Wealth by Association? How Social Networks Drive Inequality in Hawaii

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By Jensen Ahokovi and Dylan Moore

Studies show that economic connectedness, a poor individual's share of wealthy friends, significantly impacts economic mobility. Hawaii ranks highly in this metric compared to other states, but disparities exist in local schools. Private high schools have much higher economic connectedness than public schools, driven mainly by students' exposure to wealthy peers. To improve connectedness, policymakers should consider strategies such as housing voucher programs, which have been shown to improve mobility for low-income families, paired with evidence showing that reducing regulatory constraints on homebuilding can improve housing affordability. Implementing such strategies could create a more opportunity-rich future for Hawaii's low-income residents.

Introduction

Does it pay to have rich friends? The evidence suggests yes. Friendships between people from different socioeconomic backgrounds have a significant effect on economic mobility. Studies have found that low-income children could see their adult incomes rise by about 20% if they grew up in neighborhoods where they would have as many high-income friends as children from high-income families (Chetty et al., 2022a, 2022b).

This disparity is unsurprising when considering how social connections can help people climb the economic ladder. Low-income people with more high-income friends may have better access to important information like job vacancies, training opportunities, and other career-related resources (Ambrus et al., 2014, Bolte et al., 2020). They may also have more opportunities for mentorship during their careers or have their ambitions positively shaped by their exposure to high-income friends (Calvó-Armengol & Jackson, 2004).

Economists studying this subject say that a community is highly "economically connected" when low-income members of that community have many high-income friends. In this brief, we'll look at data from recent studies (Chetty et al., 2022a, 2022b) and ask: how economically connected is Hawaii?

Measuring Connectedness

To construct a measure of the economic connectedness of communities, researchers from Harvard's Opportunity Insights group used data from 72 million Facebook users in the United States, aged 25 to 44. For each user, they calculated a measure of socioeconomic status (SES) based on several factors including location, schooling, and even what model of phone they use. They label the half of the sample with the highest SES as "high-SES" and the remainder "low-SES".

They next proceeded to calculate each person's individual economic connectedness (IEC): the share of their friends who are high-SES, multiplied by 2.The IEC measure ranges from 0 to 2. Someone with an IEC of 1 has 50% high-SES friends and 50% low-SES friends. An IEC above 1 means having more high-SES friends than low-SES, and vice versa.

The researchers used these IEC scores to measure the economic connectedness (EC) of whole communities, like high schools, colleges, ZIP codes, and counties. These community EC scores are the average individual economic connectedness scores of low-SES members of that community. That is to say, a community's economic connectedness (EC) tells us whether low-SES people in that community have a relatively large share of high-SES friends. For example, the economic connectedness of the entire state of Hawaii is 1.04. This means that, for the average low-SES person in the state, a little over half (52%) of their friends are high-SES.

Hawaii vs. Other States

This score places Hawaii among the top states in the U.S. for economic connectedness (EC): as Table 1 shows, this is the fourth highest score of any state in the nation.

Table 1: States Ranked by Economic Connectedness (EC)[1]

Rank	State	Economic Connectedness
1	New Hampshire	1.09
2	Minnesota	1.05
3	North Dakota	1.05
4	Hawaii	1.04
5	Rhode Island	1.02
…	…	…
47	New Mexico	0.63
48	Mississippi	0.63
49	Georgia	0.61
50	Alabama	0.60
51	South Carolina	0.56
Average	All States (including D.C.)	0.85

At the county level, each county in Hawaii exhibits high economic connectedness relative to counties in other states. Honolulu County, in particular, ranks very high, in the top 5% of all U.S. counties, with an EC score of 1.12, meaning that for the average low-SES person in Honolulu 56% of their friends are high-SES. Maui and Kauai Counties are both in the top 10% and Hawaii County is in the top 30%.

Table 2: Counties Ranked by Economic Connectedness (EC)

Rank	County	Economic Connectedness
1	Rockingham County, NH	1.36
2	Douglas County, CO	1.35
3	San Francisco County, CA	1.31
4	Morgan County, UT	1.29
5	Madison County, ID	1.28
…	…	…
139	Honolulu County, HI	1.12
…	…	…
211	Maui County, HI	1.09

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[1]   State rankings are aggregated from county-level observations where data was available.

| Rank	County	Economic Connectedness
287	Kauai County, HI	1.06
…	…	…
943	Hawaii County, HI	0.89
…	…	…
3,018	Todd County, SD	0.29

Economic Connectedness in Hawaii

The ZIP codes with the highest EC scores are Laie (96762), Aina Haina-Kuli'ou'ou (96821), Hawaii Kai (96825), Kailua (96734), and Kaneohe (96744). On the other end, the ZIP codes with the lowest EC scores include Discovery Harbor (96772), Mountain View (96771), Hawaiian Beaches (96778), Captain Cook (96704), and Waianae (96792). Notably, Hawaii County is home to four of the five ZIP codes in the state with the lowest EC scores, with Waianae being the only one in Honolulu County.

Table 3: Hawaii ZIP Codes Ranked by Economic Connectedness (EC)

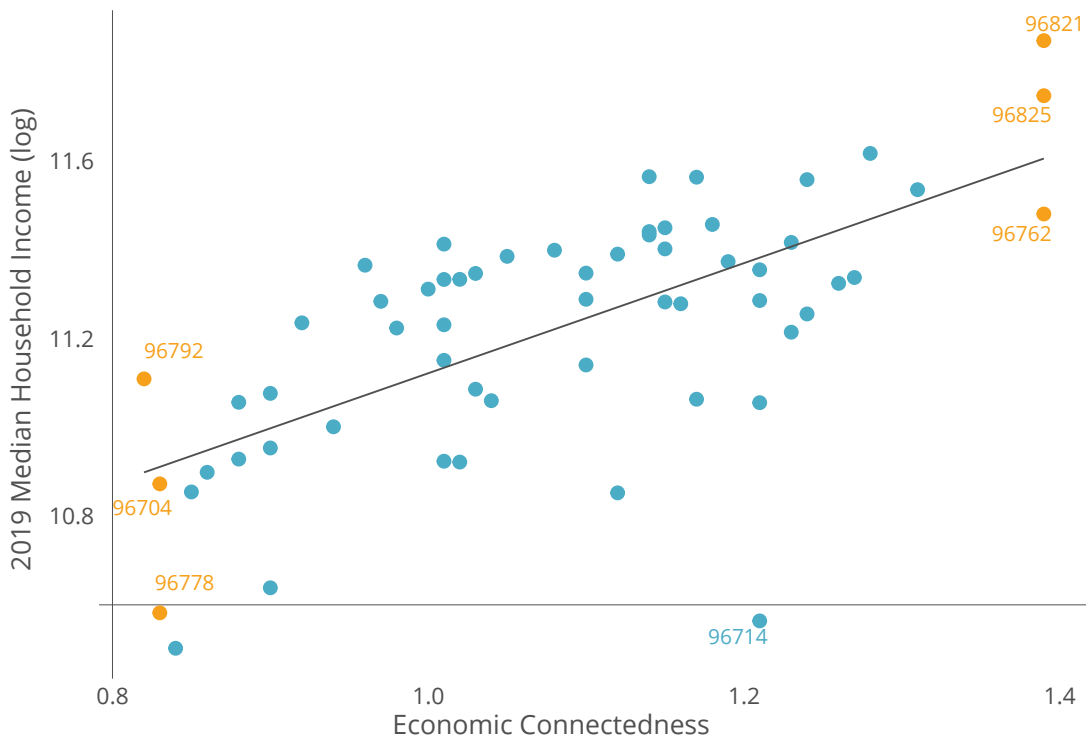| Rank	ZIP code	Economic Connectedness
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…	…	…
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57	Mountain View (96771)	0.84
58	Hawaiian Beaches (96778)	0.83
59	Captain Cook (96704)	0.83
60	Waianae (96792)	0.82

The figure below illustrates EC for ZIP codes in Honolulu County.

Figure 1: Economic Connectedness for Honolulu ZIP Codes
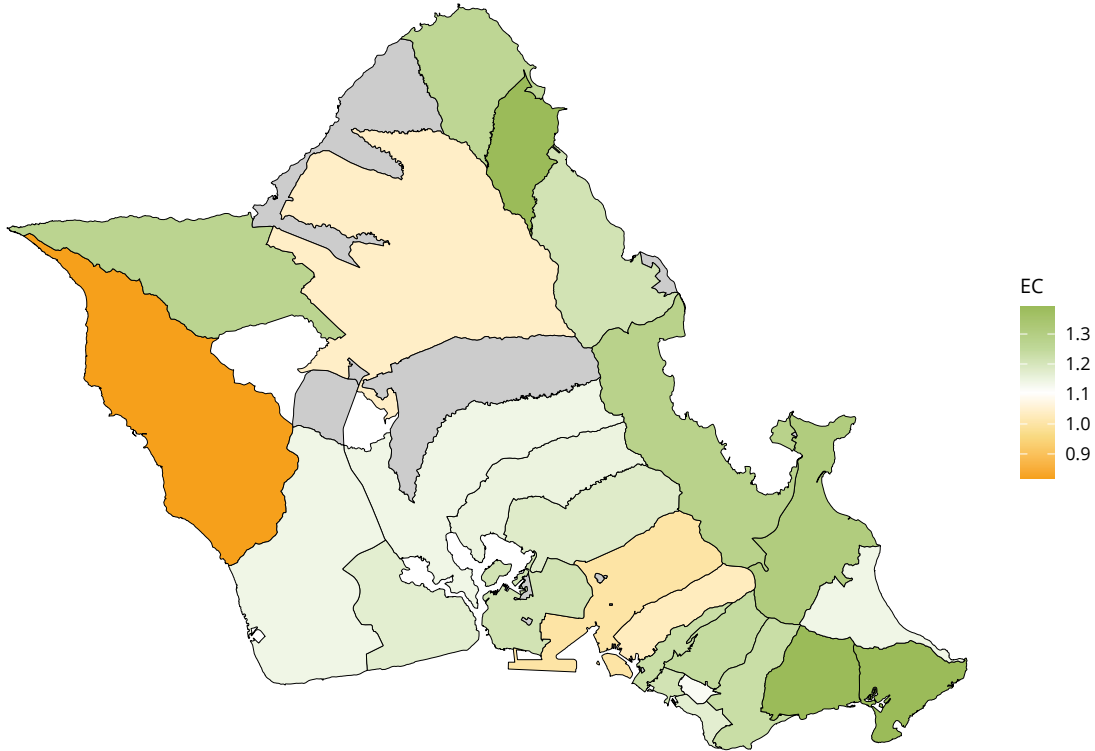
There is a significant positive relationship between EC and the median household income across Hawaii's ZIP codes. Specifically, in a zip code with 0.1 point higher EC, the median household income tends to be about 12.4% higher, on average.[2]

Figure 2: Economic Connectedness and Incomes for Hawaii ZIP Codes[3]

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[2]   This result comes from regressing log(median household income) on the economic connectedness score across Hawaii ZIP codes.

[3]   Income data is sourced from the US Census Bureau's 2015–2019 American Community Survey.

The relationship shown in the figure above cannot single-handedly prove that EC *causes* changes in median household income. Yet, studies have indeed found evidence suggesting that EC does have a direct effect on economic outcomes, including income and the ability to move up the economic ladder (Chetty et al., 2022a).

Economic Connectedness in Hawaii's High Schools

Looking into economic connectedness (EC) at the high-school level reveals even starker contrasts.

To measure EC at the high-school level, researchers looked at people born between 1990 and 2000 – who would have been in high school during the study period – who reported their high school alma mater in their Facebook profiles. They linked these students' records to their parents' information to figure out their SES. Students were considered to have high SES if their parents had high SES, and low SES if their parents had low SES.

In Hawaii, the average EC score for private high schools is 1.58, which means that in these schools approximately 79% of a low-SES student's friends are high SES. Conversely, in public high schools across Hawai'i, the average EC is 1.04; about 52% of a low-SES student's friends are high SES. This results in a significant disparity of 27 percentage points in the economic connectedness between students in private and public schools.

### Figure 3: Hawaii High Schools Ranked by Economic Connectedness (EC)
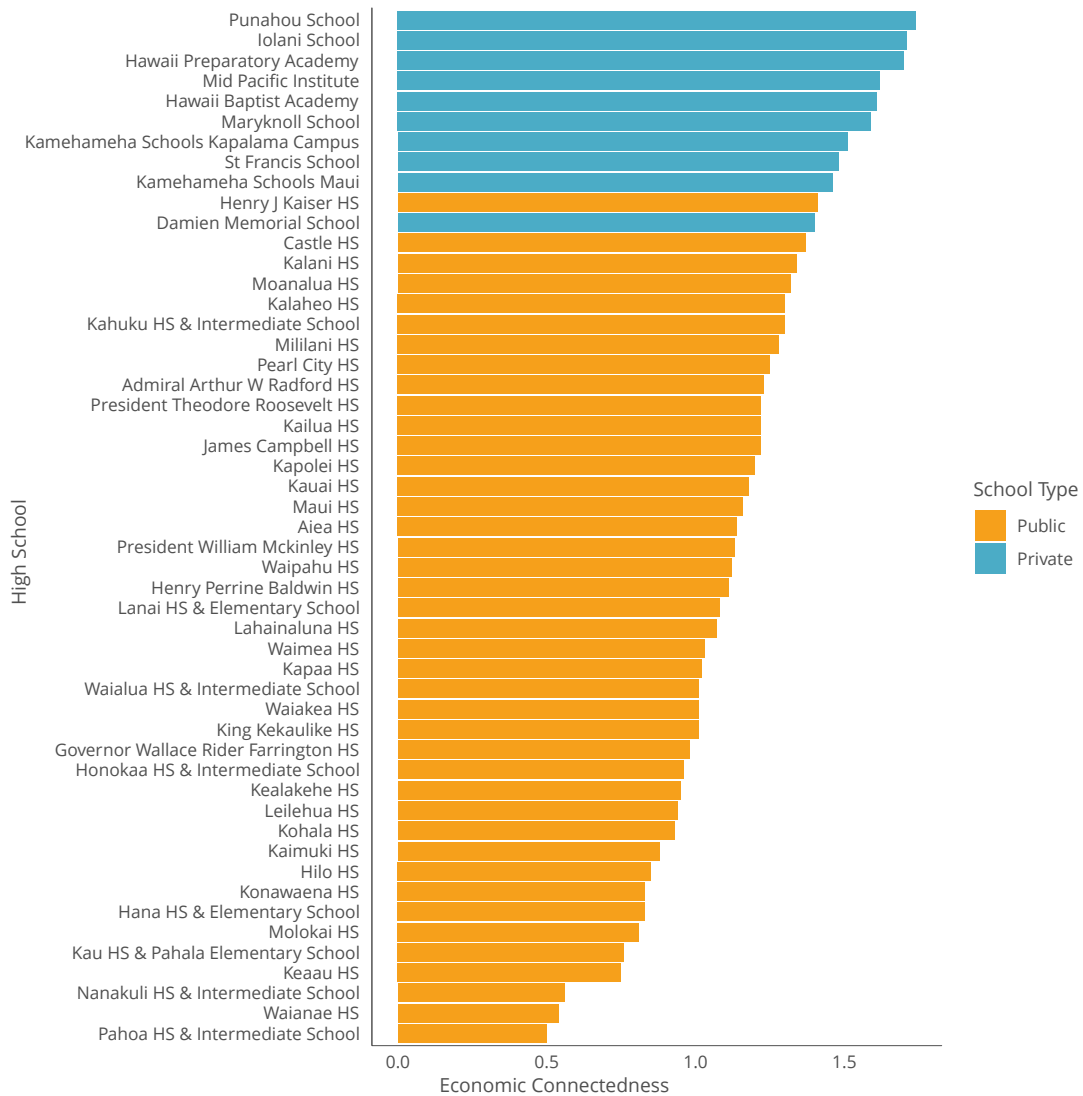
The high schools with the highest EC, all above 1.70, include Punahou School, Iolani School, and Hawaii Preparatory Academy, which are private institutions. On the other hand, the schools with the lowest EC are Pahoa High and Intermediate School, Waianae High School, and Nanakuli High and Intermediate School, with scores of 0.50, 0.54, and 0.56, respectively.

What Drives Connectedness in Hawaii?

The data show that economic connectedness (EC) varies when we look at more granular levels, like ZIP codes and high schools. So, why are communities such as Waianae and Nanakuli less economically connected compared to Hawaii Kai and Aina Haina? And at the high school level, what explains the gap in connectedness between private and public high schools?

Researchers have identified two key factors that determine EC (Chetty et al., 2022b): first, the share of high-SES people within a community, such as a ZIP code or school, termed "exposure"; and second, the inclination for people to form friendships with others of similar socioeconomic status, known as "friending bias". In a school environment, friending bias may manifest as students from affluent backgrounds forming social circles with each other because they likely share similar lifestyles and cultural references, making it easier for them to connect on both social and personal levels.

Figure 4: Exposure vs. Friending Bias in Hawaii High Schools
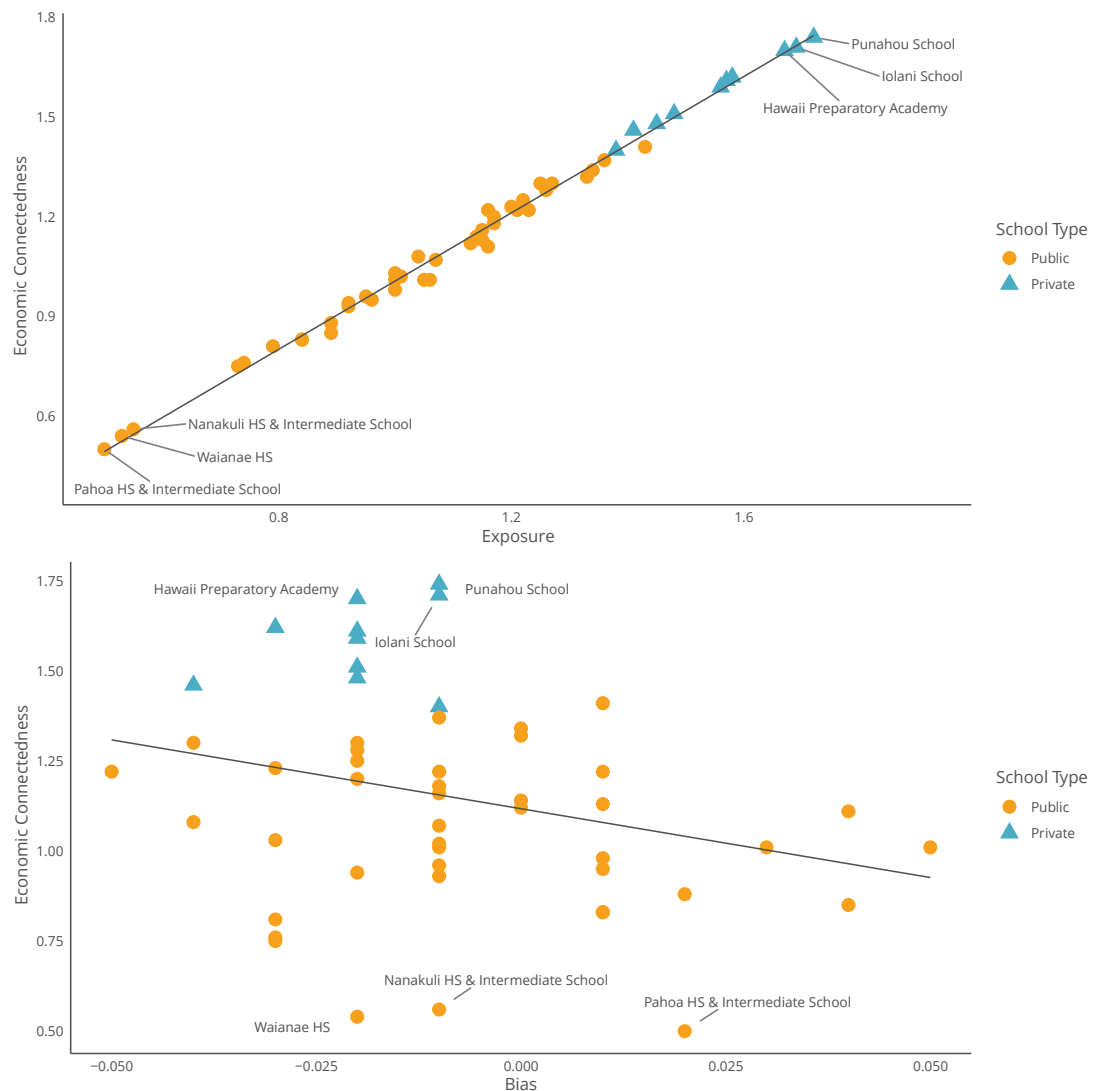
In Hawaii, differences in high-school connectedness are primarily attributable to differences in exposure to high-SES peers, not differences in the tendency to befriend peers of similar SES. This can be seen in the figures above: there's almost no connection between friending bias and EC, but exposure and EC are nearly perfectly correlated.

Policy Implications

In Hawaii, communities' economic connectedness is mainly influenced by their shares of high-SES members (exposure), rather than by the tendency of individuals to form friendships with others of similar socioeconomic status (friending bias). Thus, policymakers should consider policies that can better integrate low-SES and high-SES communities, thereby improving exposure and – by extension – economic connectedness.

Housing voucher programs have proven to be an effective tool in promoting economic integration. These programs provide financial assistance to low-income families, enabling them to move to higher-income neighborhoods with greater opportunities. For example, the Small Area Fair Market Rents (SAFMR) program, studied by Park (2024), increased subsidies in higher-rent areas, leading to increased economic integration. While the program resulted in a more polarized rental market, with higher costs for high-income non-voucher households, low-income non-voucher households benefited from lower rents in low-rent neighborhoods.

Bergman et al. (2023) provide further evidence supporting the effectiveness of housing mobility programs. They examined a program that offered customized search assistance, landlord engagement, and short-term financial assistance to help low-income families move to high-opportunity neighborhoods. These components addressed various barriers to mobility, such as the difficulty of finding suitable housing, landlord reluctance to accept vouchers, and the financial burden of moving expenses. The program successfully increased the proportion of families moving to neighborhoods with high upward economic mobility from 15% to 53%.

In addition to housing voucher programs, upzoning policies can play a crucial role in improving economic integration and connectedness. Upzoning allows for the construction of taller or denser buildings in a given area, such as permitting multi-family homes in neighborhoods previously restricted to single-family houses. By increasing the housing supply and reducing housing costs, upzoning can make it easier for low-income families to move to higher-income areas (Greenaway-McGrevy and Phillips, 2023; Greenaway-McGrevy, 2023; Maltman and Greenaway-McGrevy, 2024). This is particularly relevant in Hawaii, where strict housing regulations have constrained the housing supply, driven up costs, and exacerbated the economic divide between lower-income and higher-income residents.

The evidence gathered in this report suggests that well-designed housing voucher programs and deregulatory policies may offer ways of improving economic integration and economic connectedness in Hawaii. Through these strategies, Hawaii may be able to build a more equitable and opportunity-rich future for low-income residents.

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Tables & Figures

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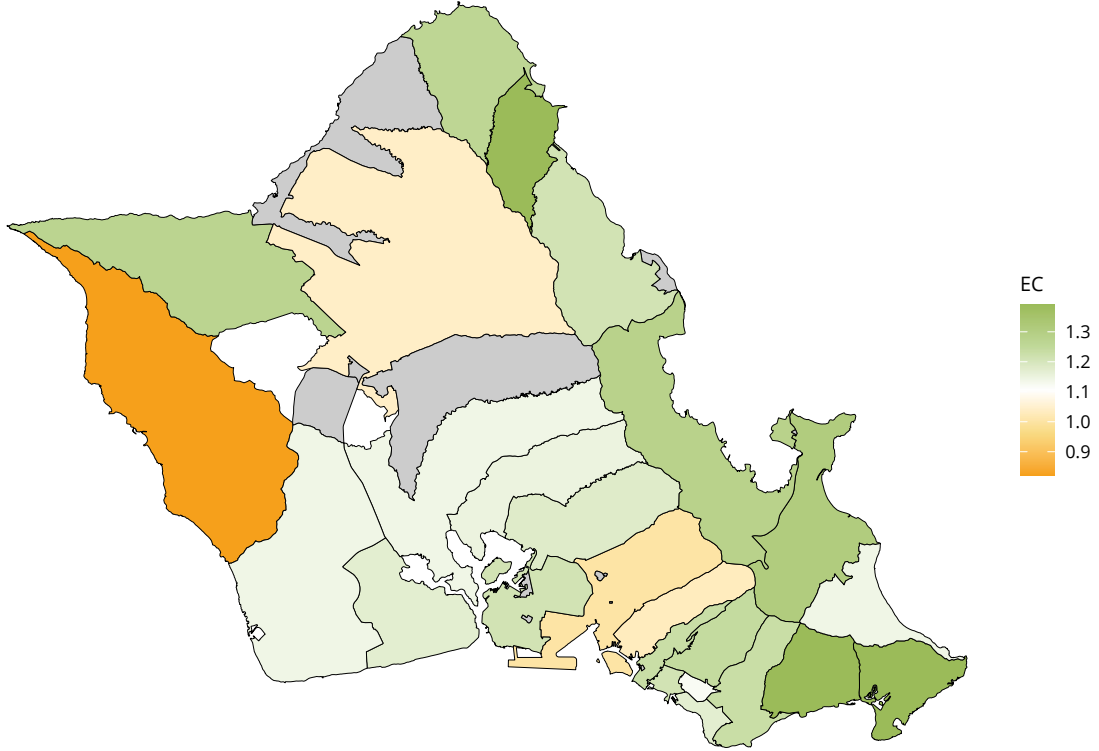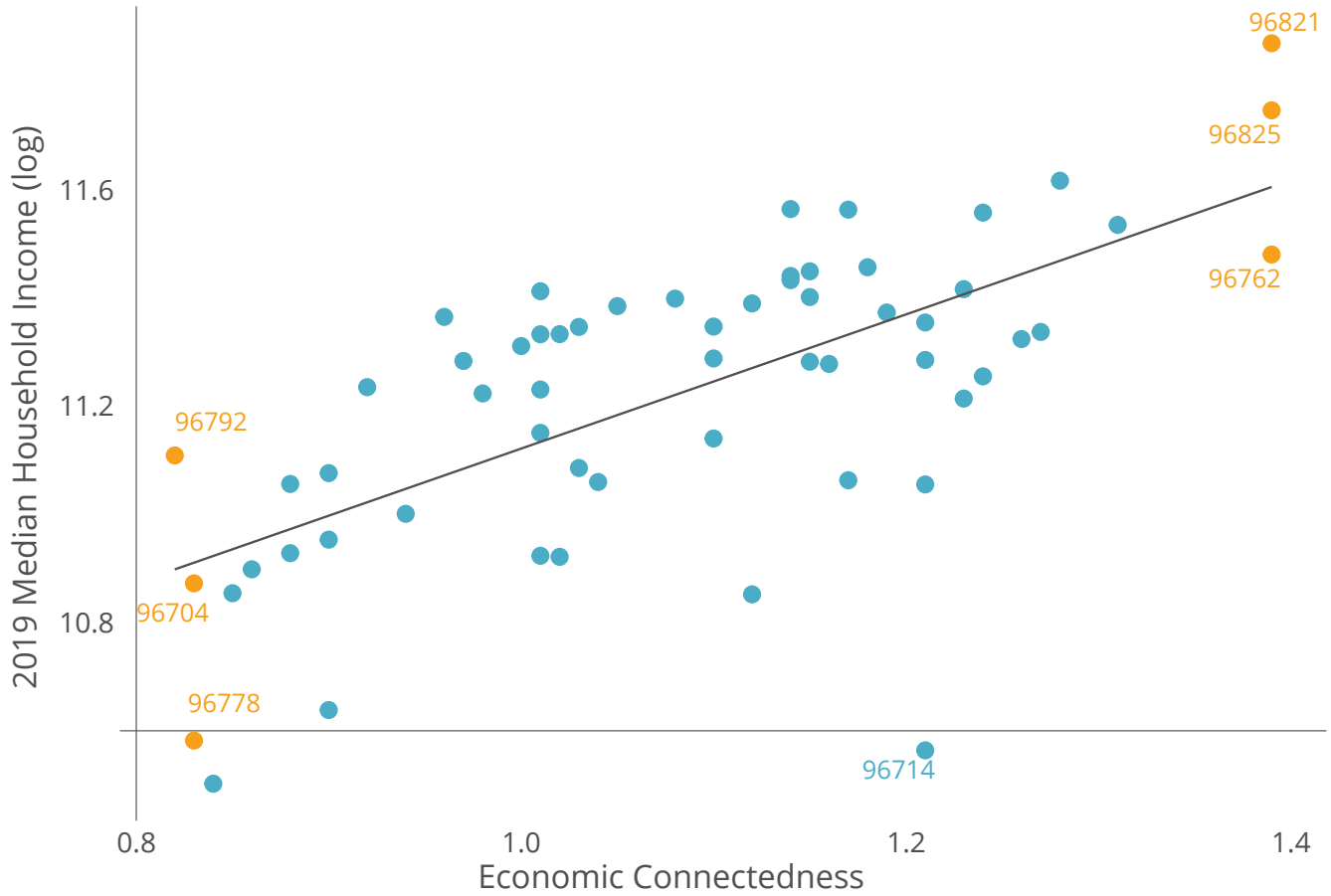| Rank	ZIP code	Economic Connectedness
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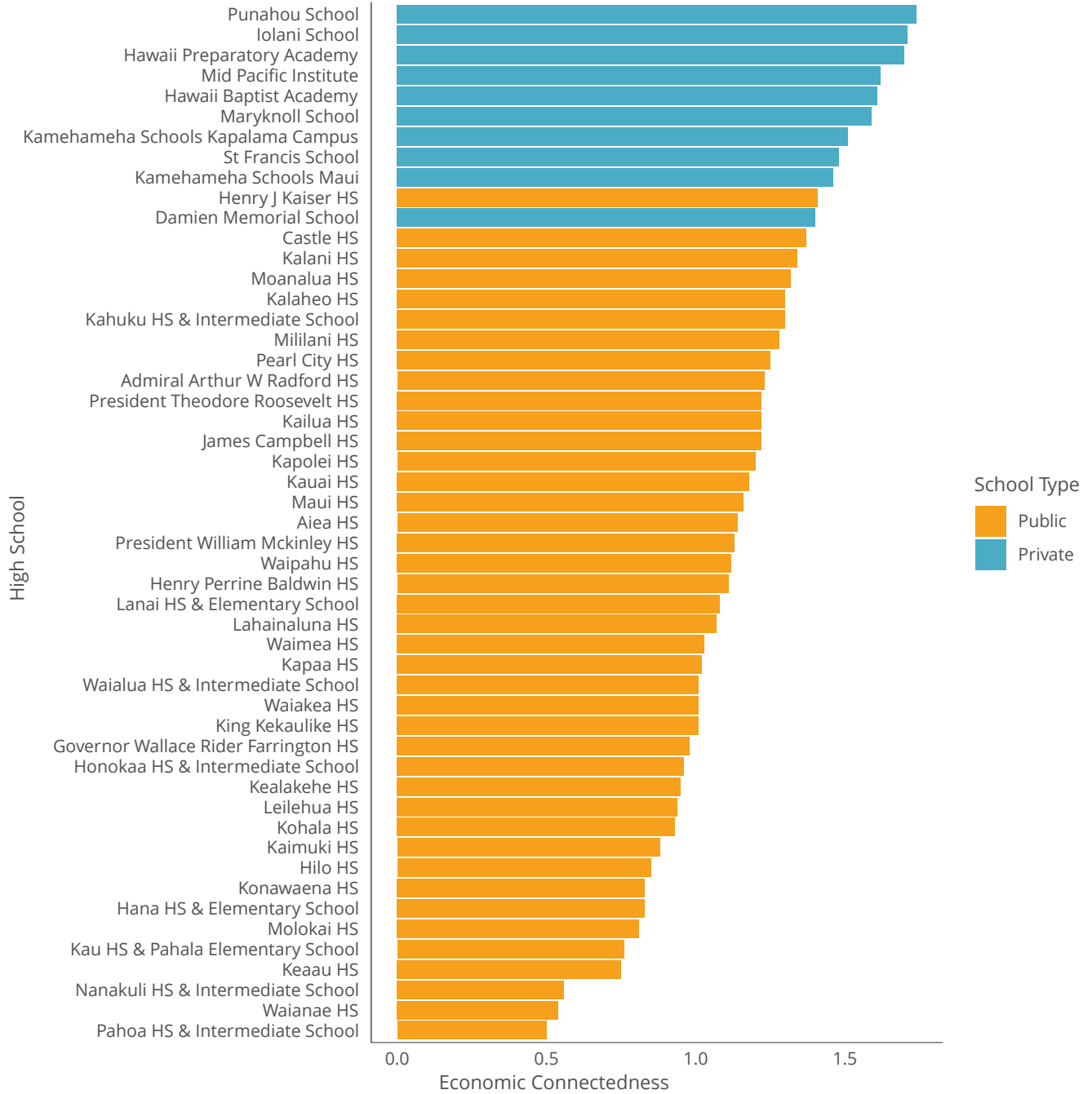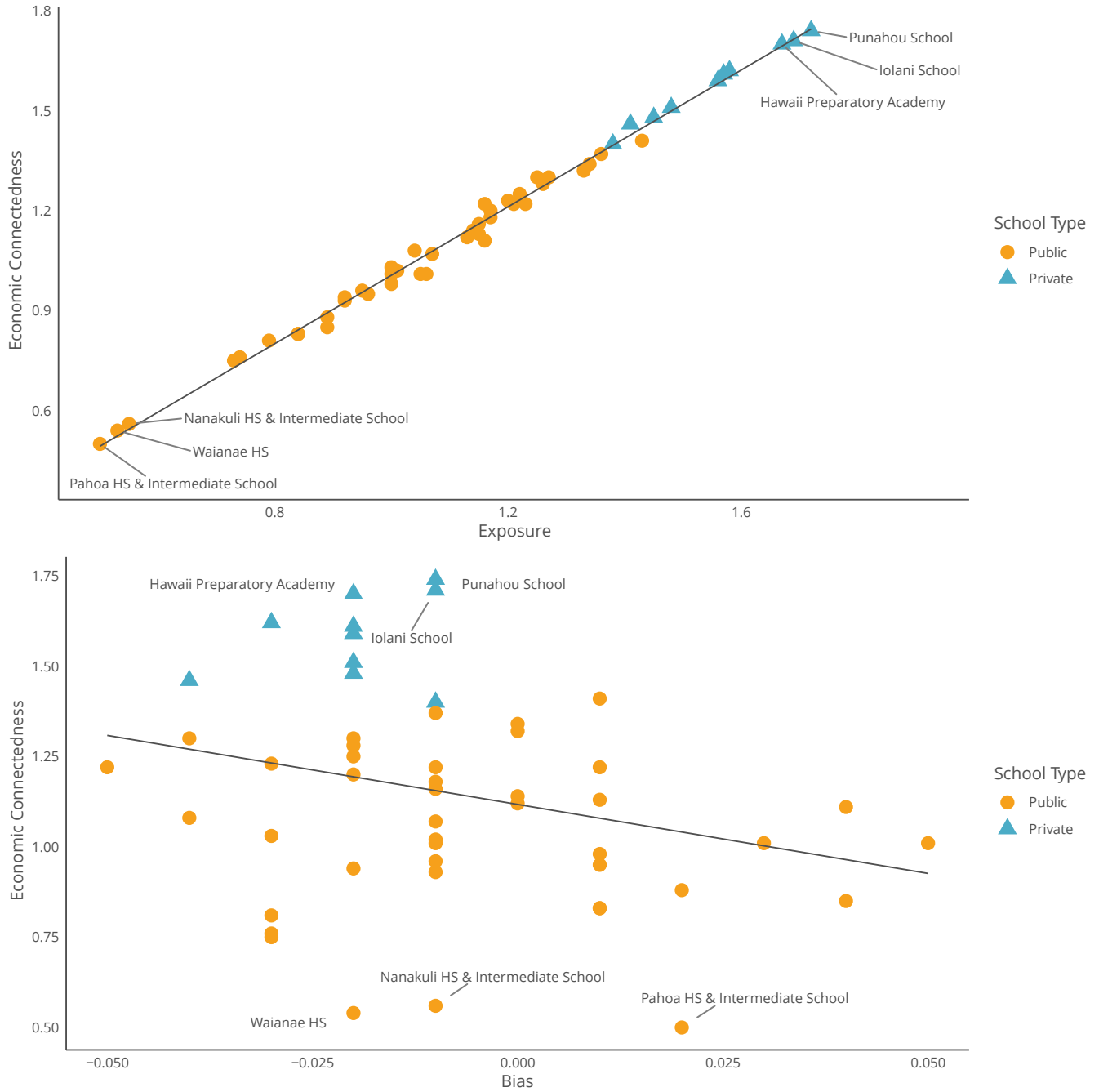
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