Country Human Capital and Total Wealth

Kenan KARAKÜLAH

Stefanie ÖNDER

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1. Introduction

In his famous book *Human Capital Theories*, published in 1964, Gary Becker introduced the economic concept of human capital. In this book, Becker first examined links between education and incomes. In his famous *Nobel Lecture: The Economic Way of Looking at Behavior*, Gary Becker argued that

> *"Until the 1950s economists generally assumed that labor power was given and not augmentable. The sophisticated analyses of investments in education and other training by Adam Smith, Alfred Marshall, and Milton Friedman were not integrated into discussions of productivity. Then T. W. Schultz and others began to pioneer the exploration of the implications of human capital investments for economic growth and related economic questions."*

As Gary Becker argued, economic theory did not put enough emphasis on human capital before the 1950s. However, Jacob Mincer's classic work *Schooling, Experience, and Earnings* drew substantial attention, and then, human capital became one of the main components of economic theory. Today human capital is accepted as the most important endowment of a country making up roughly about two-thirds of the total wealth of nations (World Bank, 2021). According to Gary Becker's understanding, human capital is a broad concept, which includes not only education and training but also other additions to knowledge and health as well as accumulated work and other habits, even including harmful addictions such as smoking and drug use (Becker, 1993). Human capital wealth is essentially defined in this report as the present value of the future flow of wages and other labor earnings of the population.

The *Changing Wealth of Nations 2018* (Lange et al., 2018) provided the first ever global set of comparable estimates of human capital wealth based on a time series of household surveys for 141 countries over two decades, from 1995 to 2014. Compared to the previous editions of *The Changing Wealth of Nations* (World Bank, 2006 and 2011) which measured human capital wealth indirectly as a component of the unexplained residual called "intangible capital", direct estimates of human capital wealth allow for a deeper analysis of the role of human capital in economic development and a clearer understanding of the underlying factors that drive human capital wealth over time. The last edition of *The Changing Wealth of Nations* (World Bank, 2021) report builds upon the human capital wealth methodology established in the 2018 edition, by expanding the coverage to 146 countries from 1995 to 2018 and introducing a region and income-specific approach to future wage growth.

The rest of the paper is organized as follows. First, we briefly explain the methods in the literature to estimate human capital wealth. This is followed by the methodology used in this

paper to measure human capital wealth. We then provide summary results from the human capital wealth estimations globally, as well as by groups of countries according to their level of income and geographic regions. Rather than conducting a detailed analysis, we provide a few general observations on the patterns of growth in human capital wealth. Finally, Section 5 concludes.

2. Methods in the Literature

Based on the existing literature there are a few different approaches to measuring human capital wealth. There are two broad categories of measuring human capital wealth. The first broad category is indicators-based approach and another one is monetary measure-based approach. The indicators-based approach includes the measurement of human capital based upon physical measures, such as years of schooling, educational attainment, class size, test scores (Boarini et al., 2012). One of the most common physical measures of human capital is the average years of schooling. The use of schooling as a proxy for human capital implicitly ignores the impact of quality of education (World Bank, 2006).

On the other hand, monetary value of the total stock of human capital can be calculated either directly or indirectly. The indirect approach estimates human capital residually. The main assumption in this approach is that the current monetary value of the capital asset will be equal to the discounted value of the future benefits of the capital stock (Liu, 2011). While calculating total wealth, the World Bank used this method to measure human capital in its *'Where is the Wealth of Nations'* report, which was published in 2006. In this report, the total discounted value of each country's average consumption expenditures into the future was taken as a proxy for total wealth, and the total stock of human capital was calculated as the difference between total wealth and the sum of produced capital and the market-component of natural capital (World Bank, 2006). Even though this method helps to measure human capital, it has significant drawbacks. First, it adds up all the measurement errors to human capital wealth, since human capital wealth is calculated as a residual in this method. Second, it does not account for the non-market benefits of the various capital stocks (Liu, 2011).

In direct approaches, human capital wealth stock is calculated based on information on its various components. The three main types of direct measures are the cost-based approach (e.g., Kendrick, 1976 and Eisner, 1985) and the income-based approach (e.g., Jorgenson and Fraumeni, 1989, 1992a, 1992b), and the indicators-based approach (e.g., Ederer et al., 2007, 2011). The cost-based approach basically takes into account all the costs that are incurred when producing human capital. Therefore, human capital wealth stock is the stream of past investments to human capital. Even though the cost-based approach is easy to apply, it only relies on production costs, and it does not consider demand and supply (Boarini et al., 2012).

The indicators-based approach considers various characteristics of the population and measure human capital wealth stock with the help of those characteristics. School enrollment ratios, average years of schooling, and literacy rates are among such characteristics. However, developing a common metric is difficult in this approach, since it is built upon several indicators (Liu, 2011).

The income-based approach accounts for future earnings that human capital investment generates, and hence human capital wealth stock is a function of these future earnings. While the cost-based approach measures human capital wealth stock from the input side, the income-based approach measures the stock of human capital from the output side (Boarini et al., 2012).

3. Estimating Human Capital

The World Bank estimates human capital by following the lifetime income approach developed by Jorgenson and Fraumeni (1989, 1992a, 1992b). According to this approach, human capital is estimated as the total present value of the expected future labor income that could be generated over the lifetime of the current working population. In this paper, human capital is considered to be an asset that generates a stream of future economic benefits. The same conceptual approach is applied to other assets in the wealth accounting framework of the World Bank. A very detailed methodology is included in Chapter 7 of *'The Changing Wealth of Nations 2021'*.

The choice of the lifetime income approach for measuring the human capital stock reflects its advantages in bringing together a broad range of factors that shape the stock of human capital of the population. These factors include, not only the total population and population structure, but also the expected lifespan of people (a measure that reflects health conditions), their educational attainment, and their labor market experiences in terms of employment probabilities and earnings. An additional advantage of the lifetime income approach is that it allows changes in human capital to be described in terms of investment. These can include such things as formal and informal education; depreciation, such as deaths; and revaluation, such as changes in the labor market premiums of education (Liu 2011).

This concept of human capital differs from that of human development or human capabilities and complements the World Bank's Human Capital Project, which compiles a wide range of nonmonetary indicators of human capital. The CWON's measures of human capital focus on the economic benefits that a well-educated and healthy workforce generates. Although this approach emphasizes the role of human capital in generating income through wages and earnings, other essential benefits from investments in human development are recognized, such as the intrinsic value of a good education and good health. But for financial wealth

accounting purposes, the focus remains strictly on the monetary estimates of wealth associated with human capital. Therefore, human capital is an underestimate, since it leaves out positive externalities, the public good benefits of an educated population, such as building social capital and trust.

Because this approach builds on the concepts and measurement of labor earnings in the System of National Accounts (SNA), the CWON human capital estimates have a major omission: human capital that produces household services such as childcare, food preparation, and home repair. The SNA accounts for household production of goods, such as food for own consumption, but does not include household production of services. Consequently, the human capital associated with production of household services is not measured, an omission that disproportionately affects the measure of women's human capital.

4. Estimates of human capital wealth

4.1 Human Capital by Income Group

Accounting for the largest share of wealth for most countries, human capital is a crucial component of a nation's wealth. On average, human capital constitutes about two-thirds of total wealth at the global level, rising from 62 percent in 1995 to 64 percent in 2018. The share of human capital in total wealth changes steadily with the level of development—human capital's share of total wealth generally increases as countries achieve higher levels of economic development. Human capital was greater than 60 percent of wealth in middle-income and high-income Organisation for Economic Co-operation and Development (OECD) countries in 2018 but only 50 percent in low-income countries. High-income non-OECD countries—countries that are heavily dependent on fossil fuel wealth—had the lowest share, only 34 percent of wealth. It is a challenge for oil-rich countries to build human capital quickly, despite the abundant financial resources provided by oil.

Figure 1: Share of Human Capital Wealth in Total Wealth by Income Group, 1995–2018
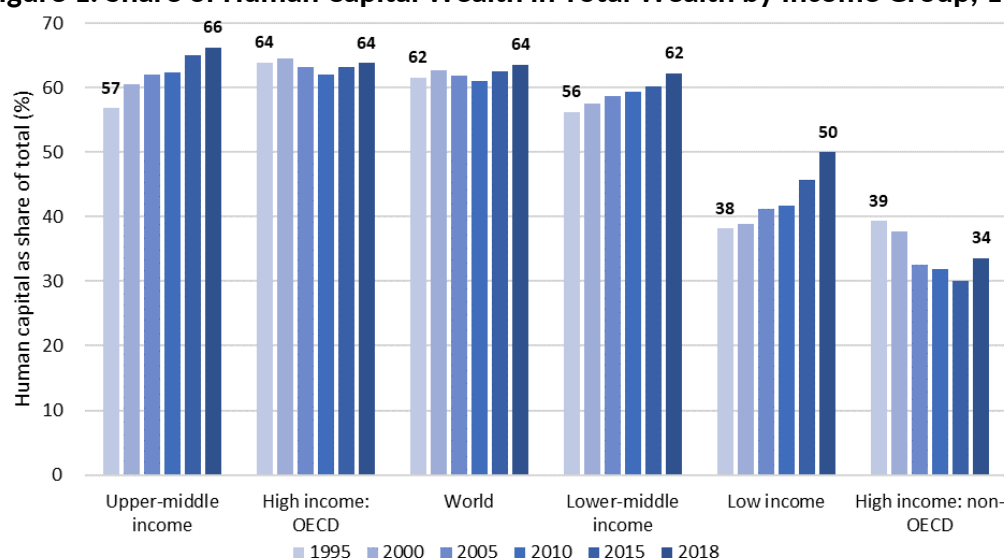
Source: World Bank, 2021.

Trends in human capital differ over time between high-income OECD countries and low- and middle-income countries. On average, the share of human capital in high-income countries plateaued during 1995–2018, while it increased in all other income groups. This can be explained in part by the share of labor earnings in GDP, which anchors the human capital estimates. Labor earnings as a share of GDP and per capita human capital grew rapidly in the 1990s, but much more slowly since 2000 because of technological change, stagnating wages, and in many countries, a reduction in the share of the population in the labor force, which resulted from the aging of the population. But in many middle- and low-income countries, educational attainment and returns to education are still growing, and hence human capital is growing fast.

Inequality in total wealth across income groups extends to human capital as well. Per capita human capital in high-income OECD countries in 2018 was 69 times of that in low-income countries. In high-income OECD countries, human capital per capita was close to US$400,000, while it was only US$5,726 in low-income countries. This significant difference between human capital in low-income and high-income countries reflects the difference in incomes.

Table 1: Trends in Wealth per Capita by Income Group, 1995–2018

|	1995	2000	2005	2010	2015	2018	Total growth (%)
World							
Total wealth per capita (2018 US$)	111,174	120,431	128,122	140,129	153,631	160,167	44
Human capital per capita (2018 US$)	68,450	75,524	79,227	85,448	95,971	101,797	49
Human capital as share of total wealth (%)	62	63	62	61	62	64	n.a.

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Low-income

Total wealth per capita (2018 US$)	9,379	9,121	9,250	10,228	11,306	11,462	22
Human capital per capita (2018 US$)	3,580	3,548	3,812	4,266	5,163	5,726	60
Human capital as share of total wealth (%)	38	39	41	42	46	50	n.a.

Lower-middle-income

Total wealth per capita (2018 US$)	15,253	15,516	17,721	22,066	24,896	27,108	78
Human capital per capita (2018 US$)	8,570	8,926	10,387	13,092	14,961	16,847	97
Human capital as share of total wealth (%)	56	58	59	59	60	62	n.a.

Upper-middle-income

Total wealth per capita (2018 US$)	50,744	58,872	74,317	100,114	128,136	141,682	179
Human capital per capita (2018 US$)	28,827	35,579	46,108	62,489	83,305	93,794	225
Human capital as share of total wealth (%)	57	60	62	62	65	66	n.a.

High-income: non-OECD

Total wealth per capita (2018 US$)	315,088	334,226	367,631	410,083	450,258	400,891	27
Human capital per capita (2018 US$)	123,878	125,885	119,946	130,637	135,468	134,604	9
Human capital as share of total wealth (%)	39	38	33	32	30	34	n.a.

High-income: OECD

Total wealth per capita (2018 US$)	468,398	522,668	545,341	564,426	597,897	621,278	33
Human capital per capita (2018 US$)	299,270	337,303	344,467	349,834	378,100	396,222	32
Human capital as share of total wealth (%)	64	65	63	62	63	64	n.a.

Source: World Bank, 2021.

Growth of human capital tends to be higher in middle-income countries, at 5.3 percent per year in upper-middle-income countries and 3.0 percent per year in lower-middle-income countries. The lowest growth is seen in high-income countries, at 0.4 percent per year in high-income non-OECD countries and 1.2 percent per year in high-income OECD countries. This is mostly because of the differences in labor income growth rates and GDP growth rates. Labor income growth in high-income countries is significantly lower than that in low-income and middle-income countries. Moreover, on average, GDP growth rates of high-income countries are lower than GDP growth rates of low- and middle-income countries.

Figure 2: Annual Growth Rates of Human Capital per Capita by Income Group, 1995–2018
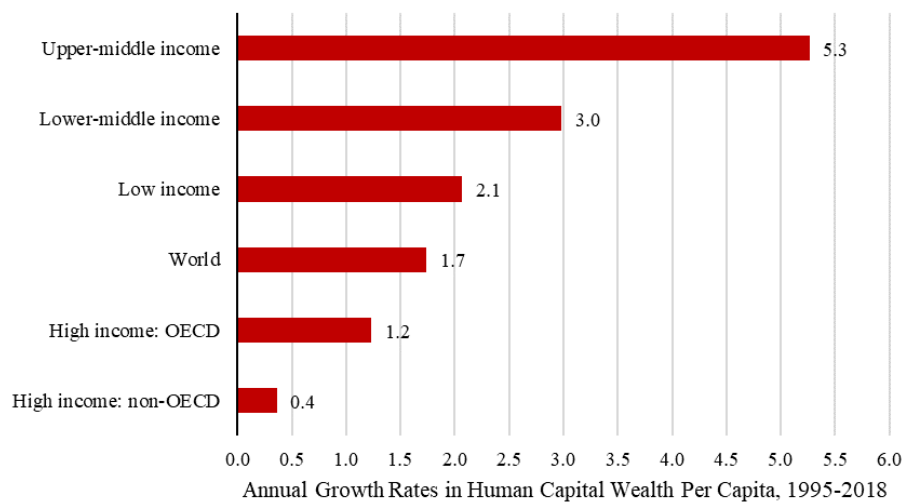
Source: World Bank, 2021.

Of particular interest is the pattern of growth of countries that were classified as low-income in 1995 but grew to become middle-income by 2018 (and are thus classified as middle-income in the CWON database). The transition of all these countries involved accelerated investment in and accumulation of human capital. However, there were three exceptions—countries that became middle-income largely because of fossil fuel and mineral wealth: Mauritania, Zimbabwe, and the Republic of Congo. The Republic of Congo and Zimbabwe are considered fragile and conflict-affected states in which building human capital becomes very difficult. The Republic of Congo's heavy dependence on oil created further difficulties after 2014 when oil prices fell. Although it is not a fragile and conflict-affected state, Mauritania is an example of the potential demographic dividend from population growth not being achieved, a result of underinvestment in human capital. Total human capital increased from 1995 to 2018, but the increase was not enough to compensate for the country's rapid population growth.

Figure 3: Change in per Capita Human Capital in Low-Income Countries, 1995–2018
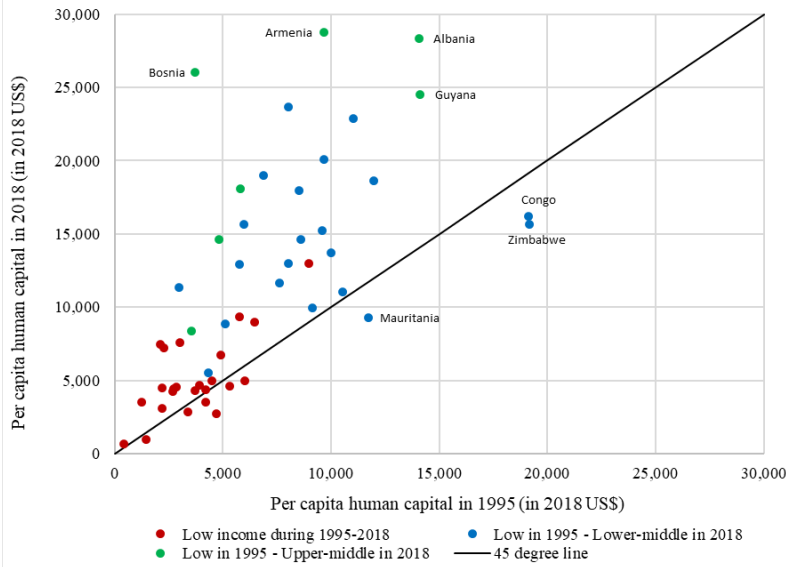
Note: Although China was a low-income country in 1995 and became an upper-middle-income country in 2018, its per capita human capital is not included in the figure because of scaling. The figure includes all countries with per capita human capital less than US$30,000 in 2018. Since China's per capita human capital is far above this threshold, the figure doesn't include China while it was a low-income country in 1995, because it would distort the figure. China's per capita human capital was US$25,556 in 1995, and it skyrocketed to US$127,685 in 2018.

In general, countries that sustained their low-income status from 1995 to 2018 did not experience a meaningful change in their human capital (red dots in figure 3). Among these countries, only Benin's per capita human capital exceeded US$10,000 from 1995 to 2018. Low-income countries that moved to middle-income status from 1995 to 2018 saw significant increases in human capital. Human capital per capita more than doubled from 1995 to 2018 in most of the current middle-income countries that were classified as low-income status in 1995 (blue and green dots in figure 3). For instance, per capita human capital increased by a factor of six in Bosnia and Herzegovina, a factor of four in China, three in Cambodia, two and a half in Ethiopia, and about two in Rwanda, Georgia, Sri Lanka, Armenia, the Lao People's Democratic Republic, Mozambique, and Nigeria. Furthermore, Bosnia and Herzegovina outperformed not only low-income countries but also countries at all income levels in the increase in per capita human capital. And China's per capita human capital exceeded US$100,000, reaching US$127,685 in 2018.

4.2 Regional Trends in Human Capital

Human capital constitutes a significant share of total wealth in all regions except the Middle East and North Africa, where human capital is less than one-third of total wealth. For all other regions, human capital is the largest share of total wealth. The share of human capital in total wealth increased from 1995 to 2018, again in all regions except the Middle East and North Africa.

Figure 4: Share of Human Capital Wealth in Total Wealth by Region, 1995–2018
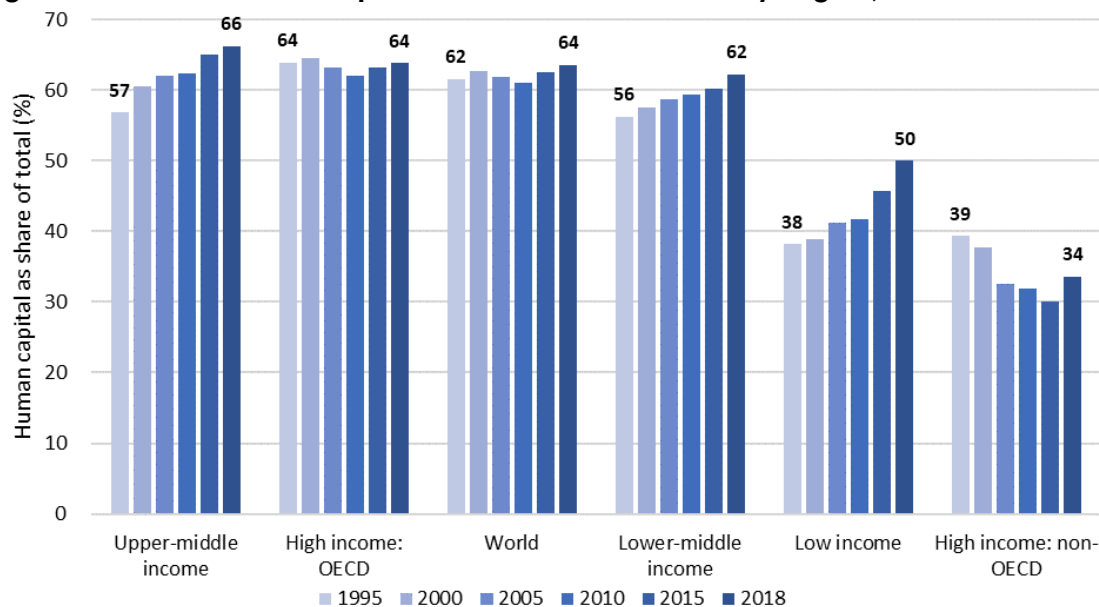
Source: World Bank, 2021.

There are significant variations in human capital per capita among regions. In 2018, the difference between the per capita human capital of the regions with the highest value and the lowest was 50 times. Although South Asia had the lowest per capita human capital in 1995, by 2018 Sub-Saharan Africa claimed the lowest per capita human capital. This was mostly the result of faster GDP growth in South Asian countries compared with Sub-Saharan African countries. For instance, average GDP growth in South Asia over 1995–2018 was 6.2 percent, while it was 4.2 percent in Sub-Saharan Africa. Thus, average per capita human capital in Sub-Saharan Africa in 2018 was US$12,278, while it was US$14,769 in South Asia. On the other end of the spectrum, North America had the highest per capita human capital of all regions, at US$612,452 in 2018—more than three times the per capita human capital of Europe and Central Asia. The main reason is that North America consists of only two high-income countries, while Europe and Central Asia includes countries in all income groups.

Table 2: Trends in Wealth per Capita by Region, 1995–2018

	1995	2000	2005	2010	2015	2018	Total growth (%)
East Asia and the Pacific							
Total wealth per capita (2018 US$)	73,518	84,441	99,076	126,270	158,301	176,125	140
Human capital per capita (2018 US$)	49,107	55,790	65,061	82,052	105,384	118,041	140
Human capital (% of total wealth)	67	66	66	65	67	67	n.a.
Europe and Central Asia							
Total wealth per capita (2018 US$)	237,608	257,762	276,580	296,021	309,672	322,739	36
Human capital per capita (2018 US$)	128,957	142,468	152,194	163,012	171,434	180,093	40
Human capital (% of total wealth)	54	55	55	55	55	56	n.a.
Latin America and the Caribbean							
Total wealth per capita (2018 US$)	75,547	78,567	83,210	94,677	106,246	107,229	42
Human capital per capita (2018 US$)	44,848	47,913	49,579	56,208	64,698	66,709	49
Human capital (% of total wealth)	59	61	60	59	61	62	n.a.
Middle East and North Africa							
Total wealth per capita (2018 US$)	74,030	75,920	88,615	109,212	116,929	102,927	39
Human capital per capita (2018 US$)	26,801	26,396	26,261	30,332	31,764	30,989	16
Human capital (% of total wealth)	36	35	30	28	27	30	n.a.
North America							
Total wealth per capita (2018 US$)	674,771	766,443	796,244	799,827	841,547	867,304	29
Human capital per capita (2018 US$)	461,403	536,869	546,905	537,602	585,338	612,452	33
Human capital (% of total wealth)	68	70	69	67	70	71	n.a.
South Asia							
Total wealth per capita (2018 US$)	9,648	10,964	12,944	16,168	19,791	22,680	135
Human capital per capita (2018 US$)	6,089	7,142	8,490	10,130	12,513	14,769	143
Human capital (% of total wealth)	63	65	66	63	63	65	n.a.
Sub-Saharan Africa							
Total wealth per capita (2018 US$)	17,273	15,528	16,018	19,527	21,003	20,473	19
Human capital per capita (2018 US$)	7,870	7,228	7,747	10,613	12,062	12,278	56
Human capital (% of total wealth)	46	47	48	54	57	60	n.a.

Source: World Bank, 2021.

As a result of the differences in labor income growth rates, growth in human capital is higher in the South Asia and East Asia and Pacific regions, at 3.9 percent per year in both. As the methodology section suggests, labor income growth rates are higher in these regions. Moreover, most countries in these regions had the highest growth rates of the wage rate and GDP over the past 25 years, although these two regions include the two most populous countries in the world. The Middle East and North Africa, North America, and Europe and Central Asia saw the lowest growth rates in human capital, at 0.6, 1.2, and 1.5 percent per year, respectively. Compared with South Asia and East Asia and the Pacific, these regions consist mostly of high-income countries where labor income growth and GDP growth tend to be lower. Moreover, most countries in the Middle East and North Africa are resource-rich countries and reliant on fossil fuel energy resources, and these countries face unique development challenges to transform an exhaustible resource into assets that can continue to generate income and employment.

Figure 5: Annual Growth Rates of Human Capital per Capita by Region, 1995–2018
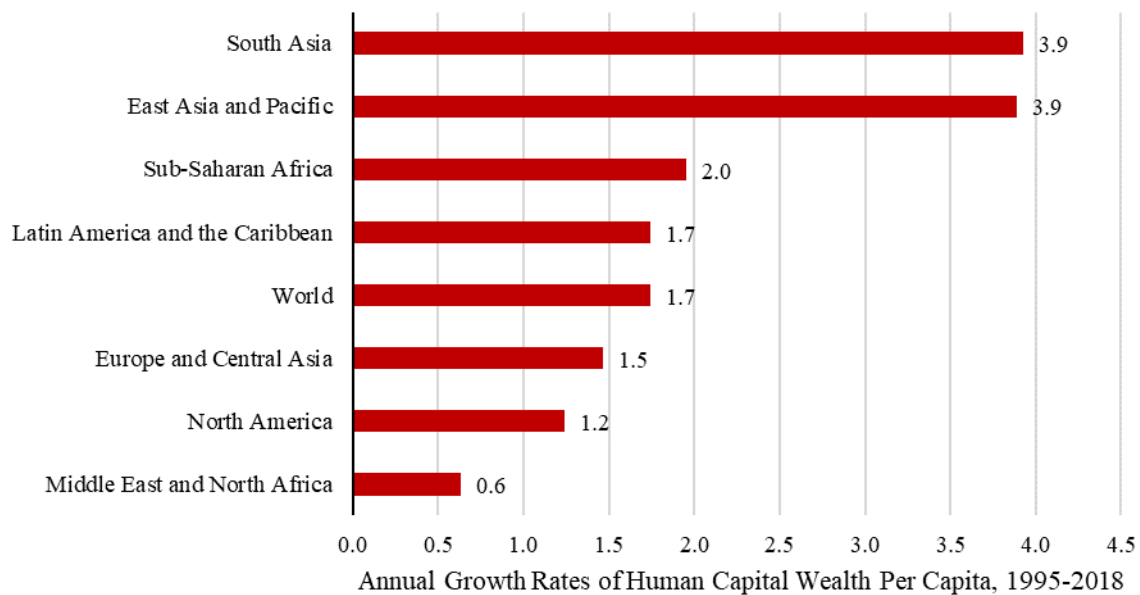
Source: World Bank, 2021.

4.3 Gender and Human Capital

The human capital estimates reveal a significant disparity between the male and female shares of human capital. Unfortunately, little progress has been made toward greater gender parity in human capital over the past 25 years. Globally, as shown in table 3, women accounted for only 37 percent of human capital in 2018, which was only 2 percentage points greater than its 1995 level.

Although higher levels of economic development are generally associated with a higher share of women in human capital, women account for less than 40 percent of human capital at all levels of development. While women account for less than one-third of human capital in low-income, lower-middle-income, and high-income non-OECD countries, the share of women is slightly greater than one-third of human capital in upper-middle-income and high-income OECD countries.

Table 3: Shares of Human Capital by Gender, 1995–2018

	Male share (%)						Female share (%)					
	1995	2000	2005	2010	2015	2018	1995	2000	2005	2010	2015	2018
World	65	64	63	63	63	63	35	36	37	37	37	37
Income group												
Low-income	66	66	66	67	67	68	34	34	34	33	33	32
Lower-middle-income	74	75	76	75	77	78	26	25	24	25	23	22
Upper-middle-income	63	62	62	63	63	64	37	38	38	37	37	36
High-income: non-OECD	71	70	70	72	71	71	29	30	30	28	29	29
High-income: OECD	64	64	63	62	62	62	36	36	37	38	38	38
Region												
East Asia and the Pacific	70	69	67	67	67	67	30	31	33	33	33	33
Europe and Central Asia	62	62	61	61	60	61	38	38	39	39	40	39
Latin America and the Caribbean	61	58	58	57	56	56	39	42	42	43	44	44
Middle East and North Africa	75	75	75	75	74	74	25	25	25	25	26	26
North America	62	63	61	59	59	59	38	37	39	41	41	41
South Asia	88	88	87	87	87	87	12	12	13	13	13	13
Sub-Saharan Africa	56	57	62	67	67	67	44	43	38	33	33	33

Source: World Bank, 2021.

The differences between regions are even more striking. As shown in table 3, women accounted for only 13 percent of human capital in South Asia in 2018, while 44 percent of human capital was attributed to women in Latin America and the Caribbean. The share of women in Europe and Central Asia and North America was about 40 percent of human capital, while about one-third of human capital was attributed to women in East Asia and the Pacific and Sub-Saharan Africa.

These results demonstrate that women's role in human capital tends to increase as countries achieve higher levels of economic development. This is an expected outcome because higher educational attainment, better quality of education, higher participation of women in the labor force, and more competitive wages are associated with economic development. However, as the results suggest, there is still substantial gender disparity between men and women even in high-income countries and regions with high economic development. There are several other factors causing the gender disparity in human capital, including (1) careers that are interrupted for childbearing; (2) penalties for childcare, as women work part time to meet family needs and as employers question the commitment of women to their career; (3) preferences on the part of women for occupations that may be lower paid, an effect that is often reinforced by preferences for fields of study that lead to such occupations; (4) barriers that prevent women from attaining similar economic opportunities as men; and (5) a lack of women in leadership positions in the workforce. Gender discrimination fosters and reinforces many of these negative influences on women's earnings.

To capture the magnitude of gender-based disparities in human capital over time, table 4 provides a simple measure of the gender gap in human capital, defined as the ratio of the human capital of women divided by that of men in a country. In 2018, the global gender gap in human capital was 57 percent, meaning the remaining gap to close is 43 percent. Although there was progress from 1995 to 2018, the global progress has been minimal: only 2 percentage points. In low-income, lower-middle-income, and high-income non-OECD countries, the gender gap ratio is particularly low, below 50 percent. In other words, women's presence and contribution to human capital is still extremely limited at these levels of economic development. In countries at higher levels of economic development, the gender gap ratio is higher, but still well below parity. Interestingly, only high-income OECD countries made progress toward gender equality over 1995–2018, narrowing the gap by 6 percentage points. In contrast, the gender gap worsened in countries at all other levels of development. One possible reason why the gender gaps are widening outside high-income OECD countries could be that women's wages tend to be lower than men's wages even as women's labor force participation is increasing. However, further research is needed for a full explanation.

Table 4: Potential Gains in Human Capital from Gender Equity, 1995–2018

	Gender gap ratio (x100) (ratio of human capital by gender)						Potential gain from gender equity (% increase from base)					
	1995	**2000**	**2005**	**2010**	**2015**	**2018**	**1995**	**2000**	**2005**	**2010**	**2015**	**2018**
World	55	55	57	59	58	57	23	22	21	21	21	21
Income group												
Low-income	51	51	52	49	48	47	25	24	24	25	26	27
Lower-middle-income	36	33	32	34	29	28	32	33	34	33	35	36
Upper-middle-income	59	62	62	60	58	57	20	19	19	20	21	21
High-income: non-OECD	41	43	42	40	41	41	29	28	29	30	30	30
High-income: OECD	56	56	59	62	62	62	22	22	21	19	19	19
Region												
East Asia and the Pacific	44	46	48	50	49	49	28	27	26	25	25	25
Europe and Central Asia	62	62	63	64	65	64	19	19	18	18	17	18
Latin America and the Caribbean	64	74	73	77	78	79	18	13	13	12	11	11
Middle East and North Africa	34	34	34	34	36	36	33	33	33	33	32	32
North America	60	59	64	69	69	69	20	20	18	15	15	15
South Asia	14	14	15	15	15	15	43	43	42	42	42	42
Sub-Saharan Africa	78	74	62	49	49	49	11	13	19	26	25	25

Source: World Bank, 2021.

The gender gap in human capital across regions is even more noticeable. The gender gap ratio has a wide range, from 15 percent in South Asia to 79 percent in Latin America and the Caribbean. South Asia's large gender gap is mostly caused by a male-dominated labor force and many barriers that prevent women from attaining similar economic opportunities as men. In contrast, female labor force participation is higher in Latin America and the Caribbean.

Although the gender gap ratio is higher in North America and Europe and Central Asia compared with other regions, it is still far from parity, at below 70 percent.

The gender gap in human capital can be used to conduct simple simulations of the gains that could be achieved from greater equity in earnings and thereby human capital by gender. Assume for simplicity that the working-age population is equally divided between men and women, each with a 50 percent share. Then, if the earnings of women were on par with those of men, women's human capital would rise considerably. Assuming no decrease in the human capital of men, the resulting gains in human capital (NG) can be estimated as NG = (100 - gender gap ratio) × 0.50/100. As shown in table 4, human capital worldwide could increase by 21 percentage points with gender parity. In low-income, lower-middle-income, and high-income non-OECD countries where the gender gaps in human capital are more pronounced, the gains from gender equity would be larger. Meanwhile, countries at all levels of economic development benefit from gender equity.

Because the gender gaps are substantially larger in some regions, the gains from gender equity in these regions are stunning. The region with the largest difference in human capital by gender is South Asia. If gender parity were achieved in South Asia, this could increase human capital nationally by roughly about 42 percentage points (table 4). These simple simulations do not account for the general equilibrium impact that an influx of women in the labor market might generate, and thereby tend to overestimate the benefits that could result from gender equity. Still, the estimates show that major gains in human capital per capita could be achieved if women were able to work more and earn more and that deeper analysis is needed on the components driving women's human capital compared to men.

5. Concluding Remarks

This paper provided a set of comparable estimates of human capital based on *The Changing Wealth of Nations* (World Bank, 2021) report. Human capital accounts for about two-thirds of total global wealth and typically a higher share in upper-middle-income and high-income OECD countries. On average, the share of human capital increases with higher levels of development and is highest in high-income and upper-middle-income countries.

Estimates by gender demonstrate the continued, significant disparity between men's and women's human capital, which is greater in some regions than others. Globally, the female share in human capital is only about one-third, and progress in closing the gender gap has been slow over the past 25 years. The COVID-19 pandemic and economic shutdown have had disproportionate impacts on women and may have set back progress toward gender equality even further.

The focus in this paper was solely on human capital as a productive asset that produces a stream of benefits: future wages. This is not to deny that education, good health, and knowledge are sources of well-being in and of themselves, or that doing a job well is one of the great human pleasures. Development is about building human capital—some of that requires direct investment, such as education, while some requires broader investment in a healthy environment, water, sanitation, and clean air.

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