiers, peasants and rural folk often fled to the nearest walled city—but these offered little protection from starvation if they were sieged. In the siege of the port city of La Rochelle in 1628, “some fifteen thousand Rochelais perished, mostly from starvation, out of a population of eighteen to twenty thousand inhabitants.”

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From late 1572 to August 1573, the hilltop town of Sancerre in central France endured a brutal nine-month siege by a royal army during the war between France's Catholics and Huguenot Protestants. Jean de Léry, a Huguenot pastor who lived through the siege, documented the ordeal. Léry relates how, after the people of Sancerre finished eating their working animals such mules and horses, they consumed their pets:

Then came the turn of the cats, “and soon all were eaten, the entire lot in fifteen days.” It followed that dogs “were not spared and were eaten as routinely as sheep in other times.” These too were sold, and Lery lists prices. Cooked with herbs and spices, people ate the entire animal. “The thighs of roasted hunting dogs were found to be especially tender and were eaten like saddle of hare.” Many people “took to hunting rats, moles, and mice,” but poor children in particular favored mice, which they cooked on coal, mostly without skinning or gutting them, and—more than eating—they wolfed them down with immense greed. Every tail, foot, or skin of a rat was nourishment for a multitude of suffering poor people.”

Léry also wrote of how the starving denizens of Sancerre ate nonfood objects of many kinds: weeds, shrubbery, straw, candle fat, and “not only white parchment, but also letters, title deeds, printed books, and manuscripts.”

[Léry] tells his readers how the Sancerrois, in their feverish search for food, cooked animal skins and leather, including harnesses, parchment, letters, books, and the membranes of drums. Some of the people who perished in Sancerre also ate pulverized bones and the hooves of horses. The skins, he tells us, including drumheads, were soaked for a day or two . . . They were then well scraped with a knife and boiled for the better part of a day, until they became tender and soft. This was determined “by scratching at the skins with your fingers” . . . Now, like tripe, they could be cut up into little pieces.

Many ate horse excrement “with great avidity,” according to Léry, combing the streets for “every kind of ordure,” whose “stink alone was enough to poison those who handled it, let alone the ones who ate it.” “I can affirm that human excrement was collected to be eaten,” Léry further laments.

Finally, some people turned to cannibalism. Léry wrote of how a grape-grower named Simon Potard, his wife, and an old woman in their household, had together eaten the brains, liver, and innards of Simon's daughter, who was about three years old. Léry personally saw “the cooked tongue, finger” and other bodily remains of the toddler in a cooking pot, “mixed with vinegar, salt, and spices, and about to be put on the fire and cooked.” The cannibals claimed they only dismembered and ate the little girl after she had died of hunger, although many suspected she had been killed to be eaten. The townspeople had Simon “burned alive, his wife . . . strangled, and [the] body [of the old woman in their household] was dug out of its grave and burned. She had died on the day after their arrest.” Presumably the old woman died of starvation, despite her cannibalistic attempt to ward off that fate.

The harsh punishment was enacted because, as Léry put it, “it was to be feared—we had already seen the signs—that with the famine getting ever worse, the soldiers and the people would have given themselves not only to eating the bodies of those who had died a natural death, and those who had been killed in war or in other ways, but also to killing one another for food.”

The pattern of escalating desperation as starvation set in unfolded in every city under siege. During the Siege of Augsburg (1634–1635),

Pack animals, horses, and pets had disappeared from streets and houses. Eaten. Animal skins had gone the same way. All eatable greenery must also have disappeared before the onset of that icy winter, when the waters of the encircling moat, outside the city walls, froze over. As for eating carrion, some time earlier, the famine-stricken had been seen to gnaw at dead horses rotting in the streets. The eating of human flesh was inevitable. And the subject now broke into reports and conversation. Grave diggers complained that many bodies were brought to them missing breasts and other fleshy parts. What to make of this was only too obvious. “To his horror . . . a Swedish soldier who had stolen a woman's shopping basket discovered flesh from a corpse.

Johann Georg Mayer, a neighboring village's pastor who was staying in Augsburg, noted that due to widespread cannibalism “the bodies of the living had thus become the graves of the dead.”

Similarly, during the 1590 Siege of Paris, “hunger turned into keening famine” and dogs and cats were soon consumed, eventually followed by cannibalism.

[Bernardino de Mendoza], the Spanish ambassador who had witnessed strident hunger among Spain's soldiers in the Netherlands in the 1570s, made a remarkable proposal to the city council. Thinking of food for the needy, he recommended that they mill and grind the bones of the dead in the Cemetery of the Innocents, mix the bone meal with water, and turn it into a breadlike substance. No one present appears to have objected to the recipe. It was also on this occasion, probably, that Mendoza spoke of a recent incident in which the Persians had reduced a Turkish fortress to the eating of a substance “made of ground-down and powdered bone.” With so many of the city's poor having already eaten cooked animal skins, grass, weeds, garbage, vermin, the skulls of cats and dogs, and every kind of ordure, Parisians now ate the bones of their dead in the form of bone-meal bread. Reports of cannibalism surfaced insistently. The anonymous witness gives an account—one of the most detailed—of a Parisian lady whose two children . . . had starved to death. She dismembered, cooked, and ate them.

Amid the siege, Paris likely saw “ thirty thousand casualties: the results of starvation, malnutrition, sickness, and the violence of soldiers outside the city gates, where the starving often scurried about in search of something to eat.”

As food ran out, a besieged city would often expel residents deemed to be mere “useless mouths.” In 1554, a group of children fleeing besieged Siena, orphans from that city's Hospital of Santa Maria della Scala, were killed when “a company of Spanish and German mercenaries pounced on one of the convoys and its charge of more than 250 children, ranging in ages from six to ten.” More expelled starving peasants tried to escape the city, but “time and again the besieging soldiers appear to have kicked, clubbed, and punched the unwanted ‘mouths’ back to the walls in a pitiless and bloody seesaw that went on for eight days, their victims fighting to stay alive by eating herbs and grass. In the end, about three fourths of them starved or were killed, some dying without ears and noses.” Soldiers often cut the ears and noses from people trying to escape sieges. The starving women expelled in 1406 from the besieged city of Pisa met that gruesome fate:

When the first group of poor women, now expelled from Pisa, appeared outside the city walls, Florence's mercenaries refrained from killing them, in a show of mercy, but cut off the backs of their skirts and all the clothing over their backsides. They then proceeded to brand their buttocks with the fleur-de-lis, one of the devices on Florence's coat of arms . . . When branding failed to stop the exit of poor women, the soldiers took to cutting off their noses and then driving them back again.

After the siege succeeded and the Florentines entered Pisa, they were faced with a terrifying scene of starvation:

Florentine reported that the appearance of the Pisans “was repugnant and frightening, with all their faces hollowed out by hunger.” Some of the soldiers went into the city carrying bread. They threw it at the starving inhabitants, at children in particular, and the reactions they got were shocking. They were seeing, they thought, “ravenous birds of prey,” with siblings tearing at each other for chunks of bread, and children fighting with their parents.

The food blockades were enforced with an iron fist. In 1634, a young peasant boy was killed outside the besieged city of Augsburg and his corpse was put on display with three larks tied to his belt; he was executed for the crime of attempting to sneak those larks into the city as food. During the Siege of Siena in 1554, the Marquis of Marignano, had surrounding trees “festooned with the bodies” of men executed by hanging for breaking the blockade.

The soldiers themselves often died of starvation, too. For example, in 1648, the Earl of Inchiquin, complained that “divers [sic] of my men have dyed [sic] of hunger after they lived a while upon cattis [sic] and dogs.” In fact, “the mortality rate in French armies, even in peacetime, could attain a yearly average of 25 percent, while, for the entire century, European armies in general seem to have been ravaged at the rate of about 20 to 25 percent per year.”

The soldiers shared much in common with those they pillaged and starved. “Since more than 60 percent of soldiers came from humble rural and market-town stock, peasants in wartime were likely to be the victims, for the most part, of men who were much like themselves.”

[Read more about the Grim Old Days](#)