

# Arab Public Libraries and Socioeconomic Development

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## Abstract

This paper examines the role of public libraries in fostering socioeconomic development, with a focus on the Arab world. Drawing on historical examples and contemporary empirical literature, it outlines the multidimensional benefits libraries provide — including educational advancement, economic stimulation, social cohesion, and public health support. While robust micro-level evidence exists globally, Arab countries have largely been excluded due to data limitations. This study combines country-level data on public library provision with a range of socioeconomic indicators, revealing that the Arab world significantly underperforms in both domains relative to non-Arab and OECD countries. Although causality cannot be established, the patterns suggest underinvestment in public libraries may be a contributing factor to regional development gaps. The paper calls for increased scholarly and policy attention to libraries as low-cost, high-impact institutions, and underscores the importance of understanding colonial legacies and structural constraints in shaping current outcomes.

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## Introduction

Throughout history, great civilizations have understood that access to knowledge is a cornerstone of societal advancement. Among the earliest and most iconic examples is the Library of Alexandria, founded in the 3rd century BCE under the Ptolemaic dynasty (Erskine, 1995). Conceived as a universal repository of human knowledge, it sought to collect, translate, and preserve texts from across the known world. This ambitious vision went beyond mere scholarship; it symbolized Alexandria's role as a cosmopolitan center of trade, science, and cultural exchange. The socioeconomic benefits were profound: by attracting scholars, translators, and scientists from diverse regions, the library helped drive innovation in medicine, astronomy, mathematics, and engineering, reinforcing Egypt's economic and intellectual preeminence in the Hellenistic era.

The Roman public libraries, first established by Asinius Pollio in 39 BCE, reflected a more civic and inclusive vision (Dix, 1994). They were deliberately designed to extend learning beyond the elite, offering Roman citizens access to Greek and Latin texts. By democratizing knowledge for the literate population, they strengthened civic life, facilitated legal and administrative education, and cultivated a shared cultural identity across the empire. These libraries also stimulated urban development by serving as architectural landmarks and social spaces, reinforcing Rome's political legitimacy while enhancing the intellectual capital of its citizens.

Centuries later, during the Islamic Golden Age, the Bayt al-Hikma (House of Wisdom) in Baghdad revived and expanded this tradition (Kaviani et al., 2012). Established by the Abbasid Caliph al-Ma'mun in the 9th century, it served as a translation center, research academy, and vast library. By gathering Greek, Persian, Indian, and Syriac works, it became a hub for scientific and philosophical progress. Its impact rippled through the economy, fostering advancements in medicine, mathematics, and engineering that enhanced urban life, trade, and governance.

A notable feature of these public libraries is that the socioeconomic benefits they conferred upon the societies hosting them were genuinely multidimensional, underlain by a complex set of channels linking the provision of a public library to superior societal outcomes. These include the direct, knowledge-

related benefits of the repository (Aabø, 2005), the returns associated with higher levels of societal literacy (Campbell-Hicks, 2016), the increased civic engagement (Kranich, 2005), and even the improvements in public health (Philbin et al., 2019), supported by the positive impact that libraries can have upon the mental health of their surrounding communities (McCaffrey, 2016).

While the detailed data required to explore such mechanisms is not available when examining libraries that existed in antiquity or the Middle Ages, studies of the impact of public libraries in the 21st century have succeeded in presenting compelling evidence of their broad-ranging socioeconomic benefits. For example, in a detailed study of capital investment in American public libraries, Gilpin et al. (2021) demonstrated a high return in terms of the academic performance of children with access to the libraries, mediated by increases in children's library visits, checkouts of books, and attendance of library events.

Given the significant volume of resources that virtually all governments allocate to libraries of different forms, it is important to understand the impact of such spending, and to study the mechanisms through which it has an impact on society. Such information has direct policy relevance as governments seek to refine their expenditure and maximize its efficacy, especially in an age of fiscal austerity. Moreover, given the profound impact of the digital era on the reading habits of children, public libraries may - if deployed correctly and in a manner informed by rigorous evidence - hold the key to reversing some of the negative phenomena that have recently appeared, such as decreased attention spans among children (Subramanian, 2018), the erosion of critical thinking skills (Wolpert, 2009), the spread of disinformation (Shu et al., 2020), and political and social polarization (Prior, 2013).

Unfortunately, in line with many other socioeconomic phenomena, studies of the returns associated with public libraries in the Arab world are extremely limited, with the paucity of microeconomic data being a primary contributing factor (Benstead, 2018). This paper does not attempt the ambitious task of gathering the kind of microeconomic data that permits a rigorous assessment of the socioeconomic impact of public libraries in the Arab world. Beyond the chronic challenges associated with gathering high-quality primary data in Arab countries, resource limitations also contributed to our having to devise an alternative approach (Elgamri et al., 2024).

We instead attempt the preliminary and more straightforward task of presenting a framework for how scholars might pursue this worthwhile endeavor. We do this by synthesizing the literature on libraries and their socioeconomic impact, with an emphasis on studies relating to the Arab world. We also present some country-level secondary data on the distribution of public libraries and a wide range of aggregate socioeconomic outcomes. This constitutes suggestive evidence regarding the role that public libraries play in the Arab world.

We have three main findings. First, the literature contains many studies of the socioeconomic impact of libraries; collectively, they make a compelling case for the existence of significant and wide-ranging returns associated with investing in libraries, mimicking the impressions that historians have of the impact of great libraries mentioned at the start of the introduction. Second, in per capita terms, the Arab world has a much smaller incidence of public libraries than the rest of the world - whether one focuses on advanced economies or otherwise - and this is reflected in lower levels of per capita reading by the Arab world's inhabitants. Third, the Arab world on average also underperforms the rest of the world in a broad range of socioeconomic outcomes that match the mechanisms that the literature associates with the societal impact of libraries, though it is important to note the existence of significant intra-Arab variation, most notably the socioeconomic success exhibited by the countries of the Gulf Cooperation Council

Returning to the average performance of Arab countries, while far from being definitive evidence that the Arab world is underinvesting in libraries, it is an important first step in analyzing the links, and it is one that has, to the best of our knowledge, not been attempted by any other study before. Previous studies of the impact of libraries have tended to focus on individual countries (Bhatt, 2010) or even the subnational level (Barron et al., 2005), and have also emphasized microeconomic outcomes within the geographical locale of the libraries being studied (Campana et al., 2022). The minority of aggregate-level studies are typically narrative, marshalling qualitative evidence as opposed to the more quantitatively oriented arguments that this paper presents (Susannah et al., 2013).

The rest of this paper is organized as follows. Section 1 summarizes the literature on how public libraries contribute to socioeconomic development. Section 2 presents data on the incidence of public libraries in

the Arab world and on socioeconomic outcomes therein. Section 3 synthesizes the combined literature and data.

## 1. How Public Libraries Can Improve Socioeconomic Development

### 1.1. A Primer on Libraries and How They Function

Libraries are not monolithic institutions; rather, they are highly differentiated according to their missions, governance structures, user communities, and resource provision models. The International Federation of Library Associations (IFLA) Library Map of the World provides a globally recognized framework for understanding this diversity, categorizing libraries into distinct types that reflect their societal functions (IFLA, 2025). This taxonomy is essential for understanding how libraries contribute to knowledge dissemination, cultural preservation, social inclusion, and economic development in varied contexts.

At the apex of this classification are **National Libraries**, which serve as custodians of a country's intellectual and cultural heritage. Their primary role is the collection, preservation, and dissemination of the nation's published output, often through legal deposit arrangements. In addition to maintaining national bibliographies, they act as reference hubs for scholarly research, archiving historical documents, and safeguarding rare and special collections for future generations. National libraries thus perform a dual function: they support national identity and cultural continuity while also facilitating advanced research.

**Academic Libraries** form another critical category, embedded within higher education institutions such as universities and research centers. Their primary users are students, faculty members, and researchers, and their services are tailored to support teaching, learning, and scholarly inquiry. Academic libraries often maintain extensive print and digital collections, subscription databases, and research guides. They are also central to advancing information literacy and fostering critical engagement with knowledge. By facilitating access to specialized academic resources, these libraries contribute directly to the production of new knowledge and the development of a highly skilled workforce.

In contrast, **Public Libraries** are designed to serve the general population. Funded by local or regional governments, they are typically open and free to all members of the community. Public libraries prioritize equitable access to books, digital resources, internet connectivity, and community programs. They also organize literacy initiatives, cultural events, and educational workshops, thereby fostering inclusive lifelong learning. Public libraries may include fixed branches as well as mobile units - such as bookmobiles - which extend services to underserved or geographically remote populations. Their role as community anchors is especially pronounced in contexts where they provide essential services to marginalized groups, offering a safe and welcoming environment for all.

Closely related, yet distinct, are **Community Libraries**, which are often initiated and operated by local communities, non-governmental organizations, or volunteers rather than formal public authorities. They are particularly prevalent in rural or low-resource settings where government infrastructure is limited. While their collections and services are often modest, community libraries are highly responsive to local needs, offering literacy support, digital access, and informal education. They also act as important social spaces, reinforcing local identity and community cohesion.

**School Libraries** serve a more focused educational function, supporting the curricula of primary and secondary schools. Their users are predominantly students, teachers, and school staff. By fostering reading habits, providing age-appropriate educational materials, and introducing basic information literacy, school libraries play a formative role in the early stages of learning. They are often the first point of contact where children learn to navigate and value organized information resources.

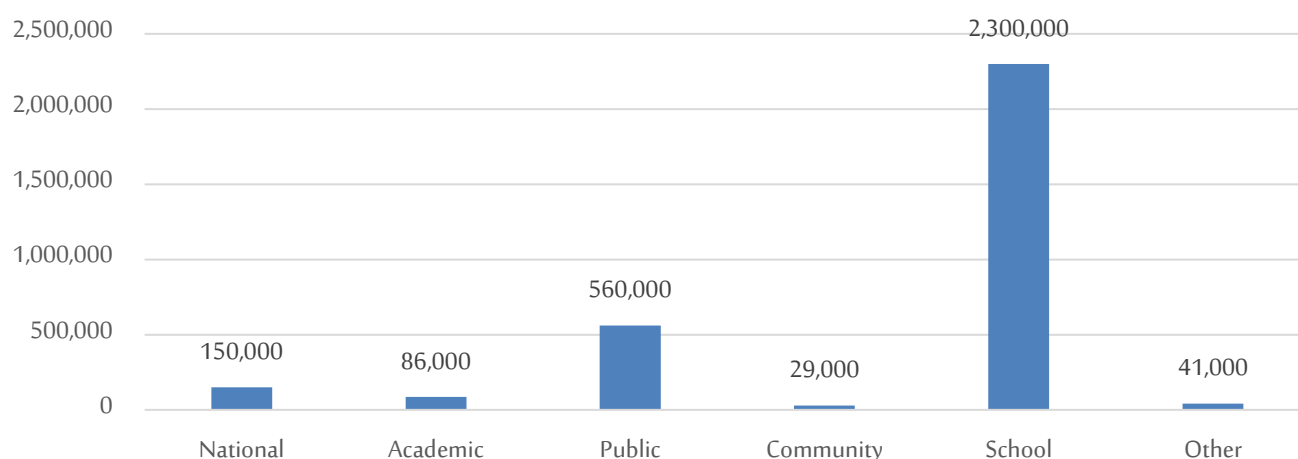
A more heterogeneous category, described as **Other Libraries**, encompasses a wide array of specialized institutions. This includes Special Libraries that cater to highly specific audiences and domains such as law, medicine, industry, or government agencies. For example, a medical library may serve healthcare professionals with specialized databases, while a corporate library supports business research and innovation. Similarly, museum libraries serve curators and researchers, and prison libraries provide educational and rehabilitative resources for incarcerated individuals. These libraries often have restricted user groups but play a critical role in advancing expertise and specialized knowledge.



Cutting across all these types are **Digital Libraries**, which may exist independently or as an extension of traditional libraries. Digital libraries provide virtual access to collections such as e-books, research databases, and multimedia archives, transcending geographical constraints. In many cases, national, academic, and public libraries maintain integrated digital platforms to complement their physical services. Digital libraries not only broaden access but also reduce the environmental footprint associated with printed materials, aligning library services with contemporary sustainability goals.

Importantly, there is significant overlap between these categories. For example, mobile libraries can be classified under public or community libraries depending on their funding and governance. Similarly, many academic libraries now perform community outreach functions that blur the lines between academic and public service models. Hybrid models are increasingly common in the digital era, as physical libraries expand their reach through virtual services and collaborative networks.

**Figure 1: Global libraries by type, 2024/25**



Setting aside the overlap and the cross-cutting class that is digital libraries, Figure 1 shows the aggregate global presence of each class of library according to the latest available data (2024-2025) for the sample of countries for which data is gathered (IFLA, 2025). The data confirm that school libraries are by far the largest contributor to global libraries, followed by public, national, academic, community, and finally “other” libraries.



## 1.2. Socioeconomic Benefits of Public Libraries

### 1.2.1. Educational Impact

Public libraries have long been recognized as critical non-traditional learning environments that complement and enhance formal education. They contribute to the intellectual and personal development of children and young adults by offering diverse programs that improve core academic skills and foster lifelong learning. Empirical evidence demonstrates that library investment has a direct impact on students' educational outcomes. For example, Gilpin et al. (2021) show that major capital investments in U.S. public libraries increased children's event attendance by 18%, circulation of children's materials by 21%, and overall library visits by 21%, with measurable improvements in reading test scores of nearby students - averaging 0.02 standard deviations in the seven years following the investment. This finding provides robust quasi-experimental evidence that public libraries serve as powerful literacy enhancers, even in an era dominated by digital media.

Beyond reading proficiency, libraries support a broader spectrum of learning outcomes. Research indicates that library programs enhance not only literacy but also mathematics, emotional and social competencies, creativity, and 21st-century skills such as collaboration, problem-solving, and innovation (Campbell-Hicks, 2016; Holmes, 2016; Aguilera, 2018; Overbey et al., 2018; Campana et al., 2022). Importantly, libraries also encourage parental involvement in children's education, offering family-friendly programs in public, freely accessible spaces, unlike schools that often restrict entry (Campana et al., 2022). This increased parental participation can have long-term benefits for student engagement and learning outcomes.

Libraries also play a significant role in addressing educational inequality. By providing free and equitable access to books, digital materials, and educational programs, libraries support marginalized and low-income students who may lack access to private learning resources. This contribution helps narrow the performance gap between disadvantaged and affluent students (Campana et al., 2022). Such an equalizing effect is especially critical in contexts where schools may lack sufficient resources or where socio-economic disparities are pronounced. In fact, Gilpin et al. (2021) observed that the positive effects

of library investments were most pronounced in smaller districts and areas with lower school capital spending, suggesting that libraries can partially compensate for deficiencies in formal school infrastructure.

More specifically, public libraries offer free internet connectivity, computers, tablets, printers, and other devices that many households cannot afford. For example, libraries in Australia provide over 5,000 public internet access points, enabling equitable connectivity in both urban and rural areas (Bundy, 2010). Beyond simple access, libraries also offer curated digital resources, including e-books, academic databases, and multimedia collections, which would otherwise be prohibitively expensive for individual users. This service ensures that knowledge is not restricted to those who can pay for private subscriptions.

Equally important is the role of libraries in digital literacy. Many institutions now offer structured programs that teach basic and advanced digital skills, from navigating online services to developing employable ICT competencies. These programs have proven to yield substantial returns. A study in East England found that every pound invested in digital skills training at public libraries generated an economic return of GBP 4.48 (Gordon et al., 2023). Similarly, in Jordan, public libraries were found to play a significant role in narrowing the digital divide by providing free access to both devices and digital services, particularly benefitting underserved societal segments (Obeidat, 2015).

### **1.2.2. Financially Denominated Impact**

Public libraries generate significant economic value for their communities, both through direct financial contributions and wider spillover effects that support local development. At a fundamental level, libraries act as employers, purchasers of goods and services, and community anchors that stimulate local economic activity. For example, in the United States, local governments collectively spend over \$12 billion annually on the operation of more than 15,000 public libraries (Gilpin et al., 2021). This spending translates directly into jobs for librarians, administrators, and support staff, as well as indirect employment in industries supplying library infrastructure, books, technology, and related services. Similarly, capital investment in libraries - such as new buildings or major renovations - injects substantial

funding into local economies through construction projects and associated procurement activities (Urban Libraries Council, 2007).

The economic returns of such investments are striking. Studies from different contexts consistently show that every unit of currency invested in libraries yields a multiple return. In Australia, public libraries generate between AUS \$2.50 and AUS \$6.50 for every dollar invested (Bundy, 2010), while in Florida, the return is estimated at \$6.54 per dollar (Griffiths et al., 2004). A similar analysis in South Carolina found that libraries contributed nearly \$126 million directly into the state economy, with a total return of approximately \$4.48 for every dollar invested (Urban Libraries Council, 2007). These findings indicate that libraries not only enhance individual welfare but also act as effective catalysts for broader economic growth.

Moreover, libraries support the transition toward knowledge-based economies by fostering human capital development. In the United Arab Emirates, public libraries were found to play a vital role in advancing the local knowledge economy by providing learning opportunities, cultural programming, and access to cutting-edge information resources (Sengati-Zimba, 2015). By enhancing educational attainment and digital literacy, libraries contribute indirectly to workforce readiness and productivity, which are critical drivers of long-term economic competitiveness.

Libraries also generate savings for households by providing free access to resources and services that would otherwise require private expenditure, irrespective of the inequality-related arguments presented in Section 1.2.1. From borrowing books and accessing expensive databases to utilizing the internet and printing services, community members save substantial sums through library usage. Furthermore, hosting community events and programs in library spaces reduces the financial burden on local organizations that would otherwise incur venue and logistical costs (Desmarchelier et al., 2024).

Importantly, the economic impact of libraries goes beyond immediate financial metrics. Gilpin et al. (2021) note that while increased library investment improves educational outcomes, it does not significantly affect housing prices, suggesting that communities perceive the benefits as equivalent to or greater than the associated tax costs. This equilibrium highlights the enduring economic and social value of libraries as essential public goods.

### 1.2.3. Social Cohesion and Community Development

Beyond their educational and economic roles, public libraries serve as vital social infrastructure that fosters cohesion, inclusion, and a sense of belonging within communities. Unlike commercial venues, libraries are open, non-discriminatory spaces where individuals of all ages, backgrounds, and social groups can gather without financial or social barriers. This unique accessibility makes libraries safe havens for vulnerable populations and crucial platforms for strengthening community bonds.

Beyond the educational benefits described in Section 1.2.1, libraries provide inclusive spaces that accommodate diverse needs. For example, they welcome children, seniors, migrants, and the homeless, offering environments where marginalized individuals can find support and dignity (Gordon et al., 2023). By functioning as neutral community anchors, libraries help mitigate social isolation and promote interaction across demographic and cultural divides. In this sense, they act as catalysts for social harmony and resilience, particularly in times of social disruption.

They also play a significant cultural and civic role. Many libraries host a range of social, cultural, and political events, from public lectures and art exhibitions to debates and citizenship workshops. Such activities strengthen local identity and provide affordable venues for community engagement. In Oman, for instance, local libraries have evolved into vibrant intellectual and cultural hubs that host diverse community events, fostering cultural enrichment and civic participation (Al-Husseini, 2019). By providing these platforms, libraries reduce the financial and logistical costs associated with organizing public gatherings (Desmarchelier et al., 2024).

Moreover, libraries are increasingly viewed as symbols of civic values and social equity. By offering free access to information and services, they uphold the principle that knowledge should be universally accessible. Some studies have linked library availability to reduced crime rates, as they engage at-risk populations and create positive community-oriented spaces (Bundy, 2010; Arts Council England, 2014). This aligns with the concept of libraries as “palaces for the people,” social institutions that contribute to safer, healthier, and more equitable neighborhoods (Gilpin et al., 2021). Similarly, in rural areas of Egypt, even under conditions of economic hardship, libraries have made measurable contributions to achieving SDGs, particularly in advancing education and community empowerment (Mansour, 2020).

In addition, libraries nurture intergenerational learning and community solidarity. Family-oriented events bring together parents, children, and caregivers, while programs for seniors and migrants create opportunities for meaningful social interaction. This reinforces social trust and strengthens communal ties.

#### **1.2.4. Public Health and Well-Being**

Public libraries also contribute significantly to public health and wellbeing, an aspect that has gained increasing recognition in recent years. By promoting health awareness, providing access to reliable medical information, and creating socially supportive environments, libraries play a complementary role to formal healthcare systems. Their impact extends across physical, mental, and emotional dimensions of health, benefiting individuals while also generating economic savings for public health services.

One key contribution is health education. Many libraries curate trustworthy medical resources, including materials recommended by healthcare professionals, and organize health-related workshops and awareness campaigns. These initiatives enhance community understanding of important health issues, encourage preventative care, and promote healthy lifestyles (Gordon et al., 2023). In some cases, libraries go further by providing medical aids such as hearing devices, extending health support to underserved populations who might otherwise lack access to such services (Karki, 2024). This is in addition to the mental and emotional wellbeing benefits that are particularly salient for the low-income groups described above in Section 1.2.1.

Empirical evidence also highlights the economic value of this health-related role. A study in the United Kingdom found that strengthening health programs in public libraries generated an economic return of between GBP 26 and GBP 29 per visitor, while simultaneously reducing public healthcare costs by approximately GBP 136 per person (Arts Council England, 2014; Gordon et al., 2023). These findings underscore the potential of libraries to complement healthcare systems by delivering low-cost, community-based interventions that improve population health outcomes.

## 2. Data on Libraries and Socioeconomic Outcomes in the Arab World

### 2.1. Library Data

#### 2.1.1. Data Sources and Considerations

The arguments presented in Section 1 suggest that public libraries can - through a variety of channels - have a positive impact on socioeconomic outcomes at the level of the entire country. This section presents data on the distribution of public libraries across the world to shed light on the extent to which Arab countries have been able to - or arguably unable to - reap the aforementioned socioeconomic returns. To do this, we combine data on public libraries drawn from the IFLA database (IFLA, 2025) with data on population taken from the World Bank (WB, 2025). This is because presenting data in per capita terms is the most straightforward way to control for the artificial inflationary effect of population on the prevalence of public libraries.

When presenting data on per capita public libraries in the Arab world, we consider two comparison groupings. First, the rest of the world, i.e., non-Arab countries. Second, the Organization for Economic Cooperation and Development (OECD), which is a grouping of the world's advanced economies and loosely represents what almost all Arab countries aspire to reach in terms of the performance of their economies. The IFLA database used for Figure 1 has country-level data on public libraries for a large but not comprehensive list of countries (130 out of the 193 UN member states). That includes 9 Arab countries (Bahrain, Egypt, Iraq, Oman, Palestine, Qatar, Saudi Arabia, Sudan, UAE) out of the 22 member states of the Arab League, and 37 of the 38 members of the OECD.

Before presenting the data, it is important to note that both the Arab world and non-Arab world have a lot of missing countries, though the Arab world is missing more in a proportionate sense. These countries tend to be either too resource-starved to gather data according to the methods required by the IFLA, such as Guatemala, or are engaged in active civil wars, such as the Central African Republic. In fact, as of 2024, four Arab states fell into this latter category (Libya, Sudan, Syria, Yemen). However, there are numerous

examples of secure and wealthy countries not included in the sample, such as Botswana and Kuwait, for unclear reasons. Generally speaking, in light of these data gaps, one should take the findings as being suggestive, while also noting that the countries with missing data are likely to have, on average, worse numbers than those that do present data, given the non-random nature of data availability.

Another data flaw to keep in mind is that when comparing the incidence of per capita public libraries across countries, there is a tacit assumption that the public libraries have homogeneous size, accessibility, and hence capacity to serve. In other words, we are ruling out the possibility that when *Country A* has twice as many libraries per capita as *Country B*, this is due to *A* making libraries that are half the size. Given the data that we have access to, there is no way to verify the plausibility of this assumption. Similarly, we do not have data on the volume or quality of resources that the public libraries provide to their patrons, and so are forced to assume that these are either uncorrelated with country grouping or correlated in a manner that reinforces the conclusions that emerge from a visual inspection of the sample means.

To enrich the basic IFLA data on the distribution of public libraries, we also present data from CEO World Magazine (2024) and the UNESCO Institute for Statistics (2025) on two complementary measures of reading by the population. The first is annual books read per capita, and the second is yearly reading hours per capita. Note that beyond the data gaps problem mentioned above, both series suffer the additional flaw of depending on self-reported behavior (Brenner and DeLamater, 2016). This is accentuated by the fact that the behavior being inquired about - reading - is something that is considered socially desirable, making people prone to overestimating their true levels (Nederhof, 1985). Nevertheless, since our aim is to compare countries, we can still make the somewhat plausible assumption that such distortions are approximately independent of country grouping.

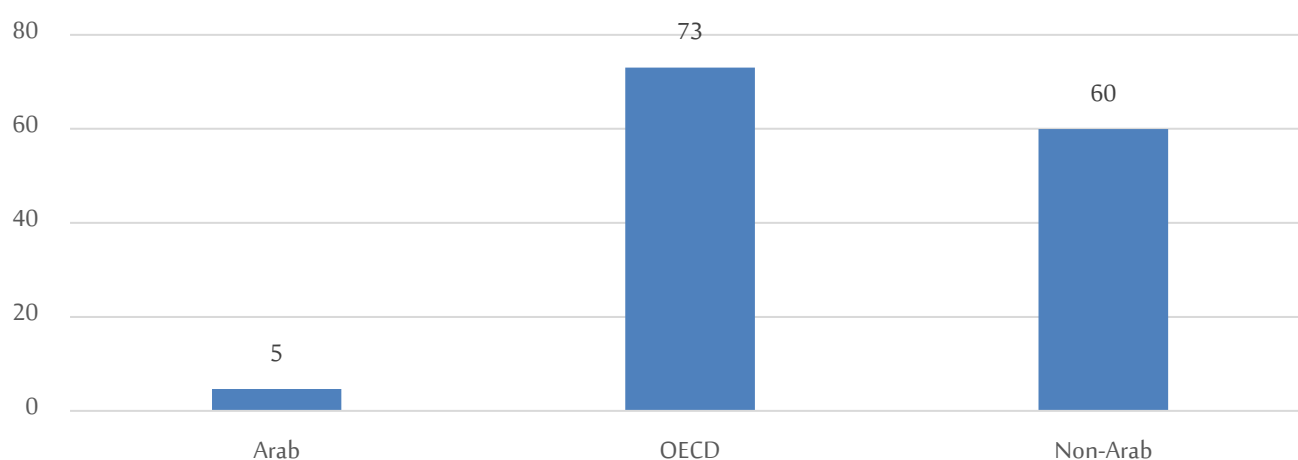
### **2.1.2. Descriptive Data**

Notwithstanding these difficulties, Figure 2 shows public libraries per million inhabitants for the year 2023 for the three groupings: Arab, OECD, and non-Arab (IFLA, 2025). The numbers paint a grim picture for the Arab world, with a meager five public libraries per million compared to 60 in the rest of the world



and 73 in the OECD states. Notably, while there exists significant variation around the mean, the variation does not diminish the fact that the incidence of public libraries in the Arab world is very low compared to the rest of the world. For example, among the nine Arab countries for which data is available, Palestine (12 public libraries per million) is the only country to register more than 10 public libraries per million inhabitants. In contrast, only two OECD states (Canada and Israel) have less than 10 public libraries per million, with top performers such as Czechia and Lithuania registering in excess of 400 libraries per million inhabitants.

**Figure 2: Public libraries per million inhabitants, 2024**



As explained above in Section 2.1.1, we do not have data on the volume or quality of resources dispensed by public libraries, nor do we have access to the highly detailed data on the activities that individual public libraries provided - and on the engagement with those activities at the neighborhood level - that studies such as Gilpin et al. (2021) were able to gather and analyze. Nevertheless, the imperfect data on books read and reading hours per person that we were able to gather merits exposition since it speaks to some of the channels linking public libraries to socioeconomic outcomes presented in Section 1.2. For example, when public libraries improve educational outcomes by making reading material more cheaply accessible, this should be reflected to some extent in higher rates of per capita reading.

**Figure 3: Annual books read and reading hours per person, 2023**

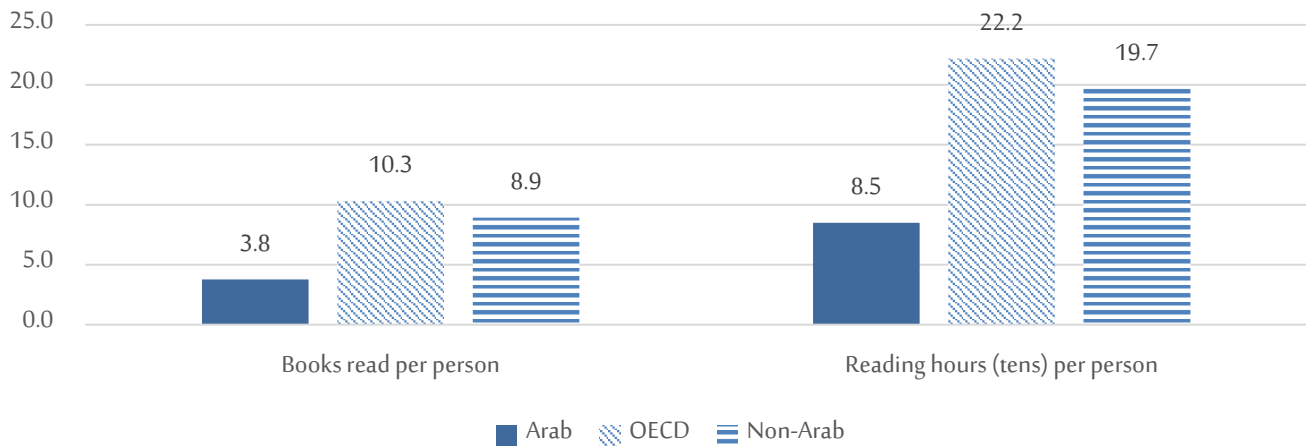


Figure 3 shows annual books read and reading hours per person in 2023 for Arab, non-Arab, and OECD states (CEO World Magazine, 2024; UNESCO Institute for Statistics, 2025). While the differences are not quite as stark as in Figure 2, the general impression is highly consistent: the OECD is slightly higher than the non-Arab world, while the Arab world is far behind both groups. In the case of books read per person, the Arab world registered 3.8 compared to 10.3 for the OECD and 8.9 for the non-Arab world. In the case of per capita reading hours, the Arab world registered 85 compared to 197 for the non-Arab world and 222 for the OECD.

## 2.2. The Challenges of Direct Causal Inference

Section 1 argued - based on a variety of theoretical and empirical arguments - that public libraries can have a positive impact on a broad range of socioeconomic outcomes. Notably, the most rigorous and convincing previous studies, such as Gilpin et al. (2021), are based on microeconomic panel data that can track the impact of public libraries before and after they are established or undergo significant upgrades, and where the researcher can control for a wide range of potential confounding variables (Goodman-Bacon, 2021). This “difference-in-difference” event study approach is itself a second-best strategy, with the ideal departure point being a large-scale randomized control field experiment where public libraries are randomly introduced in different areas and their impacts precisely measured (Al-Ubaydli and List, 2012). Such an exercise is - despite its methodological appeal - unfeasible given the cost

of building and operating a public library; hence the empirical literature's dependence on the advanced econometric analysis of observational data.

In the case of the Arab world and this paper, we do not have access to library-level data, nor to the fine-grained microeconomic outcome statistics required to replicate studies such as Gilpin et al. (2021). Instead, we have country-level data on public libraries. A key challenge that emerges is that the comparably scaled socioeconomic outcome variables, such as national averages in standardized tests and measures of social cohesion, are influenced by an unfathomably large number of other factors that we do not have data on (Heckman and Pinto, 2022). This means that a traditional regression-based analysis of the observational data will inevitably suffer from acute problems of omitted variables.

Accordingly, we choose to significantly lower the econometric bar that we are trying to clear by presenting data that we intend to constitute suggestive evidence of the mechanisms described in Section 1. In particular, we will present country-level socioeconomic outcomes for the same three sample groups presented in Section 2.1 (Arab countries, non-Arab countries, OECD countries), with the tacit argument being that weaker socioeconomic performance in the Arab world is partially driven by the lower incidence of public libraries demonstrated in Section 2.1. The rigorous evidence that other studies are able to present is well beyond the scope of this paper. We hope that the indicative findings we advance regarding the Arab world can, in conjunction with the rigorous results associated with the Western world, motivate other scholars to produce a higher quality analysis for Arab countries.

### **2.3. Socioeconomic Outcomes in the Arab World**

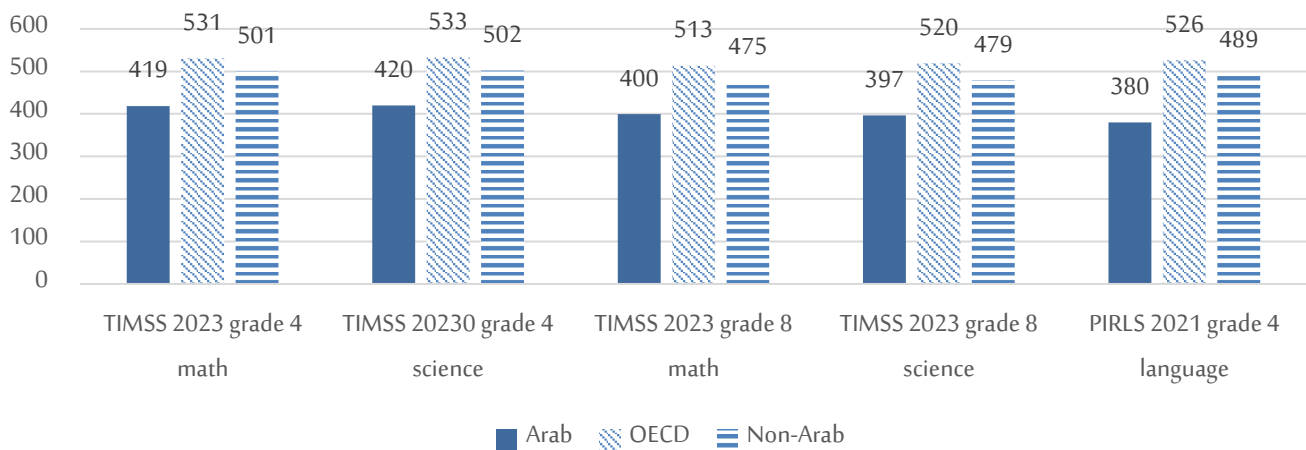
This section mimics Section 1.2 in structure: we identify and present country-level socioeconomic outcomes classified by the four broad mechanisms presented in each of the subsections associated with Section 1.2.

### 2.3.1. Education

The most straightforward positive impact that one associates with public libraries is improved educational outcomes, as argued in Section 1.2.1. When making international comparisons, to overcome the challenges associated with highly heterogeneous assessment methods, we can use large-scale international assessments organized by the International Association for the Evaluation of Educational Achievement (IEA), as these are standardized tests. They cover three subject areas via two parallel studies: TIMSS (Trends in International Mathematics and Science Study) and PIRLS (Progress in International Reading Literacy Study). TIMSS measures the mathematics and science achievement of students, typically in Grade 4 and Grade 8, every four years (IEA, 2025a). PIRLS focuses on reading literacy at the Grade 4 level and is conducted every five years (IEA, 2025b). It assesses students' ability to understand and interpret written texts.

Figure 4 - based on IEA (2025a, 2025b) - shows the performance of the Arab countries compared to non-Arab and OECD countries in the most recent waves of each test (2023 for TIMSS and 2021 for PIRLS), while noting that the number of participating countries is fewer than 60, meaning that these results are suggestive rather than definitive. Nevertheless, for the medium-sized sample included, the figures demonstrate a clear, consistent pattern of academic underperformance by primary and secondary school children in the Arab world compared to their peers in the non-Arab world, and especially those in the OECD. For example, the overall average across the five tests for Arab countries was 403, compared to 489 for the non-Arab world and 525 for the OECD.

**Figure 4: TIMSS (2023) and PIRLS (2021) scores by grade and subject**



The key virtue of TIMSS and PIRLS, i.e., its standardized nature, comes at a cost: the tests are not annual (the waves are four years apart), and, as mentioned above, their international coverage is limited. In the case of Arab countries, this may create a systematic upward bias in the observed performance, since it tends to be the wealthier countries that participate, with limited representation for those with limited means or that are suffering from violent conflict. This may imply that the data presented in Figure 4 provides an optimistic assessment of Arab countries' educational outcomes, especially when compared to groups with near-complete coverage, such as the OECD member states.

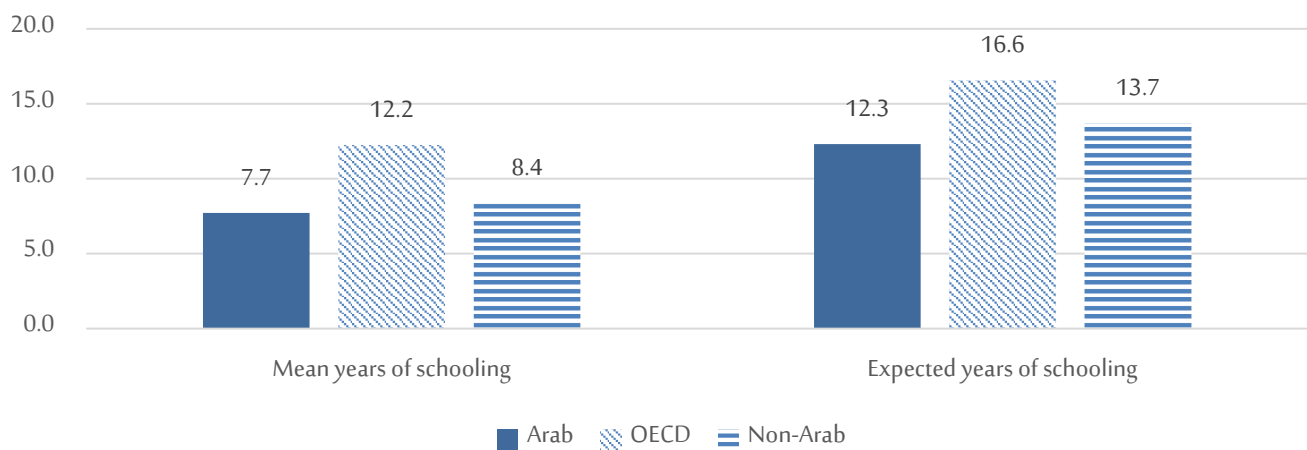
To partially address these concerns, the United Nations Human Development Indicators (HDIs) provides an alternative that has excellent spatial and temporal coverage (UNDP, 2025), though this comes at the cost of being a highly crude measure of educational outcomes. These are the twin indicators: *mean years of schooling* and *expected years of schooling*.

Mean years of schooling refers to the average number of completed years of education among adults aged 25 years and older. It reflects the accumulated educational attainment of a population, providing an indication of the long-term investment in education within a country. This measure captures the historical access to and quality of education, showing how much formal schooling the adult population has actually received. Expected years of schooling, on the other hand, represents the total number of years of education a child entering the school system is projected to receive, assuming that current patterns of enrollment and progression rates remain the same throughout the child's life. It reflects the

present and future capacity of the education system, offering an estimate of the learning opportunities available to the current generation of children rather than past achievements.

Figure 5 shows the performance of the Arab countries compared to non-Arab and OECD countries in mean and expected years of schooling for the year 2023. Whether one looks at the past/present (mean years of schooling) or the future (expected years of schooling), a similar pattern to that in Figure 4 emerges, i.e., the Arab world being significantly outperformed by the non-Arab world, and by the OECD in particular. For example, in the case of mean years of schooling, the OECD's figure exceeds that of Arab countries by 58%, while non-Arab countries better their Arab peers by a still sizable 9%.

**Figure 5: HDI mean and expected years of schooling, 2023**



In summary, whichever measure of educational attainment one uses, there exists a clear gap between the performance of Arab countries and that of the two comparison groups. While this is almost certainly caused by a complex constellation of factors, it may be the case that the relative underprovision of public libraries in the Arab world contributes to this adverse phenomenon.

### 2.3.2. The Macroeconomy

The mechanisms presented in Section 1.2.2 tying public libraries to macroeconomic outcomes are much more tenuous than those associated with educational ones. Nevertheless, it remains instructive to briefly inspect the most important indicators of macroeconomic performance in the Arab world and compare them with other countries. In both variables, we construct the Arab, non-Arab, and OECD averages by

using population weights. While this gives a truer picture of the experience of the median Arab, it does conceal some of the large intra-group variation that would be more visible were the averages to be constructed using GDP as a weight. In particular, the Gulf Cooperation Council (GCC) countries have high per capita incomes and rates of economic growth that exceed the performance of the non-Arab and sometimes OECD world. However, since they collectively account for around 10% of the Arab world's population, their influence on the statistics we present is muted.

Figure 6 shows GDP per capita at purchasing power parity in 2023 (WB, 2025). Arab countries have a GDP per capita that is 78% of the non-Arab level and 31% of the OECD level, indicating significant underperformance by the Arab world.

**Figure 6: GDP per capita at PPP, 2023**

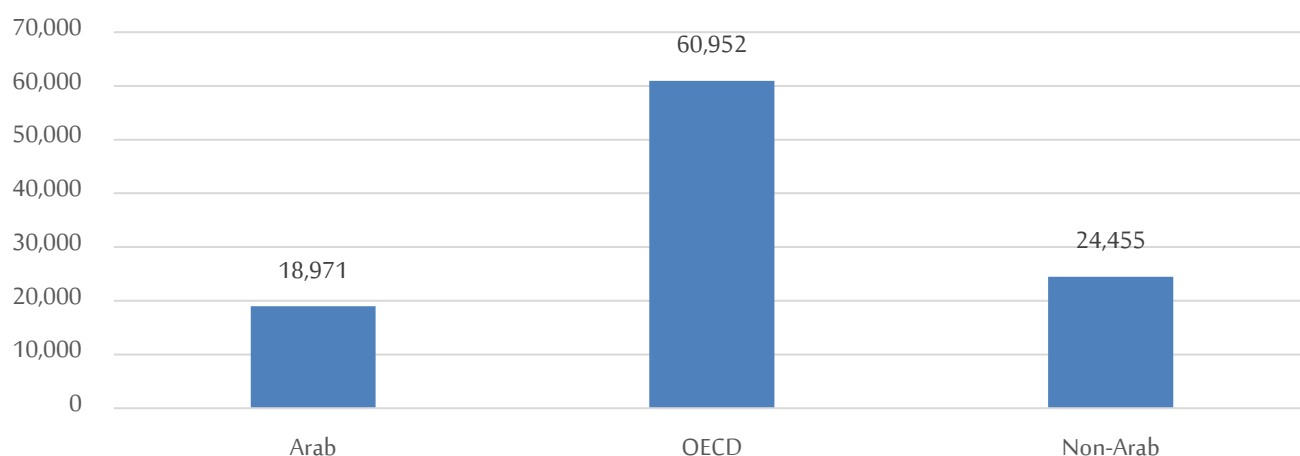
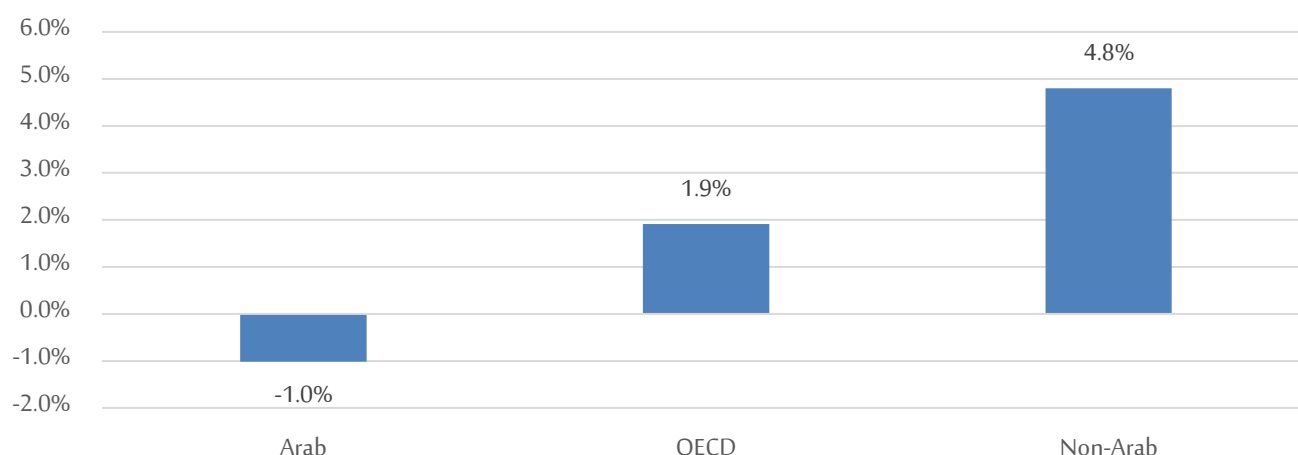


Figure 7 shows real GDP growth for 2023 (WB, 2025). Here, due to the population weighting and the presence of civil wars in several Arab countries with large populations (Sudan, Syria, Yemen), the Arab world's real GDP growth rate is negative (-1.0%), compared to a non-Arab average of 4.8% and an OECD average of 1.9%.



**Figure 7: Real GDP growth, 2023**



Note that due to the general theory of convergence in economic growth rates (Barro and Sala-i-Martin, 1992), in light of the ranking of per capita income, one would expect that the Arab world would have the highest growth rate, followed by the non-Arab world and then the OECD. This makes the negative actual growth rate for the Arab world an even more pressing source of concern. However, as remarked above, the mechanisms tying public libraries to the macroeconomy are the most tenuous, and so any challenges the Arab world faces in this regard are almost certainly tangentially related to underinvestment in public libraries.

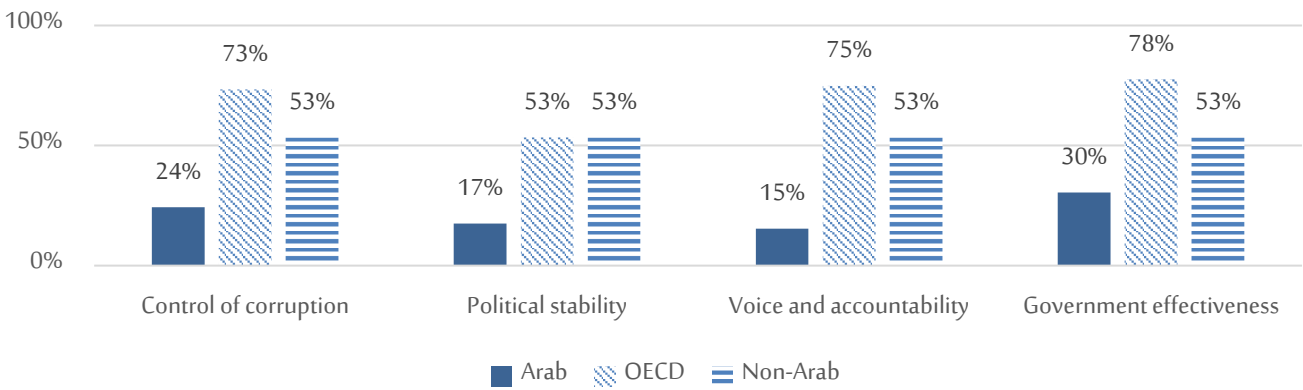
### **2.3.3. Political and Social Stability**

When looking to espouse the benefits of public libraries that extend beyond the positive impact on educational outcomes, proponents will usually emphasize the civic and social returns described in Section 1.2.3. Such phenomena are inherently more difficult to measure than the crude macroeconomic variables in Section 2.3.2, but some progress has been made in that regard, namely the Worldwide Governance Indicators (WGI). These are a set of composite measures developed by the World Bank to assess the quality of governance in over 200 countries and territories (WB, 2025). The WGI framework includes six key dimensions derived from diverse data sources, including expert assessments and citizen surveys, and is widely used by policymakers, researchers, and international organizations to analyze

governance trends and design reforms (Thomas, 2010), making them a decent proxy variable when seeking to capture the mechanisms described in Section 1.2.3.

Figure 8 shows the 2023 data for the Arab, non-Arab, and OECD countries. Note that at the country level, the WGI figures are usually presented in percentile form, i.e., the percentile rank that the country occupies globally in each dimension. We use population data to calculate group-level weighted averages for our three standard groupings, while noting that these averages conceal significant intra-group variation, most notably in the case of the Arab countries, where the GCC states frequently perform at levels that are considerably higher than that of the media Arab state

**Figure 8: Worldwide governance indicators (population-weighted percentile rank), 2023**



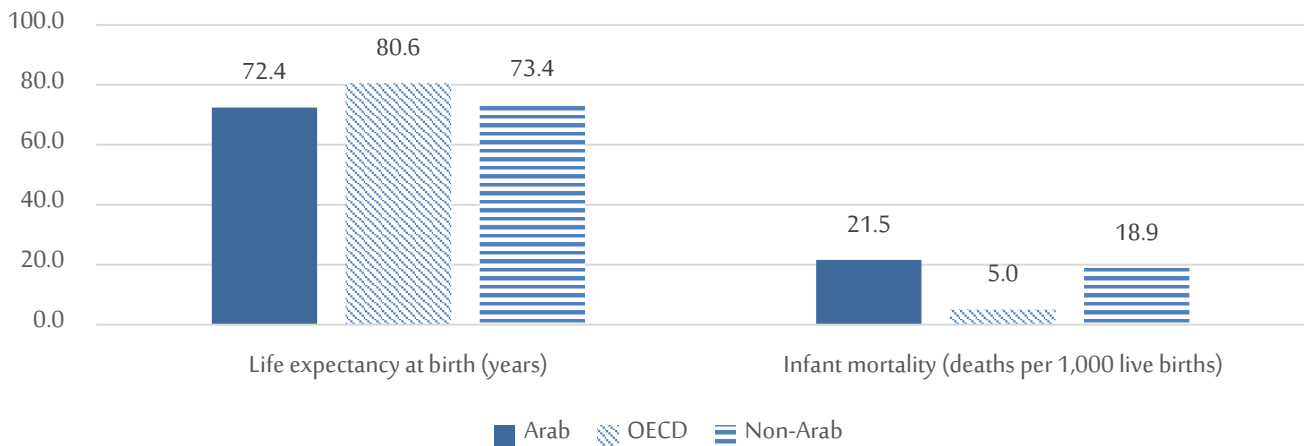
Control of corruption is defined as the extent to which public power is exercised without corruption, including both petty and grand forms, as well as state capture by elites and private interests. The data here follow the template that virtually all series presented thus far follow: low performance by the Arab world (24%), moderate performance by the non-Arab world (53%), and high performance by the OECD (73%). Two of the remaining dimensions exhibit isomorphic figures: voice and accountability (the degree to which citizens enjoy freedom of expression, association, and access to independent media), and government effectiveness (the quality of public services). Political stability (the likelihood that a government will remain stable and avoid violent political unrest, terrorism, or unconstitutional changes) is notable only in that the non-Arab world and OECD are comparable in their performance, though both significantly outperform the Arab world.

Again, as in the case of the macroeconomic statistics in Section 2.3.2 and as mentioned above, these population-weighted averages obscure significant differences within the Arab world, with the GCC exhibiting superior performance in most of these measures. However, unlike the macroeconomic statistics, the purported mechanisms tying public libraries to favorable civic and social outcomes are quite compelling, making us more confident in attributing the WGI underperformance by the Arab world at least partially to underinvestment in public libraries.

#### **2.3.4. Public Health**

The final salvo of data we present stems from the arguments relating to the positive effect of public libraries on public health made in Section 1.2.4. Fortunately, health outcomes have been measured according to a broad range of indicators for decades, with near-universal spatial and temporal coverage. We here present two of the most oft-used indicators: life expectancy at birth and infant mortality (deaths per 1,000 live births), both for the year 2023 and taken from the HDI (UNDP, 2025). Figure 9 presents the figures, which again mimic the patterns presented in previous subsections, i.e., Arab countries being outperformed by non-Arab ones, which are then outperformed by OECD ones, notwithstanding the existence of significant sub-regional variation, with the GCC countries in particular exhibiting health outcomes that are superior to those found in many OECD economies. However, returning to the average performance, compared to the other statistics, in the health domain, the non-Arab world is much closer to the Arab world than it is to the OECD countries.

**Figure 9: HDI life expectancy and infant mortality, 2023**



As in the case of almost all of the indicators presented thus far, public libraries are not the driving factor behind the observed differences in health outcomes. However, in accordance with the arguments made in Section 1.2.4, there exist highly plausible chains that link investment in public libraries to superior health outcomes, and so the data presented in Figure 9 should not be casually dismissed as being an artifact purely of biological or economic phenomena.

### 3. Discussion: Libraries as a Contributing Factor

This section synthesizes the material covered in the previous sections. An overarching point is that there exists a large scholarly literature on the socioeconomic impact of public libraries. In particular, due to a combination of theoretical and empirical arguments, there are compelling reasons to expect investment in public libraries to have a positive impact on a wide range of important socioeconomic outcomes, spanning educational, macroeconomic, civic, social, and health domains. The statistical evidence marshalled is invariably microeconomic, focusing on event studies of investment in public libraries and associated qualitative evidence garnered from stakeholder perspectives. Researchers have preferred this approach to country-level analysis due to the abundance of confounding variables that they cannot hope to account for when assessing the impact of public libraries in aggregate.

Due to the paucity of research on public libraries in the Arab world, we have sought to answer the question: what is the frequency of public libraries in Arab countries, and what are those libraries'

socioeconomic impacts? Unfortunately, data limitations prevent the execution of a microeconomic analysis for Arab countries in line with the methods used in the literature. We pursue the best alternative available to us, which is to gather country-level data on public libraries and socioeconomic outcomes and use existing studies to try to tie the two together.

The results paint a grim picture for the Arab world, as it appears to be typified by both a low incidence of public libraries and a broad underperformance according to a range of socioeconomic indicators. In principle, increasing investment in public libraries could help Arab countries achieve superior socioeconomic outcomes. However, due to the shortcomings of our method, this conclusion must be tempered by several observations.

First, every single socioeconomic series presented is - at best - minimally impacted by public libraries when compared to a slew of more important determining factors. For example, even in the case of educational outcomes - where the existing theoretical and empirical arguments are most compelling - the effect of public libraries is small when compared to factors such as class sizes (Ehrenberg et al., 2001), curricula (Andrietti and Su, 2019), teacher quality (Harris and Sass, 2011), school infrastructure (Yangambi, 2023), and so on. In the case of macroeconomic variables such as economic growth, the causal chain starting from public libraries is even more tenuous.

Accordingly, we are not making the argument that Arab countries should expect a socioeconomic renaissance to materialize as a consequence of heavily investing in public libraries. Instead, we are arguing that among the long list of causes of socioeconomic underperformance in the Arab world, underinvestment in public libraries is a contributing factor that merits attention. Moreover, it is one that has been traditionally underemphasized by both the scholarly and policy communities. Naturally, extensive follow-up research is needed to refine this conclusion, and we sincerely hope that this paper motivates others to devise ways of gauging the impact of public libraries on development in the Arab world.

Second, as mentioned on several occasions, the Arab world is by no means a monolith, with the GCC countries representing a noticeable collective outlier in terms of socioeconomic outcomes (Khalifa, 2012). Nevertheless, while the GCC states may buck the Arab trend socioeconomically, they exhibit an

orthodox incidence - or lack thereof - of public libraries. This indicates that they may still gain much from increasing their investment in such institutions. Having said that, it is worth noting that there exists significant variation within the GCC states in the incidence of public libraries, setting the stage for potentially fruitful longitudinal and panel analysis that can help ascertain their impacts.

A final remark concerns hysteresis effects of external colonization within the Arab world. The current limited public libraries/socioeconomic underperformance predicament that the Arab world finds itself in is not an immutable trait of Arabs, nor is it the result of a willful decision by a policy elite. Instead, it partially reflects the legacy of adverse interventions associated with the Great Powers that wielded hegemonic power over the Middle East.

More specifically, during the colonial era, both the British and French focused on creating schools and cultural institutions that served their administrative and political interests, rather than fostering widespread local literacy and knowledge access. For instance, in French-controlled North Africa (e.g., Algeria, Tunisia, Morocco), libraries and archives were often designed to preserve colonial records and promote French culture, while limiting Arab and Islamic educational traditions (Olatunji, 2004). Similarly, in British-controlled Egypt, Iraq, and the Gulf, library resources were concentrated in elite schools and institutions that primarily served a small urban class aligned with colonial administration (Lor, 2016).

This approach excluded the majority of the population from meaningful access to libraries, reinforcing low literacy rates and weak demand for public cultural services. After independence, many Arab states inherited underdeveloped library networks and a view of libraries as elitist rather than public goods, making them a low priority compared to urgent nation-building projects like basic education and infrastructure. Thus, the colonial emphasis on controlling knowledge rather than democratizing it created a structural legacy of weak library systems and limited public engagement with libraries, which continues to affect investment in modern public libraries across the region. However, it is important to note counterexamples to this narrative - such as in several GCC states - where external influence by Great Powers had some positive contributions to knowledge infrastructure, as in the case of British efforts at establishing local administrative capacity (Zahlan, 2016). This underscores the need for a nuanced

examination of the consequences of colonial legacy, even if the general thrust might be that it had a negative effect.

In light of this broader narrative regarding colonial legacy, eager Arab policymakers who have found the arguments presented in this paper convincing should expect additional hurdles to the realization of a return on investment in public libraries. The lack of public library infrastructure did not emerge in a socioeconomic vacuum; understanding the structural factors at the root of the underinvestment is critical to devising policies that maximize the benefits associated with building more public libraries and encouraging residents to use them. However, it is important not to overstate the importance of this colonial legacy channel; it has been over five decades since the last Arab country gained its independence, with some states having removed their colonial shackles decades earlier. The remarkable socioeconomic advancement of countries such as the UAE serves as a reminder that a country's history does not define its destiny.

## Conclusion

This paper has argued that public libraries are far more than passive repositories of books; they are multidimensional social and economic assets whose presence can strengthen educational attainment, foster civic cohesion, and contribute to healthier, more resilient communities. By revisiting the historical examples of Alexandria, Rome, and Baghdad, we underscored that societies which democratize access to knowledge tend to unlock wider developmental benefits. Modern empirical research confirms this intuition, revealing that investment in public libraries yields measurable gains, particularly in children's educational outcomes and in the inclusivity of social participation.

Yet, the Arab world remains a clear outlier in its underprovision of public libraries. The region registers a fraction of the per capita incidence seen elsewhere, mirrored by low reading habits and weaker performance across socioeconomic indicators that libraries plausibly influence. While causality cannot be definitively established given the data limitations and the vast web of confounding factors, the patterns are consistent enough to justify closer scrutiny. Public libraries are not a panacea; their marginal impact on macroeconomic growth or political stability is necessarily small relative to larger structural



drivers. However, they represent an underutilized lever - particularly as they are relatively low-cost interventions compared to the scale of their potential social returns. Their potential benefits exist not just in the Arab countries that suffer from a low incidence of public libraries and socioeconomic underperformance – even the GCC countries that have realized high levels of performance in a broad range of socioeconomic indicators stand to gain from investing more in public libraries.

Importantly, the constraints on library development in the Arab world cannot be separated from history. Colonial policies that privileged control over inclusion left behind weak library infrastructures and a cultural perception of libraries as elite institutions. Undoing this legacy requires deliberate and sustained policy action - building not only the physical spaces but also the social demand for them. Future research should move beyond suggestive correlations to generate the micro-level evidence needed to inform this effort. In the meantime, policymakers should recognize that broadening access to public libraries is an investment in human capability that the Arab world can ill afford to neglect.

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