



THE ECONOMIC IMPACT OF THE PROPOSED BUDGET RECONCILIATION BILL IN ARIZONA, 2022-2040

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L. WILLIAM SEIDMAN RESEARCH INSTITUTE

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- Arizona Hospital and Healthcare Association
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- Arizona Mining Council
- Arizona Public Service Corporation (APS)
- Arizona School Boards Association
- Arizona Town Hall
- Banner Health
- BHP Billiton
- The Boeing Company
- The Boys & Girls Clubs of Metro Phoenix
- The Cactus League Association
- The Central Arizona Project (CAP)
- Chicanos Por La Causa
- City of Phoenix Dept. Economic Development
- City of Phoenix Fire Department
- CopperPoint
- Curis Resources (Arizona)
- The David and Gladys Wright House Foundation
- Dignity Health
- Downtown Tempe Authority
- Environmental Defense Fund
- Epic Rides/The City of Prescott
- EPCOR Water (USA), Inc.
- Excelsior Mining
- Executive Budget Office State of Arizona
- The Fiesta and Cactus Bowls Host Committee
- First Things First
- Freeport McMoRan
- Greater Phoenix Economic Council
- HonorHealth
- Intel Corporation
- ISM Raceway
- The McCain Institute
- Maricopa Integrated Health System
- Navajo Nation Div. Economic Development
- The NCAA
- The NFL
- The Pakis Foundation
- Phoenix Convention Center
- The Phoenix Philanthropy Group
- Phoenix Sky Harbor International Airport
- Pinal County
- Protect the Flows
- Public Service New Mexico (PNM)
- Raytheon
- Republic Services, Inc.
- Rio Tinto
- Rosemont Copper Mine
- Salt River Project (SRP)
- Science Foundation Arizona (SFAZ)
- SuperBowl XLIX
- The Tillman Foundation
- Turf Paradise
- Valley METRO Light Rail
- Tenet Healthcare
- Twisted Adventures Inc.
- Vote Solar Initiative
- Waste Management Inc.
- Wells Fargo
- Yavapai County Jail District

EXECUTIVE SUMMARY

The purpose of this study is to measure the economic impact of Arizona’s share of the proposed \$3.5 trillion Budget Reconciliation Bill, 2022 to 2040. This modeling time horizon consists of ten years of investments and a further nine legacy years.

Total Economic Impact of Budget Reconciliation Bill Investments, 2022-2031

Seidman estimates that the State of Arizona could directly receive approximately \$83.6 billion from the \$3.5 trillion Budget Reconciliation Bill. This estimated share of funding is greater than Arizona’s share of the national population.

In total over the ten years of investments, Arizona’s estimated share of the proposed Budget Reconciliation Bill could generate \$115.6 billion for the State’s GDP. That’s equivalent to an average annual contribution of \$11.6 billion. The \$11.6 billion average annual State GDP contribution, 2022-2031, is also equivalent to 3.1% of Arizona’s annual State GDP in 2019.

Table ES1: Total Economic Impacts of Arizona’s Estimated Share of the Reconciliation Bill, 2022-2031

	TOTAL 2022-2031	AVERAGE ANNUAL IMPACT
State Gross Domestic Product (Billions Nominal \$)	\$115.6	\$11.6
Total Employment (Job Years)¹	991,597	99,160
Total Private Nonfarm Employment (Job Years)	900,901	90,090
Personal Income (Billions Nominal \$)	\$95.8	\$9.6
Disposable Personal Income (Billions Nominal \$)	\$83.3	\$8.3

Source: Authors’ Calculations

On average, Seidman estimates that 99,160 job years of employment (all sectors) could be generated per annum during the investment years. This is equivalent to 3.3% of Arizona’s total employment in 2019. The estimate includes all private sector employment, the self-employed, all federal, state, and local government employment, military employment, and contract workers, but excludes unpaid family workers and volunteers.

On average, approximately than 9 out of every 10 job years of employment associated with the Reconciliation Bill’s investments in Arizona are estimated to be in private nonfarm sectors. The top five private nonfarm employment categories benefiting the most, 2022 to 2031, are:

¹ Please note: a job year is not synonymous with a job. One person employed by the same firm for six years accounts for six job years employment but only one job.

- Construction: 163,775 job years (18.2% of total impact).
- Social Assistance: 162,902 job years (18.1% of total impact).
- Retail Trade: 69,002 job years (7.7% of total impact).
- Professional, Scientific, & Technical Services: 64,847 job years (7.2% of total impact).
- Educational Services (Private): 55,734 job years (6.2% of total impact).

Total personal income is estimated to increase by \$95.8 billion, 2022-2031, compared to a scenario in which the Reconciliation Bill’s investments in Arizona do not take place. That’s equivalent to an average annual contribution of approximately \$9.6 billion during the ten years of investments, or 2.9% of Arizona’s total personal income in 2019.

Allowing for tax deductions, total disposable personal income is estimated to increase by \$83.3 billion, 2022-2031, compared to a scenario in which the Reconciliation Bill investments in Arizona do not take place. That’s equivalent to an average annual contribution of approximately \$8.3 billion during the ten years of investments. It also suggests each Arizona household could receive on average an additional \$3,300 per annum disposable personal income, 2022-2031.

Table ES2: Distribution of Budget Reconciliation Bill Initial Investments by Senate Committee²

SENATE COMMITTEE	PROPOSED NATIONAL INVESTMENT (Billions \$)	SEIDMAN’S ESTIMATE OF ARIZONA SHARE (Billions \$)
Agriculture, Nutrition and Forestry	\$135	\$4.177
Banking, Housing & Urban Affairs	\$332	\$7.273
Commerce, Science and Technology	\$83	\$1.498
Energy and Natural Resources	\$198	\$5.456
Environment and Public Works	\$67	\$1.582
Finance	\$1,750	\$40.838
Health, Education, Labor & Pensions	\$726	\$16.999
Homeland Security & Governmental Affairs	\$37	\$0.811
Indian Affairs	\$21	\$1.239
Small Business & Entrepreneurship	\$25	\$0.540
Judiciary	\$108	\$2.759
Veterans Affairs	\$18	\$0.445
Total	\$3,500	\$83.616

Sources: Center for American Progress and Authors’ Calculations

The distribution of investments will take place in multiple programs managed by twelve Senate Committees. Table ES2 shows the investment assumptions made by Seidman at a national and Arizona

² Arizona share column does not tally exactly due to rounding.

level. The national distribution is valid as of September 3, 2021, but is obviously subject to change as the Bill moves through Congress.

Table ES3 shows the average annual impacts by Senate Committee in Arizona. Most of the estimated economic impacts in Arizona during the ten years of investments are associated with programs supported by the Senate' Committee on Finance or the Committee on Health, Education, Labor and Pensions. Approximately 63% of the State GDP impacts, 72% of personal income or disposable income impacts, and 69% of both employment impacts can be attributed to the proposed investments made by these Committees and assumed to take place in Arizona. This is unsurprising, given that the investments made by both Senate Committees account for more than 69% of Arizona's estimated total share of the Budget Reconciliation Bill.

Table ES3: Estimate of Average Annual Impact in Arizona by Senate Committee, 2022-2031

SENATE COMMITTEE	STATE GDP (Millions Nominal \$)	PERSONAL INCOME (Millions Nominal \$)	DISPOSABLE INCOME (Millions Nominal \$)	TOTAL EMPLOYMENT (Job Years)	TOTAL PRIVATE NONFARM EMPLOYMENT (Job Years)
Agriculture, Nutrition and Forestry	\$709.4	\$517.1	\$450.9	6,847	5,936
Banking, Housing & Urban Affairs	\$1,131.7	\$757.8	\$658.0	8,531	7,938
Commerce, Science and Technology	\$236.2	\$160.0	\$138.7	1,744	1,619
Energy and Natural Resources	\$946.0	\$504.6	\$438.9	5,265	4,802
Environment and Public Works	\$292.9	\$166.0	\$144.0	1,759	1,617
Finance	\$4,649.2	\$4,658.3	\$4,052.0	43,421	39,746
Health, Education, Labor & Pensions	\$2,699.8	\$2,241.7	\$1,945.4	25,350	22,695
Homeland Security & Governmental Affairs	\$94.2	\$63.1	\$54.8	707	657
Indian Affairs	\$250.5	\$130.2	\$112.8	1,329	1,212
Small Business & Entrepreneurship	\$70.1	\$41.6	\$36.1	415	379
Judiciary	\$435.1	\$302.8	\$263.4	3,387	3,105
Veterans Affairs	\$69.7	\$47.1	\$40.9	527	490

Source: Authors' Calculations

Total Economic Impact of Budget Reconciliation Bill Investments with Legacy Effects, 2022-2040

The total economic impacts of Arizona’s estimated share of the proposed Budget Reconciliation Bill are not restricted to the years in which the investments occur. There are also medium and long-term legacy effects. For example, the production costs savings associated with some of the Senate Committee on Finance investments could take five or more years to generate a full market response. The current study additionally estimates some legacy impacts up to and including 2040.

Table ES4 estimates the total annual impact of the investments (including legacy effects), 2022-2040.

Table ES4: Total Economic Impacts of Arizona’s Estimated Share of the Reconciliation Bill, 2022-2040

	TOTAL 2022-2040	AVERAGE ANNUAL IMPACT
State Gross Domestic Product (Billions Nominal \$)	\$120.6	\$6.4
Total Employment (Job Years)³	1,016,126	53,480
Total Private Nonfarm Employment (Job Years)	909,544	47,871
Personal Income (Billions Nominal \$)	\$114.1	\$6.0
Disposable Personal Income (Billions Nominal \$)	\$100.6	\$5.3

Source: Authors’ Calculations

The \$6.4 billion average annual State GDP contribution, 2022-2040, is equivalent to 1.7% of Arizona’s annual State GDP in 2019.

The annual average impact of 53,480 job years of employment (all sectors), 2022-2040, is equivalent to 1.8% of Arizona’s total employment in 2019.

The average annual contribution of approximately \$6.0 billion more personal income, 2022-2040, is equivalent to 1.8% of Arizona’s total personal income in 2019.

The average annual contribution of approximately \$5.3 billion more disposable personal income, 2022-2040, is equivalent to each Arizona household receiving on average an additional \$2,000 per year to spend.

³ Please note: a job year is not synonymous with a job. One person employed by the same firm for six years accounts for six job years employment but only one job.

Study Limitations

The distribution of investments is primarily based on the Center for American Progress' interpretation of the Senate Budget Committee's report accompanying the FY2022 Budget Resolution (page 1-4),⁴ subsequently modified in line with ongoing key congressional discussions and proceedings up to and including September 3. The national investment allocations are anticipated to change as the Reconciliation Bill works its way through Congress. Any future changes to the national allocations will affect the distribution of investments and estimated economic impacts in Arizona.

The REMI PI+ model used by Seidman in this analysis also captures direct, indirect, and induced effects of expenditures and capital investments. However, the model is not well-suited to examining the residual benefits or costs that would accrue because of the product or service created. The following is a non-exhaustive list of areas in which economic or other benefits may be realized because of investments in the Budget Reconciliation Bill, the impacts of which have not been examined in the current study:

- Reduced carbon emissions will result in a cleaner environment that will in turn lead to reduced incidence of air quality-related disease.
- The expansion of childcare and elder care will lead to improved health outcomes, but also relieve burdensome caregiving obligations that prevent some individuals from entering the labor force or seeking further education.
- Investment in education, including in early childhood, K-12, community college and four-year degrees, lead to greater educational attainment, thereby providing a boost to the workforce.
- Post-secondary education investment can have substantial economic impact for a community.
- Investments in affordable housing have significant quality of life benefits.
- Investments in providing legal work status for undocumented immigrants could lead to labor force expansion by drawing workers out of shadow employment.

⁴ Source: <https://www.budget.senate.gov/imo/media/doc/CPRT-117SPRT45298.pdf>

1. INTRODUCTION

On July 13th 2021, the Senate Budget Committee announced a framework long-term investment agreement of \$3.5 trillion in the FY2022 Budget Reconciliation instructions to enact President Biden’s Build Back Better agenda. The agreement, if passed, will be fully offset by a combination of new tax revenues, health care savings, and long-term economic growth. In addition, the agreement also prohibits new taxes on families making less than \$400,000 per year, and on small businesses and family farms.

The \$3.5 trillion investment proposed by President Biden includes the following allocations by Senate Committee as of September 3, 2021:

Agriculture, Nutrition and Forestry:	\$135 billion
Banking, Housing and Urban Affairs	\$332 billion
Commerce, Science and Technology	\$83 billion
Energy and Natural Resources	\$198 billion
Environment and Public Works	\$67 billion
Finance	\$1,745 trillion
Health, Education, Labor and Pensions	\$726 billion
Homeland Security & Governmental Affairs	\$37 billion
Indian Affairs	\$21 billion
Small Business and Entrepreneurship	\$25 billion
Judiciary	\$108 billion
Veterans Affairs	\$18 billion

These are subject to change, but form the basis of the modeling in the current study.

The primary objective of this study is to measure the multi-year economic impact of Arizona’s share of the investments. The proposed investments will change the trajectory of economic growth in the State, and Seidman’s analysis is designed to measure the pace of change up to and including 2040.

Section 2 describes Seidman’s method and assumptions.

Section 3 estimates the economic impact of Arizona’s share of the investments, 2022-2031.

Section 4 estimates the economic impact of Arizona’s share of the investments, 2022-2040, thereby including nine years of potential legacy effects over and above the investment time horizon.

Reflections on the study’s limitations are offered in Section 5.

A Technical Appendix is also included for readers that wish to fully understand Seidman’s estimation assumptions underpinning Arizona’s share of the proposed Reconciliation Bill..

2. STUDY METHOD AND DATA ASSUMPTIONS

The study uses a three-phase approach.

Phase 1: Identifying Investments by Senate Committee

At study commencement, Seidman agreed the distribution of Biden’s proposed \$3.5 trillion national investment program by Senate Committee with representatives from the Center for American Progress (CAP). This is summarized in Table 1, and consists of 80 categories of national expenditure.

The distribution of investments is primarily based on CAP’s interpretation of the Senate Budget Committee’s report accompanying the FY2022 Budget Resolution (page 1-4).⁵ However, it also include modifications in line with ongoing key congressional discussions and proceedings up to and including September 3, as advised by CAP.

The investment allocations are anticipated to change as the Reconciliation Bill works its way through Congress. Please note that any future changes to the national allocations in terms of both the total investment and program focus of that investment will affect Arizona’s estimated share and also the economic impacts reported in this study.

Phase 2: Estimating Arizona’s Share of National Investments by Senate Committee and Program

Next, Seidman estimated Arizona’s share of the proposed \$3.5 trillion ten-year national investment program.

Seidman estimates that 78 of the original categories of investment identified in Phase 1 are of relevance to the State of Arizona. The two exceptions are the Senate Committee on Commerce, Science and Technology’s proposed investment in coastal resilience improvements, and the Senate Committee on Environment and Public Works’ proposed investment in the economic development of the Appalachian community.

The research team has allocated a portion of each of the 78 investment categories as follows:

Eighteen clean energy-related categories are assigned based on Arizona’s share of national carbon dioxide emissions.

Six Senate Committee on Health Education, Labor and Pensions expenditure categories are allocated based on Arizona’s share of total college students in the United States. These are:

- Increase the Pell Grant.
- Increase Funding to HBCUs/Tribal Colleges & Universities (TCUs)/MSIs in Titles III/V Programs.

⁵ Source: <https://www.budget.senate.gov/imo/media/doc/CPRT-117SPRT45298.pdf>

Table 1: Reconciliation Bill’s National Investments by Senate Committee

SENATE COMMITTEE AND PROGRAM	SUB TOTAL (Billions \$)	TOTAL (Billions \$)
Committee on Agriculture, Nutrition and Forestry		\$135.00
• Accelerate Clean Energy Support to Rural Co-operatives	\$10.00	
• Forest Services	\$35.00	
• USDA Conservation	\$35.00	
• Climate Corps	\$10.00	
• Child Nutrition	\$45.00	
Committee on Banking, Housing & Urban Affairs		\$332.00
• Incentivize Zoning Reform	\$100.95	
• Expand Capital Magnet Fund	\$24.23	
• Increase the Housing Trust Fund	\$89.97	
• Stimulate Rural Housing Grants, Loans, & Loan Guarantees	\$4.04	
• Invest in Home Online Performance-Based Energy-Efficiency	\$20.19	
• Provide Project-Based Rental Assistance	\$3.90	
• Construct Housing for the Elderly	\$3.96	
• Invest in Public Housing Stock	\$80.78	
• Support Housing & Community Development in Indian Country	\$3.96	
Committee on Commerce, Science and Technology		\$83.00
• Improve Coastal Resilience	\$10.00	
• Basic Research (Two Categories)	\$59.00	
• Manufacturing Research (Two Categories)	\$10.00	
• Invest in NIST Research	\$4.00	
Committee on Energy and Natural Resources		\$198.00
• Clean Energy Payment Program	\$150.00	
• Provide Clean Energy Block Grants for Early Action	\$20.00	

• Mobilize the Civilian Climate Corps	\$15.00	
• Modernize the Auto Supply Chain	\$13.00	
Committee on Environment and Public Works		\$67.00
• Economic Development of the Appalachian Community	\$3.00	
• Clean Technologies	\$37.00	
• Other Public Works	\$27.00	
Committee on Finance		\$1,750
• Spark Widespread Adoption of Electric Vehicles	\$125.74	
• Extend & Modify Energy Investment Credit	\$193.30	
• Extend & Modify Renewable Energy Production Tax Credit	\$35.45	
• Extend & Modify Residential Efficient Property Credit	\$14.77	
• Provide Tax Credit for Electricity Transmission Investments	\$21.85	
• Provide Allocated Credit for Electricity Generation from Existing Nuclear Power Facilities	\$8.95	
• Establish New Tax Credits for Qualifying Advanced Energy Manufacturing	\$7.28	
• Establish Tax Credits for Heavy- & Medium-Duty Zero Emission Vehicles	\$9.77	
• Provide Tax Incentives for Sustainable Aviation Fuel	\$6.08	
• Provide Production Tax Credit for Low-Carbon Hydrogen	\$3.78	
• Extend & Modify Nonbusiness Energy Property Credit	\$7.74	
• Extend & Increase Tax Credit for Manufacturing Credit for New Energy Efficient New Homes	\$1.53	
• Extend & Increase Commercial Buildings Deduction	\$2.94	
• Provide Tax Credits for Installation of Mechanical Insulation	\$4.96	
• Provide Disaster Mitigation Tax Credit	\$3.70	
• Extend & Enhance Carbon Oxide Sequestration Credit	\$5.55	
• Extend & Enhance Electric Vehicle Charging Station Credit	\$5.75	
• Revenue Effect of Sparking Widespread Adoption of Electric Vehicles	\$3.97	
• Paid Leave	\$140.77	
• Health Care: ACA Premiums	\$101.98	

• Health Care: Medicare Dental, Vision, Hearing	\$187.05	
• Health Care: Medicare at 60	\$125.04	
• Poverty-Reducing Tax Cut: Child Tax Credit/EITC/CDCTC	\$406.69	
• HCBS: Long-Term Care for Seniors and Persons with Disabilities	\$250.26	
• Protecting Americans: SALT	\$75.08	
Committee on Health, Education, Labor & Pensions		\$726.01
• Establish New Child Care Program for American Families	\$182.48	
• Provide Universal Paid Family & Medical Leave	\$182.55	
• Increase the Pell Grant	\$67.90	
• Make Deferred Action for DACA Recipients Eligible for Pell Grants	\$1.13	
• Increase Funding to HBCUs/Tribal Colleges & Universities (TCUs)/MSIs in Titles III/V Programs	\$3.49	
• Create or expand health care graduate programs at HBCUs/TCUs/MSIs	\$1.40	
• Provide Head Start Educator Fund	\$20.83	
• Create Completion Grants for Student Supports	\$43.25	
• Fund Advancing Affordability for Students	\$31.94	
• Fund Free Community College	\$88.03	
• Account for American Opportunity Tax Credit Interaction with Free Community College	-\$16.32	
• Provide Universal Preschool Grants to States	\$112.88	
• Expand Teacher Quality Partnerships	\$1.95	
• Create Hawkins Centers of Excellence	\$0.28	
• Increase Individuals with Disabilities Education Act (IDEAS) Personnel Preparation Funding	\$0.65	
• Reform & Expand Teacher Education Assistance for College and Higher Education (TEACH) Grants	\$0.96	
• Invest in Teacher Credentials	\$1.30	
• Invest in Teacher Leadership & Development	\$1.31	
Committee on Homeland Security & Governmental Affairs		\$37.00
• Procure Carbon-Free Power & Sustainable Buildings	\$27.01	
• Electrify Federal Vehicle Fleet & Support Necessary Charging Infrastructure	\$6.75	

• Electrify Postal Service Fleet	\$3.24	
Committee on Indian Affairs		\$21.00
• Various Tribal Programs	\$21.00	
Committee on Small Business & Entrepreneurship		\$25.00
• Support Small Business Manufacturing Through Small Business Administration	\$24.19	
• Support Small Business Manufacturing Through Minority Business Development Agency	\$0.81	
Committee on the Judiciary		\$108.00
• Community Violence Intervention--Department of Justice	\$2.00	
• Community Violence Intervention--HHS (non-add)	\$2.00	
• Lawful Permanent Status for Qualified Immigrants	\$104.00	
Committee on Veterans Affairs		\$18.0
• Veterans Affairs Facility Maintenance & Modernization	\$18.0	

Sources: Center for American Progress and Authors' Calculations

- Create or expand health care graduate programs at HBCUs/TCUs/MSIs.
- Create Completion Grants for Student Supports.
- Fund Advancing Affordability for Students.
- Reform & Expand Teacher Education Assistance for College and Higher Education (TEACH) Grants.

Two educational programs are apportioned based on the State's share of community college students:

- Fund Free Community College.
- Account for American Opportunity Tax Credit Interaction with Free Community College.

Another six are apportioned based on Arizona's share of K-12 age children nationwide:

- Expand Teacher Quality Partnerships.
- Create Hawkins Centers of Excellence.
- Increase Individuals with Disabilities Education Act (IDEAS) Personnel Preparation Funding.
- Invest in Teacher Credentials.
- Invest in Teacher Leadership & Development.
- Poverty-Reducing Tax Cut: Child Tax Credit/EITC/CDCTC.

The extension of Pell Grants to DACA students is allocated based upon Arizona's share of total DACA recipients nationwide.

The four investment categories relating to housing and healthcare for the elderly are assigned based upon the State's share of the population 65 and older.

Two investment categories covering tribal housing and fuels initiatives are allocated according to the State's share of the Native American population.

Two research in manufacturing categories are assigned based upon Arizona's share of U.S. manufacturing workers.

An additional 12 categories are each allocated according to an individual method, as follows:

- Accelerate Clean Energy Support to Rural Co-operatives: percentage share of U.S. rural co-op energy plants.
- Forest Service: percentage of federal land.
- Health Care ACA Premiums: percentage of Affordable Care Act participants in the U.S.
- Electrify Federal Vehicle Fleet & Support Necessary Charging Infrastructure: percentage of federal vehicles based within Arizona.
- USDA Conservation: percentage of U.S. farmland.

- Stimulate Rural Housing Grants, Loans, & Loan Guarantees: percentage of non-metro U.S. population.
- Veterans Affairs Facility Maintenance & Modernization - percentage of U.S. veterans.
- Electrify Postal Service Fleet: percentage of U.S. postal workers.
- Protecting Americans: SALT: percentage share of SALT taxes nationwide.
- Modernize the Auto Supply Chain: estimated percentage of new U.S. car battery plants.
- Lawful Permanent Status for Qualified Immigrants: percentage of undocumented immigrants.
- Extend & Enhance Electric Vehicle Charging Station Credit: a White House memo, reported in the Phoenix Business Journal.

The remaining 25 investment categories are assigned on a per capita basis.

In total, Seidman estimates that the State of Arizona could receive approximately \$83.6 billion of the proposed \$3.5 trillion Reconciliation Bill, 2022-2031. This equates to 2.4% of the proposed national investments. This is greater than the state's share of the national population in 2020.⁶

Arizona's total estimated share of each national investment category and the corresponding dollar values are shown in Table 2.

Of the 80 investment categories examined, 68 align with rows in Table S-6 of the President's FY2022 budget request. For those 68 categories, Seidman estimates the annual level of investment by year based on the corresponding expenditure patterns in Biden's Table S-6. For the purpose of the modelling, the remaining investment categories are assumed to be evenly spent across each of the 10 years.

Arizona's investment distribution profile by Senate Committee and year, 2022-2031, is shown in Table 3.

Additional insights about Seidman's estimation methods are provided in the Technical Appendix.

Phase 3: Estimating Economic Impact

Seidman uses a REMI model customized for Arizona in conjunction with Phase 2's estimated share of expenditure, 2022-2031, to estimate the total economic impacts of the state's share of the Budget Reconciliation Bill.

The REMI model is frequently used by the State of Arizona to estimate the future economic impacts of policy changes and business operations. Through its dynamic modeling, REMI seeks to take account of variations in the economic impact of the GILTI tax changes through time.

Seidman's method for estimating the full economic impact involves four fundamental steps:

⁶ The U.S. Census Bureau estimates that Arizona accounted for 2.16% of the total population in the U.S. in 2020

Table 2: Estimates of Arizona Share by Senate Committee Investment and Program

SENATE COMMITTEE AND PROGRAM	PERCENTAGE SHARE	AZ TOTAL (Billions \$)
Committee on Agriculture, Nutrition and Forestry		\$4.177
• Accelerate Clean Energy Support to Rural Co-operatives	3.78%	\$0.378
• Forest Services	4.56%	\$1.596
• USDA Conservation	2.90%	\$1.015
• Climate Corps	2.16%	\$0.216
• Child Nutrition	2.16%	\$0.972
Committee on Banking, Housing & Urban Affairs		\$7.273
• Incentivize Zoning Reform	2.16%	\$2.181
• Expand Capital Magnet Fund	2.16%	\$0.523
• Increase the Housing Trust Fund	2.16%	\$1.943
• Stimulate Rural Housing Grants, Loans, & Loan Guarantees	0.78%	\$0.032
• Invest in Home Online Performance-Based Energy-Efficiency	2.16%	\$0.436
• Provide Project-Based Rental Assistance	2.16%	\$0.084
• Construct Housing for the Elderly	2.40%	\$0.095
• Invest in Public Housing Stock	2.16%	\$1.745
• Support Housing & Community Development in Indian Country	5.90%	\$0.234
Committee on Commerce, Science and Technology		\$1.498
• Improve Coastal Resilience	-	-
• Basic Research (Two Categories)	2.16%	\$1.274
• Manufacturing Research (Two Categories)	1.37%	\$0.137
• Invest in NIST Research	2.16%	\$0.086
Committee on Energy and Natural Resources		\$5.456
• Clean Energy Payment Program	2.70%	\$4.050
• Provide Clean Energy Block Grants for Early Action	2.16%	\$0.432

• Mobilize the Civilian Climate Corps	2.16%	\$0.324
• Modernize the Auto Supply Chain	5.00%	\$0.650
Committee on Environment and Public Works		\$1.582
• Economic Development of the Appalachian Community	-	-
• Clean Technologies/Electrification of Homes	2.16%	0.583
• Other Public Works	2.70%	0.999
Committee on Finance		\$40.838
• Spark Widespread Adoption of Electric Vehicles	2.70%	\$3.394
• Extend & Modify Energy Investment Credit	2.70%	\$5.217
• Extend & Modify Renewable Energy Production Tax Credit	2.70%	\$0.957
• Extend & Modify Residential Efficient Property Credit	2.70%	\$0.399
• Provide Tax Credit for Electricity Transmission Investments	2.70%	\$0.590
• Provide Allocated Credit for Electricity Generation from Existing Nuclear Power Facilities	2.70%	\$0.242
• Establish New Tax Credits for Qualifying Advanced Energy Manufacturing	2.70%	\$0.196
• Establish Tax Credits for Heavy- & Medium-Duty Zero Emission Vehicles	2.70%	\$0.264
• Provide Tax Incentives for Sustainable Aviation Fuel	2.70%	\$0.164
• Provide Production Tax Credit for Low-Carbon Hydrogen	2.70%	\$0.102
• Extend & Modify Nonbusiness Energy Property Credit	2.70%	\$0.209
• Extend & Increase Tax Credit for Manufacturing Credit for New Energy Efficient New Homes	2.70%	\$0.041
• Extend & Increase Commercial Buildings Deduction	2.70%	\$0.079
• Provide Tax Credits for Installation of Mechanical Insulation	2.70%	\$0.134
• Provide Disaster Mitigation Tax Credit	2.70%	\$0.100
• Extend & Enhance Carbon Oxide Sequestration Credit	2.70%	\$0.150
• Extend & Enhance Electric Vehicle Charging Station Credit	1.32%	\$0.076
• Revenue Effect of Sparking Widespread Adoption of Electric Vehicles	2.16%	\$0.086
• Paid Leave	2.16%	\$3.040
• Health Care: ACA Premiums	1.30%	\$1.325

• Health Care: Medicare Dental, Vision, Hearing	2.40%	\$4.497
• Health Care: Medicare at 60	2.40%	\$3.002
• Poverty-Reducing Tax Cut: Child Tax Credit/EITC/CDCTC	2.40%	\$9.758
• HCBS: Long-Term Care for Seniors and Persons with Disabilities	2.40%	\$6.005
• Protecting Americans: SALT	1.08%	\$0.811
Committee on Health, Education, Labor & Pensions		\$16.999
• Establish New Child Care Program for American Families	2.16%	\$3.942
• Provide Universal Paid Family & Medical Leave	2.16%	\$3.943
• Increase the Pell Grant	2.60%	\$1.765
• Make Deferred Action for DACA Recipients Eligible for Pell Grants	6.25%	\$0.071
• Increase Funding to HBCUs/Tribal Colleges & Universities (TCUs)/MSIs in Titles III/V Programs	2.60%	\$0.091
• Create or expand health care graduate programs at HBCUs/TCUs/MSIs	2.60%	\$0.036
• Provide Head Start Educator Fund	2.16%	\$0.450
• Create Completion Grants for Student Supports	2.60%	\$1.125
• Fund Advancing Affordability for Students	2.60%	\$0.830
• Fund Free Community College	3.00%	\$2.641
• Account for American Opportunity Tax Credit Interaction with Free Community College	3.00%	-\$0.490
• Provide Universal Preschool Grants to States	2.16%	\$2.438
• Expand Teacher Quality Partnerships	2.40%	\$0.047
• Create Hawkins Centers of Excellence	2.40%	\$0.007
• Increase Individuals with Disabilities Education Act (IDEAS) Personnel Preparation Funding	2.40%	\$0.016
• Reform & Expand Teacher Education Assistance for College and Higher Education (TEACH) Grants	2.60%	\$0.025
• Invest in Teacher Credentials	2.40%	\$0.031
• Invest in Teacher Leadership & Development	2.40%	\$0.031
Committee on Homeland Security & Governmental Affairs		\$0.811
• Procure Carbon-Free Power & Sustainable Buildings	2.16%	\$0.583
• Electrify Federal Vehicle Fleet & Support Necessary Charging Infrastructure	2.60%	\$0.176

• Electrify Postal Service Fleet	1.60%	\$0.052
Committee on Indian Affairs		\$1.239
• Invest in Tribal Fuels Management	5.90%	\$1.239
Committee on Small Business & Entrepreneurship		\$0.540
• Support Small Business Manufacturing Through Small Business Administration	2.16%	\$0.523
• Support Small Business Manufacturing Through Minority Business Development Agency	2.16%	\$0.017
Committee on the Judiciary		\$2.759
• Community Violence Intervention--Department of Justice	2.16%	\$0.043
• Community Violence Intervention--HHS (non-add)	2.16%	\$0.043
• Lawful Permanent Status for Qualified Immigrants	2.57%	\$2.673
Committee on Veterans Affairs		\$0.445
• Veterans Affairs Facility Maintenance & Modernization	2.47%	\$0.445

Source: Authors' Calculations

Table 3: Arizona Investment Profile by Senate Committee and Year

SENATE COMMITTEE	ANNUAL INVESTMENTS (Millions \$)									
	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031
Agriculture, Nutrition and Forestry	\$290.51	\$305.58	\$345.95	\$415.06	\$537.93	\$544.23	\$532.29	\$488.61	\$417.19	\$299.63
Banking, Housing & Urban Affairs	\$42.09	\$123.26	\$340.76	\$713.08	\$1,375.07	\$1,409.01	\$1,344.68	\$1,109.34	\$724.57	\$91.23
Commerce, Science and Technology	\$8.67	\$25.38	\$70.18	\$146.85	\$283.18	\$290.17	\$276.92	\$228.45	\$149.22	\$18.79
Energy and Natural Resources	\$413.14	\$428.83	\$470.87	\$542.85	\$670.82	\$677.38	\$664.95	\$619.45	\$545.07	\$422.64
Environment and Public Works	\$9.16	\$26.81	\$74.13	\$155.13	\$299.14	\$306.52	\$292.52	\$241.33	\$157.62	\$19.85
Finance	\$2,915.56	\$3,053.94	\$3,424.76	\$4,059.53	\$5,188.16	\$5,246.02	\$5,136.35	\$4,735.10	\$4,079.12	\$2,999.33
Health, Education, Labor & Pensions	\$98.38	\$288.09	\$796.44	\$1,666.64	\$3,213.86	\$3,293.19	\$3,142.83	\$2,592.77	\$1,693.49	\$213.22
Homeland Security & Governmental Affairs	\$4.69	\$13.74	\$37.99	\$79.49	\$153.28	\$157.07	\$149.90	\$123.66	\$80.77	\$10.17
Indian Affairs	\$7.17	\$21.00	\$58.05	\$121.48	\$234.25	\$240.03	\$229.07	\$188.98	\$123.43	\$15.54
Small Business & Entrepreneurship	\$3.13	\$9.15	\$25.30	\$52.94	\$102.09	\$104.61	\$99.84	\$82.36	\$53.80	\$6.77
Judiciary	\$267.78	\$268.74	\$271.33	\$275.75	\$283.62	\$284.02	\$283.25	\$280.46	\$275.89	\$268.36
Veterans Affairs	\$2.57	\$7.53	\$20.83	\$43.59	\$84.06	\$86.13	\$82.20	\$67.81	\$44.29	\$5.58

Source: Authors' Calculations

1. **Prepare a baseline forecast for the state economy:** This Business As Usual (BAU) case forecasts the future path of the Arizona economy based on a combination of an extrapolation of historic economic conditions and an exogenous forecast of relevant national economic variables.
2. **Develop a policy scenario:** This policy scenario describes the *direct* impacts of Budget Reconciliation investments in the State of Arizona. The economic impact modeling starts in 2022 (the assumed first full of investments, continuing through to the tenth year of the proposed investments (2031), and additionally considers some legacy impacts up to and including 2040.
3. **Compare the baseline and policy scenario forecasts**
4. **Produce the delta results:** Differences between the future values of each variable in the baseline and policy scenario results estimate the magnitude that the Arizona's share of the proposed Budget Reconciliation bill could have on the state economy.

Five specific types of economic impact estimates are provided. These are:

- **State GDP:** Economists often describe the health of the U.S. economy in terms of gross domestic product or GDP. This is the monetary value of all finished goods and services produced in the U.S. on an annual or quarterly basis. It includes all public and private sector purchases, government expenditures, investments, and the difference between exports and imports. State GDP is the state equivalent.
- **Total Employment:** This is the number of full- and part-time jobs associated with a business activity or policy change. It includes the self-employed, all federal, state, and local government employment, military employment, and contract workers, but excludes unpaid family workers and volunteers. Full-time and part-time jobs are counted at equal weight.
- **Private Nonfarm Employment:** This is similar to total employment, but excludes all government and agricultural employment.
- **Personal Income:** *This refers to any* income received by persons from all sources, including participation in production as well as from government and business transfer payments. It is the sum of compensation of employees (received), supplements to wages and salaries, proprietors' income with inventory valuation adjustment and capital consumption adjustment, rental income of persons with a capital consumption adjustment, personal income receipts on assets, and personal current transfer receipts, less contributions for government social insurance.
- **Disposable Personal Income:** This is the total after-tax income received by any person residing in the state available for spending or saving.

Separate sets of results are provided for the expenditure time horizon (2022-2031), and a longer 19-year time horizon (2022-2040) to additionally include legacy effects. Again, it is important to note that all figures presented below are differences from the BAU case.

Unless otherwise stated, all monetary impacts are expressed in nominal dollars.

3. ECONOMIC IMPACT DURING INVESTMENT YEARS, 2022-2031

Arizona's estimated share of the Budget Reconciliation Bill will be invested over a ten-year time horizon, 2022-2031. Table 4 estimates the total annual impact of the investments over this ten-year time horizon.

The first row of Table 4 estimates the total State Gross Domestic Product (GDP) generated by Arizona's estimated share of the Budget Reconciliation Bill, 2022-2031. State GDP is the monetary value of all finished goods and services produced in Arizona on an annual basis. The annual contributions to State GDP range from \$4.9 billion in 2022 up to \$16.6 billion in 2027. In total over the ten-year investment time horizon, Arizona's \$83.6 billion estimated share of the proposed Budget Reconciliation Bill is estimated to generate \$115.6 billion for the State's GDP. That's equivalent to an average annual contribution of \$11.56 billion during the ten-year investment time horizon. To put this into context, the U.S. Bureau of Economic Analysis estimates Arizona's annual State GDP in 2019 at \$370.1 billion. The average annual State GDP contribution is equivalent to 3.1% of Arizona's annual State GDP in 2019.

The second row of Table 4 estimates the total employment impacts generated by Arizona's estimated share of the Budget Reconciliation Bill, 2022-2031. Total employment refers to the number of full- and part-time jobs associated with a business activity or policy change. It includes the self-employed, all federal, state, and local government employment, military employment, and contract workers, but excludes unpaid family workers and volunteers. Total employment is measured in job years. A job year refers to the employment of an individual for 12 consecutive months. The annual contributions to total employment in Arizona range from 52,712 jobs in 2031 alone to 144,197 jobs in 2027 alone. The average number of job years attributed to Arizona's estimated share of the proposed Budget Reconciliation Bill during the ten years of investment is approximately 99,160 per year. To put this into context, the U.S. Bureau of Economic Analysis estimates Arizona's annual total full- and part-time wage and salary employment in 2019 at 3,048,198. The average annual total employment contribution is equivalent to 3.3% of Arizona's total employment in 2019.

The third row of Table 4 estimates the total private nonfarm employment impacts generated by Arizona's estimated share of the Budget Reconciliation Bill, 2022-2031. Total private nonfarm employment is similar to total employment, but excludes all full-time and part-time government and agricultural employment. Total private nonfarm employment is also measured in job years. A job year again refers to the employment of an individual for 12 consecutive months. The annual contributions to total private nonfarm employment in Arizona range from 45,215 jobs in 2031 alone to 131,689 jobs in 2026 alone. The average number of private nonfarm job years attributed to Arizona's estimated share of the proposed Budget Reconciliation Bill is approximately 90,090 per year. To put this into context, the U.S. Bureau of Economic Analysis estimates Arizona's annual total private nonfarm wages and salaries employment in 2019 at 2,577,461. The average annual total private nonfarm employment contribution is equivalent to 3.5% of Arizona's total private employment in 2019. On average, more than 9 out of every 10 ten annual jobs associated with the Reconciliation Bill's investment years in Arizona are estimated to be in private nonfarm sectors.

Table 4: Total Economic Impacts of Arizona’s Estimated Share of the Reconciliation Bill, 2022-2031⁷

	RECONCILIATION BILL INVESTMENT YEAR										
	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	Total
State Gross Domestic Product (Billions Nominal \$)	\$4.9	\$6.5	\$8.3	\$11.0	\$15.4	\$16.6	\$16.6	\$15.3	\$12.7	\$8.3	\$115.6
Total Employment (Job Years)⁸	56,116	63,700	79,817	103,331	143,751	144,197	136,788	119,088	92,098	52,712	991,597
Total Private Nonfarm Employment (Job Years)	53,383	59,586	73,941	95,058	131,689	130,926	123,278	106,458	81,368	45,215	900,901
Personal Income (Billions Nominal \$)	\$4.3	\$5.1	\$6.6	\$8.7	\$12.2	\$13.2	\$13.5	\$12.8	\$11.2	\$8.2	\$95.8
Disposable Personal Income (Billions Nominal \$)	\$3.7	\$4.5	\$5.8	\$7.6	\$10.6	\$11.4	\$11.7	\$11.1	\$9.8	\$7.2	\$83.3

Source: Authors’ Calculation

⁷ Table rows may not tally exactly due to rounding.

⁸ Please note: a job year is not synonymous with a job. One person employed by the same firm for six years accounts for six job years employment but only one job.

The fourth row of Table 4 estimates the total personal income impacts generated by Arizona’s estimated share of the Budget Reconciliation Bill, 2022-2031. Personal income refers to the money received from wages, proprietors' income, dividends, interest, rents, and government benefits. It ranges from \$4.3 billion in 2022 to \$13.5 billion in 2028. In total over the ten-year investment time horizon, Arizona’s \$83.6 billion estimated share of the proposed Budget Reconciliation Bill is estimated to generate \$95.8 billion personal income in the State. That’s equivalent to an average annual contribution of \$9.6 billion during the ten-year investment time horizon. To put this into context, the U.S. Bureau of Economic Analysis estimates Arizona’s annual total personal income in 2019 at \$335.2 billion. The average annual personal income contribution is equivalent to 2.9% of Arizona’s total personal income in 2019.

The fifth row of Table 4 estimates the total disposable personal income impacts generated by Arizona’s estimated share of the Budget Reconciliation Bill, 2022-2031. Disposable personal income refers to the total after-tax income received by any person residing in the State of Arizona available for spending or saving. It ranges from \$3.7 billion in 2022 to \$11.7 billion in 2028. In total over the ten-year investment time horizon, Arizona’s \$83.6 billion estimated share of the proposed Budget Reconciliation Bill is estimated to generate \$83.3 billion disposable personal income in the State. That’s equivalent to an average annual contribution of \$8.3 billion during the ten-year investment time horizon. To put this into context, the U.S. Census Bureau estimates that there are 2,571,268 households in Arizona in 2019. Each household is therefore estimated on average to receive \$3,300 more per annum in additional disposable personal income, 2022-2031.

Table 5 summarizes the total employment impacts by major sector during the ten-year Budget Reconciliation Bill investment time horizon in the State of Arizona. Services are estimated to account for approximately half of all job years’ employment generated during the ten-year investment time horizon of the Budget Reconciliation Bill in Arizona. Construction is estimated to account for 16.5% of all job years’ employment generated during the ten-year investment time horizon. Federal, state and local government are estimated to account for 16.5% of all job years’ employment generated during the ten-year investment time horizon.

Table 5: Total Employment Impacts by Type, 2022-2031

EMPLOYMENT TYPE	TOTAL NUMBER OF JOB YEARS	PERCENT CONTRIBUTION
Services	499,052	50.3%
Construction	163,775	16.5%
Government	90,695	9.1%
Retail and Wholesale	86,219	8.7%
Finance, Insurance & Real Estate	63,615	6.4%
Transportation and Public Utilities	35,476	3.6%
Natural Resources	31,291	3.2%
Manufacturing	21,473	2.2%

Source: Authors’ Calculations

At a more granular level, the top five private nonfarm employment categories benefiting the most are:

- Construction: 163,775 job years (18.2% of total impact).
- Social Assistance: 162,902 job years (18.1% of total impact).
- Retail Trade: 69,002 job years (7.7% of total impact).
- Professional, Scientific, & Technical Services: 64,847 job years (7.2% of total impact).
- Educational Services (Private): 55,734 job years (6.2% of total impact).

Table 6 summarizes the estimated impacts by Senate Committee. It suggests most of the estimated impacts in Arizona during the ten-year investment time horizon are associated with programs supported by the Senate's Committee on Finance, and the Committee on Health, Education, Labor and Pensions. Approximately 63% of the State GDP impacts, 72% of personal income or disposable personal income impacts, and 69% of both employment impacts can be attributed to the proposed ten years of investments made by these Senate Committees assumed to take place in Arizona. This is unsurprising, given that the investments made by both Committees account for 69.2% of Arizona's estimated total share of the Budget Reconciliation Bill.

Table 6: Total Economic Impact of Arizona’s Estimated Share by Senate Committee Area, 2022-2031

SENATE COMMITTEE	TOTAL STATE GDP (Billions Nominal \$)	AVERAGE ANNUAL STATE GDP (Millions Nominal \$)	TOTAL PERSONAL INCOME (Billions Nominal \$)	AVERAGE ANNUAL PERSONAL INCOME (Millions Nominal \$)	TOTAL DISPOSABLE PERSONAL INCOME (Billions Nominal \$)	AVERAGE ANNUAL DISPOSABLE PERSONAL INCOME (Millions Nominal \$)	AVERAGE ANNUAL EMPLOYMENT (Job Years)	AVERAGE ANNUAL PRIVATE NONFARM EMPLOYMENT (Job Years)
Agriculture, Nutrition and Forestry	\$7.1	\$709.4	\$5.2	\$517.1	\$4.5	\$450.9	6,847	5,936
Banking, Housing & Urban Affairs	\$11.3	\$1,131.7	\$7.6	\$757.8	\$6.6	\$658.0	8,531	7,938
Commerce, Science and Technology	\$2.4	\$236.2	\$1.6	\$160.0	\$1.4	\$138.7	1,744	1,619
Energy and Natural Resources	\$9.5	\$946.0	\$5.0	\$504.6	\$4.4	\$438.9	5,265	4,802
Environment and Public Works	\$2.9	\$292.9	\$1.7	\$166.0	\$1.4	\$144.0	1,759	1,617
Finance	\$46.5	\$4,649.2	\$46.6	\$4,658.3	\$40.5	\$4,052.0	43,421	39,746
Health, Education, Labor & Pensions	\$27.0	\$2,699.8	\$22.4	\$2,241.7	\$19.5	\$1,945.4	25,350	22,695
Homeland Security & Governmental Affairs	\$0.9	\$94.2	\$0.6	\$63.1	\$0.5	\$54.8	707	657
Indian Affairs	\$2.5	\$250.5	\$1.3	\$130.2	\$1.1	\$112.8	1,329	1,212
Small Business & Entrepreneurship	\$0.7	\$70.1	\$0.4	\$41.6	\$0.4	\$36.1	415	379
Judiciary	\$4.4	\$435.1	\$3.0	\$302.8	\$2.6	\$263.4	3,387	3,105
Veterans Affairs	\$0.7	\$69.7	\$0.5	\$47.1	\$0.4	\$40.9	527	490

Source: Authors' Calculations

4. TOTAL ECONOMIC IMPACTS, 2022-2040

The total economic impacts of Arizona’s estimated share of the proposed Budget Reconciliation Bill will not be restricted to the years in which the investments occur. That is, there will be long-run as well as short-run effects associated with the investments, some of which the REMI model is able to capture.

Furthermore, as part of its 2022-2031 modeling, Seidman has assumed a lagged market response of five years for all production cost savings. This is REMI’s standard market share response. It is based on the assumption that it takes time for markets to respond to changes in business conditions, such as the cost of doing business. An analysis of legacy economic impacts upon completion of the ten years of investments therefore ensures that the markets are able to respond to changes in the cost of doing business. These legacy effects can extend across several years. For the purpose of the current modeling, Seidman has looked at the next nine years, resulting in an estimate of total impacts, 2022 to 2040.

Table 7 estimates the total annual impact of the investments, 2022-2040.

Table 7: Total Economic Impacts of Arizona’s Estimated Share of the Reconciliation Bill, 2022-2040

	TOTAL 2022-2040	AVERAGE ANNUAL IMPACT
State Gross Domestic Product (Billions Nominal \$)	\$120.6	\$6.4
Total Employment (Job Years)⁹	1,016,126	53,480
Total Private Nonfarm Employment (Job Years)	909,544	47,871
Personal Income (Billions Nominal \$)	\$114.1	\$6.0
Disposable Personal Income (Billions Nominal \$)	\$100.6	\$5.3

Source: Authors’ Calculations

The first row of Table 7 estimates the total State Gross Domestic Product (GDP) generated by Arizona’s estimated share of the Budget Reconciliation Bill, 2022-2040. In total over the nineteen-year modeling time horizon, Arizona’s \$83.6 billion estimated share of the proposed Budget Reconciliation Bill is estimated to generate \$120.6 billion for the State’s GDP. That’s equivalent to an average annual contribution of \$6.4 billion during the nineteen-year modeling time horizon. The \$6.4 billion average annual State GDP contribution, 2022-2040, is equivalent to 1.7% of Arizona’s annual State GDP in 2019.

The second row of Table 7 estimates the total employment impacts generated by Arizona’s estimated share of the Budget Reconciliation Bill, 2022-2040. Total employment is measured in job years. A job

⁹ Please note: a job year is not synonymous with a job. One person employed by the same firm for six years accounts for six job years employment but only one job.

year refers to the employment of an individual for 12 consecutive months. The average number of job years attributed to Arizona's estimated share of the proposed Budget Reconciliation Bill is approximately 53,480 per year. The average annual total employment contribution during those nineteen years is equivalent to 1.8% of Arizona's total employment in 2019.

The third row of Table 7 estimates the total private nonfarm employment impacts generated by Arizona's estimated share of the Budget Reconciliation Bill, 2022-2040. Total private nonfarm employment is also measured in job years. The average number of private nonfarm job years attributed to Arizona's estimated share of the proposed Budget Reconciliation Bill is approximately 47,871 per year. The average annual total private nonfarm employment contribution during those nineteen years is equivalent to 1.9% of Arizona's total private nonfarm employment in 2019. On average, approximately than 9 out of every 10 job years of employment associated with the Reconciliation Bill's investments in Arizona are estimated to be in private nonfarm sectors.

The fourth row of Table 7 estimates the total personal income impacts generated by Arizona's estimated share of the Budget Reconciliation Bill, 2022-2040. In total over the nineteen-year modeling time horizon, Arizona's \$83.6 billion estimated share of the proposed Budget Reconciliation Bill is estimated to generate \$114.1 billion personal income in the State of Arizona. That's equivalent to an average annual contribution of approximately \$6.0 billion during the nineteen-year modeling time horizon. To put this into context, the average annual personal income contribution during the nineteen-year modeling time horizon is equivalent to 1.8% of Arizona's total personal income in 2019.

The fifth row of Table 7 estimates the total disposable personal income impacts generated by Arizona's estimated share of the Budget Reconciliation Bill, 2022-2040. In total over the nineteen-year modeling time horizon, Arizona's \$83.6 billion estimated share of the proposed Budget Reconciliation Bill is estimated to generate \$100.6 billion disposable personal income in the State of Arizona. That's equivalent to an average annual contribution of \$5.3 billion during the nineteen-year time horizon. To put this into context, each Arizona household is therefore estimated on average to receive more than \$2,000 per annum in additional disposable personal income during the nineteen year modeling time horizon.

Table 8 summarizes the total employment impacts by major sector during the nineteen-year modeling time horizon in the State of Arizona. Services are estimated to account for just over half of all job years' employment generated, 2022-2040. Construction is estimated to account for 12.0% of all job years' employment generated during the nineteen-year modeling time horizon. Federal, state and local government are estimated to account for 10.5% of all job years' employment generated during the nineteen years.

Table 8: Total Employment Impacts by Type, 2022-2040

EMPLOYMENT TYPE	TOTAL NUMBER OF JOB YEARS	PERCENT CONTRIBUTION
Services	534,378	52.6%
Construction	121,993	12.0%
Government	106,582	10.5%
Retail and Wholesale	96,329	9.5%
Finance, Insurance & Real Estate	68,463	6.7%
Transportation and Public Utilities	38,336	3.8%
Natural Resources	30,553	3.0%
Manufacturing	19,493	1.9%

Source: Authors' Calculations

At a more granular level, the top five private nonfarm employment categories benefiting the most are:

- Social Assistance: 164,321 job years (18.1% of total impact)
- Construction: 121,993 job years (13.4% of total impact).
- Retail Trade: 78,101 job years (8.1% of total impact).
- Professional, Scientific, & Technical Services: 71,469 job years (7.9% of total impact).
- Educational Services (Private): 57,297 job years (6.3% of total impact).

Table 9 summarizes the estimated impacts by Senate Committee. It suggests most of the estimated economic impacts in Arizona during the nineteen-year modeling time horizon are associated with programs supported by the Senate's Committee on Finance or the Committee on Health, Education, Labor and Pensions. Approximately 64% of the State GDP impacts, 72% of personal income or disposable income impacts, and 69% of both employment impacts can be attributed to the proposed investments made by these Committees assumed to take place in Arizona under the Budget Reconciliation Bill.

Table 9: Total Economic Impact of Arizona’s Estimated Share by Senate Committee Area, 2022-2040

SENATE COMMITTEE	TOTAL STATE GDP (Billions Nominal \$)	AVERAGE ANNUAL STATE GDP (Millions Nominal \$)	TOTAL PERSONAL INCOME (Billions Nominal \$)	AVERAGE ANNUAL PERSONAL INCOME (Millions Nominal \$)	TOTAL DISPOSABLE PERSONAL INCOME (Billions Nominal \$)	AVERAGE ANNUAL DISPOSABLE PERSONAL INCOME (Millions Nominal \$)	AVERAGE ANNUAL EMPLOYMENT (Job Years)	AVERAGE ANNUAL PRIVATE NONFARM EMPLOYMENT (Job Years)
Agriculture, Nutrition and Forestry	\$7.7	\$403.3	\$6.6	\$346.4	\$5.8	\$306.8	3,771	3,232
Banking, Housing & Urban Affairs	\$11.6	\$608.9	\$9.1	\$477.1	\$8.0	\$421.0	4,569	4,189
Commerce, Science and Technology	\$2.3	\$122.0	\$1.8	\$95.7	\$1.6	\$84.1	906	830
Energy and Natural Resources	\$9.8	\$513.8	\$6.0	\$318.4	\$5.3	\$280.6	2,864	2,568
Environment and Public Works	\$3.0	\$156.0	\$2.0	\$103.8	\$1.7	\$91.4	939	848
Finance	\$49.6	\$2,610.3	\$55.1	\$2,899.3	\$48.5	\$2,544.1	23,534	21,203
Health, Education, Labor & Pensions	\$27.8	\$1,464.6	\$27.0	\$1,418.8	\$23.8	\$1,250.1	13,598	12,009
Homeland Security & Governmental Affairs	\$1.0	\$50.7	\$0.8	\$39.8	\$0.7	\$35.1	379	347
Indian Affairs	\$2.5	\$132.8	\$1.5	\$81.1	\$1.4	\$71.3	708	633
Small Business & Entrepreneurship	\$0.7	\$37.4	\$0.5	\$26.0	\$0.4	\$22.8	222	200
Judiciary	\$4.4	\$231.5	\$3.5	\$184.1	\$3.1	\$162.2	1,789	1,617
Veterans Affairs	\$0.7	\$37.5	\$0.6	\$29.8	\$0.5	\$26.2	282	259

Source: Authors' Calculations

5. STUDY LIMITATIONS

Data Inputs

The distribution of investments is primarily based on CAP's interpretation of the Senate Budget Committee's report accompanying the FY2022 Budget Resolution (page 1-4).¹⁰ . However, it also include modifications in line with ongoing key congressional discussions and proceedings up to and including September 3, as advised by CAP. The national investment allocations are anticipated to change as the Reconciliation Bill works its way through Congress. Please note that any future changes to the national allocations in terms of both the total investment and program focus of that investment will affect Arizona's estimated share and also the economic impacts estimated in this study.

Non-Modeled Impacts

The REMI PI+ model used by Seidman in this analysis captures direct, indirect, and induced effects of expenditures and capital investments. However, the model is not well-suited to examining the residual benefits or costs that would accrue because of the product or service created. The following is a non-exhaustive list of areas in which economic or other benefits may be realized because of investments in the Budget Reconciliation Bill, the impacts of which have not been examined by Seidman.

Reduced carbon emissions will result in a cleaner environment that will in turn lead to reduced incidence of air quality-related disease. At present, Arizona ranks fourteenth in carbon emissions from the electrical power sector¹¹, while also ranking above average in asthma mortality.¹² The cities of Tucson and Phoenix are ranked among the worst in the U.S. for people living with asthma.¹³

The expansion of childcare and elder care will lead to improved health outcomes, but also relieve burdensome caregiving obligations that prevent some individuals from entering the labor force or seeking further education. Previous research by Seidman has found that Arizona's labor force participation rates are low for all age and educational attainment cohorts.¹⁴ The Economic Policy Institute estimates that policy changes could result in up to 3 million people joining the labor force nationally.¹⁵

Investment in education, including in early childhood, K-12, community college and four-year degrees, lead to greater educational attainment, thereby providing a boost to the workforce. The impact of early childhood education has been shown to have substantial benefits in research by James Heckman and First

¹⁰ Source: <https://www.budget.senate.gov/imo/media/doc/CPRT-117SPRT45298.pdf>

¹¹ Source: <https://www.eia.gov/environment/emissions/state/>

¹² Source: https://www.cdc.gov/asthma/most_recent_data_states.htm

¹³ Source: <https://www.aafa.org/media/3040/aafa-2021-asthma-capitals-report.pdf>

¹⁴ Source: <https://wpcarey.asu.edu/sites/default/files/income09-19.pdf>

¹⁵ Source: <https://www.epi.org/blog/ambitious-investments-in-child-and-elder-care-could-boost-labor-supply-enough-to-support-3-million-new-jobs/>

Things First.^{16 17} Further, the U.S. Census Bureau has reported that Arizona funded its public schools at the second-lowest per-pupil rate in the nation in 2019.¹⁸

Post-secondary education investment can have substantial economic impact for a community. The Maricopa Community College system reports that 88% of students remain in Maricopa County after their studies, contributing \$6.3 billion in added income for the county's economy. This is the equivalent of 79,851 jobs.¹⁹ Previous research by Seidman found that ASU alumni account for \$17 billion in Arizona wages, and that ASU alone is responsible for one-quarter of college degree workers in the State.²⁰

Investments in affordable housing have significant quality of life benefits. A study in Oregon found that the benefits of new affordable housing included increased housing stability and reduced risk of homelessness, thereby reducing housing cost burden. This then freed households to spend more on food and other necessities, safer neighborhoods and less crowded living quarters for people with low-incomes, better school performance and reduced dropout rates, lower levels of psychological distress and better mental health, better behavior and increased motivation among children, lower incidence of obesity, increases in health insurance coverage, and improved health status²¹

Investments in providing legal work status for undocumented immigrants could lead to labor force expansion by drawing workers out of shadow employment. Recent research by the Center for American Progress finds that a pathway to citizenship for undocumented immigrants could boost national GDP by a total of \$1.7 trillion over 10 years, while creating 438,800 new jobs.²² Estimates on the location of undocumented immigrants show that Arizona boasts a population disproportionately larger than its overall population so the State will likely reap a disproportionately larger share of benefits.²³

¹⁶ Source: <https://heckmanequation.org/>

¹⁷ Source: <https://www.firstthingsfirst.org/early-childhood-matters/investing-in-early-childhood/>

¹⁸ Source: https://www.census.gov/newsroom/press-releases/2021/public-school-spending-per-pupil.html?utm_medium=email&utm_source=govdelivery

¹⁹ Source: https://cdn.maricopa.edu/documents/pdf/economic-impact/MCCCD_MainReport_1617_Finalv2.pdf

²⁰ Source: <https://wpcarey.asu.edu/sites/default/files/valueasudegree11-20.pdf>

²¹ <https://www.novoco.com/sites/default/files/atoms/files/housingeconomicstimulus.pdf>

²² <https://www.americanprogress.org/issues/immigration/reports/2021/06/14/500433/citizenship-undocumented-immigrants-boost-u-s-economic-growth/>

²³ <https://www.pewresearch.org/hispanic/interactives/u-s-unauthorized-immigrants-by-state/>

APPENDIX

Table A1: Seidman’s Sources for Estimating Arizona’s Share of the Budget Reconciliation Bill

METHOD	ARIZONA SHARE	HYPERLINK SOURCE
Per Capita	2.16%	U.S. Census Bureau, 2020 Census
Per Capita (K-12 only)	2.40%	National Center for Education Statistics
Per Capita (65+ only)	2.40%	U.S. Census Bureau, 2018 Population Estimates
Share of national carbon dioxide emissions	2.70%	U.S. Energy Information Administration, EIA Monthly Energy Review September 2020
Share of national college students	2.60%	National Student Clearinghouse Research Center Spring 2021 Enrollment Estimates
Share of national community college students	3.00%	National Student Clearinghouse Research Center Spring 2021 Enrollment Estimates
Share of national DACA recipients	6.25%	U.S. Citizenship and Immigration Services 2016
Share of Native American population	5.90%	World Population Review
Share of national manufacturing workers	1.37%	Emsi
Share of potential rural co-op energy plants	3.78%	GreenBiz
Share of federal land	4.56%	Congressional Research Service, Federal Land Ownership
Share of Affordable Care Act participants	1.30%	KFF Marketplace Enrollment 2014-2021
Share of federal vehicles based in state	2.60%	U.S. Federal Highway Administration
Share of national farmland	2.90%	U.S. Department of Agriculture Farms and Land in Farms 2018
Share of national non-metro population	0.78%	Bureau of Economic Analysis, 2020
Share of veterans	2.47%	White House Fact Sheets
Share of postal workers	1.60%	Bureau of Labor Statistics, Occupational Employment and Wages May 2020
Share of SALT taxes	1.08%	IRS, Statistics of Income Division, Individual Master File System, August 2018.
Estimated share of new car battery plants	5.00%	Seidman Estimate
Share of undocumented immigrants	2.57%	Pew Research Center
Share of Electric Vehicle Charging Station Credit	N/A	White House Memo as reported in Phoenix Business Journal

Source: Authors’ Calculations



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