



What Can the U.S. Learn from European Countries about Apprenticeship?

Reviewing, Revising, and Retiring Apprenticeship Programs

Karen N. Gardiner and Bhavani Arabandi, with Isaac Brown

October 2024

The U.S. Department of Labor (DOL) promotes registered apprenticeship as “a workforce solution that is evolving to meet industry needs and create skilled workforces that meet the demands of the changing American labor market.”¹

Registered Apprenticeship Programs combine on-the-job learning through a mentor with related technical instruction. To increase employer use of and worker interest in apprenticeships, their standards—including the skills taught on the job and classroom instruction—need to reflect current occupational requirements. At this time, the U.S. apprenticeship system has no consistent process for reviewing and, if needed, updating or even retiring apprenticeship standards in response to technological, economic, or other factors.

European countries with long-standing apprenticeship systems regularly assess apprentice occupational standards (also known as occupational profiles) to determine if they warrant modification or retirement. The review and modification approaches used in Austria, England,² Germany, and Switzerland described in this brief can inform future efforts to design and implement a review process for American apprenticeship standards.

¹ “About Us,” U.S. Department of Labor, Office of Apprenticeship, accessed July 24, 2024, <https://www.apprenticeship.gov/about-us>.

² Although England is part of the United Kingdom, it has its own apprenticeship system (as do Scotland, Wales, and Northern Ireland).

U.S. Apprenticeship System Background

A Registered Apprenticeship Program in the U.S. must have specific elements: related technical instruction in a physical or virtual classroom (recommended 144 hours a year); on-the-job learning of at least 2,000 hours overseen by a mentor at the employer worksite; wage increases over the course of the apprenticeship that can be tied to time in the program or to demonstration of skill competency; and an industry-recognized credential on completion of the apprenticeship. A program's "standards of apprenticeship" formally describes the work process schedule and specifies the on-the-job learning and the related technical instruction, among other components. A sponsor oversees the program and maintains the standards of apprenticeship.³ Depending on the state, either the DOL Office of Apprenticeship (OA) or a federally recognized State Apprenticeship Agency (SAA) reviews and approves the apprenticeship program (Gardiner et al. 2021). Presently, there are over 1,100 approved apprenticeship occupations on OA's website,⁴ and an unknown number of additional state-approved occupations.

The partners involved in designing and registering an apprenticeship program vary according to the occupation and where the program is registered (that is, an OA or SAA state). Unions, employers, or contractors might help design apprenticeship programs in the "building trades" (e.g., electrician, carpenter). An employer or sponsor, an intermediary,⁵ or an RTI provider (such as a community college) might help design apprenticeship programs in an industry like information technology (IT).

A program's standards of apprenticeship reflect the occupational requirements when the program is registered with OA or an SAA. However, occupational skills change as work processes evolve, largely driven by product or process innovations (such as artificial intelligence). So does demand for different occupations. Although OA and the SAAs regularly assess whether a registered program complies with federal regulations (box 1), they do not assess whether the on-the-job learning and related technical instruction align with industry standards or if they should be updated.

The current focus on program-level review means there is no mechanism by which standards across all apprenticeship programs in an occupation can be updated to reflect current industry practices. Nor is

³ A sponsor can be an employer or consortium of employers, a union, a community college, a state or local workforce development board, or a nonprofit.

⁴ "Explore Approved Occupations for Registered Apprenticeship," ApprenticeshipUSA, accessed September 26, 2024.

⁵ More information about intermediaries is available at Apprenticeship USA's website "Registered Apprenticeship Industry Intermediaries," <https://www.apprenticeship.gov/investments-tax-credits-and-tuition-support/registered-apprenticeship-industry-intermediaries>.

there a process for determining if an occupation is still in demand by employers and, if not, whether it should be retired, reconfigured, or integrated into another occupation.

BOX 1

U.S. Apprenticeship Standards Reviews Focus on Compliance

Part 29 of the Code of Federal Regulations, Sections 29 and 30, govern reviews of apprenticeship standards. The Office of Apprenticeship (OA) or the State Apprenticeship Agency (SAA) assesses the condition of the apprenticeship program and its compliance with registered standards (29 CFR 29) and, for sponsors with five or more apprentices, compliance with equal opportunity requirements (29 CFR 30).

- **Timing:** Reviews occur at the end of the first year of program registration, at the end of the first full training cycle, and cyclically after that (but at least once every five years).
- **Potential outcomes:** OA or the SAA can find that (1) no deficiencies are detected; (2) deficiencies are detected, with recommendations to address them; or (3) deficiencies are detected, with a recommendation to deregister the program.
- **Reasons for deregistration:** OA or the SAA can recommend deregistration for various reasons, including (1) failure to provide on-the-job learning or related technical instruction, or to pay the apprentice a progressively increasing schedule of wages consistent with skills acquired; or (2) persistent and significant failure to perform successfully (i.e., a sponsor consistently fails to register at least one apprentice, shows a pattern of poor quality assessment results over a multiple years, demonstrates a pattern of low completion rates over several years, or shows no indication of improvement in areas identified by OA or an SAA).

Sources: Part 29-Labor Standards for the Registration of Apprenticeship Programs, 73 FR 64425, 29 USC 50 (2008), <https://www.ecfr.gov/current/title-29/subtitle-A/part-29>; Part 30-Equal Employment Opportunity in Apprenticeship, 81 FR 92108, 29 USC 50 (2016), <https://www.ecfr.gov/current/title-29/subtitle-A/part-30>.

European Apprenticeship Systems Overview

In contrast to the U.S., the four European countries examined for this brief have established processes for reviewing and updating occupational profiles. A representative from Austria's Federal Ministry of Labour and Economy summarized the importance of this process:

A modern vocational education and training system must respond quickly and flexibly to new requirements in the economy, new technical developments and in particular to megatrends like digitalization, climate protection, sustainability, and efficiency in energy and resource management. We are therefore continuously developing apprenticeship training through new job profiles and the inclusion of new elements therein (Federal Ministry of Labour and Economy 2023, 1).

Apprenticeship is generally known as the dual vocational education and training system, reflecting the combination of work and part-time school-based vocational training (as opposed to full-time school-based vocational training). It is a common pathway for students when they finish compulsory schooling (around age 16) and a training model for employers in an array of industries. About 70 percent of Swiss students enter an apprenticeship, as do 54 percent of German students and 36 percent of Austrian students (BiBB 2014; Federal Ministry of Labour and Economy 2023; Hoffman and Schwartz 2015). In Switzerland, 30 percent of employers participate in apprenticeships (Hoffman and Schwartz 2015).

The four countries examined have fewer approved occupations than the United States. Austria and Switzerland have 225 and 245, respectively; Germany has 327, and England has more than 600. Multiple partners collaborate to create programs designed to meet the needs of all employers in a particular occupation, as opposed to developing employer-specific programs, as is the practice in the U.S. Also, unlike the U.S., where apprenticeship has a strong link to the building trades, European apprenticeships train workers in a wide range of occupations (box 2).

BOX 2

European Occupational Profiles Are Varied, Not Rooted in Building Trades

Austria has 225 occupations: 210 in trade, commerce, and industry, and 15 in agriculture and forestry. The most common occupational fields by number of apprentices are machinery/vehicles/metal, office/computer/finance, construction/architecture/building technology, electrical engineering/electronics, and tourism/hospitality/hotellery.

England organizes apprenticeships into 15 route panels aligned with occupational pathways. Each panel comprises employers who are experts in their industries. The panels are agriculture, environmental, and animal care; business and administration; care services; catering and hospitality; construction and the built environment; creative and design; digital; education and early years; engineering and manufacturing; hair and beauty; health and science; legal, finance, and accounting; protective services; sales, marketing, and procurement; and transport and logistics.

Germany has 324 occupations organized into five groups: agricultural; commercial (e.g., trade, finance, health care); craft trades (e.g., construction and finishing trades, clothing and textiles); industrial, scientific, and technical (e.g., plant mechanic, mechatronics fitter); and service.

Switzerland has 245 occupations. The 10 most frequently chosen occupations account for nearly half of all newly signed apprenticeship contracts: commercial employee (all profiles), health care worker, retail clerk, social care worker, IT technician, electrician, logistician, draughtsman, cook, and farmer.

Sources: “Route Panels,” Institute for Apprenticeship and Technical Education, accessed July 26, 2024, <https://www.instituteforapprenticeships.org/about/who-we-are/route-panels/>; Caroline Baumgarten, *Vocational Education and Training and Continuing Education: Overview of Vocational Qualification Opportunities in Germany* (Bonn, Germany: BiBB 2022), https://www.govet.international/dokumente/pdf/20220914_Broschuere_Aus-_und%20Weiterbildung_Web_EN.pdf; “State

These processes for developing occupational profiles have implications for their review processes. The same partners involved in developing the occupational profiles generally have central roles in reviewing and revising them.

Several aspects of apprenticeship development are notable. First, development (and review) of occupational profiles is *a collaborative effort among federal ministries, state and regional entities, and representatives of employers and workers* (the latter often referred to as “social partners”). In Germany, the Federal Institute for Vocational Education and Training (BiBB) facilitates coordination and agreement among key partners. The BiBB board has 29 members: eight each from employers, trade unions, and the state governments, and five from the federal government. “Intensive cooperation” occurs at all stages of program design and implementation but starts with “joint elaboration of the educational policy benchmarks essential for a regulatory measure and continues up to the adoption of the training regulation” (BiBB 2014, 18). Program adoption occurs after social partners have reviewed and commented on the draft and the Board approves it.

Table 1 shows the partners involved in the four apprenticeship systems.

TABLE 1
Partners in Apprenticeship Program Design, Select European Countries

Country	Social partners	Federal partners	Other partners
Austria	■ Federal Economic Chamber ■ Federal Chamber of Labor	■ Ministry of Labor and Economy (training regulations) ■ Ministry of Education, Science, and Research (vocational schools)	■ Federal Advisory Board on Apprenticeship (composed of employers, employees, and vocational schools) ■ Vocational Education and Training Research Institute (ibw Austria) ■ Nine provinces with regional economic chambers
England	■ Industry-specific trailblazer groups	■ Institute for Apprenticeships and Technical Education (created by the Department of Education)	■ Members of 15 “route” panels aligned with occupational pathways

Country	Social partners	Federal partners	Other partners
Germany	- Chambers (of Industry and Commerce; Crafts and Trades; Agriculture; and liberal professions such as Medical) - Trade unions	Federal Ministry of Education and Research	Federal Institute for Vocational Education and Training (BiBB), which partners with the 16 state governments
Switzerland	Organizations of the World of Work, which are trade unions and other employee associations, as well as employers' professional and business associations	State Secretariat for Education, Research, and Innovation	- Swiss Federal University for Vocational Education and Training (SFUVET) - Cantons (akin to states)

Sources: Authors' conversations with staff in each country and document reviews.

Second, and relatedly, *occupational profiles are binding for all employers in the industry*, thus necessitating their active engagement. For example, all carmakers need to agree on the competencies of a mechanic. A white paper released by the German Embassy describes the rationale as follows:

“[One occupational profile] assures that all apprentices obtaining certifications in any of these 330 occupations receive the same training wherever she/he may take it in Germany, no matter what location, and no matter what company. When going through an apprenticeship in mechatronics at Siemens or BMW, everybody will receive the same training and testing regardless of the location or company, and will be qualified to work at either of these companies, or any other company requiring workers certified in mechatronics” (Kamm and Lerman 2015, 2).

In England, occupational profiles embed the knowledge, skills, and behaviors that employers agree are required for an occupation, as well as the nature of the end-point assessment (an evaluation of whether the apprentice developed the knowledge, skills, and behaviors outlined in the standards). The Institute for Apprenticeships and Technical Education (IfATE) works with industry-specific trailblazer groups made up of employers to develop new standards. (Trailblazer groups can include other stakeholders, but final decisions rest with employers.) Employers collectively develop the knowledge, skills, and behaviors and submit them to the relevant route panel for review. The 15 route panels are composed of employers, who consider each occupation within the larger industry pathway.

Third, *apprenticeship occupational profiles build in flexibility*, expecting the knowledge, skills, and behaviors needed for the job will change over time. Per Austrian requirements for modern occupational profiles,

“when specifying and formulating training content, i.e., the individual elements of the competence profile, it must be considered that the *qualifications and skills requirements are subject to [for example] technical changes*. Therefore, the requirements of the competence profile are *not*

laid down *statically*, but rather *dynamically*, so that [curricula] can be adjusted easily to new developments” (Federal Ministry of Labour and Economy 2023, 16; emphasis in original).

A representative of the Swiss Federal University for Vocational Education and Training echoed the need for flexibility:

“The fact that learning disappears is by no means a sudden and unforeseeable event. In fact, with revisions taking place every five years at the latest, such developments are largely predictable. In view of future technological developments, we can assume that most of the apprenticeships/trades that will disappear will be those that can potentially be replaced by technical progress (cashiers, etc.) or artificial intelligence (travel agents, etc.).”

European Apprenticeship Systems Review Processes

The European countries examined use regular occupational profile reviews to ensure apprenticeship programs remain current with employer and labor market needs. Most often, reviews result in modification to the occupational profile. Less often, reviews recommend retiring an occupation or integrating it into another one.

Structure of Reviews

Austria and Switzerland review programs every five years. England reviews programs every three to five years. Exhibits 1 through 4 show the review process for each country. Notable features include the following:

- *Third-party research or independent organizations* lead the process. Three countries (Austria, Germany, and Switzerland) use research organizations to coordinate and oversee review of occupational profiles. This could involve convening a commission (Switzerland’s SFUVET) or ensuring broad representation on an advisory board (Austria’s ibw, Germany’s BiBB). England’s IfATE was created as an “arm’s length” body to the Department of Education.
- *Social partners* have a prominent role in the review process. For example, the ibw’s Federal Advisory Board on Apprenticeship comprises six representatives each from employers and employees (Austria), and the BiBB board includes eight each of employer and trade representatives (Germany). The social partners in Switzerland begin the review process by nominating commission members from a range of cantons (states). IfATE relies on groups of employers in each of the 15 routes, known as trailblazers, to review and provide input on changes to standards.
- *Other partners* included in the review process are vocational schools (Austria) and state and federal representatives (Germany).

EXHIBIT 1

Austrian Review Process

Vocational Education and Training research institute oversees review processes.	⇒	Federal Advisory Board on Apprenticeship comprised of social partners (six representatives each from employers and employees) and two representatives from the vocational schools address modernization of apprenticeships.	⇒	Recommendations (no change, modification, integration into another occupational profile) are submitted to Ministry of Labour and Economy .
--	---	--	---	---

EXHIBIT 2

English Review Process

Institute for Apprenticeships and Technical Education (IfATE) assesses plans developed by trailblazers.	⇒	Trailblazer groups of 10 or more employers review apprenticeship programs for whether knowledge, skills, or behaviors in framework are relevant or need updating. The relevant route panel produces updated occupational maps to add or remove occupations per employer input.	⇒	Based on reviews, IfATE modifies or retires occupations.
--	---	---	---	--

EXHIBIT 3

German Review Process

Federal Institute for Vocational Education and Training (BiBB) is the scientific partner of the social partners and federal government (Ministry of Economic Affairs and Energy and Ministry of Education and Research) It studies and evaluates apprenticeship frameworks and makes recommendations.	⇒	Social partners review draft modifications, and the BiBB board (comprised of eight each of employer and trade representatives, eight state government representatives, and five federal government representatives) approves. Review procedures take about one year.	⇒	Federal ministries adopt the revised frameworks.
---	---	---	---	--

EXHIBIT 4

Swiss Review Process

Swiss Federal University for Vocational Education and Training moderates the process.	⇒	Social partners select 20 or more professionals from the industry (owners, employees) from a range of cantons to serve on a commission . Review occurs in three workshops over three days	⇒	Commission recommends no change, modification, or retirement. Secretariate for Education, Research, and Innovation validates review. Cantons implement changes.
--	---	--	---	--

Outcomes of Reviews

Reviews can result in a recommendation for no change, modifications of the occupational profile, or retirement of the profile.

Retirement of occupational profiles is rare. Decisions to retire occupations primarily consider the number of apprentices in an occupation. According to an IfATE representative, any barely used apprenticeship might be retired.⁶ Per SFUVET, reasons occupations “disappear” include that they are “no longer in phase with the Swiss labor market” or are “no longer sufficiently attractive to young people.”⁷ Retirements occur only after apprentices in training complete their programs.

More commonly, obsolete or less popular occupational profiles are merged into other profiles. For example, in Austria “boot cobbler” was folded into the “shoemaker” occupation. Because the demand for fur coats plummeted in recent years, the “furrier” apprenticeship was incorporated into “clothing design.” Sometimes titles change; for example, “smith” was replaced by “metal worker.” In Switzerland, car, bike, and truck occupations were merged into a larger mechanic occupation.

In England, route reviews assess the occupational maps within the 15 route panels. Based on the reviews, the route panel might add occupations employers said they need to meet current and future business requirements and remove occupations that are no longer relevant. These reviews also assess the occupational standards to ensure they include the right knowledge, skills, and behaviors for workers to become fully competent. During the most recent review of the creative and design route, the panel

- added 5 occupations (e.g., creative artworker),
- removed 11 occupations because they did not meet the IfATE criteria and/or were covered by other standards, and
- prioritized 10 occupations (e.g., milliner) for development.

Reviews commonly result in modifications to occupational profiles. Sometimes modifications occur because of changing requirements. For example, the Swiss jeweler apprenticeship was revised because new skills were needed, such as better communication on social networks, and customers’ preferences for materials changed (e.g., less gold).

⁶ Conversation with Lucy Baldwin (Health and Social Policy, British Embassy) and David Sampson (Head, Standards Development Team, IfATE), September 19, 2023.

⁷ Correspondence with Jackie Volpe, September 22, 2023.

Changing technology, though, is a major driver of occupational profile modifications. For example, Germany reregulated 132 training occupations between 2009 and 2018, including 124 modernized occupations and 6 new training occupations (BiBB 2022). Box 3 shows how technological developments affected the country's geology occupations.

BOX 3

Social Partners Are Central to Updating Occupational Profiles in Germany

Because of ongoing developments in geotechnologies, three occupations—surveying technician, mountain surveying technician, and cartographer—had outdated training profiles that needed their content reviewed.

Revising the profiles included the following steps:

- Social partners agreed on a new overall concept for vocational education and training in geoinformation technology with two occupations—*geomatics engineer* and *surveying technician*—connected through common content at the beginning of the training.
- Two of the original occupations were “dispensed with”: *cartographer* was integrated primarily into the *geomatics engineer* occupation, and *mountain surveying technician* was integrated primarily into the *surveying technician* occupation.
- Social partners generated the following benchmarks of training regulations for the two restructured occupations: occupational titles; duration of training; structure and composition of training; form of examination; time outline; environmental protection; and the catalogue of skills, knowledge, and capabilities.
- Under the direction of BiBB, social partners appointed experts to work with BiBB to restructure the occupations. The BiBB board reviewed the draft regulations.
- The relevant ministry adopted the training regulations.

Sources: Anna Maria Kuppe, Barbara Lorig, Andreas Söhr, Henrik Schwarz, eds., “Training Regulations and How They Come About,” Federal Institute for Vocational Education and Training (Bonn, Germany, 2014).

Implications for the U.S. Apprenticeship System

Comparing the U.S. apprenticeship system to European systems is inherently difficult, given the vastly different structure of U.S. workforce training. For example, U.S. states have autonomy to establish and oversee their registered apprenticeship programs. Except in the building trades, registered apprenticeship is promoted as a way to help individual employers address their talent needs, not an industry-wide training model. Similarly, outside the building trades, employers and workers' groups (including unions) rarely collaborate on developing apprenticeship standards. Regular reviews focus on compliance with federal standards and, for larger employers, equal opportunity regulations.

Still, when conceptualizing regulations for reviewing and updating or retiring standards, U.S. policymakers can draw from the following three practices of these European systems.

Assess which registered programs are still in use. More than 1,100 apprenticeship occupations in the U.S. are federally registered. Because employers can sign on to an existing program or register their own, the same occupation can have multiple registered programs. An initial step toward modernizing the U.S. registered apprenticeship system would be to determine which programs are no longer in use and to retire them. The process would involve sorting programs by when they were first registered and last active, if any apprentices are registered in the programs, and when apprentices were last registered. Any program that has had no active apprentices in the past 10 years would be put on a list to deregister. This list could be archived and made accessible for research. The remaining programs could be sorted into occupations and industry sectors for regular review. Programs that remain on the list would be reviewed on five-year cycles to determine if they continue to register apprentices.

Use a third party to review occupational standards regularly. The current standards reviews, conducted at least once every five years, focus on compliance, including whether the program is registering apprentices. Although these reviews are good at determining whether the program still attracts potential apprentices, they are not good at determining if the standards need updating. DOL could convene expert groups of industry leaders, employers, educators, intermediaries, researchers, and workers to review and revise standards. Most occupations could be updated every five years, but others with rapid technological innovation, such as IT, could be reviewed more frequently (e.g., three years). Using a third-party group instead of OA or SAA staff members, who do compliance reviews, would enable reviewers to focus their work on specific parts of the apprenticeship program. Moreover, a third party could make recommendations focused on all employers and sponsors within an occupation and industry (e.g., auto mechanics), rather than assessing the standards of individual employers.

Develop, review, and revise National Apprenticeship Occupational Standards. DOL's recommended national occupational standards in the Proposed Rulemaking on National Apprenticeship System Enhancements is a step toward improving quality, consistency, and transparency throughout the system and would facilitate regular review and update of standards (Kobes et al. 2024). The Urban Institute's national occupational frameworks are adopted broadly because they are researched, have a robust foundation, and are customizable for the employer (frameworks are 80 percent standardized and 20 percent customizable). OA and SAAs could commit to providing quick reviews (e.g., within two weeks) of programs using national standards to encourage their use. The National Apprenticeship Occupational Standards could be reviewed regularly (e.g., every five years) by an independent third party and updated as needed.

References

- Baumgarten, Caroline. 2022. *Vocational Education and Training and Continuing Education: Overview of Vocational Qualification Opportunities in Germany*. 2nd ed. Bonn, DEU: GOVET (German Office for International Cooperation in Vocational Education and Training) at Federal Institute for Vocational Education and Training.
- BiBB (Federal Institute for Vocational Education and Training). 2014. *Training Regulations and How They Come About*. Bonn, DEU: Federal Institute for Vocational Education and Training.
- . 2022. *VET Data Report Germany 2019*. Bonn, DEU: Federal Institute for Vocational Education and Training.
- Federal Ministry of Labour and Economy. 2023. *Apprenticeship: Dual Vocational Education and Training in Austria*. Vienna: Republic of Austria, Federal Ministry of Labour and Economy.
- Gardiner, Karen, Daniel Kuehn, Elizabeth Copson, and Andrew Clarkwest. 2021. *Expanding Registered Apprenticeship in the United States: Description of American Apprenticeship Initiative Grantees and Their Programs*. Report prepared for the U.S. Department of Labor, Employment and Training Administration. Abt Associates, Rockville, MD; and Urban Institute, Washington, DC.
- Hoffman, Nancy, and Robert Schwartz. 2015. *Gold Standard: The Swiss Vocational Education and Training System*. Washington, DC: National Center on Education and the Economy.
- Kamm, Bryan, and Robert Lerman. 2015. “Expanding Apprenticeship in the US: Lessons from the German Dual Education System.” Washington, DC: Embassy of the Federal Republic of Germany.
- Kobes, Deborah, Bhavani Arabandi, Zach Boren, Daniel Kuehn, Robert I. Lerman, John Marotta, and Lindsey Tyson. 2024. “Public Comment on National Apprenticeship System Enhancements.” Washington, DC: Urban Institute.
- SERI (State Secretariat for Education, Research, and Innovation). 2022. *Vocational and Professional Training in Switzerland: Facts and Figures*. Bern: Swiss Confederation, Federal Department of Economic Affairs, Education, and Research, SERI.

About the Authors

Karen N. Gardiner is a senior fellow in the Income and Benefits Policy Center at the Urban Institute. She directs evaluations of workforce training programs, including their implementation and effects on participants. She also serves as a principal investigator on projects, most recently the Research to Support the Partnership on Inclusive Apprenticeship Project. Gardiner holds an MPP from the University of Chicago.

Bhavani Arabandi is a principal research associate in the Center on Labor, Human Services, and Population at the Urban Institute. She is a labor sociologist whose work focuses on enduring inequities in the labor market, gender, apprenticeship, and international development. Arabandi has an MA in sociology from George Mason University and a PhD in sociology from the University of Virginia.

Isaac Brown is a former research intern in the Center on Labor, Human Services, and Population.

Acknowledgments

This report was funded by the U.S. Department of Labor’s Chief Evaluation Office. We are grateful to them and to all our funders, who make it possible for Urban to advance its mission. We also thank Robert Lerman and John Marotta for reviewing and commenting on the draft.

The views expressed are those of the authors and should not be attributed to the Urban Institute, its trustees, or its funders. Funders do not determine research findings or the insights and recommendations of Urban experts. Further information on the Urban Institute’s funding principles is available at urban.org/fundingprinciples.



500 L’Enfant Plaza SW
Washington, DC 20024
www.urban.org

ABOUT THE URBAN INSTITUTE

The Urban Institute is a nonprofit research organization that provides data and evidence to help advance upward mobility and equity. We are a trusted source for changemakers who seek to strengthen decisionmaking, create inclusive economic growth, and improve the well-being of families and communities. For more than 50 years, Urban has delivered facts that inspire solutions—and this remains our charge today.

Copyright © October 2024. Urban Institute. Permission is granted for reproduction of this file, with attribution to the Urban Institute.