

# From Training to Practice: Physician Labor Market Entry, Geographic Mobility, and Reproductive Health Policy

Cecilia S. Diaz-Campo<sup>\*</sup>      Mayra Pineda-Torres<sup>†</sup>

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## Abstract

We develop and estimate a structural model to study the extent to which reproductive health policy affects physicians' clinical labor market entry and geographic mobility at the transition from training to practice. We focus on the biggest reproductive policy change in the U.S. in the last 50 years: the Supreme Court decision in *Dobbs*, which transferred regulatory authority over abortion to individual states. We leverage a unique dataset of residents and fellows in New York State, interviewed at the precise moment of transition from training completion to practice. Our results indicate that *Dobbs* reduced immediate clinical labor-market entry among physicians in reproductive-care specialties by 4%, primarily through decreases in expected compensation. This work contributes to our understanding of how healthcare regulatory landscapes shape physician workforce occupational choices and geographic distribution.

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<sup>\*</sup>Olin Business School, Washington University in St. Louis. Email: cdiazcampo@wustl.edu.

<sup>†</sup>School of Economics, Georgia Institute of Technology, NBER, and IZA. Email: mpinedat@gatech.edu.

# 1 Introduction

The physician workforce is crucial for a country’s health and economic well-being. Physicians provide an essential service to the population, directly contributing to the promotion, maintenance, and improvement of their health. Beyond their medical role, physicians serve as important economic drivers in their communities by creating jobs, buying local goods and services, and generating tax revenue that supports public initiatives. In 2015, for example, physicians generated a total of \$2.3 trillion in sales revenues, supported more than 12 million jobs, and contributed \$93 billion in state and local tax revenues ([AMA, 2018](#)).

Given physicians’ crucial role in healthcare systems and the overall economy, it is important to understand what determines the choices they make during their career paths, as this will ultimately affect the distribution of the physician workforce across specialties and geography. In particular, the transition from graduate medical education into independent practice is one of the most consequential moments in a physician’s career. After completing residency or fellowship, physicians decide whether to enter clinical practice, continue training, remain in academic medicine, and where to locate. These transitions are particularly important in the United States because physician shortages and geographic maldistribution remain persistent concerns ([NIHCM, 2025](#)).

Physicians making occupational choices take into account factors such as compensation and financial incentives (for example, [Clemens and Gottlieb 2014](#); [Falcettoni 2018](#); [Kulka and McWeeny 2019](#); [Ghosh 2021](#); [Khoury, Leganza, and Masucci 2023](#)), local amenities and healthcare system characteristics ([Morrisey, Kletke, and Marder, 1991](#)), and patient population ([Chen and Lakdawalla, 2019](#)) when choosing how and where to practice. Nonetheless, the policy environment regulating access to certain healthcare services is another factor that can affect physicians’ choices. In particular, reproductive and sexual healthcare is subject to a wide range of national- and state-level policies that regulate access to abortion, contraception, and family planning services. However, we know little about the effects of this policy environment on physicians’ occupational choices.

In this study, we develop and estimate a structural model to examine the extent to which reproductive health policy influences physicians’ labor market entry and geographic mobility at the transition from training to practice. We focus on one of the biggest reproductive health policy changes experienced in the U.S. in the last decades: the overturn of *Roe v. Wade* (henceforth, *Roe*) and *Planned Parenthood v. Casey* (henceforth, *Casey*)<sup>1</sup> with the U.S. Supreme Court decision in the case *Dobbs v. Women’s Health* (henceforth, *Dobbs*) on June 24, 2022. *Dobbs* ruled that abortion rights are not constitutionally protected and transferred regulatory authority over abortion to individual states in any area not preempted by federal legislation. Immediately after this decision, ten states halted abortion services due to trigger laws or pre-existing bans that predated *Roe*. During the subsequent weeks and months, the abortion legal landscape continued evolving as more states implemented bans or restrictive policies, though some faced state court challenges. *Dobbs* represents the most profound transformation of the U.S. reproductive healthcare landscape in 50 years.

Knowledge about abortion care provision and the related complexities of the legal landscape in which it is provided is essential for any health care professional who may have to provide this care (ACOG, 2025). However, since *Dobbs*, physicians providing any reproductive care (not only abortion) have reported confusion in whether certain services could be provided, as some state policies are written in nonmedical or vague language, which may require consultation with lawyers and institutional boards, potentially delaying needed and time-sensitive care (ACOG, 2025). Therefore, *Dobbs* has the potential to profoundly disrupt physicians’ career decisions for those providing reproductive care.

We leverage a unique dataset from the Center for Health Workforce Studies at the State University of New York at Albany: the New York Resident Exit Survey (NYRES). This survey is administered annually to all residents and fellows completing training in New York State (NYS) and collects detailed information on demographics, educational background,

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<sup>1</sup>See section 2.1 for more information on the abortion policy landscape in the U.S.

specialty, and post-graduation plans. The NYRES is uniquely suited to studying physician labor market transitions because it captures physicians at the precise moment they leave graduate medical education and make their first independent labor market decisions regarding job search, offers, expected compensation, and practice locations, allowing us to examine several margins of adjustment simultaneously, including occupational choice, geographic mobility, and wage determination. NYS provides a particularly valuable setting because it consistently trains the largest number of residents and fellows in the United States across a broad range of specialties, far exceeding every other state in the country ([Andrews and Mathews, 2024](#)).

Our empirical analysis combines reduced-form evidence with a structural model of physicians' transition from graduate medical education into the clinical labor market. The model captures three interconnected decisions and outcomes: whether physicians enter the clinical practice job market, whether and where they secure confirmed clinical positions, and the compensation associated with realized job opportunities. Physicians make occupational decisions under uncertainty, forming expectations over future employment prospects, geographic destinations, and compensation outcomes. The model therefore distinguishes between changes in overall clinical employment opportunities and changes in the geographic allocation of realized clinical positions across policy environments.

This distinction is central in the context of reproductive healthcare policy because post-*Dobbs* changes in physician labor-market behavior may reflect both extensive-margin changes in access to clinical employment and reallocations of physicians across states with different reproductive healthcare policies. Without an explicit model of physician labor-market entry and geographic mobility, empirical analysis remains tied to observed historical policy variation. A structural framework is therefore necessary to credibly evaluate counterfactual policies and disentangle the mechanisms shaping physician workforce allocation ([Low and Meghir, 2017](#)).

The structural framework also allows us to recover economic primitives that are not di-

rectly identified in reduced-form analyses alone. In particular, the model separately identifies physicians’ preferences over expected compensation, employment prospects, and geographic labor-market opportunities by combining occupational choices with observed realized destinations and compensation outcomes. Compensation is observed in the data as salary intervals rather than exact earnings, and the model explicitly incorporates this interval-censoring structure into estimation. The framework further exploits variation in physicians’ prior geographic attachment, specialty composition, and post-*Dobbs* labor-market shifts to identify how reproductive healthcare policies shape both the supply and geographic distribution of newly trained physicians.

Our findings indicate that reproductive healthcare policy influences both whether physicians enter the clinical practice job market and where they ultimately locate. Reduced-form evidence shows that following *Dobbs*, physicians in reproductive-care specialties became more likely to delay labor-market entry relative to physicians in other specialties. Consistent with these patterns, counterfactual analyses show that *Dobbs* reduced immediate entry into clinical practice among reproductive-care physicians by approximately 2 percentage points (4 percent) and reduced the probability of obtaining a confirmed clinical position by approximately 2.3 percentage points, relative to a no-*Dobbs* economy. The model further predicts a reallocation of physicians across policy environments, with fewer physicians locating in New York and other reproductive-health protective states. Counterfactual decompositions reveal that changes in expected compensation account for most of these responses, suggesting that reproductive healthcare policies affect physician workforce allocation largely through changes in the expected value of entering the clinical labor market.

We contribute to the knowledge base on the determinants of physician practice location. Seminal studies have *associated* economic incentives, amenities, population demographics, and the characteristics of the local healthcare system among the factors that physicians consider when choosing where to practice (Benham, Maurizi, and Reder, 1968; Morrissey, Kletke, and Marder, 1991; Goetz and Debertin, 1996). A handful of studies have exam-

ined the *causal* effects of policies and interventions aimed at attracting physicians and other medical professionals to medically underserved areas based on non-financial and financial incentives on physician supply. Non-financial incentives includes Health Professional Shortage Area designations to geographic areas (Khoury, Leganza, and Masucci, 2023), reduction in visa barriers to international medical graduates (Braga, Khanna, and Turner, 2024),<sup>2</sup> and expansion of public insurance coverage for dental services (Huh, 2021; Huh and Lin, 2024). Financial incentives include loans and scholarships for medical schools from the National Health Service Corps (Holmes, 2004, 2005), the loan forgiveness programs (Falcettoni, 2018; Kulka and McWeeny, 2019; Ghosh, 2021), and direct remuneration (Bolduc, Fortin, and Fournier, 1996; Falcettoni, 2018; Carrillo and Feres, 2019).<sup>3</sup>

A strand of the literature on physician location choice has focused on medical liability, through changes in tort laws or malpractice laws.<sup>4</sup> Overall, the evidence from these studies is mixed, as some of them find that changes to medical liability laws affect physician supply (although, for specific physician types),<sup>5</sup> whereas other studies do not find evidence of this relationship.<sup>6</sup> We add to this knowledge base by showing that policies that may not be directly designed to regulate physician practice (as compared to medical liability laws) still have the potential to affect occupational choices.

We additionally expand our understanding of the economic consequences of abortion policy by showing that its effects extend beyond patients to the supply side of healthcare markets. To our knowledge, this is the first study to provide model-based *causal* evidence,

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<sup>2</sup>Related to migration policy, Lo Sasso (2021) finds that increases in regulatory costs associated with sponsoring H1-B visas for international medical graduates reduce hospital demand for them, leading to fewer new physicians choosing to work in underserved areas.

<sup>3</sup>Other studies have also shown that birthplace and education or training area influence physician location choice (Shumway, 2022; Costa, Nunes, and Sanches, 2024).

<sup>4</sup>Tort law sets operable standards of care by determining what a “reasonable person” would do under a specific similar circumstance; malpractice law sets standards by determining what physicians actually do (Frakes, 2013).

<sup>5</sup>See Encinosa and Hellinger (2005); Kessler, Sage, and Becker (2005); Klick and Stratmann (2007); Matsa (2007); Polsky, Marcus, and Werner (2010); Perry and Clark (2012); Lieber (2014); Pesko et al. (2017); Chatterji, Li, and Marschke (2018); Frakes, Frank, and Seabury (2020).

<sup>6</sup>See Matsa (2007); Paik, Black, and Hyman (2016); Ellyson and Robertson (2019); Baum (2020).

under explicit structural assumptions, on *supply-side* responses (specifically, occupational choices and geographic mobility) to abortion policy.<sup>7</sup> Two recent studies have quantitatively analyzed changes in the physician workforce after *Dobbs*, focusing specifically on Obstetrics and Gynecology (OB-GYN) supply. Both find minimal to no changes in the aggregate stock of OB-GYNs after *Dobbs*.<sup>8</sup>

Our study complements and extends this emerging literature in several important ways. First, rather than focusing on the stock of practicing physicians, we examine physician behavior at a critical career margin: the transition from graduate medical education into independent practice. Workforce responses may emerge first among newly trained physicians, before they are detectable in aggregate physician counts. Second, we consider a broader set of reproductive-care specialties beyond OB-GYN, recognizing that abortion policy may affect physicians whose clinical work involves reproductive health even when they do not directly specialize in abortion care. Finally, the structural model links occupational choice, employment realization, geographic destination, and compensation in a single framework. This allows us to quantify the relative importance of employment opportunities, destination-specific labor-market prospects, and expected compensation in shaping physicians’ responses, and to simulate counterfactual policy environments that are not directly observed in the data.

Finally, we also contribute to the growing literature on the causal impacts of abortion bans, which has shown increases in birth rates (Dench, Pineda-Torres, and Myers, 2024; Dench, Myers, and Pineda-Torres, 2025), and changes in population migration patterns

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<sup>7</sup>See Clarke (2024); Myers (2025) for a review of the literature on the economics of abortion.

<sup>8</sup>Strasser et al. (2024) is the first attempt to examine the causal relationship between the physician workforce and post-*Dobbs* abortion policies. They study changes in the monthly number of OB-GYNs enrolling in the Medicare Provider Enrollment, Chain, and Ownership System (PECOS) using a difference-in-differences framework that compares states banning abortion to the remaining states. This study has two limitations. First, enrolling in the PECOS in a new state does not mean the physician is disenrolled from the prior state. This means that physicians may be enrolling in a practice in a new state without changing the location of their current practice. Second, the comparison group of states includes states with highly restrictive and complicated abortion policies that make them not necessarily a “clean” comparison group. Staiger et al. (2025) present a descriptive cohort study of the number of OB-GYNs in the National Plan & Provider Enumeration System, practicing in states with different abortion law landscapes, pre-post *Dobbs*. This study is correlational and focuses on OB-GYNs only, as well.

([Dench et al., 2025](#)) in states banning abortion relative to abortion-protective states. Our findings highlight that migration responses may differ across populations. Newly trained physicians face labor-market considerations that may partially offset these preferences. By explicitly modeling employment opportunities, geographic allocation, and compensation, we show how reproductive healthcare policy affects the allocation of the physician workforce through channels that differ from those operating in the broader population.

## 2 Background

### 2.1 The abortion landscape

Before 2022, two landmark Supreme Court decisions shaped the legal environment for abortion in the U.S. In 1973, *Roe v. Wade* (henceforth, *Roe*) legalized abortion nationwide and established the protection of the right to an abortion in the first trimester under a constitutional right to privacy. In 1992, *Planned Parenthood v. Casey* (henceforth, *Casey*) upheld the legality of abortion across the U.S. but created a "new unburden" standard, permitting states to restrict abortion before viability as long as these restrictions did not pose an "undue burden" on the woman seeking an abortion. For the next 22 years, this decision led to a proliferation of state abortion regulations that courts increasingly upheld. For example, in 2021, 19 states enacted 109 restrictions, which represented the highest total in any year since *Roe* ([Nash, 2021](#)).

On June 24, 2022, the Supreme Court issued its ruling in the case *Dobbs v. Jackson Women's Health Organization* (henceforth, *Dobbs*), overturning the precedents established in *Roe* and *Casey*. The Court determined that the Constitution does not confer a right to abortion, thereby granting states the authority to regulate abortion in any manner not explicitly prohibited by federal law.

After the decision in *Dobbs*, thirteen states had abortion trigger laws in place designed to ban abortion under most circumstances immediately. Other states never repealed pre-

*Roe* bans that could potentially be enforced. Similarly, other state legislatures enacted new abortion restrictions, including both total bans on abortions under most circumstances and gestational age bans, with six-week bans being the most restrictive.<sup>9,10</sup>

In the following months, the abortion landscape continued evolving. As of April 2025, 14 states had implemented abortion bans at some point since *Dobbs*. Appendix Table A.3.1 shows the ban states with their corresponding implementation dates (and struck down dates, if that is the case). To simplify our analysis, we will limit our post-*Dobbs* period to the years in which no abortion ban had been struck down. This means the last year we include in our analyses is 2024. As Table A.3.1 reveals, North Dakota’s ban was struck down as unconstitutional in September 2024 by a state court judge, and Missouri’s near-total abortion ban was effectively eliminated in December 2024. Regarding the remaining ban states, Texas is a special case as the state implemented an abortion ban in August 2022. However, on September 1, 2021, Texas Senate Bill 8 (Texas SB8, [Texas Legislature 2021](#)), also known as the Texas Heartbeat Act, went into effect, banning abortion after the detection of a fetal heartbeat, which typically occurs around six weeks of pregnancy. This bill was extremely restrictive and virtually acted as an abortion ban for many abortion seekers.<sup>11</sup>

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<sup>9</sup>Kentucky, Louisiana, and South Dakota had bans to go into effect if *Roe* was overturned. Idaho, Tennessee, and Texas had trigger laws that go into effect after 30 days if *Roe* was overturned. Arkansas, Mississippi, Missouri, North Dakota, Oklahoma, Utah, and Wyoming had trigger bans that would go into effect after the state’s attorney general, governor, or other specified official certified that the central holding of *Roe* had been overturned in whole or in part. Ultimately, from these 13 states, Arkansas, Idaho, Kentucky, Louisiana, Mississippi, Missouri, North Dakota, Oklahoma, South Dakota, Tennessee, and Texas successfully banned abortions ([Nash and Guarnieri, 2022](#)). Utah’s SB174 was immediately challenged. The Utah Supreme Court extended a preliminary injunction, with abortion care remaining legal in this state up to 18 weeks of pregnancy. Similarly, Wyoming’s HB0092 would have banned abortion after *Roe*’s overturn. However, it was also immediately challenged, and a judge issued a temporary restraining order to prevent it from taking effect. It was later struck down on November 2024 ([Gruver, 2023](#); [The Associated Press, 2024](#)).

<sup>10</sup>Abortion ban exceptions typically comprise four categories: preserving the pregnant person’s life, preventing significant health deterioration, cases of rape or incest, and lethal fetal anomalies. These exceptions vary across states. Among the twelve total bans in effect as of April 2025, six lack a health exception, nine lack exemptions for rape or incest, and nine omit exceptions for fatal fetal anomalies. Furthermore, despite statutory exceptions designed to protect the pregnant person’s life or health, these provisions often prove functionally inadequate in clinical practice, frequently resulting in delayed care delivery ([Felix, Sobel, and Salganicoff, 2024](#)).

<sup>11</sup>Texas SB8 has been associated with decreases in abortion procedures by half, delays in appointment scheduling at out-of-state facilities ([White et al., 2021](#)), increases in demand for self-managed medication

Similarly, Oklahoma implemented in May 2022 (i.e., a month before *Dobbs*) a copycat bill, the “Oklahoma Heartbeat Act” (Senate Bill 1503, [Oklahoma Legislature 2022](#)) modeled after Texas SB8 by prohibiting abortions at the time when a physician can detect early cardiac activity, which can be as early as six weeks.

Besides the abortion bans, the abortion policy landscape remains highly restrictive in twelve other states. Since *Dobbs*, five states have implemented gestational bans between six to twelve weeks.<sup>12,13</sup> The remaining eleven states, although they have not banned abortion, already had in place highly restrictive policies such as targeted regulations of abortion providers, mandatory waiting periods, parental involvement laws, and restrictions to Medicaid funding for abortion, among others, which complicated providers’ and patients’ ability to offer and access abortion care, respectively.

The remaining twenty-five states have either included constitutional or statutory protections for abortion as a right, and for patients and providers, or even if they do not have these expressed protections, they have recognized abortion as a privacy right related to private or personal information.

Because of the differences in state legal landscapes and, therefore, the difficulty in capturing all these nuances in a quantitative analysis, we follow [Dench, Pineda-Torres, and Myers \(2024\)](#) to mitigate this regulatory complexity and divide states in the following three categories: 1) ban states, which encompasses the 14 states that implemented a near abortion ban before November 2024, 2) protective states, which includes the twenty-five states described above, and 3) excluded states, which capture the twelve states described above that either implemented a gestational ban or have a highly restrictive policies. Figure 1 shows the states in each category.

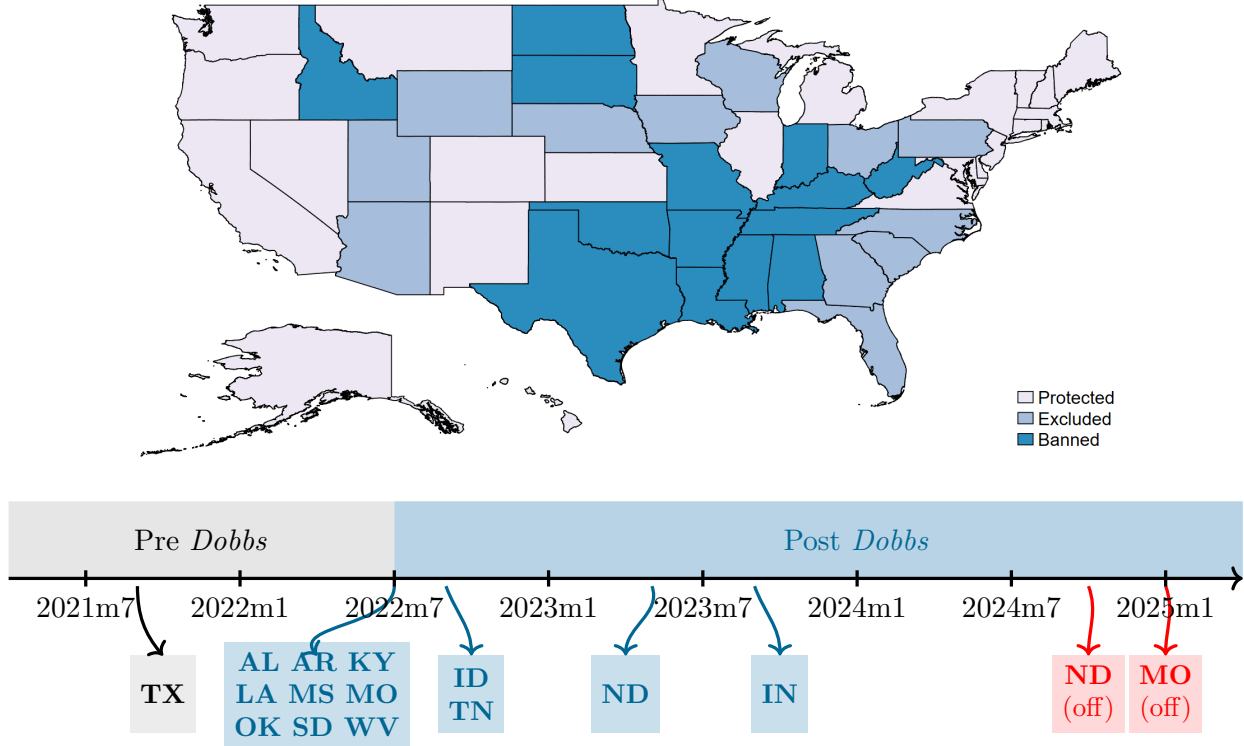
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abortions ([Aiken et al., 2022](#)), declines in mobility patterns around Texas abortion clinics ([Andersen et al., 2023](#)), and increases in fertility rates ([Bell, Stuart, and Gemmill, 2023](#)).

<sup>12</sup>These states are Florida, Georgia, Iowa, Nebraska, North Carolina, and South Carolina.

<sup>13</sup>Since gestation begins with the last menstrual period, a six-week ban gives someone with a regular 28-day cycle approximately two weeks from when pregnancy could first be detected to schedule and obtain an abortion.

Figure 1: Classification of states by policy category



## 2.2 Graduate medical education and labor markets

Medical students wanting to practice medicine in the U.S. must pursue a residency program in a hospital or healthcare facility across the country that has been accredited by the Accreditation Council for Graduate Medical Education (ACGME). Completing a residency program in a physician's career path is critical. First, it is mandatory for medical licensure because, even though after medical school, students receive an MD or DO degree, they cannot practice medicine independently without completing at least one year of graduate medical education in a residency program. Second, this is the period in a physician's career to gain and develop the practical clinical skills necessary for unsupervised practice. Third, this is the time in which medical students receive specialized training in specific medical fields. To become a specialist in a medical field, students are expected to complete a residency, which is also a requirement for a specialty board certification.

Every year, the National Residency Match Program (NRMP) matches medical students

to available residency slots based on confidential rank-order preference lists from both the applicants and the residency programs. Results are announced simultaneously on “Match Day” in mid-March, revealing students’ residency placement. Most U.S. medical students are matched on Match Day. For example, in the 2024-2025 matching cycle, more than 90% of U.S. MD and DO seniors were matched, and between 60% and 70% of U.S. citizen and non-U.S. citizen international medical graduates were matched ([AMA, 2025a](#)).<sup>14</sup>

Residency training usually begins on July 1. Program length varies substantially by specialty. For example, internal medicine and family medicine are three-year programs ([ACGME, 2025c,d](#)). OB-GYN is a four-year program ([ACGME, 2025b](#)), and other programs, such as general surgery, are five years or longer ([ACGME, 2025a](#)). However, the specialties we consider to be potentially affected by abortion policy, given that they provide reproductive health are three-year programs, with the exception of OB-GYN.<sup>15</sup>

The first year of training—referred to as PGY-1—is characterized by foundational clinical training and managing routine patients under close supervision. In year 2 (PGY-2), residents typically transition to more advance roles such as the supervision of PGY-1 residents, the independent managing of patient cases under graded supervision, and leading some rounds. In year 3 (PGY-3), residents take on more leadership roles through the continuous supervision of junior residents, serve as the primary contact for complex clinical issues, and prepare for independent practice ([Biology Insights, 2025](#); [Correa et al., 2025](#)). This is the typical structure of a three-year program, so residents in longer programs may have different training experiences.

In general, resident options after program completion mainly include entering clinical

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<sup>14</sup>Unmatched students can participate in the Supplemental Offer and Acceptance Program (SOAP), which provides access to unfulfilled residency positions through a rapid application and acceptance process right after Match Day. According to [AMA \(2025b\)](#), typically 10% of U.S. medical school graduates are not matched on Match Day and participate in the SOAP. However, most positions are filled after that. For example, in the 2024-2025 matching cycle, 99.4% of available positions in the SOAP were filled ([NRMP, 2025](#)).

<sup>15</sup>These specialties are family medicine, internal medicine general and subspecialties, pediatrics general and subspecialties, emergency medicine, and OB-GYN general and subspecialties.

practice, continuing training through subspecialization, and academic appointments. Clinical practice is the most common path. It includes practicing options such as solo or private practice, hospital or health system employment, academic medical centers, public health settings such as federally qualified health centers and veterans affairs, and locum tenens. Residents interested in practice opportunities start examining these options early in their graduate medical education. For example, in 2023, 47% of residents reported having examined practice opportunities one year before program completion, while 33% did so over one year before completion ([AMN Healthcare Physician Solutions, 2023](#)).

Some residents wish to subspecialize (or have to, depending on the specialty) and enter a fellowship program after residency. These programs use the same matching system and follow the same timeline as the residency match. Residents interested in subspecialization apply to the fellowship match during PGY-2 for a three-year residency. For residents who matched in PGY-2 (March of year 2), PGY-3 is spent finishing residency training while preparing for the July 1 fellowship start date after year 3 completion. This means that residents interested in a fellowship start planning for it as early as 24 months before the fellowship starts ([Alweis and Salama, 2021](#)). Once in fellowship, fellows should decide ahead of time the job opportunities they want to pursue after fellowship completion, usually as early as their first year of the fellowship ([Oberle et al., 2019](#)). Similarly, residents interested in academic medicine must begin examining these options within 12 to 18 months of completing residency. For example, for emergency medicine, it is recommended to start the process of exploring the academic medicine job market as early as the Spring of PGY-2 to sign a contract by the Spring of PGY-3 and start the appointment by the end of the residency program ([SAEM, 2025](#)). These timelines only apply to typical three-year specialties, which are the majority of specialties we will focus on in this study.

Therefore, the timing of post-graduation employment decisions matters for our analysis if residents incorporate the policy environment in their post-graduation plan decision-making. In particular, if residents made these plans one year or more before program completion,

then residents who graduated in academic years 2022-2023 and 2023-2024 (specifically in June 2023 and June 2024) were the first cohorts of residents in our data who potentially accounted for the policy environment resulting from *Dobbs*, since they defined their post-graduation plans around 12 to 24 months before completing their programs, i.e., around June 2022.<sup>16</sup>

### 3 Data

We rely on novel data from the Survey of Residents Completing Training in New York (New York Resident Exit Survey, NYRES). The Center for Health Workforce Studies at the State University of New York at Albany has conducted this survey annually since 1998 to residents at the time of training completion, with the cooperation and assistance of program directors and hospitals' GME administrators across New York State (NYS). The data then reflects cross-sectional information of graduating residents. The survey includes questions about residents' demographic and background characteristics, post-graduation plans, post-graduation employment, and experiences and impressions of the physician job market (Shirey, Pang, and Armstrong, 2025).<sup>17</sup>

We rely on data from the 2017-2024 surveys, which capture information on graduating residents in academic years 2016-2017 to 2023-2024, respectively. We focus on these years to consider cohorts of residents starting their graduate training after the implementation of

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<sup>16</sup>The abortion policy environment in Texas is a special case that may have affected the career decisions of residents and fellows before June 2023. As described in section 2.1, in September 2021, Texas SB8 went into effect, banning abortion after the detection of a fetal heartbeat. The implementation of this bill could have been considered in resident and fellow employment decisions for those graduating in June 2022, particularly those who made these decisions after September 2021. Nonetheless, since we do not know the extent to which residents were aware of and/or incorporated this policy change in their career decision-making, in our main analyses, we consider graduating students in June 2023 as the first affected cohort by the abortion policy. We then present robustness checks in the Appendix, considering the class of 2022 as the first affected cohort.

<sup>17</sup>The NYRES has been used to study various issues affecting GME, including the gender gap (Gerber and Sasso, 2006; Lo Sasso et al., 2011, 2020), practice location (Chou and Lo Sasso, 2009), insurance expansions (Chen, Lo Sasso, and Richards, 2018; Ma et al., 2022), recessions (Chen, Sasso, and Richards, 2018), and immigration regulations affecting IMGs (Richards, Chou, and Lo Sasso, 2009; Lo Sasso, 2021).

Section 5503 of the Affordable Care Act in July 2011. This policy redistributed residency slots from residency programs in hospitals that had been consistently operating below their cap to hospitals in eligible areas based on the state resident-to-population ratio or location of the hospital in a rural or underserved area. Since Section 5503 increased the number of residents recruited into primary care specialties in programs located in eligible areas ([McNamara and Pineda-Torres, 2025](#)), this could have affected the composition of residents across programs before and after implementation. Since the specialties we consider in our analysis are three to five years long, we take a conservative approach and start our analysis in 2017, the year that the first cohort starting their residency program in 2012-2013—the first academic year after Section 5503 implementation—would graduate from a five-year program.

The average response rate for our study period is 50% for both all specialties and reproductive health specialties only. However, the response rate has changed over time. Appendix Figure [A.4.2](#) shows the response rates across graduation years for our study period. Two features stand out. First, the survey was not conducted for the graduation year 2020, primarily due to the severe disruptions caused by the initial wave of the COVID-19 pandemic. Second, starting in 2021, the response rate declined from an average of 60% pre-2021 to an average of 40% post-2021. We will account for these response differences in our analysis.

Although the survey focuses on residents graduating from NYS programs, no other state in the country trains as many physicians as this state. For example, in December 2023, 1,453 accredited programs by the Accreditation Council for Graduate Medical Education were active in NYS, and 19,588 resident physicians were on duty in this state ([Andrews and Mathews, 2024](#)). These figures represent 11% and 12% of the total programs (13,489) and total residents (158,031), respectively. NYS trains more residents than the number of residents trained in all the regions of the country, excluding the South Atlantic, East North Central, and Middle Atlantic (where NYS is located) regions. California is the second state with the largest number of programs and residents, but given its population size, the number of resident physicians per 100,000 people in this state is 37, compared to 100

residents per 100,000 people in NYS ([Andrews and Mathews, 2024](#)). Even across specialties, NYS is one of the largest suppliers of physicians. In 2021, for example, around 13% of the residents in primary care and internal medicine specialties were trained in this state ([Forte, 2023](#)). Therefore, the NYS setting is highly relevant to examine the labor market entry and geographic preferences of physicians as a response to policy shocks.

Table 1 presents descriptive statistics for our variables of interest for graduating cohorts before (2017-2022) and after (2023-2024) *Dobbs*. From the sample of residents who responded to the survey, 86% received a job offer before *Dobbs*, whereas 92% did in the two academic years after *Dobbs*. In addition, the respondents' plans for primary activity after graduation remained similarly distributed across options before and after *Dobbs*. For example, about half of the residents who responded to the survey indicated patient care with confirmed plans as their primary activity after graduation, and this is consistent in both periods. Regarding the new job location, although the majority of residents got a job somewhere in the U.S. (about 98%), we observe a modest increase in the share of residents whose new job location is in NYS, from 49% pre-*Dobbs* to 52% after *Dobbs*. We also observe a modest increase in the share of respondents reporting entering clinical practice after graduation (52% vs 54%) and a corresponding decline in the share of respondents delaying clinical practice (49% vs 46%). Regarding respondent base income, we know this information for those respondents who already had confirmed post-graduation practice plans at the time of the interview. Before *Dobbs*, about 67% of these respondents expect a base salary above \$200,000, with the largest share of residents (14%), expecting a salary in the \$200,000-224,999 bracket. After *Dobbs*, 80% of respondents expected a salary above \$200,000, with 23% of these respondents expecting a salary of \$375,000 or more.

Table 2 presents descriptive statistics for respondent demographics (Panel B) and the distribution of respondents across residency programs and fellowships, as well as specialties (Panel C). Regarding respondent demographics, the overall distribution of residents across these demographics remains pretty consistent before and after *Dobbs*. For example, about

48% of the respondents identified as female, and the average age was 32.5 years. In addition, 42% of respondents identified as non-Hispanic White, 6% as Black or African American, 9% as Hispanic/Latino, 0.3-0.4% as American Indian or Alaska Native. The only race/ethnicity where we observe a change in the share of respondents is Asian or Pacific Islander, which went from 34% pre-*Dobbs* to 37% after *Dobbs*. Regarding the citizenship status of the respondent, we observe an increase in the share of native born respondents (58% vs 65%) and a decline across the board in the remaining categories (i.e., naturalized, permanent residents, and visa holders). Moreover, the share of respondents who studied high school or medical school in NYS remained similar before and after *Dobbs* (29%), and the share of respondents who studied high school or medical school in another state increased (44% vs 48% and 33% vs 40%, respectively). In contrast, the share of residents who studied high school or medical school in Canada, and particularly in other countries, declined pre-post *Dobbs* (28% vs 23% and 38% vs 30%). These last changes in the distribution of graduating residents may be related to changes in immigration policy, as previously observed with 2009 regulations (Lo Sasso, 2021).

Panel C in Table 2 shows that the distribution of respondents across residency programs and fellowships remained similar before and after *Dobbs*. Around 69% of the respondents were graduating from a residency program, while the remaining 30% were fellowship graduates. Similarly, the distribution of respondents across specialties before and after *Dobbs* remained similar. Internal medicine (general and subspecialties) remained as the specialty with the largest share of respondents (34%), followed by facility-based specialties (anesthesiology, pathology, radiology, nuclear medicine, 13-14%), and surgery (general and subspecialties, 12-13%).

Table 1: NYRES Descriptive Statistics. Variables of interest

|                                   | 2017-2018 to 2021-2022 |               | 2022-2023 to 2023-2024 |               |
|-----------------------------------|------------------------|---------------|------------------------|---------------|
|                                   | No. obs                | Mean/SD       | No. obs                | Mean/SD       |
| <b>Panel A: Outcomes</b>          |                        |               |                        |               |
| Received any job offer            | 7,599                  | 0.860 (0.347) | 2,295                  | 0.919 (0.273) |
| Primary activity after graduation |                        |               |                        |               |
| Patient care w/confirmed plans    | 6,314                  | 0.459 (0.498) | 2,072                  | 0.500 (0.500) |
| Patient care no confirmed plans   | 761                    | 0.055 (0.229) | 160                    | 0.039 (0.193) |
| Subspecializing                   | 5,787                  | 0.421 (0.494) | 1,684                  | 0.407 (0.491) |
| Chief resident                    | 298                    | 0.022 (0.146) | 84                     | 0.020 (0.141) |
| Teaching research                 | 242                    | 0.018 (0.132) | 51                     | 0.012 (0.110) |
| No confirmed plans                | 340                    | 0.025 (0.155) | 91                     | 0.022 (0.147) |
| New job location in the U.S.      | 13,367                 | 0.983 (0.128) | 4,056                  | 0.984 (0.126) |
| New job location in NYS           | 6,572                  | 0.492 (0.500) | 2,126                  | 0.524 (0.499) |
| Clinical practice                 |                        |               |                        |               |
| Enter clinical practice           | 7,075                  | 0.515 (0.500) | 2,232                  | 0.539 (0.499) |
| Delay clinical practice           | 6,667                  | 0.485 (0.500) | 1,910                  | 0.461 (0.499) |
| Base salary after graduation      |                        |               |                        |               |
| Less than 99,999                  | 840                    | 0.111 (0.314) | 214                    | 0.089 (0.285) |
| 100,000-124,999                   | 225                    | 0.030 (0.170) | 55                     | 0.023 (0.150) |
| 125,000-149,999                   | 292                    | 0.039 (0.193) | 60                     | 0.025 (0.156) |
| 150,000-174,999                   | 433                    | 0.057 (0.232) | 49                     | 0.020 (0.141) |
| 175,000-199,999                   | 725                    | 0.096 (0.294) | 100                    | 0.042 (0.200) |
| 200,000-224,999                   | 1,090                  | 0.144 (0.351) | 199                    | 0.083 (0.276) |
| 225,000-249,999                   | 750                    | 0.099 (0.299) | 305                    | 0.127 (0.333) |
| 250,000-274,999                   | 691                    | 0.091 (0.288) | 252                    | 0.105 (0.306) |
| 275,000-299,999                   | 480                    | 0.063 (0.244) | 175                    | 0.073 (0.260) |
| 300,000-324,999                   | 618                    | 0.082 (0.274) | 205                    | 0.085 (0.279) |
| 325,000-349,999                   | 332                    | 0.044 (0.205) | 108                    | 0.045 (0.207) |
| 350,000-374,999                   | 324                    | 0.043 (0.203) | 126                    | 0.052 (0.223) |
| 375,000 and over                  | 762                    | 0.101 (0.301) | 557                    | 0.232 (0.422) |

*Notes:* This table contains descriptive statistics for the sample of 18,675 residents who responded to the survey during the academic years 2017-2018 to 2023-2024. Columns labeled as No. obs indicate the number of observations when the variable takes the value of one (or is different than missing for the case of age). Columns labeled as Mean/SD indicate the mean and standard deviation (in parentheses) for the corresponding variable. Information on base salary is only available for graduating students with confirmed practice plans. Source: Own elaboration using microdata from the New York Resident Exit Survey (NYRES).

Table 2: NYRES Descriptive Statistics. Residents and Specialties

|                                           | 2017-2018 to 2021-2022 |                | 2022-2023 to 2023-2024 |                |
|-------------------------------------------|------------------------|----------------|------------------------|----------------|
|                                           | No. obs                | Mean/SD        | No. obs                | Mean/SD        |
| <b>Panel B: Demographics</b>              |                        |                |                        |                |
| Female                                    | 6,863                  | 0.478 (0.500)  | 2,093                  | 0.484 (0.500)  |
| Age                                       | 12,881                 | 32.525 (4.100) | 3,804                  | 32.525 (3.617) |
| Race/ethnicity                            |                        |                |                        |                |
| Non-Hispanic White                        | 5,897                  | 0.420 (0.494)  | 1,757                  | 0.415 (0.493)  |
| Black/African American                    | 826                    | 0.059 (0.235)  | 238                    | 0.056 (0.230)  |
| Hispanic/Latino                           | 1,202                  | 0.086 (0.280)  | 383                    | 0.090 (0.287)  |
| Asian or Pacific Islander                 | 4,728                  | 0.337 (0.473)  | 1,563                  | 0.369 (0.483)  |
| American Indian/Alaska Native             | 42                     | 0.003 (0.055)  | 16                     | 0.004 (0.061)  |
| Other                                     | 1,329                  | 0.095 (0.293)  | 280                    | 0.066 (0.248)  |
| Citizenship/immigration                   |                        |                |                        |                |
| Native born                               | 8,227                  | 0.579 (0.494)  | 2,713                  | 0.637 (0.481)  |
| Naturalized/Permanent resident            | 3,791                  | 0.267 (0.442)  | 972                    | 0.228 (0.420)  |
| H1-B                                      | 698                    | 0.049 (0.216)  | 157                    | 0.037 (0.188)  |
| J Exchange visitor                        | 1,500                  | 0.106 (0.307)  | 416                    | 0.098 (0.297)  |
| High school location                      |                        |                |                        |                |
| NYS                                       | 4,010                  | 0.283 (0.450)  | 1,225                  | 0.287 (0.452)  |
| Other state                               | 6,271                  | 0.442 (0.497)  | 2,051                  | 0.480 (0.500)  |
| Canada                                    | 534                    | 0.038 (0.190)  | 146                    | 0.034 (0.182)  |
| Other country                             | 3,368                  | 0.237 (0.426)  | 853                    | 0.200 (0.400)  |
| Medical school location                   |                        |                |                        |                |
| NYS                                       | 4,211                  | 0.297 (0.457)  | 1,272                  | 0.298 (0.457)  |
| Other state                               | 4,638                  | 0.327 (0.469)  | 1,726                  | 0.404 (0.491)  |
| Canada                                    | 44                     | 0.003 (0.056)  | 5                      | 0.001 (0.034)  |
| Other country                             | 5,294                  | 0.373 (0.484)  | 1,272                  | 0.298 (0.457)  |
| <b>Panel C: Residents and specialties</b> |                        |                |                        |                |
| Residents and fellows                     |                        |                |                        |                |
| Residents                                 | 9,832                  | 0.685 (0.465)  | 3,010                  | 0.696 (0.460)  |
| Fellows                                   | 4,520                  | 0.315 (0.465)  | 1,313                  | 0.304 (0.460)  |
| Specialties                               |                        |                |                        |                |
| Family medicine                           | 641                    | 0.045 (0.207)  | 151                    | 0.035 (0.184)  |
| Internal medicine-general                 | 2,775                  | 0.193 (0.395)  | 773                    | 0.179 (0.383)  |
| Pediatrics-general                        | 1,095                  | 0.076 (0.265)  | 263                    | 0.061 (0.239)  |
| Emergency medicine                        | 744                    | 0.052 (0.222)  | 275                    | 0.064 (0.244)  |
| OB-GYN-general                            | 438                    | 0.031 (0.172)  | 128                    | 0.030 (0.170)  |
| Internal medicine-subspecialty            | 2,069                  | 0.144 (0.351)  | 680                    | 0.157 (0.364)  |
| Pediatrics-subspecialty                   | 421                    | 0.029 (0.169)  | 143                    | 0.033 (0.179)  |
| OB-GYN-subspecialty                       | 128                    | 0.009 (0.094)  | 42                     | 0.010 (0.098)  |
| Surgery-general                           | 469                    | 0.033 (0.178)  | 154                    | 0.036 (0.185)  |
| Surgery-subspecialty                      | 1,234                  | 0.086 (0.280)  | 445                    | 0.103 (0.304)  |
| Facility based                            | 1,884                  | 0.131 (0.338)  | 630                    | 0.146 (0.353)  |
| Psychiatry (gen and subspec)              | 890                    | 0.062 (0.241)  | 278                    | 0.064 (0.245)  |
| Other                                     | 1,564                  | 0.109 (0.312)  | 361                    | 0.084 (0.277)  |

Notes: See notes in Table 1. Facility based specialties include anesthesiology, pathology, radiology, and nuclear medicine.

## 4 Reduced-Form Evidence

We begin by documenting reduced-form relationships between reproductive healthcare policy and physicians’ labor-market outcomes at the transition from training to practice. The objective of this section is not to establish causal effects, but rather to characterize the empirical patterns in the data that motivate and inform the structural model developed in the next section.

### 4.1 Clinical Practice Job Market Entry

Table 3 reports estimates for the probability that a graduating resident or fellow plans to enter the clinical practice job market immediately upon completion of training. Columns (1) and (2) present linear probability and logit estimates, respectively. The specifications control for specialty, fellowship status, educational debt, a post-*Dobbs* indicator, and an interaction between reproductive-care specialties and the post-*Dobbs* period.

Several patterns emerge. First, there is substantial heterogeneity across specialties in the propensity to enter clinical practice immediately after training. Relative to family medicine, physicians in most specialties are less likely to report immediate entry into clinical practice, reflecting differences in fellowship opportunities and career trajectories. Educational debt is positively associated with labor-market entry, suggesting that physicians facing larger debt burdens have stronger incentives to begin earning attending-level salaries rather than delay labor-market participation through additional training.

Most importantly, the interaction between reproductive-care specialties and the post-*Dobbs* period is negative and statistically significant. The estimated coefficient implies that physicians in reproductive-care specialties experienced a 6.4 percentage-point decline in the probability of immediate clinical-practice entry relative to physicians in other specialties following *Dobbs*. Given a mean clinical-practice entry rate of approximately 50 percent, this effect is economically meaningful and suggests that reproductive-care physicians responded

differently to the post-*Dobbs* policy environment.

A decline in immediate clinical-practice entry does not necessarily imply a permanent reduction in physician supply. Instead, it may reflect delayed labor-market entry through additional fellowship training or other post-graduation activities. The reduced-form evidence alone cannot distinguish among these margins.

## 4.2 Compensation Outcomes

Table 4 examines expected annual compensation among physicians reporting confirmed clinical-practice plans. The dependent variable is the logarithm of expected annual salary.

Column (1) controls for demographic characteristics, specialty, fellowship status, graduation year, and the interaction between reproductive-care specialties and the post-*Dobbs* period. Column (2) additionally controls for the physician’s destination category, distinguishing among ban, protective, excluded, and international locations.

The estimates reveal substantial compensation differences across specialties. Relative to family medicine, physicians entering procedural specialties such as surgery, emergency medicine, and obstetrics and gynecology report significantly higher expected earnings, while pediatric specialties report substantially lower compensation. Female physicians also report lower expected salaries, while compensation varies systematically across destination locations.

The coefficient of primary interest is again the interaction between reproductive-care specialties and the post-*Dobbs* period. Across both specifications, the estimated coefficient is approximately  $-0.056$ , implying that reproductive-care physicians report expected salaries roughly 5.6 percent lower than comparable physicians in other specialties after *Dobbs*. Importantly, the magnitude remains virtually unchanged after controlling for destination categories. This finding suggests that differential compensation changes for reproductive-care physicians cannot be explained solely by geographic reallocation across states with different labor-market conditions.

Table 3: Clinical Practice Job Market Entry

|                                                  | LPM                  | Logit                |
|--------------------------------------------------|----------------------|----------------------|
| Constant                                         | 0.749***<br>(0.016)  | 1.122***<br>(0.088)  |
| Fellow                                           | 0.319***<br>(0.012)  | 1.371***<br>(0.055)  |
| Internal Medicine (General)                      | -0.389***<br>(0.017) | -1.704***<br>(0.093) |
| Pediatrics (General)                             | -0.357***<br>(0.020) | -1.573***<br>(0.102) |
| Emergency Medicine                               | -0.116***<br>(0.021) | -0.579***<br>(0.108) |
| Obstetrics and Gynecology (General)              | -0.130***<br>(0.025) | -0.639***<br>(0.123) |
| Internal Medicine (Subspecialties)               | -0.411***<br>(0.021) | -1.838***<br>(0.110) |
| Pediatrics (Subspecialties)                      | -0.380***<br>(0.027) | -1.693***<br>(0.139) |
| Obstetrics and Gynecology (Subspecialties)       | -0.270***<br>(0.035) | -1.077***<br>(0.220) |
| Surgery (General)                                | -0.636***<br>(0.021) | -3.043***<br>(0.143) |
| Surgery (Subspecialties)                         | -0.441***<br>(0.019) | -1.952***<br>(0.101) |
| Facility Based (Anesth, Pathol, Radiol, NuclMed) | -0.424***<br>(0.018) | -1.872***<br>(0.098) |
| Psychiatry (General + Subspecialties)            | -0.302***<br>(0.021) | -1.325***<br>(0.108) |
| Other Specialty                                  | -0.457***<br>(0.020) | -2.017***<br>(0.104) |
| Educational Debt (in 100,000)                    | 0.012***<br>(0.002)  | 0.054***<br>(0.010)  |
| Post-Dobbs (after 2022)                          | 0.065***<br>(0.012)  | 0.304***<br>(0.056)  |
| Repro. Spec. x Post-Dobbs                        | -0.064***<br>(0.016) | -0.301***<br>(0.074) |
| Observations                                     | 18,675               | 18,675               |

The destination coefficients themselves reveal substantial geographic compensation differences. Relative to ban states, physicians locating in protective states report salaries approximately 11 percent lower, while physicians locating outside the United States report substantially lower expected compensation. These patterns highlight the potential importance of geographic sorting in shaping physicians’ labor-market incentives.

Although the reduced-form results document economically meaningful changes in labor-market entry and compensation among reproductive-care physicians following *Dobbs*, they are insufficient for evaluating the effect of reproductive healthcare policy on physician work-force allocation.

First, these estimates capture equilibrium outcomes rather than underlying mechanisms. A decline in clinical-practice entry may reflect changes in expected compensation, changes in employment opportunities, changes in geographic labor-market prospects, or some combination of these forces. Reduced-form regressions cannot separately identify the contribution of each channel.

Second, the estimates should not be interpreted as causal effects of reproductive health-care policy. Physicians in reproductive-care specialties may have experienced differential labor-market trends after 2022 for reasons unrelated to abortion policy. More generally, because *Dobbs* was a nationwide policy shock affecting reproductive-care physicians across the country, identifying an appropriate untreated comparison group is inherently difficult.

Finally, reduced-form methods cannot evaluate counterfactual policy environments. The regressions describe observed post-*Dobbs* outcomes, but they do not allow us to determine how physicians would have behaved in the absence of the policy change, nor can they quantify the relative importance of employment opportunities, geographic allocation, and compensation in shaping observed behavior.

To address these limitations, we next develop and estimate a structural model of occupational choice, clinical employment, geographic mobility, and compensation. The model explicitly incorporates physicians’ expectations over future labor-market outcomes and al-

Table 4: Log Annual Salary for Physicians with Confirmed Clinical Practice Plans

|                                                  | (1)<br>OLS           | (2)<br>OLS           |
|--------------------------------------------------|----------------------|----------------------|
| Constant                                         | 11.957***<br>(0.110) | 12.102***<br>(0.108) |
| Female                                           | -0.094***<br>(0.008) | -0.088***<br>(0.008) |
| Internal Medicine (General)                      | 0.046***<br>(0.013)  | 0.027**<br>(0.013)   |
| Pediatrics (General)                             | -0.230***<br>(0.018) | -0.244***<br>(0.018) |
| Emergency Medicine                               | 0.242***<br>(0.015)  | 0.226***<br>(0.015)  |
| Obstetrics and Gynecology (General)              | 0.135***<br>(0.019)  | 0.120***<br>(0.019)  |
| Internal Medicine (Subspecialties)               | 0.250***<br>(0.019)  | 0.232***<br>(0.019)  |
| Pediatrics (Subspecialties)                      | -0.032<br>(0.021)    | -0.053**<br>(0.021)  |
| Obstetrics and Gynecology (Subspecialties)       | 0.445***<br>(0.032)  | 0.433***<br>(0.031)  |
| Surgery (General)                                | 0.250***<br>(0.055)  | 0.235***<br>(0.054)  |
| Surgery (Subspecialties)                         | 0.343***<br>(0.021)  | 0.326***<br>(0.021)  |
| Facility Based (Anesth, Pathol, Radiol, NuclMed) | 0.334***<br>(0.017)  | 0.323***<br>(0.017)  |
| Psychiatry (General + Subspecialties)            | 0.039**<br>(0.018)   | 0.038**<br>(0.018)   |
| Other Specialty                                  | 0.125***<br>(0.019)  | 0.108***<br>(0.019)  |
| Repro. Spec. x Post-Dobbs                        | -0.057***<br>(0.015) | -0.056***<br>(0.015) |
| US States: Protected                             |                      | -0.110***<br>(0.012) |
| US States: Excluded                              |                      | -0.011<br>(0.014)    |
| Outside the US                                   |                      | -0.306***<br>(0.065) |
| Observations                                     | 7,875                | 7,865                |

allows us to recover policy-relevant counterfactuals that cannot be identified from reduced-form evidence alone.

## 5 Model

We develop a structural model of occupational choice among physicians completing residency or fellowship training. Upon completing graduate medical education, each physician chooses between entering clinical practice and pursuing alternative non-clinical activities, including additional training, research, or teaching. This choice is made under uncertainty: physicians do not observe job offers at the time of the occupational decision, and potential offers are characterized by a geographic location and a compensation package. Physicians evaluate the clinical practice alternative using the expected utility implied by the distribution of potential job offers. Because both geographic location and compensation are unknown at the time of the occupational decision, physicians integrate over the joint distribution of future offer locations and associated wages. In particular, the model first determines the probability distribution over locations and then integrates location-specific compensation over those probabilities. The model has three building blocks: an occupational choice equation that determines entry into clinical practice, a location model that governs the geographic distribution of job offers, and a compensation equation that determines offered wages. We describe each in turn.

### 5.1 Occupational choice

Consider physician  $i$ , trained in specialty  $s$ , who completes graduate medical education in year  $t$ . The physician chooses  $d_{ist} \in \{0, 1\}$ , where  $d_{ist} = 1$  denotes entry into the clinical practice job market and  $d_{ist} = 0$  denotes pursuit of non-clinical activities. At the time of the occupational decision, physicians do not yet observe whether a clinical job opportunity will materialize, nor the geographic location or compensation associated with potential future

offers.

The utility from entering the clinical practice job market is

$$V_{ist}^{PC} = X_{ist}^O \beta^O + EV_{ist}^{PC} + \varepsilon_{ist}^{PC}, \quad (1)$$

where  $X_{ist}^O$  contains a constant, specialty indicators, fellowship status, and educational debt level;  $EV_{ist}^{PC}$  denotes the expected utility associated with participation in the clinical practice labor market, integrating over uncertainty regarding future job realization, geographic location, and compensation; and  $\varepsilon_{ist}^{PC}$  is an idiosyncratic preference shock realized prior to the occupational choice.

The deterministic utility from non-clinical activities is normalized to zero. The preference shocks  $\{\varepsilon_{ist}^{PC}, \varepsilon_{ist}^0\}$  are assumed independently and identically distributed as Type I Extreme Value across alternatives and individuals. The physician enters the clinical practice job market if  $V_{ist}^{PC} \geq \varepsilon_{ist}^0$ , yielding the standard logit choice probability

$$P(d_{ist} = 1) = \Lambda(X_{ist}^O \beta^O + EV_{ist}^{PC}), \quad (2)$$

where  $\Lambda(\cdot)$  denotes the logistic cumulative distribution function.

## 5.2 Clinical labor market outcomes

Conditional on entering the clinical practice job market, physicians face uncertainty regarding future labor-market outcomes. Specifically, physicians may either fail to secure a confirmed clinical position or obtain a confirmed position associated with a particular geographic

destination. Let  $y_{ist} \in \mathcal{L} = \{0, 1, 2, 3, 4, 5\}$  denote the realized labor-market outcome, where:

- 0 : No confirmed clinical job,
- 1 : Clinical job in *excluded* state,
- 2 : Clinical job in New York State,
- 3 : Clinical job in *protective* state (excluding NY),
- 4 : Clinical job in *ban* state,
- 5 : Clinical job outside the United States.

Labor-market outcomes are modeled jointly through a multinomial logit specification. For each possible outcome  $l \in \mathcal{L}$ , physician  $i$  receives latent index

$$S_{istl} = X_{ist}^L \kappa_l, \quad (3)$$

where  $X_{ist}^L$  includes a constant, citizenship status, high-school location, medical-school location, specialty indicators, and post-*Dobbs* interactions. The probability of labor-market outcome  $l$  is therefore

$$P(y_{ist} = l) = \frac{\exp(S_{istl})}{\sum_{m \in \mathcal{L}} \exp(S_{istm})}, \quad l \in \mathcal{L}, \quad (4)$$

where the no-confirmed-job latent index  $S_{ist0}$  is normalized to zero for identification. The probability of obtaining any confirmed clinical position is therefore given by

$$P(y_{ist} \neq 0) = \sum_{l=1}^5 P(y_{ist} = l).$$

Conditional on obtaining a confirmed clinical position, the probability of each possible geo-

graphic destination is given by

$$P(y_{ist} = l \mid y_{ist} \neq 0) = \frac{P(y_{ist} = l)}{P(y_{ist} \neq 0)}.$$

### 5.3 Compensation

Conditional on obtaining a confirmed clinical position, physicians realize the compensation associated with the geographic destination of the realized labor-market outcome. Compensation follows a Mincerian specification (Mincer, 1958) as a log-linear function of observable physician and job characteristics plus an idiosyncratic wage shock:

$$\log(w_{ist}) = X_{ist}^W \beta^W + \eta_{ist}, \quad (5)$$

where  $w_{ist}$  denotes latent annual compensation and  $X_{ist}^W$  includes a constant, age, gender, degree type, survey year fixed effects, realized job location, reproductive care specialty indicator, and post-*Dobbs* interactions. The compensation shock is assumed to be normally distributed with mean zero and variance  $\sigma_\eta^2$ . Compensation is observed in the data only for physicians with confirmed clinical positions.

Because compensation depends on realized clinical practice location, physicians evaluate patient-care careers using the expected compensation implied by the location distribution,

$$E[\log(w_{ist})] = \sum_{l=1}^5 P(y_{ist} = l \mid y_{ist} \neq 0) \cdot E_\eta[\log(w_{ist}) \mid y_{ist} = l], \quad (6)$$

where the inner expectation is taken with respect to the compensation shock, while the outer expectation is taken with respect to the practice location.

At the time of the occupational decision, physicians do not yet observe the realized labor-market outcome, geographic destination, or compensation associated with future clinical opportunities. Expected utility from participation in the clinical practice labor market

therefore integrates over the full distribution of future labor-market realizations.

$$EV_{ist}^{PC} = P(y_{ist} \neq 0) \left[ \alpha^{job} + \alpha^{wage} E[\log(w_{ist})] \right. \\ \left. + \alpha^{home} \sum_{l=1}^5 P(y_{ist} = l \mid y_{ist} \neq 0) \cdot 1[HS_{ist} = \text{NYS}] \cdot 1[l = 2] \right]. \quad (7)$$

The expected utility object has three components. First, physicians value the probability of securing any confirmed clinical position. Second, physicians value expected compensation, where expected log wage is itself obtained by integrating destination-specific expected wages over the conditional distribution of future practice locations implied by the multinomial labor-market model. Third, the model incorporates a New York home-state attachment term for physicians whose high school was located in New York State. Specifically, physicians receive additional utility when the realized clinical job is located in New York State and their high school was also located in New York. Since physicians do not observe future destinations at the time of occupational choice, the home-state utility component is likewise integrated over the conditional location distribution.

Overall, expected utility from participation in the clinical practice labor market depends jointly on the probability of obtaining a confirmed clinical position, the distribution of future geographic destinations, and the compensation associated with each potential destination.

## 5.4 Identification

There are three groups of parameters to identify: compensation parameters, labor-market outcome parameters, and occupational-choice parameters. Identification relies on four components of the model and exploits separate sources of variation in the data. First, the model's timing structure implies that occupational choice occurs prior to the realization of labor-market outcomes and compensation. Physicians therefore make occupational decisions based on expectations over future labor-market realizations rather than observed outcomes. Second, parametric assumptions on preference and compensation shocks connect observed

discrete and interval-censored outcomes to latent utility and compensation variables. Third, exclusion restrictions generate variation in expected clinical labor-market prospects that shifts occupational choice without directly entering the compensation equation. Finally, the compensation and labor-market equations enter occupational utility through the expected value of clinical practice, generating cross-equation restrictions that link observed occupational choices to the same parameters governing compensation and labor-market outcomes.

Identification of the compensation equation is analogous to standard sample-selection and participation models in the tradition of [Heckman \(1979\)](#). Compensation is observed only for physicians who both choose to enter the clinical practice job market and secure confirmed clinical positions. Consequently, the observed compensation distribution is conditional on endogenous occupational choice and employment realization. Parameter restrictions across equations, together with exclusion restrictions arising from variables that shift occupational choice or destination probabilities without directly affecting compensation, allow the compensation parameters to be separately identified from the selection process. In particular, disaggregated specialty indicators, fellowship status, and educational debt enter the occupational-choice equation but are excluded from the compensation equation. Similarly, geographic attachment variables (i.e., high-school and medical school location) and citizenship status shift destination probabilities without directly affecting compensation conditional on realized location.

Compensation is observed in the survey as salary intervals rather than exact amounts. The model, therefore, treats annual compensation as a latent continuous variable observed with interval censoring. Under the assumption of log-normal compensation, the distribution of observations across salary brackets provides information about both the conditional mean and conditional variance of the latent compensation distribution. Conditional on confirmed employment and realized geographic destination, cross-sectional variation in physicians' observed compensation brackets identifies the parameters of the latent compensation distribution.

The parameters governing clinical labor-market outcomes are identified from observed realizations of no-confirmed-job and destination-specific confirmed-job outcomes among physicians entering the clinical labor market. Because no-confirmed-job status is modeled as one outcome in the multinomial specification, observed labor-market realizations jointly discipline both the probability of securing a confirmed clinical position (extensive margin) and the conditional distribution of destinations among physicians securing confirmed clinical positions. This distinction is important because the model separately captures changes in overall clinical employment opportunities and changes in the geographic allocation of realized clinical positions. Analogous to a difference-in-differences design, reproductive-specialty-by-post-*Dobbs* interactions are identified from the differential post-*Dobbs* change in realized labor-market outcomes for reproductive specialists relative to non-reproductive specialists. Similarly, prior geographic attachment and citizenship status identify destination-specific labor-market probabilities by shifting the relative likelihood of observed geographic outcomes across physicians.

The occupational-choice parameters are identified from variation in physicians' observed entry decisions with respect to the expected value of participation in the clinical practice labor market implied by the compensation and labor-market components of the model. At the time of occupational choice, physicians do not observe future labor-market realizations or compensation outcomes. Instead, occupational choice depends on the expected value of clinical practice implied by the model, which combines the probability of securing a confirmed clinical position, the distribution of destinations conditional on confirmed employment, and expected compensation associated with each destination. Variation in expected labor-market opportunities and compensation across physicians, therefore, shifts the expected value of clinical practice and identifies how expected labor-market outcomes enter occupational utility.

The cross-equation structure is essential for the separate identification of the occupational-choice parameters. If only the binary occupational decision were observed, the model would identify only whether physicians with different characteristics are more or less likely to enter

clinical practice. It would not separately distinguish whether these differences arise from expected compensation, differential employment prospects, destination-specific labor-market opportunities, or direct preferences for clinical practice. Separate information on confirmed-job outcomes, realized destinations, and compensation brackets is therefore necessary to disentangle these channels. In particular, the baseline utility associated with securing a clinical position and the expected compensation component enter occupational utility jointly through the expected value of clinical practice. Occupational choice alone would therefore identify only a composite object combining these components. Observed compensation brackets and realized labor-market outcomes separately discipline the compensation and labor-market equations, allowing residual variation in occupational entry decisions to identify physicians’ preferences over expected clinical labor-market outcomes.

## 6 Estimation

The model is estimated by maximum likelihood using repeated cross-sectional, individual-level observations from the 2017–2024 New York Resident Exit Surveys. Estimation jointly incorporates three components of physician labor-market behavior: (i) occupational choice, (ii) employment and destination outcomes, and (iii) compensation. Let  $\Theta$  denote the full vector of structural parameters.

The first component of the likelihood corresponds to the occupational-choice decision. Under the assumption that occupation-specific preference shocks are independently and identically distributed Type I Extreme Value across alternatives and individuals, the probability that physician  $i$  enters the clinical practice job market takes the standard binary logit form,

$$P(d_{ist} = 1) = \frac{\exp(X_{ist}^O \beta^O + EV_{ist}^{PC})}{1 + \exp(X_{ist}^O \beta^O + EV_{ist}^{PC})},$$

where the deterministic component of occupational utility is defined in equation (1). The

contribution of observed occupational choice to the likelihood is therefore

$$L_{ist}^O(\Theta) = P(d_{ist} = 1)^{d_{ist}} [1 - P(d_{ist} = 1)]^{1-d_{ist}}. \quad (8)$$

The second component of the likelihood corresponds to observed clinical labor-market outcomes among physicians who choose to enter the clinical practice job market. Recall that labor-market outcomes are modeled as a multinomial choice over six mutually exclusive alternatives: no confirmed clinical job, a clinical job in an excluded state, a clinical job in New York State, a clinical job in a protective state, a clinical job in a ban state, and a clinical job outside the United States. Let  $y_{ist} \in \mathcal{L} = \{0, \dots, 5\}$  denote the realized labor-market outcome and let  $P(y_{ist} = l), l \in \mathcal{L}$ , denote the corresponding multinomial probabilities defined in equation (4). The contribution of observed labor-market outcomes to the likelihood is

$$L_{ist}^L(\Theta \mid d_{ist} = 1) = \left[ \prod_{l \in \mathcal{L}} P(y_{ist} = l)^{1_{[y_{ist}=l]}} \right]^{d_{ist}}. \quad (9)$$

Compensation is observed only for physicians who both enter the clinical practice job market and secure a confirmed clinical position. The NYRES records compensation using a finite set of salary intervals rather than exact earnings. Let  $b_{ist} \in \{1, \dots, \mathcal{B}\}$  denote the observed compensation bracket reported in the survey. The model treats annual compensation  $w_{ist}$  as a latent continuous variable observed with interval censoring. Assuming log compensation is normally distributed conditional on physician and job characteristics, with mean  $X_{ist}^W \beta^W$  and variance  $\sigma_\eta^2$  as specified in equation (5), the probability that physician  $i$ 's

compensation falls within bracket  $k$  is

$$P(b_{ist} = k \mid y_{ist}) = \begin{cases} \Phi\left(\frac{\log(\bar{w}^1) - X_{ist}^W \beta^W}{\sigma_\eta}\right) & , \quad \text{if } k = 1 \\ \Phi\left(\frac{\log(\bar{w}^k) - X_{ist}^W \beta^W}{\sigma_\eta}\right) - \Phi\left(\frac{\log(\bar{w}^{k-1}) - X_{ist}^W \beta^W}{\sigma_\eta}\right) & , \quad \text{if } k \in \{2, \dots, B-1\} \\ 1 - \Phi\left(\frac{\log(\bar{w}^{B-1}) - X_{ist}^W \beta^W}{\sigma_\eta}\right) & , \quad \text{if } k = B \end{cases}$$

where  $\Phi(\cdot)$  denotes the standard normal cumulative distribution function. The bracket cutoffs  $\{\bar{w}^k\}_{k=1}^{B-1}$  are determined by the survey instrument and are treated as known during estimation. The contribution of compensation to the likelihood is therefore

$$L_{ist}^W(\Theta \mid d_{ist} = 1, y_{ist} \neq 0) = \left[ \left( \prod_{k=1}^B P(b_{ist} = k \mid y_{ist})^{1[b_{ist}=k]} \right)^{1[y_{ist} \neq 0]} \right]^{d_{ist}}. \quad (10)$$

Each physician contributes only the likelihood components corresponding to the outcomes observed in the data. Physicians who do not enter the clinical practice job market contribute only through the occupational-choice likelihood. Physicians who enter the clinical practice job market but do not secure confirmed positions contribute through both the occupation and no-confirmed-position components. Physicians with confirmed clinical positions contribute through the occupation, location, and compensation components.

The full-sample log-likelihood is therefore

$$LL(\Theta) = \sum_{i=1}^N \log \left( L_{ist}^O(\Theta) \times L_{ist}^L(\Theta \mid d_{ist} = 1) \times L_{ist}^W(\Theta \mid d_{ist} = 1, y_{ist} \neq 0) \right). \quad (11)$$

The parameter vector  $\Theta$  is estimated numerically by maximizing the sample log-likelihood.

## 7 Results

Table 5 reports estimates from the occupation-choice utility component in equation (1) of the structural model. The estimates indicate substantial heterogeneity in physicians' incen-

tives to enter clinical practice immediately after graduate medical education. The positive coefficient on fellowship status indicates that physicians completing fellowship training derive greater utility from immediate entry into the clinical labor market. The large fellowship coefficient should be interpreted in light of the binary occupational-choice definition: for residents, the non-clinical-practice alternative includes pursuing additional fellowship training, whereas fellows have already completed that stage of training. Educational debt also influences occupational choice. Physicians with higher educational debt place greater value on entering clinical practice immediately after training, consistent with debt repayment obligations increasing the relative attractiveness of clinical employment. Relative to Family Medicine, all specialty groups exhibit lower utility associated with immediate entry into clinical practice. The largest differences arise in surgical specialties, facility-based specialties, and internal medicine subspecialties, consistent with these fields offering greater incentives for additional training or alternative post-training career paths.

Expected labor-market outcomes play an important role in occupational choice. The estimated coefficient on expected log annual compensation,  $\alpha^{wage}$ , is positive and precisely estimated, indicating that physicians place substantial value on expected earnings when deciding whether to enter the clinical practice job market. Holding other labor-market opportunities fixed, higher expected compensation increases the attractiveness of immediate entry into the clinical labor market. The estimated New York State home-bias parameter,  $\alpha^{home}$ , is also positive and statistically significant. Physicians who attended high school in New York derive additional utility from clinical positions located in New York State, even after conditioning on expected compensation and observed determinants of labor-market outcomes. This finding suggests that geographic attachment remains an important factor in physician labor-market decisions at the completion of graduate medical education. Although newly trained physicians exhibit substantial geographic mobility, prior ties to New York continue to influence the transition from training to practice.

The baseline utility associated with obtaining a confirmed clinical position,  $\alpha^{job}$ , should

be interpreted jointly with expected compensation and geographic considerations through the expected value of clinical practice. Because occupational choice depends on the entire distribution of future labor-market outcomes, the magnitude of  $\alpha^{job}$  is not directly interpretable in isolation. In the estimated model, physicians face favorable clinical labor-market prospects. The average probability of obtaining a confirmed clinical position is approximately 0.90, and average expected compensation conditional on employment is broadly consistent with observed early-career physician earnings. Combined with substantial geographic mobility and positive compensation returns, these labor-market opportunities generate a high expected value of clinical practice for most physicians, helping explain the high rate of transition from graduate medical education into clinical practice observed in the data.

Table 6 reports estimates from the log compensation equation in equation (5) of the structural model. Compensation is observed only for physicians with confirmed clinical practice plans and is reported in the survey as salary intervals rather than exact earnings. Consequently, the parameters of the latent compensation equation are estimated jointly with the occupational-choice and labor-market outcome components of the model, accounting for the endogenous selection of physicians into observed compensation outcomes.

The estimated age profile exhibits the standard concave shape commonly found in earnings equations. Log compensation initially rises with age but at a diminishing rate, consistent with standard human-capital accumulation mechanisms and early-career physician earnings trajectories. The estimated female coefficient is negative, indicating lower expected compensation for female physicians conditional on observed characteristics, specialty, and practice location. The estimated coefficient associated with holding a Doctor of Osteopathic Medicine (D.O.) degree is small in magnitude and statistically indistinguishable from zero, suggesting limited compensation differences between D.O. and M.D. physicians conditional on specialty and practice location. This finding should be interpreted within the context of the estimation sample. While compensation differences between D.O. and M.D. physicians may exist in broader physician labor markets, the estimates suggest that among physicians completing

Table 5: Occupation Choice Utility Parameters

| Parameter                                                         | Estimate | Std. Error |
|-------------------------------------------------------------------|----------|------------|
| $\beta_1^O$ : Constant                                            | 1.759    | (0.626)    |
| $\beta_2^O$ : Fellow                                              | 1.395    | (0.057)    |
| $\beta_3^O$ : Internal Medicine (General)                         | -1.740   | (0.095)    |
| $\beta_4^O$ : Pediatrics (General)                                | -1.569   | (0.104)    |
| $\beta_5^O$ : Emergency Medicine                                  | -0.623   | (0.110)    |
| $\beta_6^O$ : Obstetrics and Gynecology (General)                 | -0.615   | (0.125)    |
| $\beta_7^O$ : Internal Medicine (Subspecialties)                  | -1.966   | (0.113)    |
| $\beta_8^O$ : Pediatrics (Subspecialties)                         | -1.784   | (0.140)    |
| $\beta_9^O$ : Obstetrics and Gynecology (Subspecialties)          | -1.049   | (0.233)    |
| $\beta_{10}^O$ : Surgery (General)                                | -3.130   | (0.146)    |
| $\beta_{11}^O$ : Surgery (Subspecialties)                         | -2.084   | (0.108)    |
| $\beta_{12}^O$ : Facility Based (Anesth, Pathol, Radiol, NuclMed) | -1.991   | (0.103)    |
| $\beta_{13}^O$ : Psychiatry (General + Subspecialties)            | -1.447   | (0.113)    |
| $\beta_{14}^O$ : Other Specialty                                  | -2.042   | (0.106)    |
| $\beta_{15}^O$ : Educational Debt (in 100,000)                    | 0.053    | (0.011)    |
| $\alpha^{job}$ : Confirmed Patient Care Job                       | -12.786  | (2.354)    |
| $\alpha^{home}$ : New York State Home Bias                        | 0.160    | (0.057)    |
| $\alpha^{wage}$ : Log Annual Compensation                         | 0.976    | (0.165)    |

Notes: The table reports estimates from the occupational choice equation (1) of the structural model. Specialty coefficients are measured relative to the omitted category, Family Medicine. Educational debt is measured in hundreds of thousands of dollars. The home-bias parameter captures the utility premium associated with a New York State clinical position among physicians who attended high school in New York State.

graduate medical education programs in New York State, degree type is not an important determinant of early-career compensation. Fellows also earn higher expected compensation than residents, conditional on specialty, location, and other observed characteristics. The estimated coefficient implies an earnings premium of approximately five percent, consistent with the additional training and specialization associated with fellowship completion.

The geographic coefficients reveal substantial compensation heterogeneity across practice locations. Relative to Ban states, physicians practicing in protective states earn substantially lower expected compensation, suggesting that physicians may face a tradeoff between compensation and practice location when choosing where to establish clinical practice. Compensation differences between Ban states and excluded states are comparatively modest. Physicians practicing outside the United States exhibit the lowest expected compensation among all destination categories. The year fixed effects display a strong upward trend, reflecting both nominal compensation growth and changes in aggregate physician labor-market conditions over the sample period. Including year effects is particularly important because compensation is reported in nominal salary intervals rather than real earnings.

The estimates further indicate important differences associated with reproductive-health-related specialties and the post-*Dobbs* period. Physicians in reproductive-care specialties earn lower expected compensation prior to *Dobbs*. The negative interaction between reproductive specialties and the post-*Dobbs* period indicates a relative decline in compensation for reproductive-care physicians after *Dobbs* compared with other specialties. Finally, the estimated standard deviation of the wage shock indicates substantial residual heterogeneity in physician compensation beyond the observable characteristics included in the model. Overall, the estimates from Table 6 imply substantial heterogeneity in expected compensation across physicians and locations, which feeds directly into occupational-choice incentives.

Table 7 reports estimates from the clinical labor-market outcome equation (4) of the structural model. Conditional on entering the clinical practice job market, physicians face six mutually exclusive labor-market outcomes: no confirmed clinical position, a clinical po-

Table 6: Log Compensation Equation Parameters

| Parameter                                                 | Estimate | Std. Error |
|-----------------------------------------------------------|----------|------------|
| $\beta_1^W$ : Constant                                    | 11.833   | (0.140)    |
| $\beta_2^W$ : Age                                         | 0.037    | (0.008)    |
| $\beta_3^W$ : Age Squared                                 | -0.041   | (0.011)    |
| $\beta_4^W$ : Female                                      | -0.142   | (0.008)    |
| $\beta_5^W$ : Doctor of Osteopathic Medicine (DO)         | -0.009   | (0.011)    |
| $\beta_6^W$ : US States: Excluded                         | -0.015   | (0.018)    |
| $\beta_7^W$ : US States: Protected                        | -0.137   | (0.015)    |
| $\beta_8^W$ : Outside the US                              | -0.283   | (0.035)    |
| $\beta_9^W$ : Year 2018                                   | 0.045    | (0.013)    |
| $\beta_{10}^W$ : Year 2019                                | 0.074    | (0.013)    |
| $\beta_{11}^W$ : Year 2021                                | 0.111    | (0.014)    |
| $\beta_{12}^W$ : Year 2022                                | 0.132    | (0.014)    |
| $\beta_{13}^W$ : Year 2023                                | 0.289    | (0.018)    |
| $\beta_{14}^W$ : Year 2024                                | 0.347    | (0.018)    |
| $\beta_{15}^W$ : Fellow                                   | 0.052    | (0.008)    |
| $\beta_{16}^W$ : Reproductive Care Specialty              | -0.111   | (0.009)    |
| $\beta_{17}^W$ : Reproductive Care Specialty x Post-Dobbs | -0.109   | (0.018)    |
| $\sigma_\eta$ : Standard Deviation of Compensation Shock  | 0.324    | (0.004)    |

Notes: The table reports estimates from the log compensation equation (5) of the structural model. The dependent variable is latent log annual compensation, observed in the survey through salary intervals. Location coefficients are measured relative to the omitted category, US ban states; New York State is grouped with protective states in the compensation equation. Year fixed effects are measured relative to survey year 2017. There was no survey in 2020 due to COVID-19. Standard errors are reported in parentheses.

sition in an excluded state, a clinical position in New York State, a clinical position in a protective state, a clinical position in a ban state, and a clinical position outside the United States. The labor-market outcome equation is estimated as a multinomial logit model, with no confirmed clinical position serving as the omitted category. Consequently, all reported coefficients should be interpreted relative to the baseline outcome of failing to secure a confirmed clinical position. Positive coefficients therefore indicate characteristics associated with a higher probability of obtaining the corresponding labor-market outcome relative to remaining without a confirmed clinical position.

Prior geographic ties play an important role in shaping realized clinical labor-market outcomes. Physicians who attended high school or medical school outside New York are substantially less likely to transition into clinical positions in New York State and more likely to realize employment outcomes in alternative geographic destinations. Because the model does not separately distinguish job-search effort, offer arrival, and offer acceptance decisions, these coefficients should be interpreted as reduced-form measures of how pre-training geographic attachment influences the ultimate allocation of physicians across labor markets. These effects likely reflect a combination of professional networks, geographic familiarity, recruiting relationships, and physicians' responses to available job opportunities.

Citizenship status is an important determinant of realized labor-market outcomes. Relative to U.S.-born physicians, temporary-worker visa holders exhibit substantially higher probabilities of transitioning into confirmed clinical positions across most domestic destinations rather than remaining without a confirmed job. Exchange-visitor physicians also appear more likely to realize confirmed clinical positions, particularly in ban states and outside the United States. In contrast, naturalized citizens and permanent residents display labor-market outcomes that are generally similar to those of U.S.-born physicians, with the notable exception that they are considerably less likely to practice outside the United States. These patterns likely reflect differences in visa constraints, employer sponsorship requirements, and the geographic distribution of employment opportunities available to international medical

graduates.

The coefficients associated with reproductive-care specialties and the post-*Dobbs* period suggest comparatively modest changes in destination-specific labor-market outcomes. Prior to *Dobbs*, physicians in reproductive-care specialties appear somewhat more likely to secure confirmed clinical positions within the United States and less likely to practice outside the country. The estimated post-*Dobbs* interaction terms are generally small and imprecisely estimated, indicating limited evidence of large destination-specific shifts once physician characteristics and other labor-market determinants are taken into account. Because multinomial-logit coefficients are difficult to interpret directly, the economic significance of these effects is more transparently evaluated through the counterfactual simulations and predicted probability exercises discussed below.

Overall, the estimates indicate that geographic attachment and immigration status are key determinants of clinical labor-market allocation among newly trained physicians. These destination-specific labor-market opportunities, together with the compensation equation, determine the expected value of clinical practice that enters the occupational-choice component of the model.

## 7.1 Model Fit

In this section, we assess the extent to which the estimated structural model reproduces the key moments observed in the data. Table 8 compares observed moments with their model-implied counterparts. The reported moments span three dimensions of physician labor-market behavior: occupational transitions, geographic allocation, and compensation outcomes. For each dimension, we report moments for the full sample as well as for physicians in reproductive-care specialties before and after *Dobbs*.

Overall, the model provides a good fit to the occupational-transition and geographic-allocation moments. The estimated model closely reproduces the observed probability of entering the clinical practice job market and the probability of securing a confirmed clinical

Table 7: Clinical Labor-Market Outcome Parameters

| Parameter                                   | Excluded          | NYS               | Protective        | Ban               | Outside US        |
|---------------------------------------------|-------------------|-------------------|-------------------|-------------------|-------------------|
| $\kappa_1^l$ : Constant                     | -0.366<br>(0.143) | 2.140<br>(0.105)  | 0.391<br>(0.120)  | -1.790<br>(0.204) | -3.031<br>(0.482) |
| $\kappa_2^l$ : Nat Citizen/Perm Resident    | -0.103<br>(0.125) | -0.327<br>(0.100) | -0.056<br>(0.106) | 0.185<br>(0.152)  | -2.104<br>(0.516) |
| $\kappa_3^l$ : H Temporary Worker           | 0.777<br>(0.260)  | 0.472<br>(0.235)  | 0.651<br>(0.245)  | 0.997<br>(0.299)  | -0.593<br>(0.628) |
| $\kappa_4^l$ : J Exchange Visitor           | 0.147<br>(0.213)  | -0.128<br>(0.182) | 0.573<br>(0.186)  | 1.096<br>(0.234)  | 1.212<br>(0.439)  |
| $\kappa_5^l$ : High School US (not NYS)     | 0.254<br>(0.131)  | -0.690<br>(0.099) | 0.726<br>(0.112)  | 0.632<br>(0.178)  | 0.883<br>(0.528)  |
| $\kappa_6^l$ : High School Outside the US   | 0.451<br>(0.178)  | -0.656<br>(0.143) | 0.351<br>(0.157)  | 0.625<br>(0.225)  | 2.899<br>(0.610)  |
| $\kappa_7^l$ : Med School US (not NYS)      | 0.572<br>(0.146)  | -0.166<br>(0.116) | 0.144<br>(0.123)  | 0.888<br>(0.194)  | -0.128<br>(0.400) |
| $\kappa_8^l$ : Med School Outside the US    | -0.053<br>(0.148) | -0.821<br>(0.111) | -0.472<br>(0.122) | 0.293<br>(0.198)  | -0.586<br>(0.377) |
| $\kappa_9^l$ : Reproductive Care Specialty  | 0.143<br>(0.116)  | 0.211<br>(0.095)  | 0.203<br>(0.101)  | 0.231<br>(0.138)  | -0.805<br>(0.238) |
| $\kappa_{10}^l$ : Post-Dobbs (after 2022)   | 0.238<br>(0.192)  | 0.583<br>(0.159)  | 0.419<br>(0.167)  | 0.166<br>(0.234)  | -0.085<br>(0.391) |
| $\kappa_{11}^l$ : Repro. Spec. x Post-Dobbs | 0.027<br>(0.244)  | -0.119<br>(0.204) | -0.198<br>(0.215) | 0.051<br>(0.290)  | 0.560<br>(0.493)  |

Notes: The table reports estimates from the multinomial clinical labor-market outcome equation (4) of the structural model. Columns correspond to confirmed-job destination outcomes. The omitted outcome is no confirmed clinical job, with the vector  $\kappa^0$  normalized to zero. Standard errors are reported in parentheses.

position conditional on entering the patient-care job market. The model also captures the broad geographic distribution of physicians across destination categories, including the shares locating in New York State, protective states, ban states, excluded states, and outside the United States.

The compensation distribution is more challenging to fit exactly. Although the model captures the overall shape of the earnings distribution and reproduces the broad allocation of physicians across lower-, middle-, and higher-compensation categories, the model-implied distribution is smoother than the empirical distribution observed in the survey. In particular, the data exhibit greater concentration in specific compensation brackets, whereas the estimated log-normal specification spreads probability mass more evenly across adjacent intervals. This pattern is expected because compensation is modeled as a continuous latent variable with a parametric distribution, while the observed survey responses are reported in discrete salary categories. Despite these differences, the model captures the central features of the compensation distribution and closely matches the overall prevalence of low-, middle-, and high-compensation outcomes.

Taken together, the results indicate that the estimated model successfully reproduces the key empirical moments used for identification while providing a parsimonious characterization of physicians' occupational choices, geographic allocation, and compensation outcomes.

## 8 Counterfactuals

The estimated structural model provides a framework for evaluating how reproductive health-care policies affect physicians' transitions from graduate medical education into clinical practice. Because the model separately identifies occupational choice, clinical labor-market outcomes, and compensation, it allows us to isolate the mechanisms through which post-*Dobbs* changes influence physician behavior. In particular, we decompose the differential post-*Dobbs* effect for physicians in reproductive-care specialties into three channels: (i) clinical employ-

Table 8: Model Fit

|                                              | Overall |       | Repro Pre- <i>Dobbs</i> |       | Repro Post- <i>Dobbs</i> |       |
|----------------------------------------------|---------|-------|-------------------------|-------|--------------------------|-------|
|                                              | Data    | Model | Data                    | Model | Data                     | Model |
| <i>Panel A. Occupational transition</i>      |         |       |                         |       |                          |       |
| $P(PC = 1)$                                  | 0.498   | 0.503 | 0.543                   | 0.540 | 0.553                    | 0.573 |
| $P(Job = 1 \mid PC = 1)$                     | 0.901   | 0.902 | 0.897                   | 0.896 | 0.929                    | 0.928 |
| <i>Panel B. Geographic allocation</i>        |         |       |                         |       |                          |       |
| $P(NYS \mid PC = 1, Job = 1)$                | 0.517   | 0.492 | 0.501                   | 0.477 | 0.545                    | 0.527 |
| $P(Protective \mid PC = 1, Job = 1)$         | 0.268   | 0.283 | 0.272                   | 0.286 | 0.248                    | 0.259 |
| $P(Ban \mid PC = 1, Job = 1)$                | 0.071   | 0.074 | 0.079                   | 0.083 | 0.069                    | 0.072 |
| $P(Excluded \mid PC = 1, Job = 1)$           | 0.129   | 0.136 | 0.134                   | 0.141 | 0.122                    | 0.128 |
| $P(Outside US \mid PC = 1, Job = 1)$         | 0.016   | 0.015 | 0.014                   | 0.013 | 0.016                    | 0.015 |
| $P(Move \mid PC = 1, Job = 1)$               | 0.483   | 0.508 | 0.499                   | 0.523 | 0.455                    | 0.473 |
| <i>Panel C. Compensation distribution</i>    |         |       |                         |       |                          |       |
| $P(w < 100k \mid PC = 1, Job = 1)$           | 0.017   | 0.004 | 0.018                   | 0.007 | 0.011                    | 0.002 |
| $P(100k \leq w < 125k \mid PC = 1, Job = 1)$ | 0.014   | 0.018 | 0.015                   | 0.027 | 0.003                    | 0.010 |
| $P(125k \leq w < 150k \mid PC = 1, Job = 1)$ | 0.031   | 0.045 | 0.043                   | 0.063 | 0.014                    | 0.030 |
| $P(150k \leq w < 175k \mid PC = 1, Job = 1)$ | 0.052   | 0.075 | 0.075                   | 0.100 | 0.025                    | 0.059 |
| $P(175k \leq w < 200k \mid PC = 1, Job = 1)$ | 0.094   | 0.100 | 0.127                   | 0.124 | 0.068                    | 0.088 |
| $P(200k \leq w < 225k \mid PC = 1, Job = 1)$ | 0.146   | 0.112 | 0.184                   | 0.130 | 0.128                    | 0.107 |
| $P(225k \leq w < 250k \mid PC = 1, Job = 1)$ | 0.122   | 0.113 | 0.130                   | 0.121 | 0.174                    | 0.114 |
| $P(250k \leq w < 275k \mid PC = 1, Job = 1)$ | 0.109   | 0.104 | 0.116                   | 0.104 | 0.126                    | 0.110 |
| $P(275k \leq w < 300k \mid PC = 1, Job = 1)$ | 0.075   | 0.091 | 0.074                   | 0.085 | 0.107                    | 0.099 |
| $P(300k \leq w < 325k \mid PC = 1, Job = 1)$ | 0.096   | 0.076 | 0.075                   | 0.066 | 0.103                    | 0.085 |
| $P(325k \leq w < 350k \mid PC = 1, Job = 1)$ | 0.049   | 0.061 | 0.034                   | 0.049 | 0.047                    | 0.070 |
| $P(350k \leq w < 375k \mid PC = 1, Job = 1)$ | 0.051   | 0.049 | 0.035                   | 0.036 | 0.049                    | 0.056 |
| $P(w \geq 375k \mid PC = 1, Job = 1)$        | 0.145   | 0.152 | 0.074                   | 0.088 | 0.146                    | 0.170 |

Notes: The table compares observed moments in the data with the corresponding moments implied by the estimated structural model. Geographic allocation and compensation moments are conditional on choosing patient care and obtaining a confirmed clinical job. Compensation is observed in salary intervals in the survey. Model compensation moments report predicted probabilities that latent compensation falls within each salary interval.

ment opportunities, (ii) geographic allocation of clinical positions, and (iii) compensation.

## 8.1 Decomposition of post-*Dobbs* effects

We begin by quantifying the contribution of each channel to the labor-market responses of physicians in reproductive-care specialties. Starting from the estimated post-*Dobbs* equilibrium, we sequentially remove the differential post-*Dobbs* effect for reproductive-care physicians from one component of the model at a time while holding the remaining components fixed at their estimated post-*Dobbs* values.

The first counterfactual removes the differential post-*Dobbs* effect on clinical employment opportunities. The second removes the differential post-*Dobbs* effect on the geographic allocation of clinical positions while holding overall employment opportunities fixed. The third removes the differential post-*Dobbs* effect on compensation while holding employment opportunities and geographic allocation fixed. Following each modification, we recompute the expected value of clinical practice, physicians' occupational choices, and the resulting labor-market outcomes.<sup>18</sup>

Figures 2-4 summarize the decomposition results. The employment-opportunity channel has little effect on clinical-practice entry or destination-specific workforce allocation. Removing this channel changes clinical-practice entry by less than 0.1 percentage points and confirmed clinical employment by less than 0.3 percentage points. The geographic-allocation channel primarily affects where physicians practice rather than whether they enter clinical practice. Removing this channel increases the probability of practicing in protective states and New York State, while reducing the probability of practicing in ban, excluded, and international destinations. In contrast, the compensation channel generates the largest response in occupational choice. Removing the estimated post-*Dobbs* compensation effect increases clinical-practice entry by approximately 2.2 percentage points and confirmed clinical em-

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<sup>18</sup>Appendix A.2 provides a detailed description of each counterfactual.

ployment by approximately 2.0 percentage points. Taken together, these results indicate that post-*Dobbs* changes in expected compensation are the primary driver of occupational-entry responses, while geographic-allocation effects mainly operate through the distribution of practice locations.

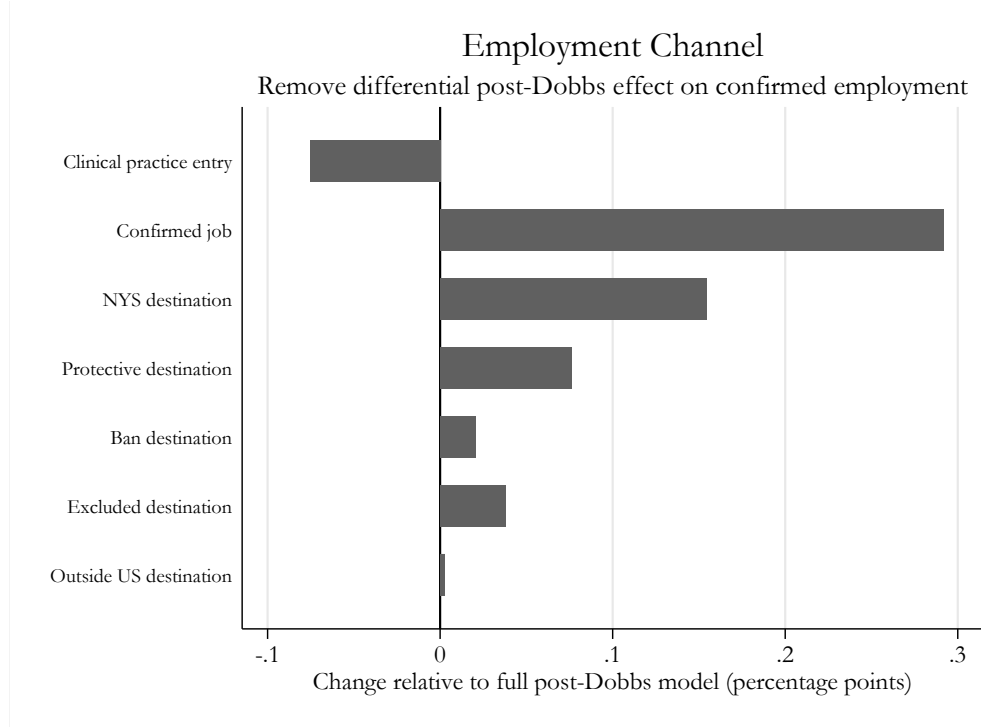


Figure 2: Employment-Opportunity Channel

**Notes:** The figure reports percentage-point changes relative to the estimated post-*Dobbs* equilibrium for reproductive-care physicians. The counterfactual removes the differential post-*Dobbs* effect on clinical employment opportunities while holding geographic allocation and compensation fixed at their estimated post-*Dobbs* values.

## 8.2 Counterfactual no-*Dobbs* economy

We next evaluate a counterfactual economy in which *Dobbs* does not occur. Specifically, we set all reproductive-specialty-by-post-*Dobbs* interaction terms equal to zero in the labor-market outcome and compensation equations while holding all other estimated parameters fixed. The resulting counterfactual isolates how reproductive healthcare policy changes altered physicians' expected labor-market opportunities and occupational decisions relative to a world without *Dobbs*.

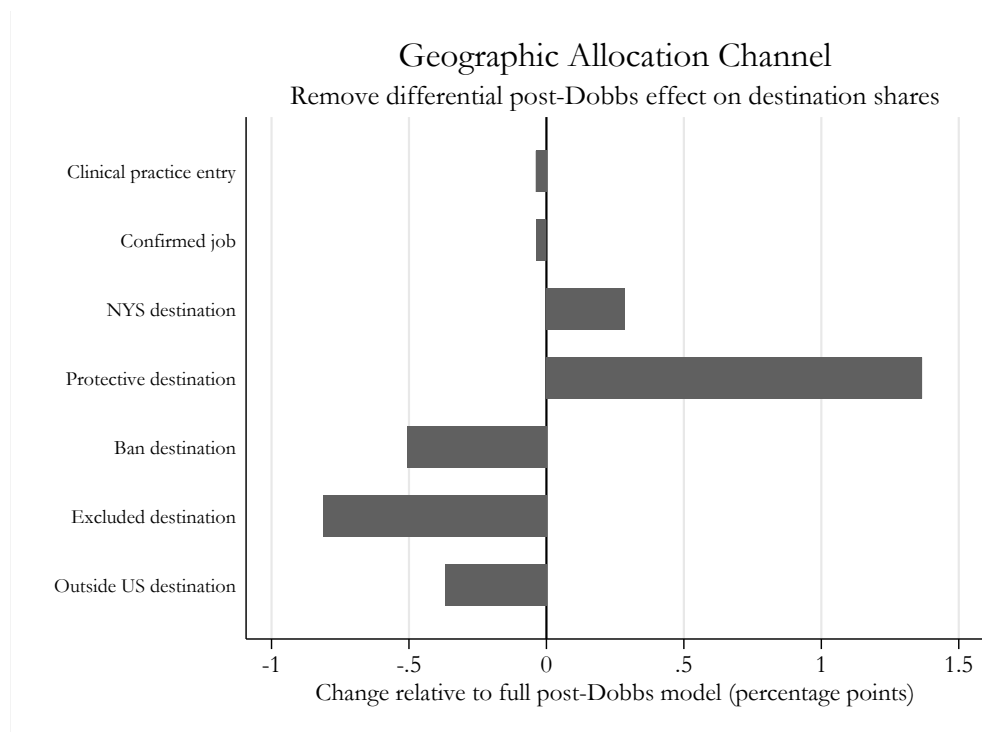


Figure 3: Geographic-Allocation Channel

**Notes:** The figure reports percentage-point changes relative to the estimated post-*Dobbs* equilibrium for reproductive-care physicians. The counterfactual removes the differential post-*Dobbs* effect on destination shares conditional on obtaining a clinical position while holding employment opportunities and compensation fixed at their estimated post-*Dobbs* values.

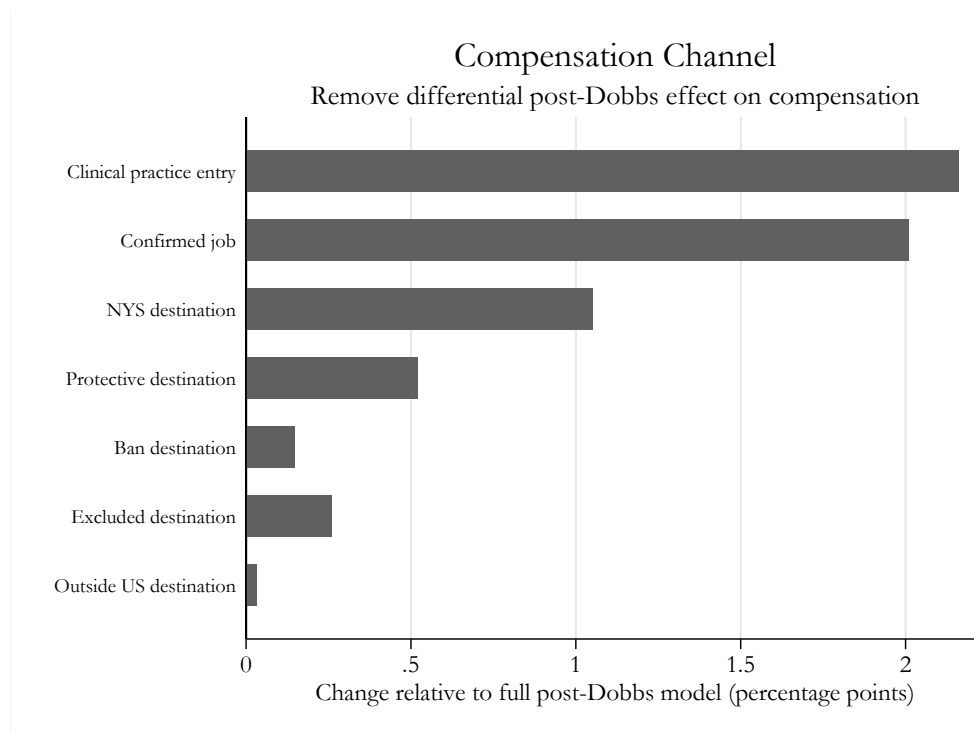


Figure 4: Compensation Channel

**Notes:** The figure reports percentage-point changes relative to the estimated post-*Dobbs* equilibrium for reproductive-care physicians. The counterfactual removes the differential post-*Dobbs* effect on compensation while holding employment opportunities and geographic allocation fixed at their estimated post-*Dobbs* values.

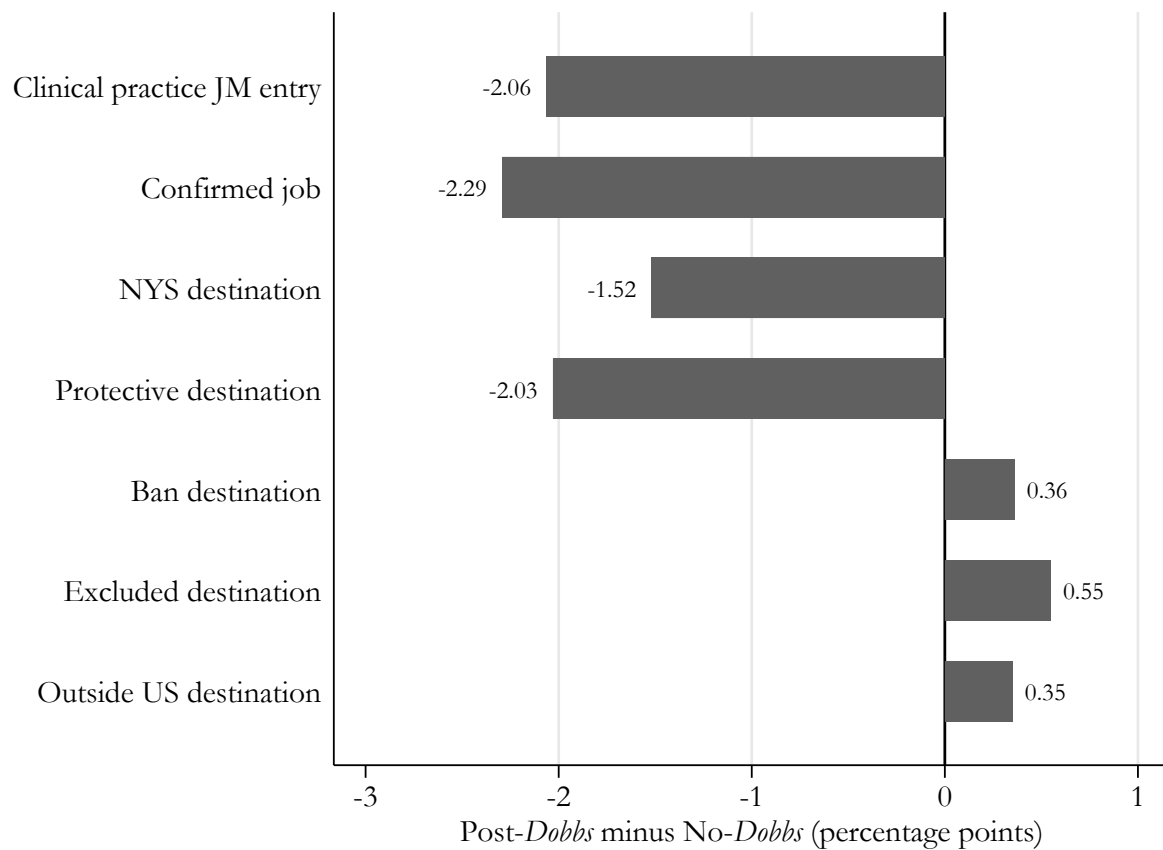
Figure 5 reports the estimated effect of *Dobbs* on physicians in reproductive-care specialties. The model predicts that *Dobbs* reduced clinical-practice job-market entry by 2.06 percentage points, corresponding to a 4.0 percent decline relative to the estimated post-*Dobbs* equilibrium. Similarly, the probability of obtaining a confirmed clinical position declines by 2.29 percentage points, or approximately 2.5 percent. These results indicate that reproductive healthcare policy changes reduced the overall attractiveness of entering clinical practice for physicians in reproductive-care specialties.

The largest geographic effects occur in New York State and other protective states. The model predicts that *Dobbs* reduced the probability that a reproductive-care physician practices in New York State by 1.52 percentage points and in other protective states by 2.03 percentage points. Together, these findings imply that *Dobbs* reduced both the size of the reproductive-care physician workforce and the concentration of that workforce in states with stronger reproductive-health protections.

The model also predicts modest increases in employment in ban states, excluded states, and locations outside the United States following *Dobbs*. One possible explanation is that compensation differences across destinations become relatively more important when reproductive-care physicians face lower expected earnings overall. Because ban states offer relatively high compensation in the estimated wage equation, some physicians may substitute toward these locations despite less favorable reproductive-health policy environments.

Overall, the counterfactual exercise suggests that the effects of *Dobbs* extend beyond the direct regulation of reproductive healthcare. By altering expected labor-market opportunities and compensation, reproductive healthcare policies can influence both whether physicians enter clinical practice and where they ultimately choose to locate.

Figure 5: Estimated Effect of *Dobbs* on Physicians in Reproductive-Care Specialties



**Notes:** The figure reports the estimated effect of *Dobbs* on physicians in reproductive-care specialties. Each bar shows the change in the corresponding outcome relative to a counterfactual no-*Dobbs* economy that preserves aggregate post-2022 labor-market conditions but removes the differential post-*Dobbs* effects experienced by reproductive-care physicians. Outcomes are measured in percentage points.

## 9 Conclusion

This paper studies how reproductive healthcare policy influences physician labor market behavior at the transition from graduate medical education to independent practice. We study the consequences of the Supreme Court’s decision in *Dobbs v. Women’s Health*, which fundamentally altered the reproductive healthcare policy landscape in the United States by shifting regulatory authority over abortion to individual states. Using data from the New York Resident Exit Survey and a structural model of occupational choice, employment realization, geographic mobility, and compensation, we analyze how newly trained physicians adjusted their career decisions in response to this policy change.

Our findings indicate that the effects of *Dobbs* extend beyond the direct regulation of reproductive healthcare services. Reduced-form evidence shows that physicians in reproductive-care specialties became more likely to delay entry into the clinical labor market and altered their geographic location choices following the policy change. The structural model reveals that these responses operate through multiple channels, including changes in expected employment opportunities, geographic allocation of jobs, and compensation. Counterfactual analysis indicates that *Dobbs* reduced clinical-practice job-market entry among physicians in reproductive-care specialties by approximately 2 percentage points and reduced confirmed clinical employment by approximately 2.3 percentage points. The model also predicts substantial changes in geographic allocation, with fewer physicians locating in New York and other protective states following *Dobbs*.

A key advantage of the structural framework is that it allows us to evaluate policy-relevant counterfactuals in a setting where identifying an appropriate control group is inherently challenging. Because reproductive-care physicians across the country were exposed to the same Supreme Court decision, standard empirical approaches face limitations in isolating the full effect of *Dobbs*. By explicitly modeling occupational choice, labor-market outcomes, and compensation, the structural approach allows us to quantify the mechanisms through which policy changes may affect physician behavior and to simulate how workforce outcomes

would have differed in a counterfactual no-*Dobbs* environment under the model.

The counterfactual decomposition further reveals that compensation is the primary mechanism through which *Dobbs* affected physician behavior. While changes in employment opportunities and geographic allocation contribute to the observed responses, the largest effects arise through changes in expected compensation. These findings suggest that reproductive healthcare policies influence physician career decisions not only through direct restrictions on clinical practice, but also through their effects on the economic returns associated with entering and remaining in reproductive-care fields.

While the experiences of graduates from New York State graduate medical training programs may not fully reflect those of physicians trained elsewhere, New York is the largest physician-training state in the country and supplies physicians to labor markets throughout the United States. As such, the decisions of New York graduates provide a useful window into the national market for newly trained physicians. In addition, our measure of clinical-practice entry captures whether physicians immediately enter the clinical labor market upon completing their current stage of training. Consequently, a decline in job-market entry does not necessarily imply a permanent reduction in physician supply. Some physicians may respond to the increased uncertainty associated with the post-*Dobbs* policy environment by pursuing additional training, such as fellowship programs, and delaying their labor-market entry until a later date. Distinguishing between temporary delays in workforce participation and permanent changes in career trajectories represents an important direction for future research. More generally, future work should examine whether similar responses emerge among physicians trained in other states and explore the longer-run effects of *Dobbs* on specialty choice, residency applications, migration patterns, and physician workforce composition.

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# Appendix

## A.1 Survey Response Model

Let  $R_i = 1$  if physician  $i$  responds to the survey. We observe training region and specialty for both respondents and nonrespondents.

Let

$$Z_i = \{\text{fellow}_i, \text{region}_i, \text{specialty}_i\}.$$

Survey response is determined by the latent index:

$$R_i^* = Z_i' \pi + \nu_i$$

and

$$R_i = 1\{R_i^* > 0\}.$$

Assuming a logistic or normal distribution for  $\nu_i$  implies:

$$\Pr(R_i = 1 \mid Z_i) = F(Z_i' \pi).$$

For nonrespondents, the likelihood contribution is

$$1 - \Pr(R_i = 1 \mid Z_i).$$

For respondents, the likelihood contribution equals the response probability multiplied by the observed outcome likelihood.

## A.2 Details of the Counterfactual Decomposition

This appendix provides additional details on the counterfactual decomposition exercise presented in Section 8. The objective of the exercise is to quantify the contribution of three mechanisms through which post-*Dobbs* changes affect the labor-market behavior of physicians in reproductive-care specialties: (i) clinical employment opportunities, (ii) geographic allocation of realized clinical positions, and (iii) compensation.

The decomposition begins from the estimated post-*Dobbs* equilibrium for physicians in reproductive-care specialties. We then modify one component of the model at a time while holding the remaining components fixed at their estimated post-*Dobbs* values. Following each modification, the expected value of clinical practice  $EV_{ist}^{PC}$ , the occupational-choice index  $V_{ist}^{PC}$ , and the probability of entering clinical practice are recomputed.

The decomposition is conducted in partial equilibrium. Structural parameters remain fixed at their estimated values and no re-estimation is performed. Instead, each counterfactual modifies a subset of model primitives and recomputes physicians' optimal occupational choices. Differences relative to the baseline post-*Dobbs* equilibrium therefore measure the contribution of each channel to the observed labor-market responses of physicians in reproductive-care specialties.

### A.2.1 Employment-opportunity channel

The first counterfactual isolates the contribution of changes in clinical employment opportunities. The idea is to ask how physicians' occupational choices would change if *Dobbs* affected the probability of obtaining a confirmed clinical position but had no effect on the geographic distribution or compensation associated with those positions.

Let  $P^{PD}(y_{ist} \neq 0)$  denote the estimated post-*Dobbs* probability of obtaining a confirmed clinical position and let  $P^{ND}(y_{ist} \neq 0)$  denote the corresponding probability when the reproductive-specialty-by-post-*Dobbs* interaction is removed from the labor-market outcome

equation (4). The counterfactual replaces the post-*Dobbs* employment probability with its no-*Dobbs* counterpart while preserving the estimated post-*Dobbs* destination shares conditional on employment:

$$P^{CF}(y_{ist} = l) = P^{ND}(y_{ist} \neq 0) \times P^{PD}(y_{ist} = l \mid y_{ist} \neq 0), \quad l \in \{1, \dots, 5\}.$$

Thus, the counterfactual modifies the overall probability of obtaining a confirmed clinical position while holding fixed the geographic allocation and compensation associated with realized jobs. The resulting labor-market opportunities are then used to recompute the expected value of clinical practice  $EV_{ist}^{PC}$ , the occupational-choice index  $V_{ist}^{PC}$ , and the probability of entering clinical practice.

To illustrate, suppose that for a representative reproductive-care physician the estimated post-*Dobbs* probability of obtaining a confirmed clinical position is  $P^{PD}(y_{ist} \neq 0) = 0.95$ , while the corresponding no-*Dobbs* probability is  $P^{ND}(y_{ist} \neq 0) = 0.90$ . Further suppose that under the estimated post-*Dobbs* model, the destination shares conditional on employment are given by Table A.2.1. The employment-opportunity counterfactual leaves these destination shares unchanged but replaces the overall probability of obtaining a confirmed clinical position. Consequently, all destination-specific probabilities are proportionally scaled by the lower employment probability.

Table A.2.1: Illustrative Example: Employment-Opportunity Counterfactual

| Destination      | $P^{PD}(y_{ist} = l \mid y_{ist} \neq 0)$ | $P^{PD}(y_{ist} = l)$      | $P^{CF}(y_{ist} = l)$      |
|------------------|-------------------------------------------|----------------------------|----------------------------|
| Excluded State   | 0.10                                      | $0.95 \times 0.10 = 0.095$ | $0.90 \times 0.10 = 0.090$ |
| New York State   | 0.50                                      | $0.95 \times 0.50 = 0.475$ | $0.90 \times 0.50 = 0.450$ |
| Protective State | 0.25                                      | $0.95 \times 0.25 = 0.238$ | $0.90 \times 0.25 = 0.225$ |
| Ban State        | 0.10                                      | $0.95 \times 0.10 = 0.095$ | $0.90 \times 0.10 = 0.090$ |
| Outside U.S.     | 0.05                                      | $0.95 \times 0.05 = 0.048$ | $0.90 \times 0.05 = 0.045$ |
| Total            | 1.00                                      | 0.95                       | 0.90                       |

Thus, the probability of obtaining any clinical position falls from 0.95 to 0.90, while the geographic distribution of realized positions among employed physicians remains unchanged.

The counterfactual therefore changes the attractiveness of entering clinical practice exclusively through employment opportunities. Any resulting change in occupational choice reflects physicians responding to a lower likelihood of securing a clinical position rather than to changes in job location or compensation.

### A.2.2 Geographic-allocation channel

The second counterfactual isolates the contribution of changes in the geographic allocation of clinical positions. The idea is to ask how physicians' occupational choices would change if *Dobbs* affected where clinical positions are located but had no effect on the overall probability of obtaining a confirmed clinical position or on compensation.

Let  $P^{PD}(y_{ist} \neq 0)$  denote the estimated post-*Dobbs* probability of obtaining a confirmed clinical position and let  $P^{PD}(y_{ist} = l \mid y_{ist} \neq 0)$  denote the corresponding post-*Dobbs* destination shares conditional on employment. Similarly, let  $P^{ND}(y_{ist} = l \mid y_{ist} \neq 0)$  denote the destination shares obtained when the reproductive-specialty-by-post-*Dobbs* interaction is removed from the labor-market outcome equation (4).

The counterfactual preserves the estimated post-*Dobbs* probability of obtaining a confirmed clinical position while replacing the destination shares conditional on employment with their no-*Dobbs* counterparts:

$$P^{CF}(y_{ist} = l) = P^{PD}(y_{ist} \neq 0) \times P^{ND}(y_{ist} = l \mid y_{ist} \neq 0), \quad l \in 1, \dots, 5.$$

Thus, the counterfactual modifies the geographic distribution of realized clinical positions while holding fixed the overall probability of obtaining a confirmed clinical position and the compensation associated with each destination. The resulting labor-market opportunities are then used to recompute the expected value of clinical practice  $EV_{ist}^{PC}$ , the occupational-choice index  $V_{ist}^{PC}$ , and the probability of entering clinical practice.

To illustrate, suppose that for a representative reproductive-care physician the estimated

post-*Dobbs* probability of obtaining a confirmed clinical position is  $P^{PD}(y_{ist} \neq 0) = 0.95$ . Further suppose that the post-*Dobbs* destination shares conditional on employment are given by Table A.2.2. The geographic-allocation counterfactual leaves the overall employment probability unchanged but replaces the destination shares with their no-*Dobbs* counterparts. Consequently, probability mass is reallocated across destinations while the overall probability of obtaining a clinical position remains fixed at 0.95.

Table A.2.2: Illustrative Example: Geographic-Allocation Counterfactual

| Destination      | $P^{PD}(y_{ist} = l \mid y_{ist} \neq 0)$ | $P^{ND}(y_{ist} = l \mid y_{ist} \neq 0)$ | $P^{CF}(y_{ist} = l)$      |
|------------------|-------------------------------------------|-------------------------------------------|----------------------------|
| Excluded State   | 0.10                                      | 0.15                                      | $0.95 \times 0.15 = 0.143$ |
| New York State   | 0.50                                      | 0.45                                      | $0.95 \times 0.45 = 0.428$ |
| Protective State | 0.25                                      | 0.30                                      | $0.95 \times 0.30 = 0.285$ |
| Ban State        | 0.10                                      | 0.07                                      | $0.95 \times 0.07 = 0.067$ |
| Outside U.S.     | 0.05                                      | 0.03                                      | $0.95 \times 0.03 = 0.029$ |
| Total            | 1.00                                      | 1.00                                      | 0.95                       |

Unlike the employment-opportunity counterfactual, the overall probability of obtaining a confirmed clinical position remains unchanged. Instead, the composition of realized clinical positions shifts across destinations. Because destinations differ in expected compensation and in the utility generated by geographic preferences, these changes alter the expected value of clinical practice and may affect occupational choice. Any resulting change in occupational choice therefore reflects the geographic-allocation channel alone.

### A.2.3 Compensation channel

The third counterfactual isolates the contribution of changes in compensation. The idea is to ask how physicians' occupational choices would change if *Dobbs* affected expected compensation in reproductive-care specialties but had no effect on employment opportunities or the geographic allocation of clinical positions.

Let  $E^{PD}(\log w_{ist}^l)$  denote the estimated post-*Dobbs* expected log compensation associated with destination  $l$ , and let  $E^{ND}(\log w_{ist}^l)$  denote the corresponding expected compensation obtained when the reproductive-specialty-by-post-*Dobbs* interaction is removed from the

compensation equation (5). Operationally, the counterfactual sets the coefficient on the interaction between reproductive-care specialty and the post-*Dobbs* period equal to zero, i.e.,  $\beta_{17}^W = 0$ .

The counterfactual preserves the estimated post-*Dobbs* probabilities of obtaining a confirmed clinical position and the estimated post-*Dobbs* destination shares conditional on employment. Only expected compensation is modified. Consequently, the labor-market outcome probabilities remain unchanged:

$$P^{CF}(y_{ist} = l) = P^{PD}(y_{ist} = l), \quad l \in 0, \dots, 5,$$

while expected compensation is replaced by its no-*Dobbs* counterpart:

$$E^{CF}(\log w_{ist}^l) = E^{ND}(\log w_{ist}^l).$$

The resulting compensation schedule is then used to recompute the expected value of clinical practice  $EV_{ist}^{PC}$ , the occupational-choice index  $V_{ist}^{PC}$ , and the probability of entering clinical practice.

To illustrate, suppose that for a representative reproductive-care physician the estimated post-*Dobbs* expected log compensation associated with a clinical position is 12.30, while the corresponding value obtained after removing the reproductive-specialty-by-post-*Dobbs* interaction from equation (5) is 12.40. The compensation counterfactual leaves all employment probabilities and destination shares unchanged but increases the expected compensation associated with clinical practice. As a result, the expected value of entering clinical practice rises, potentially increasing the probability that physicians choose immediate entry into the clinical labor market.

Unlike the employment-opportunity and geographic-allocation counterfactuals, this exercise does not alter the distribution of labor-market outcomes. Instead, it changes the value attached to those outcomes. Any resulting change in occupational choice therefore reflects

the compensation channel alone.

## A.3 Supplemental Tables

Table A.3.1: States with Abortion Bans

| State         | Effective Date | Struck Down Date |
|---------------|----------------|------------------|
| Alabama       | 6/24/2022      | —                |
| Arkansas      | 6/24/2022      | —                |
| Idaho         | 8/25/2022      | —                |
| Indiana       | 8/21/2023      | —                |
| Kentucky      | 6/24/2022      | —                |
| Louisiana     | 6/24/2022      | —                |
| Mississippi   | 7/7/2022       | —                |
| Missouri      | 6/24/2022      | 12/23/2024       |
| North Dakota  | 4/23/2023      | 9/12/2024        |
| Oklahoma      | 6/24/2022      | —                |
| South Dakota  | 6/24/2022      | —                |
| Tennessee     | 8/25/2022      | —                |
| Texas         | 8/25/2022      | —                |
| West Virginia | 6/22/2022      | —                |

Table A.3.2: Survey Response Model

|                                                  | (1)<br>LPM           | (2)<br>Logit         |
|--------------------------------------------------|----------------------|----------------------|
| Constant                                         | 0.595***<br>(0.015)  | 0.397***<br>(0.063)  |
| Downstate NY Program                             | 0.013*<br>(0.008)    | 0.055*<br>(0.033)    |
| Fellow                                           | 0.130***<br>(0.010)  | 0.558***<br>(0.044)  |
| Internal Medicine (General)                      | -0.094***<br>(0.014) | -0.399***<br>(0.060) |
| Pediatrics (General)                             | -0.065***<br>(0.016) | -0.275***<br>(0.067) |
| Emergency Medicine                               | 0.061***<br>(0.018)  | 0.255***<br>(0.075)  |
| Obstetrics and Gynecology (General)              | -0.000<br>(0.020)    | -0.001<br>(0.084)    |
| Internal Medicine (Subspecialties)               | -0.123***<br>(0.018) | -0.530***<br>(0.076) |
| Pediatrics (Subspecialties)                      | -0.020<br>(0.023)    | -0.100<br>(0.100)    |
| Surgery (General)                                | 0.038*<br>(0.020)    | 0.156*<br>(0.084)    |
| Surgery (Subspecialties)                         | 0.052***<br>(0.016)  | 0.214***<br>(0.069)  |
| Facility Based (Anesth, Pathol, Radiol, NuclMed) | 0.014<br>(0.015)     | 0.057<br>(0.064)     |
| Psychiatry (General + Subspecialties)            | -0.042**<br>(0.018)  | -0.185**<br>(0.075)  |
| Other Specialty                                  | 0.052***<br>(0.016)  | 0.223***<br>(0.068)  |
| Observations                                     | 31,834               | 31,834               |

**Notes:** The dependent variable equals one if the physician responded to the survey and zero otherwise. Column (1) reports estimates from a linear probability model and Column (2) reports coefficient estimates from a logistic regression. The omitted region category is Upstate New York training programs. The omitted specialty category is Family Medicine. Survey-year fixed effects are included in all specifications but omitted from the table for brevity. Observations from survey year 2019 are excluded because only survey respondents are observed in that year, making nonresponse impossible to identify. Robust standard errors are reported in parentheses. \* $p < 0.10$ , \*\* $p < 0.05$ , and \*\*\* $p < 0.01$ .

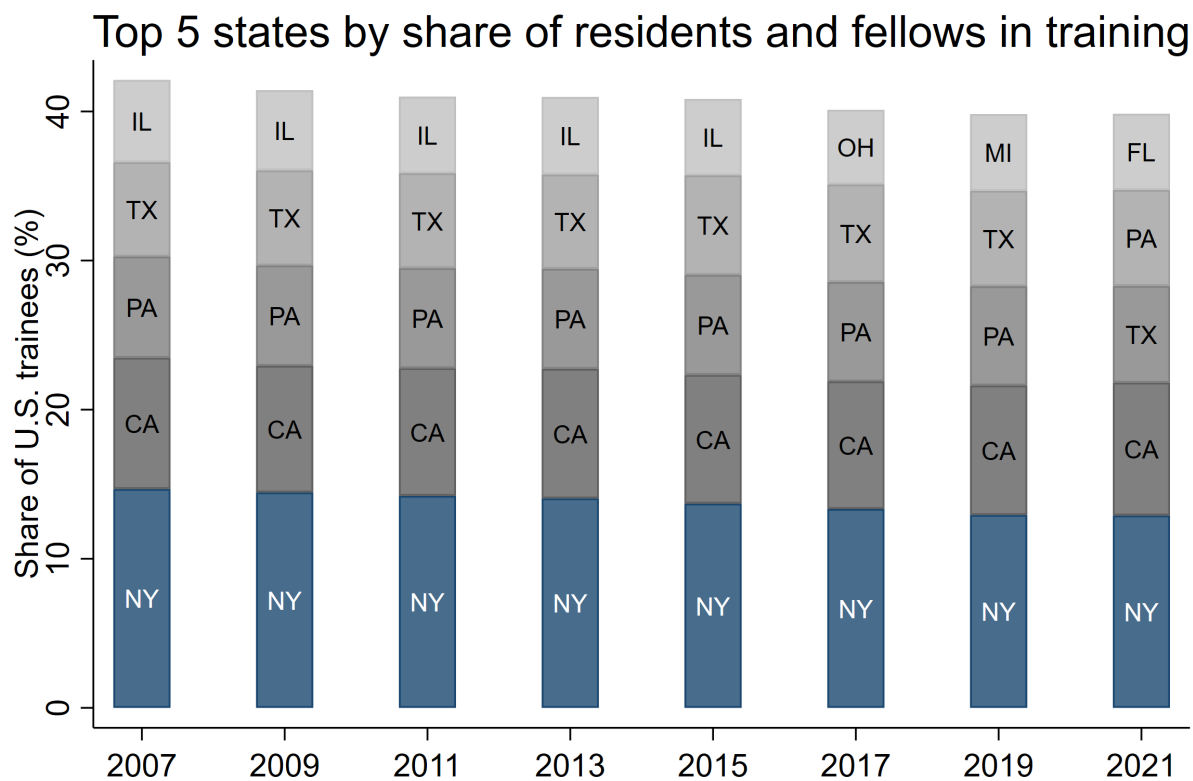
Table A.3.3: Specialty Classification and Reproductive Health Indicator

| Detailed Specialty | Specialty Group                       | Reproductive Specialty |
|--------------------|---------------------------------------|------------------------|
| Allergy & Immun    | Other                                 | 0                      |
| Anesthesiology     | Facility-Based Specialties            | 0                      |
| Anes-Pain Mngt     | Facility-Based Specialties            | 0                      |
| Anes-Other Subsp   | Facility-Based Specialties            | 0                      |
| Dermatology        | Other                                 | 0                      |
| Emergency Med      | Emergency Medicine                    | 1                      |
| Family Practice    | Family Medicine                       | 1                      |
| Internal Med       | Internal Medicine - General           | 1                      |
| IM-Cardiology      | Internal Medicine - Subspecialties    | 1                      |
| IM-CCM             | Internal Medicine - Subspecialties    | 1                      |
| IM-End & Met       | Internal Medicine - Subspecialties    | 1                      |
| IM-Gastro          | Internal Medicine - Subspecialties    | 1                      |
| IM-Geriatrics      | Internal Medicine - Subspecialties    | 1                      |
| IM-Hem/Onc         | Internal Medicine - Subspecialties    | 1                      |
| IM-Inf Disease     | Internal Medicine - Subspecialties    | 1                      |
| IM-Nephro          | Internal Medicine - Subspecialties    | 1                      |
| IM-Pulm Dis        | Internal Medicine - Subspecialties    | 1                      |
| IM-Rheum           | Internal Medicine - Subspecialties    | 1                      |
| IM-Other Subsp     | Internal Medicine - Subspecialties    | 1                      |
| IM & Peds (Comb)   | Pediatrics - General                  | 1                      |
| Neurology          | Other                                 | 0                      |
| Nuclear Med        | Facility-Based Specialties            | 0                      |
| Ob/Gyn             | Ob/Gyn - General                      | 1                      |
| Ob/Gyn-Subsp       | Ob/Gyn - Subspecialties               | 1                      |
| Pathology          | Facility-Based Specialties            | 0                      |
| Pathology-Subsp    | Facility-Based Specialties            | 0                      |
| Pediatrics         | Pediatrics - General                  | 1                      |
| Peds-Subsp         | Pediatrics - Subspecialties           | 1                      |
| Phys Med & Rehab   | Other                                 | 0                      |
| Preventive Med     | Other                                 | 0                      |
| Psychiatry         | Psychiatry (General + Subspecialties) | 0                      |
| Psych-Child & Adol | Psychiatry (General + Subspecialties) | 0                      |
| Psych-Other Subsp  | Psychiatry (General + Subspecialties) | 0                      |
| Radiology (Diag)   | Facility-Based Specialties            | 0                      |
| Radiology (Ther)   | Facility-Based Specialties            | 0                      |
| Surgery            | Surgery - General                     | 0                      |
| Surg-Thoracic      | Surgery - Subspecialties              | 0                      |
| Surg-Neuro         | Surgery - Subspecialties              | 0                      |
| Ophthalmology      | Surgery - Subspecialties              | 0                      |
| Surg-Ortho         | Surgery - Subspecialties              | 0                      |
| Otolaryngology     | Surgery - Subspecialties              | 0                      |
| Surg-Plastic       | Surgery - Subspecialties              | 0                      |
| Surg-Urology       | Surgery - Subspecialties              | 0                      |
| Surg-Other Subsp   | Surgery - Subspecialties              | 0                      |
| Other              | Other                                 | 0                      |

Notes: The table reports the mapping from detailed specialty codes to the specialty groups used in the structural model.

## A.4 Supplemental Figures

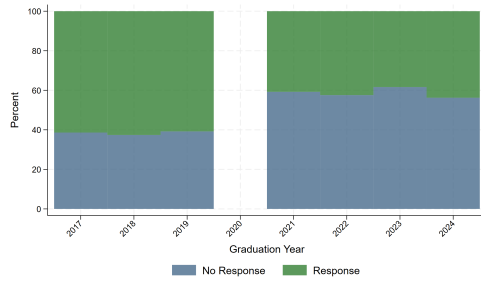
Figure A.4.1



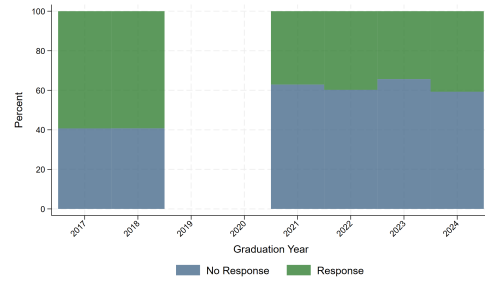
Each segment is labeled with the state abbreviation.

Source: authors' calculations based on AAMC State Physician Workforce Data Reports.

Figure A.4.2: Share of responses to the NYRES over time



(a) All specialties



(b) Reproductive health specialties

Notes: These figures show the response rate to the New York Resident Exit Survey (NYRES) for each survey year between 2017 and 2024. Panel a) includes residents of all specialties. Panel b) includes residents of reproductive health-related specialties only. These are primary care, emergency medicine, obstetric and gynecology, internal medicine, and pediatrics. Sources: Own elaboration using the microdata from the NYRES.