

FORECAST OF TOTAL PERSONAL INCOME

CY2021 TO CY2022

COUNCIL ON REVENUES

November 2, 2021

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Table 1
Economic Data

	CY 2019					CY 2020					CY 2021	
	Jan-Mar	Apr-Jun	Jul-Sep	Oct-Dec	Annual	Jan-Mar	Apr-Jun	Jul-Sep	Oct-Dec	Annual	Jan-Mar	Apr-Jun
1. U.S. GDP in Current Dollars (in billions)	\$21,002	\$21,289	\$21,505	\$21,695	\$21,373	\$21,481	\$19,477	\$21,139	\$21,478	\$20,894	\$22,038	\$22,741
2. U.S. GDP Implicit Price Deflator (2012=100)	111.5	112.2	112.5	113.0	112.3	113.3	112.9	113.9	114.4	113.6	115.7	117.4
3. Construction (in millions)	\$2,311	\$2,461	\$2,409	\$2,449	\$9,631	\$2,396	\$2,368	\$2,554	\$2,431	\$9,749	\$2,460	\$2,577
4. Total Private Building Authorizations (in millions)	\$761	\$809	\$799	\$853	\$3,221	\$785	\$693	\$843	\$787	\$3,109	\$803	\$1,346
5. Total Wages (in millions)	\$8,575	\$8,422	\$8,544	\$9,052	\$34,593	\$8,842	\$7,413	\$7,489	\$8,651	\$32,395	\$7,902	\$8,486
6. Total Personal Income (in millions)	\$77,669	\$78,172	\$78,743	\$79,480	\$78,516	\$77,357	\$87,788	\$82,981	\$81,984	\$82,527	\$91,750	\$85,040
7. Visitor Arrivals by Air (in thousands)												
a. Total State	2,487	2,607	2,640	2,509	10,243	2,096	31	64	496	2,686	847	1,905
b. Domestic	1,682	1,916	1,888	1,768	7,254	1,483	30	61	489	2,063	839	1,896
c. International	805	691	752	741	2,989	612	1	3	7	624	8	9
8. Average Daily Visitor Census (in thousands)												
a. Total State	252	245	248	239	246	213	9	20	70	78	103	199
b. Domestic	178	188	185	178	182	158	9	20	69	64	101	197
c. International	73	56	63	61	64	56	0	1	1	14	2	2
9. Honolulu CPIU (1982-84=100) 1/	280.7	280.7	282.5	282.5	281.6	285.1	285.1	286.9	286.9	286.0	292.5	292.5
10. State General Fund Tax Revenue (in millions)	\$1,688	\$2,101	\$1,852	\$1,675	\$7,316	\$1,791	\$1,376	\$1,793	\$1,454	\$6,415	\$1,592	\$2,410
11. General Excise & Use Tax (in millions) 2/	\$916	\$898	\$923	\$864	\$3,602	\$971	\$677	\$696	\$694	\$3,039	\$793	\$897
12. Individual Income Tax (in millions) 2/												
a. Net Individual Income Tax	\$524	\$888	\$659	\$612	\$2,684	\$560	\$528	\$916	\$593	\$2,597	\$657	\$1,189
b. Declaration of Estimated Taxes	\$140	\$397	\$171	\$67	\$776	\$200	\$146	\$361	\$90	\$798	\$214	\$594
c. Withholding Tax on Wages	\$547	\$525	\$528	\$552	\$2,153	\$572	\$479	\$522	\$524	\$2,097	\$562	\$553
13. TAT (in millions) 2/	\$167	\$151	\$177	\$142	\$637	\$197	\$47	\$14	\$23	\$282	\$60	\$118
14. Civilian Unemployment Rate (%)	2.7	2.6	2.5	2.1	2.5	2.0	19.4	14.5	11.2	11.8	9.1	7.7
15. Non-Agricultural Wage and Salary Jobs (in thousands)	657	658	653	666	659	660	515	516	537	557	548	569
16. Hotel Occupancy Rate (%)	80.5	80.3	82.8	79.6	80.8	70.6	12.9	20.7	21.9	31.5	32.3	63.1
17. Average Daily Room Rate	\$291	\$270	\$281	\$288	\$283	\$301	\$140	\$160	\$232	\$208	\$265	\$303

1/ Semiannual data, if available, or the average of available bimonthly data.

2/ Beginning in FY 2020, reported collections for the individual income tax, the transient accommodations tax, and the general excise and use tax include revenue collections generated by the Special Enforcement Section of the Department of Taxation.

Table 1 (Cont.)
Economic Data (% Change)

	CY 2019					CY 2020					CY 2021	
	Jan-Mar	Apr-Jun	Jul-Sep	Oct-Dec	Annual	Jan-Mar	Apr-Jun	Jul-Sep	Oct-Dec	Annual	Jan-Mar	Apr-Jun
1. U.S. GDP in Current Dollars	4.3%	3.9%	4.1%	4.2%	4.1%	2.3%	-8.5%	-1.7%	-1.0%	-2.2%	2.6%	16.8%
2. U.S. GDP Implicit Price Deflator (2012=100)	2.1%	1.7%	1.7%	1.6%	1.8%	1.6%	0.6%	1.2%	1.3%	1.2%	2.0%	4.0%
3. Construction	3.8%	2.1%	-5.6%	3.2%	0.7%	3.7%	-3.8%	6.0%	-0.7%	1.2%	2.7%	8.9%
4. Total Private Building Authorizations	8.7%	-27.0%	7.5%	19.0%	-1.4%	3.1%	-14.3%	5.6%	-7.7%	-3.5%	2.3%	94.2%
5. Total Wages	3.5%	3.1%	3.7%	3.3%	3.4%	3.1%	-12.0%	-12.4%	-4.4%	-6.4%	-10.6%	14.5%
6. Total Personal Income	3.0%	3.1%	3.0%	3.2%	3.1%	-0.4%	12.3%	5.4%	3.2%	5.1%	18.6%	-3.1%
7. Visitor Arrivals by Air												
a. Total State	2.4%	6.1%	6.3%	4.9%	4.9%	-15.7%	-98.8%	-97.6%	-80.2%	-73.8%	-59.6%	6094.9%
b. Domestic	4.2%	9.3%	9.8%	7.2%	7.7%	-11.8%	-98.4%	-96.8%	-72.4%	-71.6%	-43.4%	6244.4%
c. International	-1.0%	-2.0%	-1.6%	-0.1%	-1.2%	-23.9%	-99.9%	-99.6%	-99.0%	-79.1%	-98.8%	905.6%
8. Average Daily Visitor Census												
a. Total State	-0.3%	2.6%	4.1%	2.7%	2.2%	-15.1%	-96.2%	-91.8%	-70.7%	-68.2%	-51.6%	2062.6%
b. Domestic	0.8%	5.4%	6.2%	5.3%	4.4%	-11.3%	-95.2%	-89.4%	-61.5%	-65.0%	-35.8%	2067.0%
c. International	-2.9%	-5.6%	-1.6%	-4.1%	-3.5%	-24.4%	-99.8%	-99.1%	-97.8%	-77.3%	-96.4%	1650.4%
9. Honolulu CPIU (1982-84=100) 1/	2.0%	2.0%	1.3%	1.3%	1.6%	1.6%	1.6%	1.6%	1.6%	1.6%	2.6%	2.6%
10. State General Fund Tax Revenue	-1.3%	12.4%	9.1%	1.2%	5.5%	6.1%	-34.5%	-3.2%	-13.2%	-12.3%	-11.1%	75.1%
11. General Excise & Use Tax 2/	-4.5%	21.3%	4.9%	2.1%	5.1%	6.0%	-24.6%	-24.6%	-19.7%	-15.6%	-18.3%	32.4%
12. Individual Income Tax 2/												
a. Net Individual Income Tax	3.1%	6.8%	13.8%	6.1%	7.5%	6.8%	-40.5%	38.9%	-3.1%	-3.2%	17.4%	125.1%
b. Declaration of Estimated Taxes	-24.3%	43.6%	49.4%	-6.9%	19.6%	42.6%	-63.2%	111.6%	33.5%	2.8%	6.9%	305.8%
c. Withholding Tax on Wages	17.8%	-14.1%	4.1%	5.6%	2.2%	4.4%	-8.7%	-1.2%	-5.1%	-2.6%	-1.6%	15.4%
13. TAT 2/	6.9%	-1.5%	12.5%	13.9%	7.7%	17.9%	-68.5%	-92.1%	-83.5%	-55.8%	-69.4%	147.6%
14. Civilian Unemployment Rate (change)	0.6	0.3	0.0	-0.5	0.1	-0.7	16.8	12.0	9.1	9.3	7.1	-11.7
15. Non-Agricultural Wage and Salary Jobs	0.1%	-0.1%	0.1%	0.0%	0.0%	0.4%	-21.7%	-20.9%	-19.4%	-15.4%	-17.1%	10.4%
16. Hotel Occupancy Rate (change)	-3.0	-0.8	2.7	3.2	0.5	-9.9	-67.4	-62.1	-57.7	-49.3	-38.3	50.2
17. Average Daily Room Rate	-0.5%	1.1%	2.8%	3.9%	1.8%	3.5%	-48.3%	-42.9%	-19.7%	-26.3%	-12.1%	116.6%

1/ Semiannual data, if available, or the average of available bimonthly data.

2/ Beginning in FY 2020, reported collections for the individual income tax, the transient accommodations tax, and the general excise and use tax include revenue collections generated by the Special Enforcement Section of the Department of Taxation.

Table 2
Total Personal Income: CY 1969 - CY 2021
(In Millions of Dollars)

Calendar Year	Jan.-Mar.	Apr.-Jun.	Jul.-Sep.	Oct.-Dec.	Annual
1969	3,471	3,535	3,690	3,877	3,643
1970	4,035	4,174	4,309	4,382	4,225
1971	4,438	4,542	4,641	4,716	4,584
1972	4,787	4,936	5,121	5,347	5,048
1973	5,451	5,516	5,620	5,785	5,593
1974	6,025	6,260	6,501	6,657	6,361
1975	6,694	6,846	6,961	7,175	6,919
1976	7,258	7,382	7,540	7,684	7,466
1977	7,864	7,973	8,103	8,396	8,084
1978	8,548	8,775	9,132	9,362	8,954
1979	9,662	9,913	10,202	10,395	10,043
1980	11,073	11,339	11,613	11,911	11,484
1981	12,317	12,505	12,638	12,276	12,434
1982	12,850	13,039	13,273	13,503	13,166
1983	14,174	14,290	14,408	14,901	14,443
1984	14,990	15,417	15,647	15,837	15,473
1985	16,165	16,359	16,547	16,739	16,453
1986	17,054	17,300	17,619	17,860	17,458
1987	18,041	18,377	18,780	19,277	18,619
1988	19,708	20,240	20,720	21,243	20,478
1989	21,805	22,286	23,243	24,160	22,874
1990	24,141	24,726	25,240	25,810	24,979
1991	25,993	26,138	26,522	27,078	26,433
1992	27,698	28,257	28,632	29,151	28,435
1993	29,583	29,601	29,372	29,350	29,476
1994	29,799	29,937	30,241	30,677	30,164
1995	30,679	30,996	30,891	30,890	30,864
1996	30,814	30,869	30,903	30,994	30,895
1997	31,459	31,720	32,166	32,286	31,908
1998	32,245	32,373	32,596	32,845	32,515
1999	32,963	33,225	34,008	34,236	33,608
2000	34,678	35,503	35,794	36,341	35,579
2001	36,821	36,906	37,291	37,216	37,059
2002	37,995	38,533	38,950	39,511	38,747
2003	39,780	40,299	40,845	41,561	40,621
2004	42,266	43,109	44,074	45,169	43,655
2005	45,721	46,754	47,263	48,354	47,023
2006	49,344	50,137	50,860	51,255	50,399
2007	52,018	52,982	53,687	54,401	53,272
2008	55,158	56,862	56,014	55,611	55,911
2009	55,278	55,520	55,132	55,374	55,326
2010	55,707	56,353	57,218	57,727	56,751
2011	58,787	58,986	59,320	60,060	59,288
2012	60,818	61,537	61,334	62,540	61,557
2013	61,800	62,200	62,699	63,386	62,521
2014	64,590	65,692	66,592	67,273	66,037
2015	68,138	68,847	69,366	70,086	69,109
2016	70,675	71,193	71,835	72,584	71,572
2017	73,549	74,117	74,730	75,431	74,457
2018	75,426	75,814	76,490	77,006	76,184
2019	77,669	78,172	78,743	79,480	78,516
2020	77,357	87,788	82,981	81,984	82,527
2021	91,750	85,040			

Source: United States Department of Commerce, Bureau of Economic Analysis, September 23, 2021.
New estimates for Apr.-Jun. 2021. Revised estimates for Jan.-Mar. 1998 - Jan.-Mar. 2021.

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Table 2 (Cont.)
Total Personal Income: CY 1969 - CY 2021
(% Change from the Same Period in Previous Year)

Calendar Year	Jan.-Mar.	Apr.-Jun.	Jul.-Sep.	Oct.-Dec.	Annual
1969	15.5	13.2	12.5	16.6	14.4
1970	16.2	18.1	16.8	13.0	16.0
1971	10.0	8.8	7.7	7.6	8.5
1972	7.9	8.7	10.4	13.4	10.1
1973	13.9	11.7	9.7	8.2	10.8
1974	10.5	13.5	15.7	15.1	13.7
1975	11.1	9.4	7.1	7.8	8.8
1976	8.4	7.8	8.3	7.1	7.9
1977	8.4	8.0	7.5	9.3	8.3
1978	8.7	10.1	12.7	11.5	10.8
1979	13.0	13.0	11.7	11.0	12.2
1980	14.6	14.4	13.8	14.6	14.4
1981	11.2	10.3	8.8	3.1	8.3
1982	4.3	4.3	5.0	10.0	5.9
1983	10.3	9.6	8.6	10.4	9.7
1984	5.8	7.9	8.6	6.3	7.1
1985	7.8	6.1	5.8	5.7	6.3
1986	5.5	5.8	6.5	6.7	6.1
1987	5.8	6.2	6.6	7.9	6.7
1988	9.2	10.1	10.3	10.2	10.0
1989	10.6	10.1	12.2	13.7	11.7
1990	10.7	11.0	8.6	6.8	9.2
1991	7.7	5.7	5.1	4.9	5.8
1992	6.6	8.1	8.0	7.7	7.6
1993	6.8	4.8	2.6	0.7	3.7
1994	0.7	1.1	3.0	4.5	2.3
1995	3.0	3.5	2.2	0.7	2.3
1996	0.4	-0.4	0.0	0.3	0.1
1997	2.1	2.8	4.1	4.2	3.3
1998	2.5	2.1	1.3	1.7	1.9
1999	2.2	2.6	4.3	4.2	3.4
2000	5.2	6.9	5.3	6.2	5.9
2001	6.2	4.0	4.2	2.4	4.2
2002	3.2	4.4	4.5	6.2	4.6
2003	4.7	4.6	4.9	5.2	4.8
2004	6.3	7.0	7.9	8.7	7.5
2005	8.2	8.5	7.2	7.1	7.7
2006	7.9	7.2	7.6	6.0	7.2
2007	5.4	5.7	5.6	6.1	5.7
2008	6.0	7.3	4.3	2.2	5.0
2009	0.2	-2.4	-1.6	-0.4	-1.1
2010	0.8	1.5	3.8	4.3	2.6
2011	5.5	4.7	3.7	4.0	4.5
2012	3.5	4.3	3.4	4.1	3.8
2013	1.6	1.1	2.2	1.4	1.6
2014	4.5	5.6	6.2	6.1	5.6
2015	5.5	4.8	4.2	4.2	4.7
2016	3.7	3.4	3.6	3.6	3.6
2017	4.1	4.1	4.0	3.9	4.0
2018	2.6	2.3	2.4	2.1	2.3
2019	3.0	3.1	3.0	3.2	3.1
2020	-0.4	12.3	5.4	3.2	5.1
2021	18.6	-3.1			

Source: United States Department of Commerce, Bureau of Economic Analysis, September 23, 2021.
New estimates for Apr.-Jun. 2021. Revised estimates for Jan.-Mar. 1998 - Jan.-Mar. 2021.

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Table 3
2020 Total Personal Income: Annual Growth Rate
Actual vs. Forecast

	Annual Growth Rate (%)
Council on Revenues' Forecast	
July 2020	-7.00
October 2020	5.00
Model Forecast in July 2020	
<i>Annual Single Equation</i>	
Model 1a: Construction Expenditures & Visitor Arrivals	3.23
Model 1b: Construction Expenditures & Visitor Daily Census	3.07
<i>Annual Component Equation</i>	
Model 2a: Construction Expenditures & Visitor Arrivals	6.74
Model 2b: Construction Expenditures & Visitor Daily Census	6.59
<i>Quarterly Single Equation</i>	
Model 3: Construction Expenditures & Visitor Arrivals	2.46
<i>Quarterly Component Equation</i>	
Model 4: Construction Expenditures & Visitor Arrivals	6.70
Model Forecast in October 2020	
<i>Annual Single Equation</i>	
Model 1a: Construction Expenditures & Visitor Arrivals	3.03
Model 1b: Construction Expenditures & Visitor Daily Census	2.86
<i>Annual Component Equation</i>	
Model 2a: Construction Expenditures & Visitor Arrivals	8.62
Model 2b: Construction Expenditures & Visitor Daily Census	8.48
<i>Quarterly Single Equation</i>	
Model 3: Construction Expenditures & Visitor Arrivals	8.26
<i>Quarterly Component Equation</i>	
Model 4: Construction Expenditures & Visitor Arrivals	10.57
Actual *	5.11

*Source: United States Department of Commerce, Bureau of Economic Analysis, released on September 23, 2021.

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**Table 4. Summary of Total Personal Income Forecasts
(Annual Growth Rates)**

	Calendar Year	
	2021	2022
	(percent)	
Council on Revenues' Official Forecast in August 2021	2.00	(2.00)
Model Forecast in November 2021		
<i>Annual Single Equation</i>		
Model 1a: Construction Expenditures & Visitor Arrivals	2.29	2.98
Model 1b: Construction Expenditures & Visitor Daily Census	2.28	3.16
<i>Annual Component Equation</i>		
Model 2a: Construction Expenditures, Visitor Arrivals & Other Variables	1.63	(4.78)
Model 2b: Construction Expenditures, Visitor Daily Census & Other Variables	2.66	(3.65)
<i>Quarterly Single Equation</i>		
Model 3: Construction Expenditures & Visitor Arrivals	7.86	3.52
<i>Quarterly Component Equation</i>		
Model 4: Construction Expenditures, Visitor Arrivals & Other Variables	4.07	(2.22)
Simple average of all models in November 2021	3.46	(0.17)
Council on Revenues, General Fund Meeting of September 2021	2.01 ^{1/}	(0.60) ^{2/}
DBEDT Forecast as of May 21, 2021	0.90	(3.50)
UHERO Forecast as of May 14, 2021	2.10	(2.10)
Average of all independent forecasts in July 2021	2.12	(1.59)

Note:

1/ Average of actual FY 2021 and FY 2022 forecast figures.

2/ Average of FY 2022 and FY 2023 forecasts.

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**Table 5. Forecasts of Total Personal Income - Model 1a: Annual Single Equation
(Construction Expenditures & Visitor Arrivals as Exogenous Variables)**

Calendar Year	Estimated			
	2017	2018	2019	2020
Total Personal Income (million dollars)	74,457	76,184	78,516	82,527
Annual Growth Rate (%)	4.03	2.32	3.06	5.11
			2.29	2.98

Exogenous Variables

Fiscal Year	Estimated			
	2017	2018	2019	2020
Construction Expenditures (1-month lag)				
Value (million dollars)	8,557	9,002	9,699	9,623
Annual growth rate (%)	6.46	5.21	7.74	(0.79)
Visitor Arrivals				
Persons (thousand)	9,017	9,612	9,970	7,276
Annual growth rate (%)	3.93	6.60	3.72	(27.02)
			3,312 *	6,482
			(54.48)	95.73

Sources:

Hawaii Department of Business, Economic Development & Tourism, August 2021.
Office of Tax Research and Planning, Hawaii Department of Taxation, October 2021.
Council on Revenues, September 2021.

*Actual figure.

**Table 6. Forecasts of Total Personal Income - Model 1b: Annual Single Equation
(Construction Expenditures & Visitor Daily Census as Exogenous Variables)**

Calendar Year	Estimated			
	2017	2018	2019	2020
Total Personal Income (million dollars)	74,457	76,184	78,516	82,527
Annual Growth Rate (%)	4.03	2.32	3.06	5.11
			2.28	3.16

Exogenous Variables

Fiscal Year	Estimated			
	2017	2018	2019	2020
Construction Expenditures (1-month lag)				
Value (million dollars)	8,557	9,002	9,699	9,623
Annual growth rate (%)	6.46	5.21	7.74	(0.79)
Visitor Daily Census				
Persons (thousand)	223	237	242	177
Annual growth rate (%)	3.88	6.07	2.05	(26.62)
			98 *	192
			(44.65)	95.73

Sources:

Hawaii Department of Business, Economic Development & Tourism, August 2021.
Office of Tax Research and Planning, Hawaii Department of Taxation, October 2021.
Council on Revenues, September 2021.

*Actual figure.

**Table 7. Forecasts of Total Personal Income - Model 2a: Annual Component Equation
(Construction Expenditures & Visitor Arrivals as Exogenous Variables)**

Calendar Year	Estimated				
	2017	2018	2019	2020	2022
Total Personal Income (million dollars)*	74,457	76,184	78,516	82,527	79,860
Wages and Salaries	37,169	38,034	39,194	36,490	36,411
Supplements to Wages and Salaries	10,439	10,952	11,057	10,894	10,741
Proprietors' Income	6,102	6,403	6,805	6,894	7,197
Dividends, Interest, and Rent	14,875	14,906	15,340	15,174	15,823
Current Transfer Receipts	11,938	12,164	12,689	19,363	15,898
Contributions for Government Social Insurance	6,065	6,275	6,568	6,287	6,210

* Totals may not add up due to rounding.

Annual Growth Rate (%)

Calendar Year	Estimated				
	2017	2018	2019	2020	2022
Total Personal Income	4.03	2.32	3.06	5.11	(4.78)
Wages and Salaries	3.50	2.33	3.05	(6.90)	1.09
Supplements to Wages and Salaries	2.48	4.91	0.96	(1.47)	(0.29)
Proprietors' Income	10.44	4.93	6.28	1.31	1.78
Dividends, Interest, and Rent	3.74	0.21	2.91	(1.08)	3.80
Current Transfer Receipts	4.35	1.89	4.32	52.60	(24.26)
Contributions for Government Social Insurance	4.03	3.46	4.67	(4.28)	(0.26)

Table 7 (Cont.) Exogenous Variables

Fiscal Year	Estimated				
	2017	2018	2019	2020	2021
Construction Expenditures (with 1-month lag)					
Value (million dollars)	8,557	9,002	9,699	9,623	10,022 *
Annual growth rate (%)	6.46	5.21	7.74	(0.79)	4.15
Visitor Arrivals					
Persons (thousand)	9,017	9,612	9,970	7,276	3,312 *
Annual growth rate (%)	3.93	6.60	3.72	(27.02)	(54.48)
					6,482
					95.73

Sources:

Hawaii Department of Business, Economic Development & Tourism, August 2021.
Office of Tax Research and Planning, Hawaii Department of Taxation, October 2021.
Council on Revenues, September 2021.
*Actual figure.

Calendar Year	Estimated					
	2017	2018	2019	2020	2021	2022
U.S. current transfer receipts						
Value (billion dollars)	2,856	2,976	3,139	4,241	4,554	3,781
Annual growth rate (%)	2.86	4.20	5.47	35.11	7.38	(16.97)
U.S. dividends, interests, & rents						
Value (billion dollars)	3,357	3,544	3,654	3,617	3,658	3,848
Annual growth rate (%)	6.05	5.59	3.08	(1.00)	1.13	5.21

Sources:

U.S. Department of Commerce, Bureau of Economic Analysis, September 23, 2021.
UCLA Anderson Forecast, September 2021.

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**Table 8. Forecasts of Total Personal Income - Model 2b: Annual Component Equation
(Construction Expenditures & Visitor Daily Census as Exogenous Variables)**

Calendar Year	Estimated				
	2017	2018	2019	2020	2022
Total Personal Income (million dollars)*	74,457	76,184	78,516	82,527	81,632
Wages and Salaries	37,169	38,034	39,194	36,490	38,038
Supplements to Wages and Salaries	10,439	10,952	11,057	10,894	10,943
Proprietors' Income	6,102	6,403	6,805	6,894	7,271
Dividends, Interest, and Rent	14,875	14,906	15,340	15,174	15,823
Current Transfer Receipts	11,938	12,164	12,689	19,363	15,898
Contributions for Government Social Insurance	6,065	6,275	6,568	6,287	6,341

* Totals may not add up due to rounding.

Annual Percentage Growth Rate (%)

Calendar Year	Estimated				
	2017	2018	2019	2020	2022
Total Personal Income	4.03	2.32	3.06	5.11	(3.65)
Wages and Salaries	3.50	2.33	3.05	(6.90)	3.08
Supplements to Wages and Salaries	2.48	4.91	0.96	(1.47)	0.84
Proprietors' Income	10.44	4.93	6.28	1.31	3.69
Dividends, Interest, and Rent	3.74	0.21	2.91	(1.08)	3.80
Current Transfer Receipts	4.35	1.89	4.32	52.60	(24.26)
Contributions for Government Social Insurance	4.03	3.46	4.67	(4.28)	0.99

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Table 8 (Cont.) Exogenous Variables

Fiscal Year	2017	2018	2019	2020	Estimated	
					2021	2022
Construction Expenditures (with 1-month lag)						
Value (million dollars)	8,557	9,002	9,699	9,623	10,022 *	10,447
Annual growth rate (%)	6.46	5.21	7.74	(0.79)	4.15	4.24
Visitor Daily Census						
Persons (thousand)	223	237	242	177	98 *	192
Annual growth rate (%)	3.88	6.07	2.05	(26.62)	(44.65)	95.73

Sources:

Hawaii Department of Business, Economic Development & Tourism, August 2021.

Office of Tax Research and Planning, Hawaii Department of Taxation, October 2021.

Council on Revenues, September 2021.

* Actual figure.

Calendar Year	2017	2018	2019	2020	Estimated	
					2021	2022
U.S. current transfer receipts						
Value (billion dollars)	2,856	2,976	3,139	4,241	4,554	3,781
Annual growth rate (%)	2.86	4.20	5.47	35.11	7.38	(16.97)
U.S. dividends, interests, & rents						
Value (billion dollars)	3,357	3,544	3,654	3,617	3,658	3,848
Annual growth rate (%)	6.05	5.59	3.08	(1.00)	1.13	5.21

Sources:

U.S. Department of Commerce, Bureau of Economic Analysis, September 23, 2021.

UCLA Anderson Forecast, September 2021.

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**Table 9. Forecasts of Total Personal Income - Model 3: Quarterly Single Equation
(Construction Expenditures & Visitor Arrivals as Exogenous Variables)**

Calendar Year	2017	2018	2019	2020	Estimated	
					2021	2022
Total Personal Income (million dollars)	74,457	76,184	78,516	82,528	89,015	92,149
Annual Growth Rate (%)	4.03	2.32	3.06	5.11	7.86	3.52

Exogenous Variables

Calendar Year	2017	2018	2019	2020	Estimated	
					2021	2022
Construction Expenditures (1-month lag) 1/						
Value (million dollars)	8,378	9,563	9,638	9,749	10,155	10,555
Annual growth rate (%)	(0.77)	14.15	0.78	1.16	4.16	3.94
Visitor Arrivals 2/						
Persons (thousand)	9,261	9,748	10,238	2,657	3,327	6,135
Annual growth rate (%)	5.05	5.26	5.02	(74.05)	25.23	84.37

Notes:

- 1/ Construction expenditures are adjusted for weekend and seasonal effects.
- 2/ Visitor arrivals are adjusted for seasonal effects.

**Table 10. Forecasts of Total Personal Income - Model 4: Quarterly Component Equation
(Construction Expenditures & Visitor Arrivals as Exogenous Variables)**

Calendar Year	Estimated			
	2017	2018	2019	2020
Total Personal Income (million dollars)*	74,457	76,184	78,516	82,528
Wages and Salaries	37,169	38,034	39,194	36,491
Supplements to Wages and Salaries	10,439	10,952	11,057	10,894
Proprietors' Income	6,102	6,404	6,805	6,894
Dividends, Interest, and Rent	14,875	14,906	15,340	15,174
Current Transfer Receipts	11,938	12,164	12,689	19,363
Contributions for Government Social Insurance	6,065	6,275	6,568	6,287

* Totals may not add up due to rounding.

Annual Percentage Growth Rate (%)

Calendar Year	Estimated			
	2017	2018	2019	2020
Total Personal Income	4.03	2.32	3.06	5.11
Wages and Salaries	3.50	2.33	3.05	(6.90)
Supplements to Wages and Salaries	2.48	4.91	0.96	(1.47)
Proprietors' Income	10.44	4.95	6.26	1.31
Dividends, Interest, and Rent	3.75	0.21	2.91	(1.08)
Current Transfer Receipts	4.35	1.89	4.32	52.60
Contributions for Government Social Insurance	4.03	3.46	4.67	(4.28)

November 2, 2021

Table 10 (Cont.) Exogenous Variables

Calendar Year	2017	2018	2019	2020	Estimated	
					2021	2022
Construction Expenditures (1-month lag) 1/						
Value (million dollars)	8,378	9,563	9,638	9,749	10,155	10,555
Annual growth rate (%)	(0.77)	14.15	0.78	1.16	4.16	3.94
Visitor Arrivals 2/						
Persons (thousand)	9,261	9,748	10,238	2,657	3,327	6,135
Annual growth rate (%)	5.05	5.26	5.02	(74.05)	25.23	84.37

Notes:

1/ Construction expenditures are adjusted for weekend and seasonal effects.

2/ Visitor arrivals are adjusted for seasonal effects.

Calendar Year	2017	2018	2019	2020	Estimated	
					2021	2022
U.S. current transfer receipts						
Value (billion dollars)	2,856	2,976	3,139	4,241	4,554	3,781
Annual growth rate (%)	2.86	4.20	5.47	35.11	7.38	(16.97)
U.S. dividends, interests, & rents						
Value (billion dollars)	3,357	3,544	3,654	3,617	3,658	3,849
Annual growth rate (%)	6.05	5.59	3.08	(1.00)	1.13	5.21

Sources:

U.S. Department of Commerce, Bureau of Economic Analysis, June 22, 2021.

UCLA Anderson Forecast, June 2021.

Appendix

U.S. Bureau of Economic Analysis Glossary for Personal Income and its Components

Personal income. Income received by persons from all sources. It includes income received from 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 (IVA) and capital consumption adjustment (CCAdj), rental income of persons with CCAdj, personal income receipts on assets, and personal current transfer receipts, less contributions for government social insurance. Related terms: state personal income, local area personal income.

Compensation of employees (received). Wage and salary disbursements and supplements to wages and salaries received by U.S. residents, including wages and salaries received from the rest of the world.

Supplements to wages and salaries. Consists of employer contributions for employee pension and insurance funds and employer contributions for government social insurance.

Proprietors' income. Current-production income of sole proprietorships, partnerships, and tax-exempt cooperatives. Excludes dividends, monetary interest received by nonfinancial business, and rental income received by persons not primarily engaged in the real estate business.

Rental income of persons with capital consumption adjustment. Earnings from the rental of real property by persons who are not primarily engaged in the real estate business. It also includes the imputed net rental income of owner-occupants and the royalties received by persons from patents, copyrights, and rights to natural resources.

Personal income receipts on assets. Personal interest income plus personal dividend income.

Personal current transfer receipts. Consists of income payments to persons for which no current services are performed and net insurance settlements. It is the sum of government social benefits and net current transfer receipts from business.

Contributions for government social insurance. Employer contributions for government social insurance as well as payments by employees, the self-employed, and other individuals who participate in government social insurance programs.

Source: <https://www.bea.gov/help/glossary>